**IMPORTANT: You must read the following disclaimer before continuing.** The following disclaimer applies to the attached document and you are advised to read this disclaimer carefully before reading, accessing or making any other use of the attached document. In accessing the attached document you agree to be bound by the following terms and conditions, including any modifications to them from time to time, each time you receive any information from us as a result of such access. The attached document is intended for the addressee only.

**THE ATTACHED DOCUMENT MAY NOT BE FORWARDED OR DISTRIBUTED TO ANY OTHER PERSON AND MAY NOT BE REPRODUCED IN ANY MANNER WHATSOEVER. THE BONDS (THE "BONDS") REFERENCED IN THE ATTACHED DOCUMENT MAY ONLY BE DISTRIBUTED AS PERMITTED BY THE U.S. SECURITIES ACT OF 1933 (THE "SECURITIES ACT"). ANY FORWARDING, REDISTRIBUTION OR REPRODUCTION OF THE ATTACHED DOCUMENT IN WHOLE OR IN PART IS UNAUTHORISED. FAILURE TO COMPLY WITH THIS DIRECTIVE MAY RESULT IN A VIOLATION OF THE SECURITIES ACT OR THE APPLICABLE LAWS OF OTHER JURISDICTIONS.**

**NOTHING IN THIS ELECTRONIC TRANSMISSION CONSTITUTES AN OFFER OF BONDS FOR SALE IN THE UNITED STATES OR ANY OTHER JURISDICTION WHERE IT IS UNLAWFUL TO DO SO. THE BONDS HAVE NOT BEEN, AND WILL NOT BE, REGISTERED UNDER THE SECURITIES ACT, OR THE SECURITIES LAWS OF ANY STATE OR OTHER JURISDICTION OF THE UNITED STATES, AND THE BONDS MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT "REGULATION S") EXCEPT IN AN OFFSHORE TRANSACTION IN ACCORDANCE WITH RULE 903 OR RULE 904 OF REGULATION S, IN EACH CASE IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE OR LOCAL SECURITIES LAWS.**

**Confirmation of your Representation:** In order to be eligible to view the attached document or make an investment decision with respect to the Bonds, you must comply with the following provisions. You have been sent the attached document on the basis that you have confirmed to Norsk Hydro ASA (the "**Issuer**"), BNP Paribas, Citigroup Global Markets Limited, ING Bank N.V. and Nordea Bank Abp (together, the "**Joint Lead Managers**"), being the senders of the attached document, that you are a person that is outside the United States (within the meaning of Regulation S under the Securities Act) and that you are (a) a "**relevant person**" (as defined below) if in the United Kingdom; or are (b) outside the United Kingdom (and the electronic mail address that you gave us and to which this e-mail has been delivered are not located in such jurisdictions). By accepting this e-mail and accessing the attached document, you shall be deemed to have made the above representation and that you consent to delivery of such document by electronic transmission.

In addition, in the United Kingdom, the attached document is being distributed only to and is directed only at persons: (a) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "**Order**"); or (b) who are high net worth entities falling within Article 49(2)(a) to (d) of the Order, and other persons to whom it may otherwise lawfully be communicated under the Order (all such person together referred to as "**relevant persons**"). Any investment or investment activity to which the document relates is available only in the United Kingdom to relevant persons and will be engaged in only with such persons.

**MiFID II product governance / Professional investors and ECPs only target market** – Solely for the purposes of each manufacturer's product approval process, the target market assessment in respect of the Bonds has led to the conclusion that: (i) the target market for the Bonds is eligible counterparties and professional clients only, each as defined in Directive 2014/65/EU (as amended, "**MiFID II**"); and (ii) all channels for distribution of the Bonds to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Bonds (a "**distributor**") should take into consideration the manufacturers' target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Bonds (by either adopting or refining the manufacturers' target market assessment) and determining appropriate distribution channels.

**Prohibition of sales to EEA retail investors** – The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area (the "**EEA**"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; or (ii) a customer within the meaning of Directive 2016/97/EU, as amended, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Consequently, no key information document required by Regulation (EU) No. 1286/2014 (as amended, the "**PRIIPs Regulation**") for offering or selling the Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

The attached document has been delivered to you on the basis that you are a person into whose possession this document may be lawfully delivered in accordance with the laws of the jurisdiction in which you are located.

The attached document has been sent to you in an electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of electronic transmission and consequently none of the Issuer or the Joint Lead Managers, or any person who controls any of them, or any director, officer, employee or agent of any of them, or affiliate of any such person accepts any liability or responsibility whatsoever in respect of any difference between the attached document distributed to you in electronic format and the hard copy version available to you on request from the Joint Lead Managers.

You are reminded that the information contained in the attached document is not complete and may be changed, and that no representation or warranty, expressed or implied, is made or given by or on behalf of the Joint Lead Managers, nor any person who controls any of them or any director, officer, employee or agent of any of them, or affiliate of any such person as to the accuracy, completeness or fairness of the information or opinions contained in the attached document and such persons do not accept responsibility or liability for any such information or opinions.

Neither this electronic transmission nor the attached document constitutes or contains any offer to sell or invitation to subscribe or make commitments for or in respect of any securities in any jurisdiction where such an offer or invitation would be unlawful and the attached document is subject to correction, completion, modification and amendment in its final form.

# NORSK HYDRO ASA

*(a Norwegian public limited company existing under the laws of the Kingdom of Norway with company registration number 914 778 271)*

**€500,000,000 1.125 per cent. Bonds due 2025**

**€300,000,000 2.000 per cent. Bonds due 2029**

**Issue Price:**
**99.265 per cent. in respect of the 2025 Bonds**
**98.938 per cent. in respect of the 2029 Bonds**

The €500,000,000 1.125 per cent. Bonds due 11 April 2025 (the "**2025 Bonds**") and the €300,000,000 2.000 per cent. Bonds due 11 April 2029 (the "**2029 Bonds**" and, together with the 2025 Bonds, the "**Bonds**" and each, a "**Series**") will be issued by Norsk Hydro ASA (the "**Issuer**"). Interest on each Series of Bonds is payable annually in arrear on 11 April in each year. Payments on the Bonds will be made without deduction for or on account of taxes of any Relevant Jurisdiction (as defined herein) to the extent described under "*Terms and Conditions of the 2025 Bonds — Taxation*" or "*Terms and Conditions of the 2029 Bonds — Taxation*", as applicable.

The 2025 Bonds mature on 11 April 2025 and the 2029 Bonds mature on 11 April 2029 (each, a "**Maturity Date**"). The Bonds are subject to redemption in whole but not in part at the option of the Issuer (i) at their principal amount, at any time in the event of certain changes affecting taxes of any Relevant Jurisdiction, (ii) at the higher of (a) their principal amount or (b) the sum of the then present values of the remaining scheduled payments of principal and interest discounted to the Make Whole Redemption Date (as defined herein) on an annual basis at any time, (iii) at their principal amount, at any time if purchases (and corresponding cancellations) and/or redemptions have been effected in respect of 85 per cent. or more in principal amount of the Bonds originally issued and (iv) at their principal amount, at any time on or after 11 January 2025 in respect of the 2025 Bonds and at any time on or after 11 January 2029 in respect of the 2029 Bonds, in each case together with accrued interest. See "*Terms and Conditions of the 2025 Bonds — Redemption and Purchase*" or "*Terms and Conditions of the 2029 Bonds — Redemption and Purchase*", as applicable.

The Bonds will constitute direct, unconditional and, subject to Condition 3 (*Negative Pledge*), unsecured obligations of the Issuer. See "*Terms and Conditions of the 2025 Bonds — Status*" or "*Terms and Conditions of the 2029 Bonds — Status*", as applicable.

This prospectus (this "**Prospectus**") has been approved by the Central Bank of Ireland (the "**Central Bank**"), as competent authority under Directive 2003/71/EC, as amended or superseded (the "**Prospectus Directive**"). The Central Bank only approves this Prospectus as meeting the requirements imposed under Irish and European Union law pursuant to the Prospectus Directive. Such approval relates only to the Bonds which are to be admitted to trading on a regulated market for the purposes of Directive 2014/65/EU, as amended ("**MiFID II**") or which are to be offered to the public in any Member State of the European Economic Area (the "**EEA**"). Application has been made to the Irish Stock Exchange plc, trading as Euronext Dublin ("**Euronext Dublin**") for the Bonds to be admitted to the official list of Euronext Dublin (the "**Official List**") and to trading on its regulated market ("**the regulated market of Euronext Dublin**"). This Prospectus constitutes a Prospectus for the purposes of the Prospectus Directive. References in this Prospectus to Bonds being "listed" (and all related references) shall mean that such Bonds have been admitted to the Official List and to trading on the regulated market of Euronext Dublin. The regulated market of Euronext Dublin is a regulated market for the purposes of MiFID II.

The denomination of the Bonds of each Series shall be €100,000 and integral multiples of €1,000 in excess thereof. No definitive Bonds will be issued with a denomination above €199,000.

The Bonds of each Series will initially be represented by a Temporary Global Bond, without interest coupons, which will be issued in new global note ("**NGN**") form and will be delivered on or prior to 11 April 2019 (the "**Issue Date**") to a common safekeeper for Euroclear Bank SA/NV ("**Euroclear**") and Clearstream Banking S.A. ("**Clearstream, Luxembourg**"). Each Temporary Global Bond will be exchangeable for interests recorded in the records of Euroclear and Clearstream, Luxembourg in a Global Bond, without interest coupons, on or after a date which is expected to be 21 May 2019, upon certification as to non-U.S. beneficial ownership. Each Global Bond will be exchangeable for definitive Bonds in bearer form in the denominations of €100,000 and integral multiples of €1,000 in excess thereof in the limited circumstances set out in it. The Bonds are not expected to be registered in the Norwegian Securities Depositary (the "**VPS**") as the Bonds are denominated in a currency other than NOK (€) and issued outside of the Kingdom of Norway. See "*Summary of Provisions relating to the Bonds while in Global Form*".

The Bonds are expected to be rated Baa2 by Moody's Investors Service Limited ("**Moody's**"). A rating is not a recommendation to buy, sell or hold securities and may be subject to suspension, reduction or withdrawal at any time by the assigning rating agency. Moody's is established in the European Union and registered under Regulation (EC) No 1060/2009.

**Joint Lead Managers**

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| **BNP PARIBAS** | **Citigroup** |
| **ING** | **Nordea** |

The date of this Prospectus is 9 April 2019.

This Prospectus comprises a prospectus for the purposes of the Prospectus Directive and for the purpose of giving information with regard to the Issuer and its subsidiaries (being entities whose financial statements at any time are required by law or in accordance with generally accepted accounting principles to be fully consolidated with those of the Issuer) ("**Subsidiaries**") (together, the "**Group**") and the Bonds, in each case, which according to the particular nature of the Issuer, is necessary to enable investors to make an informed assessment of the assets and liabilities, financial position, profit and losses and prospects of the Issuer and the Issuer accepts responsibility for the information contained in this Prospectus. To the best of the knowledge and belief of the Issuer (which has taken all reasonable care to ensure that such is the case), the information contained in this Prospectus is in accordance with the facts and does not omit anything likely to affect the import of such information.

This Prospectus does not constitute an offer of, or an invitation by or on behalf of the Issuer or the Joint Lead Managers (as defined in "*Subscription and Sale*" below) to subscribe or purchase, any of the Bonds. The distribution of this Prospectus and the offering of the Bonds in certain jurisdictions may be restricted by law. Persons into whose possession this Prospectus comes are required by the Issuer and the Joint Lead Managers to inform themselves about and to observe any such restrictions.

For a description of further restrictions on offers and sales of Bonds and distribution of this Prospectus, see "*Subscription and Sale*" below.

This Prospectus is to be read in conjunction with any information which is deemed to be incorporated herein by reference. See "*Documents Incorporated by Reference*". This Prospectus shall be read and construed on the basis that such information is incorporated by reference in, and forms part of, this Prospectus.

No person is authorised to give any information or to make any representation not contained in this Prospectus and any information or representation not so contained must not be relied upon as having been authorised by or on behalf of the Issuer or the Joint Lead Managers. Neither the delivery of this Prospectus nor any sale made in connection herewith shall, under any circumstances, create any implication that there has been no change in the affairs of the Issuer since the date hereof or the date upon which this Prospectus has been most recently amended or supplemented or that there has been no adverse change in the financial position of the Issuer since the date hereof or the date upon which this Prospectus has been most recently amended or supplemented or that the information contained in it or any other information supplied in connection with the Bonds is correct as of any time subsequent to the date on which it is supplied or, if different, the date indicated in the document containing the same.

To the fullest extent permitted by law, the Joint Lead Managers accept no responsibility whatsoever for the contents of this Prospectus or for any other statement, made or purported to be made by a Joint Lead Manager or on its behalf in connection with the Issuer or the issue and offering of the Bonds. Each Joint Lead Manager accordingly disclaims all and any liability whether arising in tort or contract or otherwise (save as referred to above) which it might otherwise have in respect of this Prospectus or any such statement.

**MiFID II product governance / Professional investors and ECPs only target market** – Solely for the purposes of each manufacturer's product approval process, the target market assessment in respect of the Bonds has led to the conclusion that: (i) the target market for the Bonds is eligible counterparties and professional clients only, each as defined in MiFID II; and (ii) all channels for distribution of the Bonds to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Bonds (a "**distributor**") should take into consideration the manufacturers' target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Bonds (by either adopting or refining the manufacturers' target market assessment) and determining appropriate distribution channels.

**Prohibition of sales to EEA retail investors –** The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the EEA. For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; or (ii) a customer within the meaning of Directive 2016/97/EU (as amended, the "**Insurance Distribution Directive**"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Consequently, no key information document required by Regulation (EU) No. 1286/2014 (as amended, the "**PRIIPs Regulation**") for offering or selling the Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

The Bonds have not been and will not be registered under the U.S. Securities Act of 1933 (the "**Securities Act**") and are subject to U.S. tax law requirements. Subject to certain exceptions, the Bonds may not be offered, sold or delivered within the United States.

Unless otherwise specified or the context requires, references to "**euro**", "**EUR**" and "**€**" are to the currency introduced at the start of the third stage of the European economic and monetary union pursuant to the Treaty establishing the European Community, as amended and "**cents**" and "**cent**" shall be construed accordingly, references to "**USD**" and "**U.S.$**" are to the lawful currency of the United States of America, references to "**NOK**" are to the lawful currency of the Kingdom of Norway and references to "**BRL**" are to the lawful currency of Brazil.

References herein to the "**Bonds**" are to the 2025 Bonds and the 2029 Bonds together, except where otherwise indicated. For the avoidance of doubt, the defined term "Bonds" in the terms and conditions in respect of each Series refers to the Bonds of that Series only.

In connection with the issue of any Bonds, Citigroup Global Markets Limited (the "**Stabilising Manager**") (or any person acting on behalf of the Stabilising Manager) may over-allot Bonds or effect transactions with a view to supporting the market price of the Bonds at a level higher than that which might otherwise prevail. However, stabilisation may not necessarily occur. Any stabilisation action may begin on or after the date on which adequate public disclosure of the terms of the offer of the relevant Series of Bonds is made and, if begun, may cease at any time, but it must end no later than the earlier of 30 days after the Issue Date and 60 days after the date of the allotment of the relevant Bonds. Any stabilisation action or over-allotment must be conducted by the Stabilising Manager (or any person acting on behalf of the Stabilising Manager) in accordance with all applicable laws and rules.

## FORWARD-LOOKING STATEMENTS

Certain statements included in this Prospectus contain forward-looking information, including, without limitation, information relating to (a) forecasts, projections and estimates, (b) statements of Hydro management concerning plans, objectives and strategies, such as planned expansions, investments, divestments, curtailments or other projects, (c) targeted production volumes and costs, capacities or rates, start-up costs, cost reductions and profit objectives, (d) various expectations about future developments in Hydro's markets, particularly prices, supply and demand and competition, (e) results of operations, (f) margins, (g) growth rates, (h) risk management, and (i) qualified statements such as "expected", "scheduled", "targeted", "planned", "proposed", "intended" or similar.

Although the Issuer believes that the expectations reflected in such forward-looking statements are reasonable, these forward-looking statements are based on a number of assumptions and forecasts that, by their nature, involve risk and uncertainty. Various factors could cause the Issuer's actual results to differ materially from those projected in a forward-looking statement or affect the extent to which a particular projection is realised. Factors that could cause these differences include, but are not limited to: the Issuer's continued ability to reposition and restructure the Issuer's upstream and downstream businesses; changes in availability and cost of energy and raw materials; global supply and demand for aluminium and aluminium products; world economic growth, including rates of inflation and industrial production; changes in the relative value of currencies and the value of commodity contracts; trends in Hydro's key markets and competition; and legislative, regulatory and political factors.

No assurance can be given that such expectations will prove to have been correct. Hydro disclaims any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent written and oral forward-looking statements attributable to the Issuer or any other entity of the Group are qualified in their entirety by the foregoing factors.

## DOCUMENTS INCORPORATED BY REFERENCE

The information in the section titled "*Alternative Performance Measures*" as set out on pages 271 to 274 of the Issuer's annual report for 2018 (the "**2018 Annual Report**"), which may be found at: https://www.hydro.com/Document/Index?name=2018%20Annual%20report.pdf&id=8525, the information in the section titled "*Alternative Performance Measures*" as set out on pages A2 to A5 of the Issuer's annual report for 2017 (the "**2017 Annual Report**"), which may be found at: https://www.hydro.com/Document/Index?name=Hydro%20Annual%20Report%202017&id=3097, the information in the section titled "*Alternative Performance Measures*" as set out on pages 35 to 38 of the Issuer's annual report for 2016 (the "**2016 Annual Report**"), which may be found at: https://www.hydro.com/Document/Index?name=Hydro%20Annual%20Report%202016.pdf&id=7363, and the information in the section titled "*Financial and Operating Performance*" set out on pages 141, 142, 146 and 147 of the Issuer's annual report for 2015 (the "**2015 Annual Report**" and together with the 2018 Annual Report, the 2017 Annual Report and the 2016 Annual Report, the "**Annual Reports**"), which may be found at: https://www.hydro.com/en/investors/reports-and-presentations/quarterly-reports/previous-reports, shall be deemed to be incorporated by reference, and form part of, this Prospectus.

The information set out above has been previously published and filed with the Oslo Stock Exchange (the "**OSE**").

From the date of this Prospectus and for so long as any Bond or Coupon remains outstanding, copies (and English translations where the documents in question are not in English) of the information deemed to be incorporated by reference in this Prospectus will be available in electronic form, during usual business hours on any weekday (public holidays excepted), for inspection at the principal offices of the Issuer. Any documents themselves incorporated by reference in the information set out above shall not form part of this Prospectus.

Certain information contained in the Annual Reports has not been incorporated by reference. Such data is either not relevant for prospective investors or is covered elsewhere in this Prospectus.

Any statement contained in the information described above will be deemed to be modified or superseded to the extent that a statement contained herein modifies or supersedes that statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this Prospectus.

Where reference is made in this Prospectus to a website, the contents of that website do not form part of this Prospectus.

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## OVERVIEW

*The overview below describes the principal terms of the Bonds and is qualified in its entirety by the more detailed information contained elsewhere in this Prospectus. Capitalised terms used herein and not otherwise defined have the respective meanings given to them in the section titled "Terms and Conditions of the 2025 Bonds" or, as the case may be, the "Terms and Conditions of the 2029 Bonds" (as applicable, the "**Conditions**").*

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| **Issuer:** | Norsk Hydro ASA (a Norwegian public limited company existing under the laws of the Kingdom of Norway, with company registration number 914 778 271) (the "**Issuer**"). |
| **Form and Denomination:** | Each Series of Bonds will be issued in bearer form in denominations of €100,000 and integral multiples of €1,000 in excess thereof up to and including €199,000, each with Coupons attached on issue. No definitive Bonds will be issued with a denomination above €199,000. |
| **Status of the Bonds:** | The Bonds constitute direct, unconditional and (subject to Condition 3 (*Negative Pledge*)) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under the Bonds and the Coupons shall (subject to Condition 3 (*Negative Pledge*)) at all times rank at least equally with all other present and future unsecured and unsubordinated obligations of the Issuer, save for such exceptions as may be provided by applicable legislation. |
| **Currency:** | Euro |
| **Principal Amount:** | *2025 Bonds:* €500,000,000<br>*2029 Bonds:* €300,000,000 |
| **Interest Rate:** | *2025 Bonds:* 1.125 per cent. per annum<br>*2029 Bonds:* 2.000 per cent. per annum |
| **Interest Payment Dates:** | Interest in respect of each Series of Bonds will be payable annually in arrear on 11 April in each year commencing on 11 April 2020 and ending on the relevant Maturity Date (unless the Bonds are previously redeemed or purchased and cancelled). |
| **Issue Price:** | *2025 Bonds:* 99.265 per cent.<br>*2029 Bonds:* 98.938 per cent. |
| **Issue Date:** | 11 April 2019 |
| **Maturity Date:** | *2025 Bonds:* 11 April 2025<br>*2029 Bonds:* 11 April 2029 |
| **Redemption:** | Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on the relevant Maturity Date. |
| **Early Redemption for Taxation Reasons:** | The Bonds are subject to redemption at the option of the Issuer, in whole but not in part, at any time, at their principal amount together with accrued interest, in the event of certain changes affecting taxes in the Relevant Jurisdiction, as described under "*Terms and Conditions of the 2025 Bonds — Redemption and Purchase*" or "*Terms and Conditions of the 2029 Bonds — Redemption and Purchase*", as applicable. |
| **Redemption at the Option of the Issuer (Make-Whole Redemption):** | The Bonds are subject to redemption at the option of the Issuer, in whole but not in part, at any time, at the higher of (a) their principal amount or (b) the sum of the then present values of the remaining scheduled payments of principal and interest discounted to the Make Whole Redemption Date on an annual basis, in each case together with accrued interest, as described under "*Terms and Conditions of the 2025 Bonds — Redemption and Purchase*" or "*Terms and Conditions of the 2029 Bonds — Redemption and Purchase*", as applicable. |

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| **Redemption at the Option of the Issuer (Clean-Up):** | The Bonds are subject to redemption at the option of the Issuer, in whole but not in part, at any time, at their principal amount together with accrued interest if purchases (and corresponding cancellations) and/or redemptions have been effected in respect of 85 per cent. or more in principal amount of the Bonds originally issued, as described under "*Terms and Conditions of the 2025 Bonds — Redemption and Purchase*" or "*Terms and Conditions of the 2029 Bonds — Redemption and Purchase*", as applicable. |
| **Redemption at the Option of the Issuer (Pre-Maturity):** | The Bonds are subject to redemption at the option of the Issuer, in whole but not in part, at any time on or after 11 January 2025 in respect of the 2025 Bonds and at any time on or after 11 January 2029 in respect of the 2029 Bonds, at their principal amount together with accrued interest, as described under "*Terms and Conditions of the 2025 Bonds — Redemption and Purchase*" or "*Terms and Conditions of the 2029 Bonds — Redemption and Purchase*", as applicable. |
| **Redemption at the Option of the Bondholders following Change of Control:** | The Bonds are subject to redemption at the option of Bondholders, at their principal amount, together with accrued interest, if a Change of Control Put Event has occurred, as described under "*Terms and Conditions of the 2025 Bonds — Redemption and Purchase*" or "*Terms and Conditions of the 2029 Bonds — Redemption and Purchase*", as applicable. |
| **Events of Default:** | The events of default under the Bonds are as specified in "*Terms and Conditions of the 2025 Bonds – Event of Default*" or "*Terms and Conditions of the 2029 Bonds – Event of Default*", as applicable, and include a cross acceleration clause in relation to the Issuer and its Principal Subsidiaries, provided that no Event of Default will occur if a claim is being legitimately contested by the Issuer or any Principal Subsidiary or the aggregate amount of the Financial Indebtedness is less than U.S.$100,000,000 (or equivalent in any other currency). |
| **Negative Pledge:** | The Conditions include a negative pledge in relation to the Issuer, as described under "*Terms and Conditions of the 2025 Bonds – Negative Pledge" or* "*Terms and Conditions of the 2029 Bonds – Negative Pledge",* as applicable. |
| **Taxation:** | Payments in respect of the Bonds will be made free and clear of, and without withholding or deduction for, any taxes, duties, assessments or governmental charges imposed by a Relevant Jurisdiction and will be increased to the extent necessary in order that the net amount received by the relevant holder of the Bonds, after such withholding or deduction, equals the amount of the payment that would have been received in the absence of such withholding or deduction, subject to certain exceptions set out in Condition 7 (*Taxation*). |
| **Governing Law:** | The Bonds, and any non-contractual obligations arising out of or in connection with them, will be governed by, and construed in accordance with, English law. |
| **Clearing and Settlement:** | Euroclear and Clearstream, Luxembourg |
| **Joint Lead Managers:** | BNP Paribas<br>Citigroup Global Markets Limited<br>ING Bank N.V.<br>Nordea Bank Abp |
| **Fiscal Agent:** | Citibank N.A., London Branch |
| **Principal Paying Agent:** | Citibank N.A., London Branch |
| **Listing and Admission to Trading:** | Application has been made for the Bonds to be admitted to the Official List and to trading on the regulated market of Euronext Dublin. |
| **Selling Restrictions:** | There are restrictions on offers of the Bonds to EEA retail investors and into, or to persons resident in, the United States, the Kingdom of |

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| | Norway, the United Kingdom and Belgium. See "*Subscription and Sale*".<br>Category 2 selling restrictions will apply to the Bonds for the purposes of Regulation S under the Securities Act. |
| **Risk Factors:** | For a discussion of certain risk factors relating to the Issuer and the Bonds that prospective investors should carefully consider prior to making an investment in the Bonds, see "*Risk Factors*". |
| **Securities Identifiers for the 2025 Bonds:** | ISIN: XS1974922442<br>Common Code: 197492244<br>FISN: NORSK HYDRO ASA/BD 20250411<br>CFI Code: DBFXFB |
| **Securities Identifiers for the 2029 Bonds:** | ISIN: XS1974922525<br>Common Code: 197492252<br>FISN: NORSK HYDRO ASA/BD 20290411<br>CFI Code: DBFXFB |

## RISK FACTORS

*The Issuer believes that the following factors may affect its ability to fulfil its obligations under the Bonds. Most of these factors are contingencies which may or may not occur and the Issuer is not in a position to express a view on the likelihood of any such contingency occurring. In addition, risk factors which are specific to the Bonds are also described below.*

*The Issuer believes that the factors described below represent all the material or principal risks inherent in investing in the Bonds, but the inability of the Issuer to pay interest, principal or other amounts on or in connection with any Bonds may occur for other reasons and the Issuer does not represent that the statements below regarding the risks of holding any Bonds are exhaustive. Prospective investors should also read the detailed information set out elsewhere in this Prospectus, including any information incorporated by reference, and reach their own views prior to making any investment decision.*

*Words and expressions defined in "Terms and Conditions of the 2025 Bonds" or "Terms and Conditions of the 2029 Bonds", as applicable, or elsewhere in this Prospectus have the same meanings in this section. References in this "Risk Factors" section to "Bonds" shall be to Bonds of either Series.*

*Prospective investors should consider, among other things, the following:*

### Risk factors relating to the Issuer

***Changes in the regulatory framework or political environment in which Hydro operates could have a material adverse effect on it***

Hydro needs competitive and predictable framework conditions. Hydro is subject to a broad range of laws and regulations in the legal jurisdictions in which it operates. These laws and regulations impose stringent standards and requirements and potential liabilities regarding accidents and injuries, the construction and operation of Hydro's plants and facilities, payment of taxes, air and water pollutant emissions, the storage, treatment and discharge of waste waters, the use and handling of hazardous or toxic materials, waste disposal practices, and the remediation of environmental contamination, among other things. Changes in such laws and regulations, or changes in the way these laws and regulations are interpreted or enforced, may impact Hydro's operational licenses, and have a significant negative financial effect for Hydro.

There is also a risk that new taxes or tariffs are introduced, or the current tax or tariff levels will be increased in the future. Hydro's operations include extracting and refining bauxite resources and utilising water resources for the generation of power. Such activities have increasingly been subject to local and regional tax regimes which are separate from, and in addition to, national tax regimes such as corporate income tax.

There is a risk of increased network tariffs in Europe due to the development of renewable energy sources and upgrades and expansions of transmission systems in Europe. Such increases could have a material impact on Hydro's cost of power, which again would have a material impact on Hydro's operating results. As an example, in January 2018 the Norwegian transmission system operator, Statnett SF, proposed amendments to the Norwegian tariff model which may, if adopted, result in increased tariffs for ordinary consumers and the industry.

In Brazil, the tax system is complex and volatile, with a broad range of direct and indirect taxes levied at the federal, state and municipal levels. Over the past several years, state finances in Brazil have deteriorated, which could lead to mounting pressure to increase tax revenues.

The general income tax rate in Brazil is up to 34 per cent. of net income. In Brazil, the Contribution to the Social Integration Programme ("**PIS**") and Social Contribution on Billing ("**COFINS**") (together, "**PIS/COFINS**") are federal value added taxes and are charged on sales at a rate of 9.25 per cent. Buyers are entitled to PIS/COFINS tax credits of 9.25 per cent. on purchases of relevant input factors (except for the import of goods, which is 11.75 per cent.). This may be used to offset PIS/COFINS or federal income tax liabilities. Exports are exempt from PIS/COFINS, and because most of Hydro's production in Brazil is exported, it accumulates tax credits. Obtaining cash refunds of tax credits is complex and can take substantial time.

Imposto Sobre Circulação de Mercadorias e Serviços ("**ICMS**") is a value added tax charged by Brazilian states on circulation of goods and services. ICMS tax rates vary from 7 to 25 per cent. and the tax base is the gross value of the transaction, including ICMS. Brazil has a general ICMS exemption on exports. Hydro's main operations in Brazil are located in the state of Pará, which has historically granted a deferral of the collection point for ICMS on certain goods and services. In 2015, the state of Pará granted a renewal of the ICMS deferral regime for Mineração Paragominas SA ("**Paragominas**"), Alumina do Norte do Brasil SA ("**Alunorte**") and Alumínio

Brasileiro SA ("**Albras**") for a 15 year period. Under this regulation, such companies are not entitled to book ICMS credits and the deferred ICMS tax is not due on the exports of goods. This regime is subject to several conditions which Hydro must comply with on an ongoing basis, including contributing to development in the region and enabling sustainable growth in Pará. The ICMS deferral is subject to approval by Brazil's National Council of Finance Policy. In 2018, the Public Auditing Prosecutors for the State of Pará (MP-C/PA) initiated a general process before the State Accounting Court to better understand approvals, compliance and transparency of tax incentives established by the State of Pará. A discontinuation of the ICMS deferral would materially adversely affect Hydro's operating results from its Brazilian operations.

Qatalum, a joint venture which Hydro owns 50/50 with Qatar Petroleum, was established in 2007 and started its first production in December 2009. Qatalum was at the outset granted a ten-year income tax holiday, expiring in 2020. A tax reform came into effect from 2010, which introduced a generally applicable corporate income tax rate of 10 per cent. A tax rate of 35 per cent. applies to entities with oil and gas operations or where the activities are carried out under an agreement with the government or entities owned by the government, unless such agreement specifies another tax rate. According to the Qatalum joint venture agreement, the generally applicable tax rate will apply after 2020. It is Hydro's position that the generally applicable income tax rate, currently at 10 per cent., shall apply to Qatalum after the expiry of the tax holiday.

Failure to comply with the requirements of the Brazilian National Mining Agency with respect to exploration permits and mining concessions may result in a loss of title. Third parties (including, but not limited to, indigenous persons) may dispute the right to conduct mining or exploration activities.

Environmental regulations have continued to tighten in various jurisdictions over past years due to increased national and international environmental targets. In the mining industry, recent major incidents in Brazil (including the Vale and Samarco mine dam failures in Brazil on 25 January 2019 and 5 November 2015 respectively) have increased public awareness and pressure towards authorities and politicians to impose further restrictions. In this context, Hydro and its joint ventures, face the risk of further tightening of environmental and mining regulation requiring further resources to maintain Hydro's operations and avoid restrictions or delay in obtaining new licenses in the future.

Hydro is, directly and indirectly, exposed to increasingly demanding legislation on reducing greenhouse gas emissions. Hydro has substantial smelter operations located in Europe and other regions as well as alumina refining operations located in Brazil. Aluminium production is an energy-intensive process that potentially leads to significant environmental emissions, especially emissions into the air, including CO2. An increasing number of countries have introduced, or are likely to introduce in the near future, legislation with the objective of reducing greenhouse gas emissions. Due to the Paris climate accord conference in December 2015, there is a general belief that the political framework for regulating emissions of greenhouse gases will accelerate. There is also expected to be a focus on technological improvements leading to lower emissions. A new directive on EU emission trading system is now being discussed in the EU. The outcome could affect the price of CO2, the level of free allowances for direct emissions and the compensation regime for indirect CO2 cost.

Hydro has been an active participant in the development of international frameworks on climate change and greenhouse gas emissions supporting the establishment of a level playing field for global aluminium production. Hydro engages in significant research and development ("**R&D**") activities focused on reducing energy consumption and improving electrolysis efficiency including anode consumption which is the main source of CO2 emissions from its smelter operations.

Hydro is engaged in a systematic dialogue with local, state and federal politicians, industry associations, non-governmental organisations and local communities regarding the regulatory challenges facing its operations. The focus of this dialogue is on Hydro's contribution to a sustainable aluminium value chain and underlines the need for competitive and predictable framework conditions for Hydro's operations. These efforts may fail or prove to be inadequate to mitigate the risks Hydro faces regarding changes in the regulatory framework or political environment in which it operates.

***Hydro is exposed to a risk of unfavourable macro-economic development, including risk of prolonged periods of low aluminium and alumina prices and oversupply in the global aluminium market, in addition to changes in global trade policy framework***

The aluminium industry is pro-cyclical with demand for products closely linked to economic development. This results in significant volatility in the market prices for aluminium products in periods of macroeconomic uncertainty or recession. Macroeconomic development also drives changes in currency values, which have a significant effect on Hydro's cost and competitive position.

In the past decade, global aluminium oversupply and high global stock levels have had a dampening effect on LME prices.

Market conditions have improved since late 2016, and this improvement continued into 2018 supported by strong global economic performance, not least in U.S. and European markets, and a reduction in Chinese production growth following supply side reforms and environmental shutdowns. In the latter part of 2018, uncertainty increased regarding continued strong growth. In addition, geopolitical and macroeconomic uncertainty continues. In the event that this leads to slower economic growth, demand in key downstream markets would also be affected.

Aluminium products are traded globally. Development in global trade flows, trade framework, tariffs and anti-dumping legislation are therefore of importance. Global trade framework and protectionism are moving higher on the agenda, not least through the role of the World Trade Organisation, the new EU legislation on dumping products, Brexit and the agenda of the current U.S. administration.

Following the investigation under Section 232 of the Trade Expansion Act of 1962 on steel and aluminium, on 8 March 2018, a 10 per cent. tariff on imports to the U.S. of primary aluminium and most fabricated products was announced, effective 23 March 2018. Exemptions were made for Australia (no tariff) and Argentina (accepted production quota). The objective of the tariff is to enable U.S. primary aluminium production to reach an average capacity utilisation of 80 per cent., an increase from the current 48 per cent. (restart and/or ramp-up of up to five possible smelters). Even with smelter restarts, the U.S. remains a major deficit region for aluminium and will need to attract metal imports. So far, the tariff has been transferred to the consumer through a parallel increase in the Mid-West premium. However, the indirect long term effects of the tariffs on aluminium in the U.S. or other markets remain uncertain and could have a negative impact on Hydro's business.

The majority of Hydro's upstream, Bauxite, Alumina and Primary aluminium capacity, is located in countries where fluctuations in commodity prices are reflected in their exchange rates such as Norway, Brazil, Canada and Australia. There is a fairly strong historic correlation supporting this relationship, however with a volatility around the trend. If Hydro's main cost currencies strengthen going forward, this will increase Hydro's operating cost and may weaken its global competitive position relative to production from other regions.

Hydro's core strategy to reduce the risks related to unfavourable market and economic developments is the continuous improvement of its business in terms of operational efficiency, cost reductions, enhanced commercial strategies across the value chain and diversification of business across markets. These efforts help Hydro to partly offset the effects of low market prices and raw material cost increases. Hydro is engaged in a systematic dialogue with politicians and trade and industry associations regarding the global trade framework.

In order to secure financial liquidity, Hydro concentrates on maintaining a strong balance sheet, sufficient undrawn credit facilities, capital discipline and a continued focus on working capital. However, the cost reductions and improvements that Hydro targets may prove to be insufficient to achieve a sustainable level of profitability for Hydro's business operations in the event of an extended period of low aluminium prices, significant strengthening of Hydro's local currencies, relatively high costs for key raw materials, or weak market demand.

***Hydro could be negatively affected by material CSR incidents, investigations, legal proceedings, or major non-compliance with laws and regulations***

Hydro could be negatively affected by criminal or civil proceedings or investigations related to, but not limited to, product liability, environment, health and safety, alleged anti-competitive or corrupt practices or commercial disputes. Violation of applicable laws and regulations could result in substantial fines or penalties, costs of corrective work, the suspension or shutdown of Hydro's operations and substantial damage to its reputation.

In addition, Hydro is exposed to actual or perceived failures to behave in a socially responsible manner and to manage social impacts, particularly related to human rights breaches. Such failures could result in significant, negative publicity and potential serious harm to Hydro's reputation. Reactions by key stakeholders and communities in which Hydro operates could also interfere or interrupt the operations of Hydro's business.

In order to manage social risks and opportunities, Hydro has several directives, policies and procedures setting out requirements and guiding implementation throughout the company. The CSR strategy defines priorities and overall goals.

Hydro is also exposed to social and human rights risks in the supply chain, joint ventures, and in other parts of the Brazil operations (bauxite mining and transportation).

Hydro Extrusion Portland, Inc. (formerly Sapa Profiles, Inc.) ("**SPI**"), a Portland, Oregon-based indirect subsidiary of Hydro Extruded Solutions AS (formerly Sapa AS) (Hydro) is under investigation by the United States Department of Justice (the "**DOJ**") Civil and Criminal Divisions regarding certain aluminium extrusions that SPI manufactured from 1996 to 2015, including extrusions that were delivered to a supplier to NASA. SPI is cooperating fully in these investigations, which are currently ongoing. In the ongoing discussions with the DOJ, an agreement in principle has been reached, requiring Hydro to pay an amount of approximately NOK 400 million, subject to further terms that still have to be agreed in order to resolve the investigations. As part of the share purchase agreement between Hydro and Orkla ASA, the parties have agreed that Orkla ASA shall indemnify Hydro for 50 per cent. of any liability related to these investigations.

Hydro's Board-sanctioned Code of Conduct requires adherence with laws and regulations as well as internal steering documents and is systematically implemented and maintained through its compliance system. The Hydro compliance system consists of numerous measures to reduce the risk of non-compliance. The content of such measures differs between relevant compliance risk areas, but can be grouped into four categories: preventing, detecting, reporting and responding. Hydro's global operations entails a wide array of compliance risks. Mitigation of such risks, both financial and non-financial, apply the same system. The compliance risks facing Hydro is continuously monitored and evaluated as part of the Enterprise Risk Management process. Prioritised risk areas are HSE, financial reporting, anti-corruption, data privacy and the EU General Data Protection Regulation and competition law. Hydro's supply chain is included in the scope of risk mitigation, for instance by procedures for integrity risk management of business partners. Hydro is active in, and has a long tradition for, conducting dialogue with the relevant parties affected by Hydro's activities. These include unions, works councils, customers, suppliers, business partners, local authorities and non-governmental organisations. The above-mentioned controls and initiatives may, however, be insufficient to mitigate these risks.

***Hydro's business is exposed to competition from China, which could have a significant negative impact on market prices and demand for its products***

China is the world's largest consumer and producer of aluminium, with more than half of the global production capacity. As a result, changes and developments in aluminium supply and demand in China have a significant impact on global market fundamentals.

Hydro is exposed to the development in China broadly on three levels: 1) although the explicit effect on Hydro is limited, China's increased demand for imported bauxite and the fulfilment of its requirements affect global bauxite prices, 2) the risk of Chinese surplus aluminium production and increased capacity utilisation negatively affects prices outside China and 3) increases in Chinese exports of aluminium semis and fabricated products affect primary demand and demand for semi-fabricated products in the importing regions such as Europe and the U.S. (Hydro's core markets) and Asia (Hydro's export markets).

Chinese alumina refineries and, consequently, aluminium smelters are dependent on imports of bauxite. Imported bauxite has traditionally been sourced from the Pacific region, with Australia, Indonesia and Malaysia as major suppliers. Following export restrictions imposed in Indonesia and Malaysia, increasing bauxite volumes have become available from Guinea to supply Chinese demand since 2016. While the increased export volumes from Guinea have removed the risk of a bauxite supply shortage for China, sourcing from Guinea increases the freight distance and relative costs compared with Pacific supply sources.

In past years, China has followed a policy of promoting a balanced internal market for primary aluminium including incentives to discourage the export of primary metal while encouraging domestic production of more labour-intensive semi-fabricated and finished aluminium products. Over the last years, overcapacity in China led to a continued rise in exports in the form of semi-fabricated products. Such exports affect metal prices outside China. Exports from China have varied considerably, driven, amongst other factors, by periodic arbitrage opportunities between Chinese and international metal prices. Exports have increased in volume over the last years, with a further hike in 2018. The Chinese central authorities have for several years voiced their concerns regarding the market surplus and inadequate implementation of regulations to discourage further smelter construction. Since 2017, supply-side reform has been enforced across several industries, including aluminium. The target was smelter capacity deemed to be illegal, i.e. not possessing all necessary authorisations. An estimated 3 million tons of capacity has subsequently been closed down. An increase in the oversupply of primary metal in China may lead to higher export of rolled and extruded downstream products, affecting demand for Hydro's metal products.

Hydro's dedicated improvement programmes are the key strategies aimed at maintaining and improving its relative position on the industry cost curve. This is further supported by Hydro's focus on producing value-added products and exposure to different parts of the value chain and product segments. However, the targeted cost reductions and improvements may prove to be insufficient to achieve a sustainable level of profitability for Hydro's business operations in the event of an extended period of low aluminium prices, stronger local currencies, relatively high costs for key raw materials or weak market demand, or an extended period of significantly increased aluminium products exports from China.

***Hydro may fail to realise sufficient value in the execution and implementation of major projects or business acquisitions***

Hydro makes significant capital investments and acquisitions as part of its business development and may not be able to realise the benefits expected from such transactions and projects. Major projects and acquisitions are subject to significant risk, and uncertainty in making the investment evaluation, project execution and subsequent operations. Acquisitions may also contain significant unidentified risks and liabilities, which could have a material adverse effect on Hydro's profits and financial position.

Hydro completed the acquisition of the remaining 50 per cent. of Sapa AS ("**Sapa**") from Orkla ASA in October 2017. The integration of Sapa into Hydro's existing business may expose Hydro to additional risks, reputational damage, costs and financial losses.

Further integration strategies were implemented during 2018, including rebranding, relocation, synergy execution and strategic innovation processes. Overall, integration activities are on track.

Hydro built the Karmøy Technology Pilot to operationalise "next generation" cell and smelter technology, which was developed together with key suppliers and started production in January 2018. Hydro may fail to achieve the expected technical enhancements and benefits for the existing smelter portfolio resulting from the new technology.

Hydro has made a final build decision to invest NOK 1.4 billion at the aluminium plant in Husnes, Norway, to upgrade the plant's second production line in order to begin production, which will double the aluminium production of the plant and create 90 jobs. As part of restarting production on the line, which was shut down in 2009, Hydro will introduce new technology elements that are expected to lead to better performance at the plant. The line is expected to begin operations in the first half of 2020. Hydro may fail to fully achieve the expected enhancements and benefits of the new technology elements.

Technical issues caused delays in the ramp up phase of both the Automotive line 3 in Germany and the new recycling line for used beverage cans ("**UBC**"). Hydro is a major supplier of aluminium sheet and coil to the European automotive market for interior and exterior vehicle body parts, chassis and component applications. The new Automotive line 3 is built to increase Hydro's nominal body-in-white capacity to 200,000 metric tons ("**mt**"). The UBC line will expand Hydro's recycling capabilities and enhance sourcing of material for the Rolled Products system. Further modifications and investments were undertaken in 2018 to enable ramp up to full production at nameplate capacity.

Hydro has made major investments in emerging and transitioning markets and future investments may occur or may be more likely to occur in countries characterised as emerging and transitioning markets. Investing in emerging and transitioning markets is demanding in terms of organisational capacity, cultural understanding, effort, knowledge and experience, and Hydro may not be capable of succeeding in expanding its business in such markets.

At the end of 2018, around half of Hydro's smelter capacity was owned through interests in joint ventures and partly-owned subsidiaries. Investments as a minority partner in jointly owned entities reduces Hydro's ability to manage and control this part of its portfolio. Investments in jointly owned entities, including those in which Hydro holds a majority position, also entail the risk of diverging interests between business partners, which could impede Hydro's ability to realise its objectives, repatriate funds from such entities and to achieve full compliance with its standards.

In order to mitigate the risk associated with the execution and implementation of major projects, all capital projects in Hydro, including M&A projects, are subject to a formal, comprehensive, internal review process prior to making any commitment. Hydro is continuously working to improve Hydro's project evaluation and execution processes. This includes improving risk assessment, methodologies and clarifying and refining minimum return requirements for different parts of the value chain. These measures, may however, prove to be insufficient to mitigate the risks Hydro faces in the execution and implementation of major projects or business combinations.

***Hydro could be adversely affected by disruptions or major incidents in its operations and may not be able to maintain sufficient insurance to cover all risks related to its operations***

Hydro's business is subject to a number of risks and hazards which could result in disruptions to operations, damage to properties and production facilities, personal injury or death, environmental damages, monetary losses and possible legal liability. Some of Hydro's operations are located in close proximity to sizable communities. Major accidents could result in substantial claims, fines or significant damage to Hydro's reputation. Breakdown of equipment, power failures or other events leading to production interruptions in Hydro's plants could have a material adverse effect on Hydro's financial results and cash flows.

In 2013, power outages at Hydro's Alunorte alumina refinery resulted in significant production disruptions, having a negative impact on operating results for the year. In 2016, a power outage at the Årdal smelter caused a partial loss of production, some damage to equipment, in addition to temporarily increasing emissions and the cost position of the plant.

Hydro obtains its bauxite from two main sources, the majority is via a 244 km pipeline from Paragominas to Alunorte and the remainder is transported by vessel from MRN to Alunorte. Any major disruption to this supply of bauxite to Alunorte would have material adverse effects on Hydro's operations. In 2018, the extreme rainfall and flooding in Brazil resulted in the Brazilian authorities forcing Hydro to reduce Alunorte's production to 50 per cent. of its capacity. This had a significant negative effect on Hydro's operations and financial results for the year. See "*Description of Hydro – The Alunorte situation*" for a fuller discussion.

In addition, the potential physical impacts of climate change on Hydro's facilities and operations is highly uncertain and may cause disruptions in its operations. Effects of climate changes may include changes in rainfall patterns, flooding, shortages of water or other natural resources, changing sea levels, changing storm patterns and intensities, and changing temperature levels.

In order to reduce the risk of disruptions to Hydro's operations and potential resulting consequences, it performs regular risk assessments and engage in comprehensive emergency preparedness training for key managers and employees. The scope of risk assessments has been expanded over time. Hydro has also focused on increasing Hydro's resilience against power outages including automation of substations and power generating facilities as well as improved back-up facilities. Although Hydro maintains insurance to protect against certain risks in such amounts as it considers reasonable and in accordance with market practice, its insurance may not cover all the potential risks associated with Hydro's operations.

***Hydro is exposed to the threat of cyber-attacks which may disrupt its business operations, and result in reputational harm and other negative consequences***

Hydro's IS/IT infrastructure is a critical element in all parts of its operations, ranging from process control systems at production sites, central personnel databases to systems for external financial reporting. Cyber-crime is increasing globally, and Hydro is exposed to threats to the integrity, availability and confidentiality of Hydro's systems. Threats may include attempts to access information, computer viruses, denial of service and other digital security breaches.

Hydro has launched several initiatives to increase the robustness of its IS/IT infrastructure against malicious attacks by improving system infrastructure and educating employees to develop and improve secure work processes and routines. However, these initiatives may fail to deliver the expected results or prove to be inadequate to prevent cyber-attacks or security breaches that manipulate or improperly use Hydro's systems or networks. Please see "*Description of Hydro – Recent Developments*".

***Hydro may be unable to achieve or maintain the operational targets necessary to secure the competitiveness of its business***

Hydro operates in a highly competitive market where operational excellence in all parts of the value chain is required to reach and maintain a competitive position. This includes each step of the business process from the sourcing of raw materials, to physical operations of each plant, and the commercial optimisation of the product portfolio. Failure to create an environment and systems which enable the organisation to continuously achieve increased operational targets will reduce the competitiveness of Hydro's business and result in the failure to meet its long-term financial targets.

Operational performance may also be inhibited by other factors such as the inability to develop necessary technical solutions; changes or variations in geologic conditions, environmental hazards, weather, climate change or natural phenomena; mining and processing equipment failures and unexpected maintenance problems and interruptions. Driving improvements and performance is heavily dependent on achieving sufficient capacity and skill in the workforce. Substantial parts of the Brazilian operation are located in remote areas where it has been difficult to attract and retain the competence required to achieve Hydro's performance goals for these operations. In addition, Hydro's bauxite reserves in Brazil and the estimated quantities of bauxite that Hydro expects can be economically mined and processed are subject to material uncertainties.

In February 2018, the region of Barcarena in northern Brazil suffered from flooding following two days of extreme rainfall. The areas flooded included Hydro's Alunorte alumina refinery. Brazilian authorities and local communities were concerned that flooding might have led to harmful spills into the surrounding areas. The authorities ordered several measures against Alunorte while reviewing the situation. The measures restricted the production at the refinery to 50 per cent. of its capacity. Consequently, Alunorte's primary bauxite source, Paragominas, and Hydro's part-owned subsidiary, Albras aluminium plant, both in the state of Pará, have reduced their production by 50 per cent. See "*Description of Hydro – The Alunorte situation*" for a fuller discussion.

The operational performance of Hydro's production assets has been gradually improved over the past several years through the implementation of defined improvement programmes such as the "Better" programme. Unrelenting focus on continuous improvement is necessary for Hydro to maintain and further improve the competitiveness of its portfolio.

Due to the situation in Brazil, Hydro's "Better" improvement programme did not reach the 2018 target of NOK 500 million. The "Better Primary Metal" improvement programme did not reach its target for 2018 mainly due to the production curtailment at Albras and alumina quality issues at the fully owned smelters. The curtailment and quality issues are a direct result of reduced availability of alumina from Alunorte.

Another improvement initiative, Fit4Future, aims at step-change improvements to lift staff value creation and lower costs. It is divided into three main focus areas: strategic fit, differentiation and simplification.

Hydro's operations, and in particular its aluminium smelters, are dependent upon large volumes of energy. Securing new, competitive energy sources for Hydro's business is a key operational target and its business could be materially adversely affected by the inability to replace, on competitive terms, Hydro's long-term energy supply contracts when they expire, or its own electricity production, to the extent that concessions revert to the Norwegian state. Hydro has, over the last years, secured several long term power supply contracts in Norway. Following previous legislative restrictions on the utilisation and ownership of Norwegian waterfalls for non-small scale power production, in 2016 an important regulatory change was implemented in Norway that allows for private ownership of Norwegian waterfalls to be granted to companies with liability, often referred to as industrial ownership or ANS/DA, enabling further progress on Hydro's work to re-structure ownership and protect the value of its power assets.

A cornerstone in Hydro's work to reach operational targets and secure the competitiveness of its operations is the use of standardised business systems to structure and formalise continuous improvement work. Improvements are also supported by benchmarking to identify and implement best practices between Hydro's business areas. Hydro is also engaged in a number of initiatives to identify and secure competitive energy supplies for its operations, and are actively involved in promoting a sustainable energy policy in the regions where it operates. However, Hydro may not succeed in achieving or maintaining the operational targets necessary to secure its competitiveness. Hydro may also fail to identify and secure sufficient competitive energy supplies for its operations.

***Occupational health and safety, and security risks***

Hydro is exposed to occupational health and safety risks and incidents with the potential of causing severe damages to individuals, assets and reputation.

Hydro's business is subject to a broad range of risks and hazards that could result in major health, safety and security incidents. If not well managed, these incidents could cause fatalities, severe injuries to individuals, adverse health effects, damage to assets or the environment. This may result in significant short-term and long-term human suffering, financial and legal liability and/or loss of reputation.

Based on Hydro's processes and locations, examples of such incidents and risks include, but are not limited to, molten metal explosion, mobile equipment interaction and transportation, working at height, energy isolation, equipment failure, major fires, occupational illness and chemical spills.

There has been a strong drive to improve safety performance throughout the organisation and more than 50 per cent. of all operational sites were total recordable-injury free during 2018. However, most business areas saw a deterioration in total recordable-injury performance, and increasing high risk incidents.

Internal investigations are routinely initiated after fatal accidents or serious incidents to identify the root causes and avoid recurrences by subsequent implementation of appropriate corrective and preventive actions. Hydro's approach to improve its occupational health, safety and security performance is based on risk management, leadership qualities and shop floor engagement. Hydro has implemented several processes to eliminate serious injury including critical control management systems, and the development of fatality prevention protocols that emphasise seven topics: energy isolation, fall prevention, mobile equipment, overhead crane, confined space entry, molten metal safety and contractor management. These processes are aimed at both raising standards and understanding risks at Hydro sites. This process aims to utilise the full engagement of all employees and others who work with Hydro and an increased leadership presence on the shop floor to bring about a step change in reducing serious injuries.

These measures may be insufficient to reduce the risks associated with major occupational health, safety and security incidents.

***Climate change and environmental risks***

Hydro is exposed to physical climate related risks, transition risks, risks related to the transition to a low-carbon economy and environmental risks that could have a material adverse effect on the company, Hydro's facilities, performance and the external environment.

Hydro's operations and facilities are subject to risks arising from physical climate change, that may impact Hydro's operations. Effects of climate change include changes in rainfall patterns, flooding, shortages of water or other natural resources, changing sea levels, changing storm patterns and intensities, and changing temperature levels. The changes may be acute and/or chronic. The risks from climate change could lead to operational and environmental incidents within Hydro's operations, for example by flooding of containment basins, increasing temperatures leading to increased emissions from processes that must be considered in Hydro's business strategy.

Operational performance, and the occurrence of environmental incidents, is also affected by other factors such as the lack of suitable technological solutions; changes or variations in hydrological and geological conditions; environmental hazards; extreme weather, and other natural phenomena; mining and processing equipment failures and unexpected maintenance problems and interruptions and critical failures to infrastructure integrity that can lead to environmental spills and danger to surrounding communities.

In addition to such environmental incidents, there are risks related to the effects of known and unknown historical and current emissions to air, water and soil. These may have legal, financial and reputational consequences and require mitigating actions.

There are risks associated to the transition to a low-carbon economy. Hydro is, directly and indirectly, exposed to increasingly demanding legislation on reducing greenhouse gas emissions, and associated regulatory risk. Hydro's risk exposure, mainly relates to, but is not limited to, the cost of CO2 and stricter emissions abatement requirements, please see "Changes in the regulatory framework and political environment in which Hydro operates could have a material adverse effect on it" in this section.

The transition to a low-carbon economy has associated technology and market risks. Hydro's technology may not be able to meet the abatement and emissions requirements set by regulatory bodies. Increased concern over climate change may lead to changes in consumer behaviour and increased demand for low-emission products.

In order to reduce the risks for Hydro's operations and potential consequences related to climate change, Hydro performs extensive risk assessments of both physical and transition risks. The scope of the risk assessment is being expanded over time and is based on modelling future weather patterns and their impact on Hydro's facilities based on existing climate models and scenarios from the IPCC, and scenarios for policy and legal risk, technology, market and reputation risk. Based on this, Hydro is developing a new climate strategy.

A similar approach is also taken for identifying other environmental risks related to Hydro's operations, through Environmental Impact Assessments and continuous review of monitoring procedures, control systems and the application of appropriate management procedures.

Hydro has been an active participant in the development of international frameworks on climate change and greenhouse gas emissions supporting the establishment of a level playing field for global aluminium production.

Hydro engages in significant R&D activities focused on reducing energy consumption and improving electrolysis efficiency including anode consumption which is the main source of $CO_2$ emissions from its smelter operations.

Hydro actively engages with academia, research institutions and industry associations on climate change and other environmental topics, such as the Biodiversity Research Consortium and the Aluminium Stewardship Initiative.

These efforts may fail or prove to be inadequate to mitigate the climate change and other environmental risks Hydro is facing.

**Risks relating to the structure of the Bonds**

***Modification, waivers and substitution***

The terms and conditions of each Series of Bonds contain provisions for calling meetings of Bondholders to consider matters affecting their interests generally. These provisions permit defined majorities to bind all Bondholders of the relevant Series including Bondholders who did not attend and vote at the relevant meeting and Bondholders who voted in a manner contrary to the majority. The terms and conditions of each Series of Bonds also provide that the Issuer may, without the consent of Bondholders, agree to modifications, waivers or authorisations of breaches or proposed breaches of or any failure to comply with, the Fiscal Agency Agreement, provided that to do so could not reasonably be expected to be prejudicial to the interests of the Bondholders.

The effect of the above provisions is that a Bondholder may be unable to prevent certain modifications, waivers and substitutions that might be disadvantageous to that Bondholder from being made in respect of the relevant Series of Bonds in accordance with the conditions of such Bonds.

***Change of law***

The terms and conditions of each Series of Bonds are based on English law in effect as at the Issue Date. No assurance can be given as to the impact of any possible judicial decision or change to English law or administrative practice after the Issue Date.

***Definitive Bonds will not be issued in integral multiples of less than €100,000***

The denomination of the Bonds is €100,000 and integral multiples of €1,000 in excess thereof. Therefore, it is possible that the Bonds may be traded in amounts in excess of €100,000 that are not integral multiples of €100,000. In such a case a Bondholder who, as a result of trading such amounts, holds a principal amount of less than €100,000 in his account with the relevant clearing system at the relevant time will not receive a definitive Bond in respect of such holding (should definitive Bonds be printed) and would need to purchase a principal amount of Bonds such that it holds an amount equal to at least the minimum denomination.

If definitive Bonds are issued, holders should be aware that definitive Bonds which have a denomination that is not an integral multiple of €100,000 may be illiquid and difficult to trade.

***Other parties***

The Issuer may be a party to contracts with a number of other third parties that have agreed to perform services in relation to the Bonds. For example, a paying agent has agreed to provide payment and calculation services in connection with the Bonds and Euroclear and Clearstream, Luxembourg have agreed, *inter alia*, to maintain records of their respective portion of the issue outstanding amount and, upon the Issuer's request, to produce a statement for the Issuer's use showing the total nominal amount of its customer holding for the Bonds as of a specified date. Bondholders will be required to rely on the services provided by such third parties with which the Issuer has contracted.

***New Global Bond form***

The NGN form means that the Bonds are intended upon issue to be deposited with a common safekeeper for Euroclear and Clearstream, Luxembourg. The NGN form has been introduced to allow for the possibility of debt instruments being issued and held in a manner which will permit them to be recognised as eligible collateral for monetary policy of the central banking system for the euro (the "**Eurosystem**") and intra-day credit operations by the Eurosystem either upon issue or at any or all times during their life. However, in any particular case such recognition will depend upon satisfaction of the Eurosystem eligibility criteria at the relevant time. Investors should make their own assessment as to whether the Bonds meet such Eurosystem eligibility criteria.

### *Unsecured debt obligations*

The Bonds are unsecured, and will rank *pari passu* with all of the Issuer's other unsecured and unsubordinated indebtedness. In the event of a default on the Bonds or in the event of bankruptcy or liquidation, to the extent that the Issuer has granted security over its assets and such security becomes enforceable, the assets securing such obligations will be used to satisfy such secured obligations before the Issuer can make payments on the Bonds. In the absence of sufficient collateral to satisfy any secured obligations, the remaining amounts on the secured obligations would share equally with all unsubordinated unsecured indebtedness.

### *Norwegian Withholding Tax – Redemption for Taxation Reasons*

Under present legislation, Norway does not impose withholding tax on interest payments to non-Norwegian residents. However, in 2015 the Norwegian government issued a white paper describing a tax reform for the period 2016-2018, which included introduction of withholding tax on interest payments from Norway. The white paper and the potential introduction of withholding tax on interest payments has since then been subject to a public hearing, and any changes in legislation are currently being considered by the Norwegian Ministry of Finance. In the event withholding tax is implemented, the payments of interest in respect of the Bonds may be subject to withholding tax, depending on the ultimate legislation enacted and unless an applicable tax treaty provides relief from such withholding tax. Applicable withholding tax may require the Issuer to gross up payments in accordance with Condition 7 (*Taxation*), subject to the conditions set out therein. Such withholding tax may, however, also entitle the Issuer to redeem the Bonds (in whole, but not in part) at a price equal to their principal amount (par), together with interest accrued to but excluding the date fixed for redemption (see Condition 5 (*Redemption and Purchase*) for further details).

In the national budget for 2019, the Norwegian government announced that a proposal for a withholding tax on interest bearing instruments would be published before the end of 2018 with expected implementation in 2019. The proposal was not published before the end of 2018, though it is expected that a proposal will be published by the Norwegian government shortly and that such proposal will be implemented during 2019.

## Risks related to the market generally

### *The secondary market generally*

The Bonds will have no established trading market when issued, and one may never develop. If a market does develop, it may not be liquid. Therefore, investors may not be able to sell their Bonds easily or at prices that will provide them with a yield comparable to similar investments that have a developed secondary market.

### *Exchange rate risks and exchange controls*

The Issuer will pay principal and interest on the Bonds in euro. This presents certain risks relating to currency conversions if an investor's financial activities are denominated principally in a currency or currency unit (the "**Investor's Currency**") other than euro. These include the risk that exchange rates may significantly change (including changes due to devaluation of euro or revaluation of the Investor's Currency) and the risk that authorities with jurisdiction over the Investor's Currency may impose or modify exchange controls. An appreciation in the value of the Investor's Currency relative to euro would decrease (1) the Investor's Currency equivalent yield on the Bonds, (2) the Investor's Currency equivalent value of the principal payable on the Bonds and (3) the Investor's Currency equivalent market value of the Bonds.

Government and monetary authorities may impose (as some have done in the past) exchange controls that could adversely affect an applicable exchange rate. As a result, investors may receive less interest or principal than expected, or no interest or principal.

### *Interest rate risks*

Investment in the Bonds involves the risk that subsequent changes in market interest rates may adversely affect the value of the Bonds.

### *Credit ratings may not reflect all risks*

The Bonds are expected to be rated at issuance Baa2 by Moody's. The ratings assigned to the Bonds may not reflect the potential impact of all risks related to structure, market, additional factors discussed above, and other factors that may affect the value of the Bonds. A credit rating is not a recommendation to buy, sell or hold securities and may be revised or withdrawn by the rating agency at any time.

***Legal investment considerations may restrict certain investments***

The investment activities of certain investors are subject to legal investment laws and regulations, or review or regulation by certain authorities. Each potential investor should consult its legal advisers to determine whether and to what extent (1) the Bonds are legal investments for it; (2) the Bonds can be used as collateral for various types of borrowing; and (3) other restrictions apply to its purchase or pledge of any Bonds. Financial institutions should consult their legal advisers or the appropriate regulators to determine the appropriate treatment of the Bonds under any applicable risk-based capital or similar rules.

## FINANCIAL POSITION AND KEY FINANCIAL EXPOSURE

Hydro's main strategy for mitigating risk related to volatility in cash flow is to maintain a strong balance sheet. Specific key financial ratio levels over the business cycle are targeted, reflecting a solid financial position and investment grade credit rating. These include an adjusted net cash (debt) to equity ratio below 0.55 and a ratio of funds from operations to adjusted net cash (debt) above a level of 0.40. Maintaining an investment grade credit rating allows for access to the capital markets at attractive terms and gives other important benefits.

Hydro's liquidity position at the end of 2018 was strong, with a cash position as at 31 December 2018 of NOK 6.0 billion. Hydro also has a credit facility of USD 1.7 billion which expires in November 2020. The facility was undrawn as at the end of 2018. Hydro continues to focus on cash generation and credit risk management throughout the organisation.

### Key financial exposure

Hydro's operating results are primarily affected by changes in the prices of its main products and raw materials, changes in its margins and fluctuations in the most significant currencies for Hydro, being USD, NOK, EUR and BRL.

Hydro's main risk management strategy for upstream operations is to accept exposure to price and exchange rate movements, while at the same time focusing on reducing the average cost position of production assets. In certain circumstances, derivatives may be used to hedge certain revenue and cost exposures. Long term, the most effective hedging policy is maintaining cost competitive operations, and the only long-term hedge against market volatility is maintaining a low-cost asset base.

Downstream and other margin-based operations are to a certain extent hedged to protect processing and manufacturing margins against price fluctuations. An operational hedging system has been established to protect commercial contracts from aluminium price fluctuations.

To mitigate the impact of exchange rate fluctuations, long-term debt is mainly maintained in currencies reflecting underlying exposures and cash generation. Hydro may also use foreign currency swaps and forward currency contracts to reduce the effects of fluctuations in the USD and other exchange rates.

The table below show sensitivities regarding aluminium prices and foreign currency fluctuations for 2018. The table illustrates the sensitivity of earnings, before tax, to changes in these factors and is provided to supplement the sensitivity analysis required by IFRS, included in note 13 to the Consolidated Financial Statements, which are included in this Prospectus (see "*Index to Financial Statements*"). These sensitivities do not consider revaluation effects of derivative instruments, which may influence earnings.

| Underlying EBIT sensitivities[1] NOK millions | Full production[2] | 50% production[2] |
|---|---|---|
| **Commodity prices +10%[3]** | | |
| Aluminium[4] | 3,900 | 3,500 |
| Standard ingot premium | 260 | 240 |
| Alumina (PAX)[4] | 710 | -460 |
| Petroleum coke | -290 | -260 |
| Fuel oil | -310 | -150 |
| Caustic soda | -200 | -100 |
| Pitch | -130 | -120 |
| Coal | -60 | -30 |
| **Exchange rates +10%** | | |
| USD/NOK | 3,960 | 2,690 |
| BRL/NOK[5] | -1,060 | -1,060 |
| EUR/NOK | -250 | -240 |

Notes:

(1) Annual sensitivities based on Q4 2018 realised prices as a starting point.

(2) Refers to production levels at the Alunorte alumina refinery (which is currently curtailed to 50 per cent. of installed capacity).

(3) LME 2040 USD/t, standard ingot premium (Europe duty paid) 130 USD/t, alumina (PAX) 510 USD/t, fuel oil 550 USD/t, petroleum coke 370 USD/t, caustic soda 410 USD/t, coal 85 USD/t, USD/NOK 8.4, BRL/NOK 2.2, EUR/NOK 9.6.

(4) LME and PAX exposures reflect financial exposures to movements in the respective prices, net of LME/PAX indexed revenues/costs. The net exposures might deviate from the net physical position. The 50 per cent. sensitivities are simplified estimates based on full year 50 per cent. curtailment of Alunorte, Paragominas and Albras, excluding any effects from Force Majeure clauses.

(5) BRL/NOK sensitivity calculated on a long-term basis with fuel oil assumed a USD exposure. In the short term, fuel oil is BRL denominated. Fixed costs in Bauxite & Alumina and Primary Metal assumed constant between the production scenarios.

## SELECTED HISTORICAL FINANCIAL INFORMATION

The following tables present selected consolidated financial information for the Issuer as at and for the years ended 31 December 2014, 2015, 2016, 2017 and 2018. The consolidated financial information presented below has been derived and/or extracted from the Issuer's audited consolidated financial statements as at and for the years ended 31 December 2015, 2016, 2017 and 2018, including the audited consolidated comparative financial information as at and for the year ended 31 December 2014.

The audited consolidated financial statements of the Issuer as at and for the years ended 31 December 2015, 2016, 2017 and 2018 have been prepared in accordance with the applicable International Financial Reporting Standards (IFRS) as endorsed by the European Union. The Issuer's consolidated financial statements as at and for the years ended 31 December 2017 and 2018 are included in this Prospectus. The Issuer's consolidated financial statements as at and for the other periods set out below have not been included in this Prospectus and are not included or incorporated by reference in this Prospectus.

On 1 January 2018, Hydro implemented the accounting standards IFRS 15 Revenue from Contracts with Customers and IFRS 9 Financial Instruments. The two new accounting standards require certain changes to recognition and measurement. The impact of this change was limited for Hydro (see Note 3 "*Changes in accounting principles and new pronouncements*" in Hydro's audited consolidated financial statements as at and for the year ended 31 December 2018). The information for prior periods has not been restated, in line with the implementation guidance in the standards, and is thus not fully comparable.

The Issuer has also presented certain alternative performance measures below for additional analysis. See "*Alternative Performance Measures*" below.

### Historical Consolidated Financial Statement Information

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| **NOK millions** | | | | | |
| Revenue | 77,907 | 87,694 | 81,953 | 109,220 | 159,377 |
| Depreciation, amortisation and impairment | 4,771 | 5,023 | 5,474 | 6,162 | 7,369 |
| Net cash provided by operating activities | 5,965 | 14,373 | 10,018 | 14,347 | 7,025 |
| Net income | 1,228 | 2,333 | 6,586 | 9,184 | 4,323 |
| Total assets | 126,273 | 122,544 | 130,793 | 163,327 | 161,855 |
| Total equity | 79,941 | 79,329 | 87,640 | 92,252 | 90,769 |

| | 2018 |
|---|---|
| **Revenues split by geography** | |
| **NOK millions** | |
| European Union | 77,927 |
| Other Europe | 13,156 |
| North America | 37,232 |
| South America | 8,661 |
| Asia & Middle East | 20,698 |
| Other | 1,702 |

| | 2018 |
|---|---|
| **Revenue top 5 countries** | |
| **NOK millions** | |
| USA | 31,899 |
| Germany | 21,428 |
| France | 8,604 |
| United Kingdom | 7,933 |
| Brazil | 7,700 |

### Alternative Performance Measures

This Prospectus includes certain financial information which has not been prepared in accordance with IFRS and which constitutes alternative performance measures ("**APMs**") for the purposes of the European Securities Markets Association Guidelines on Alternative Performance Measures, as further described in the section "*Alternative Performance Measures*" on pages 271 to 274 of the 2018 Annual Report, on pages A2 to A5 of the 2017 Annual Report and on pages 35 to 38 of the 2016 Annual Report, and in the section titled "*Financial and*

*Operating Performance*" on pages 141, 142, 146 and 147 of the 2015 Annual Report, all of which are incorporated by reference into this Prospectus and include definitions and quantitative information for 2018, 2017, 2016, 2015 and 2014 for the following APMs: underlying return on average capital employed (per cent.), capital employed by business area, underlying EBIT by business area, adjusted net cash (debt), funds from operations to adjusted net cash (debt) ratio and adjusted net cash (debt) to equity ratio. Definitions and quantitative information for other APMs including "capital expenditure" and "free cash flow" are included below.

APMs are used by Hydro to provide supplemental information, by excluding items that, in Hydro's view, do not give an indication of the periodic operating results or cash flows of Hydro. APMs are intendend to enhance comparability of the results and cash flows from period to period, and it is Hydro's experience that these are frequently used by analysts, investors and other parties. The APMs presented below are derived from Hydro's consolidated financial statements and underlying accounting records. The APMs include certain management judgments regarding the appropriateness of the adjustments to calculate the APM from the most comparable amounts determined under IFRS.

| **NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Underlying return on average capital employed (per cent.) | 5.2 | 9.2 | 5.1 | 9.6 | 6.5 |
| Adjusted net cash (debt) | | | (12,485) | (23,767) | (28,711) |
| FFO / Adjusted net cash (debt) | | | 95% | 68% | 46% |
| Adjusted net cash (debt) / Equity | | | 14% | 26% | 32% |

| **Underlying EBIT by business area(1)** **NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Bauxite & Alumina | (55) | 2,421 | 1,227 | 3,704 | 2,282 |
| Primary Metal | 3,937 | 4,628 | 2,258 | 5,061 | 1,762 |
| Metal Markets | 634 | 379 | 510 | 544 | 686 |
| Rolled Products | 698 | 1,142 | 708 | 380 | 413 |
| Extruded Solutions | - | - | - | 284 | 2,390 |
| Energy | 1,197 | 1,105 | 1,343 | 1,531 | 1,846 |
| Other & eliminations | (717) | (19) | 380 | (289) | (310) |
| Hydro | 5,692 | 9,656 | 6,425 | 11,215 | 9,069 |

Note:

(1) Reconciliations of EBIT to underlying EBIT by business area are shown further below.

| **Capital expenditure(2)** **NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Net cash provided by (used in) continuing investing activities | (2,275) | (9,391) | (4,781) | (14,436) | (7,196) |
| less: Purchases of short-term investments | 1,500 | 5,050 | 4,650 | 5,094 | - |
| less: Proceeds from sales of short-term investments | (2,250) | (1,000) | (5,850) | (8,402) | - |
| less: Sapa acquisition | - | - | - | 10,968(3) | - |
| Capital expenditure | (3,025) | (5,341) | (5,981) | (6,776) | (7,196) |

Notes:

(2) Hydro defines capital expenditure as net cash provided by (used in) continuing investing activities plus purchase of short-term investments and net cash used in business combinations less proceeds from sales of short-term investments. Capital expenditure is an APM that Hydro uses in calculating free cash flow.

(3) Hydro paid a cash consideration of NOK 11,860 million and received NOK 892 million in cash and cash equivalents.

| **Free cash flow(4)**<br>**NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Net cash provided by operating activities | 5,965 | 14,373 | 10,018 | 14,347 | 7,025 |
| Capital expenditure | (3,025) | (5,341) | (5,981) | (6,776) | (7,196) |
| Free cash flow | 2,940 | 9,032 | 4,037 | 7,571 | (171) |

Note:

(4) Hydro defines free cash flow as net cash provided by operating activities plus capital expenditure. Hydro believes free cash flow provides useful information to financial statement users for additional analysis.

| **Capital employed by business area**<br>**NOK millions** | **2018** |
|---|---|
| Bauxite & Alumina | 29,675 |
| Primary Metal | 33,583 |
| Metal Markets | 3,324 |
| Rolled Products | 13,232 |
| Extruded Solutions | 25,626 |
| Energy | 2,204 |
| Other & eliminations | (8,232) |
| Hydro (total) | 99,422 |

## Reconciliations of EBIT to underlying EBIT by business area

| **Bauxite & Alumina(5)**<br>**NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT) | (39) | 2,411 | 1,196 | 3,704 | 1,763 |
| Items excluded from underlying EBIT | (16) | 11 | 31 | 0 | 519 |
| Underlying EBIT | (55) | 2,421 | 1,227 | 3,704 | 2,282 |

| **Primary Metal(5)**<br>**NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT) | 3,928 | 4,459 | 2,285 | 4,729 | 2,123 |
| Items excluded from underlying EBIT | 9 | 169 | (27) | 331 | (361) |
| Underlying EBIT | 3,937 | 4,628 | 2,258 | 5,061 | 1,762 |

| **Metal Markets(5)**<br>**NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT) | 717 | 180 | 629 | 485 | 886 |
| Items excluded from underlying EBIT | (83) | 199 | (119) | 58 | (200) |
| Underlying EBIT | 634 | 379 | 510 | 544 | 686 |

| **Rolled Products(5)**<br>**NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT) | 1,121 | 154 | 953 | 512 | 336 |
| Items excluded from underlying EBIT | (423) | 988 | (246) | (132) | 77 |
| Underlying EBIT | 698 | 1,142 | 708 | 380 | 413 |

| **Extruded Solutions(5)**<br>**NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT) | - | - | 889 | 2,522 | 1,774 |
| Reclassification(6) | - | - | (889) | (800) | - |
| Items excluded from underlying EBIT | - | - | - | (1,438) | 616 |
| Underlying EBIT | - | - | - | 284 | 2,390 |

| **Energy[5]** **NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT)....................... | 1,193 | 1,103 | 1,343 | 1,531 | 1,853 |
| Items excluded from underlying EBIT.................................... | 4 | 3 | - | - | (7) |
| Underlying EBIT .................................................................... | 1,197 | 1,105 | 1,343 | 1,531 | 1,846 |

| **Other & Eliminations[5]** **NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT)....................... | (1,245) | (48) | (285) | (1,295) | (214) |
| Reclassification[6] ..................................................................... | - | - | 889 | 800 | - |
| Items excluded from underlying EBIT.................................... | 528 | 28 | (225) | 206 | (97) |
| Underlying EBIT .................................................................... | (717) | (19) | 380 | (289) | (310) |

| **Hydro total[5]** **NOK millions** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Earnings before financial items and tax (EBIT)....................... | 5,674 | 8,258 | 7,011 | 12,189 | 8,522 |
| Items excluded from underlying EBIT.................................... | 18 | 1,398 | (586) | (974) | 547 |
| Underlying EBIT .................................................................... | 5,692 | 9,656 | 6,425 | 11,215 | 9,069 |

Notes:

(5) For detailed specification of items excluded, please refer to the sections "*Alternative Performance Measures*" in the 2018 Annual Report, the 2017 Annual Report and the 2016 Annual Report, and to pages 141, 142, 146 and 147 of the 2015 Annual Report in the section titled "*Financial and Operating Performance*", which are incorporated by reference in this Prospectus, as indicated above.

(6) Earnings before financial items and tax (EBIT) are based on note 7 "*Operating and geographic segment information*", which reflects Extruded Solutions as a reporting segment for the full years 2016 and 2017. Items excluded from underlying EBIT and underlying EBIT is based on the actual quarterly reporting, with share of Sapa net income recognised as part of Other & Eliminations for the full year 2016 as well as the first three quarters of 2017.

## CAPITALISATION

The following table sets forth, as at 31 December 2018, Hydro's consolidated historical cash and cash equivalents, short- and long-term borrowings, equity and total capitalisation.

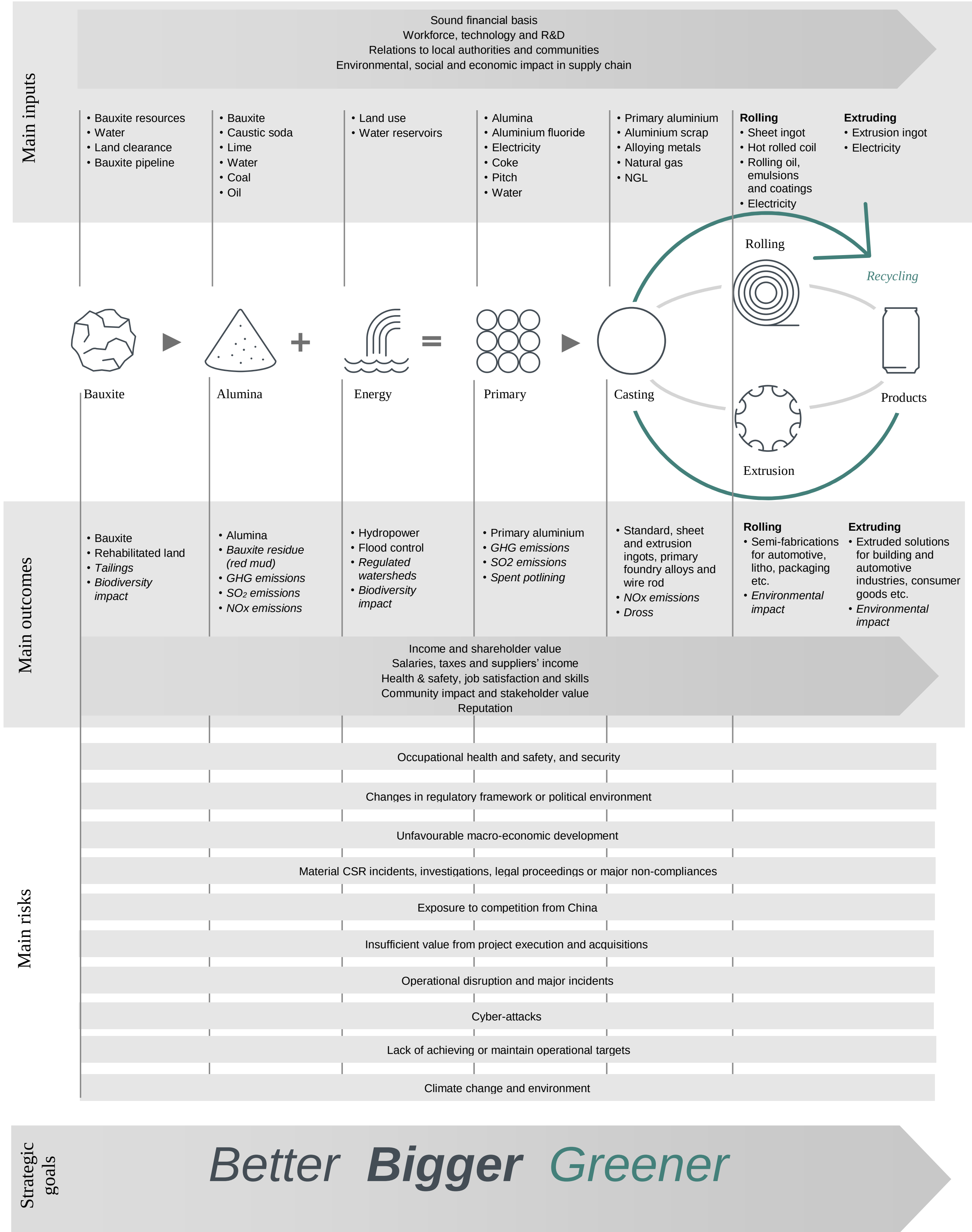
| | **As at 31 December 2018** |
|---|---|
| | **NOK millions** |
| Cash and cash equivalents | 5,995 |
| Bank loans and other interest-bearing short-term debt | 8,543 |
| Long-term debt | 7,080 |
| | |
| Share capital | 2,272 |
| Additional paid-in capital | 29,126 |
| Treasury shares | (756) |
| Retained earnings | 57,127 |
| Other components of equity | (1,936) |
| Non-controlling interests | 4,936 |
| | |
| Total capitalisation | 112,387 |

## DESCRIPTION OF HYDRO

Hydro is a fully integrated aluminium company with 35,000 employees in 40 countries across all continents, combining local expertise, worldwide reach and extensive capabilities in R&D. In addition to the production of primary aluminium, rolled and extruded products and recycling, Hydro also extracts bauxite, refines alumina and generates energy to be the only all-services company in the global aluminium industry. Hydro is present in all market segments for aluminium, with sales and trading activities throughout the value chain, serving more than 30,000 customers. Based in Norway and rooted in more than a century of experience in renewable energy, technology and innovation, Hydro is committed to strengthening the viability of its customers and communities, shaping a sustainable future through innovative aluminium solutions.

The Issuer is an operational company and the ultimate parent company in the Group. The Issuer has been listed on the Oslo stock exchange since 1909 and consists of about 220 companies. Most subsidiaries, including the large operating units in Norway and Germany, are 100 per cent. owned, directly or indirectly, by the Issuer. The two most significant subsidiaries in the Group are Hydro Aluminium AS, owning directly or indirectly all the bauxite, primary and downstream assets and Hydro Energi AS, owning the majority of Hydro's energy assets in Norway. Both companies are owned directly by the Issuer. Restrictions in the ability to transfer dividend based on reported results and/or equity in the relevant subsidiaries exist in most countries where Hydro operates. In some countries, including Brazil, there are also legal restrictions in the Issuer's ability to integrate cash holdings in subsidiaries in the Group's cash pool. There are non-controlling interests in some subsidiaries. As a parent company of the Group and primarily a holding company, the profit of the Issuer is dependent upon the results of the operations of the Issuer's subsidiaries, as well as the Group's investments in associates and jointly controlled entities.

Hydro's value chain is shown below:


Main inputs
Sound financial basis
Workforce, technology and R&D
Relations to local authorities and communities
Environmental, social and economic impact in supply chain
• Bauxite resources
• Water
• Land clearance
• Bauxite pipeline
• Bauxite
• Caustic soda
• Lime
• Water
• Coal
• Oil
• Land use
• Water reservoirs
• Alumina
• Aluminium fluoride
• Electricity
• Coke
• Pitch
• Water
• Primary aluminium
• Aluminium scrap
• Alloying metals
• Natural gas
• NGL
Rolling
• Sheet ingot
• Hot rolled coil
• Rolling oil, emulsions and coatings
• Electricity
Extruding
• Extrusion ingot
• Electricity
Rolling
Recycling
Bauxite
Alumina
Energy
Primary
Casting
Products
Extrusion
Main outcomes
• Bauxite
• Rehabilitated land
• *Tailings*
• *Biodiversity impact*
• Alumina
• *Bauxite residue (red mud)*
• *GHG emissions*
• *$SO_2$ emissions*
• *NOx emissions*
• Hydropower
• Flood control
• *Regulated watersheds*
• *Biodiversity impact*
• Primary aluminium
• *GHG emissions*
• *SO2 emissions*
• *Spent potlining*
• Standard, sheet and extrusion ingots, primary foundry alloys and wire rod
• *NOx emissions*
• *Dross*
Rolling
• Semi-fabrications for automotive, litho, packaging etc.
• *Environmental impact*
Extruding
• Extruded solutions for building and automotive industries, consumer goods etc.
• *Environmental impact*
Income and shareholder value
Salaries, taxes and suppliers' income
Health & safety, job satisfaction and skills
Community impact and stakeholder value
Reputation
Main risks
Occupational health and safety, and security
Changes in regulatory framework or political environment
Unfavourable macro-economic development
Material CSR incidents, investigations, legal proceedings or major non-compliances
Exposure to competition from China
Insufficient value from project execution and acquisitions
Operational disruption and major incidents
Cyber-attacks
Lack of achieving or maintain operational targets
Climate change and environment
Strategic goals
Better Bigger Greener

**Segment Introduction**

Hydro is a fully integrated aluminium company with attractive equity positions in bauxite, alumina and power, the most important raw materials in the production of primary metal. According to production data for 2018 provided by CRU International Ltd. ("**CRU**"), Hydro is one of the world's largest producers and suppliers of alumina and primary aluminium. Alumina production well in excess of its requirements gives Hydro a favourable market position. Substantial self-generated hydroelectric capacity in Norway, a dedicated gas-fired plant in Qatalum, in addition to long term power contracts, provide secure access to energy.

Downstream, Hydro is a provider of a range of rolled and extruded aluminium products and solutions, in particular the building, packaging, lithographic, precision tubing and automotive sectors. Hydro's ambition is to be recognised as the world's foremost aluminium solutions supplier, working in partnership with its customers and driving its business forward.

In 2017, Hydro completed the acquisition of Sapa, establishing Hydro as the only aluminium company with a global presence that is fully integrated across the value chain and markets. The acquisition reinforced Hydro's strength in technology, R&D, innovation and product development, as well as a broad product and service offering to the benefit of more than 30,000 customers throughout the world. The integrated model provides Hydro with the capability and freedom to grow in the most attractive areas of aluminium, as well as strengthening the sustainable solutions for a future low-carbon economy.

Hydro's business is divided into six operating segments: Bauxite & Alumina, Primary Metal, Metal Markets, Rolled Products, Extruded Solutions and Energy. Bauxite & Alumina includes Hydro's bauxite mining activities comprised of the Paragominas mine and a 5 per cent. interest in Mineracao Rio de Norte (MRN), both located in Brazil, as well as Hydro's 92 per cent. interest in the Brazilian alumina refinery, Alunorte. These activities also include Hydro's long-term sourcing arrangements and alumina commercial operations.

Primary Metal consists of Hydro's primary aluminium production, re-melting and casting activities at Hydro's wholly owned smelters located in Norway, and Hydro's share of the primary production in partly-owned companies located in Slovakia, Qatar, Australia, Canada and Brazil.

Metal Markets includes all sales and distribution activities relating to products from Hydro's primary metal plants and operational responsibility for Hydro's stand-alone re-melters. Metal Markets also includes metal sourcing and trading activities, which sources standard ingot for re-melting in Hydro's re-melters and primary cast-houses from third parties and provides operational risk management through LME hedging activities.

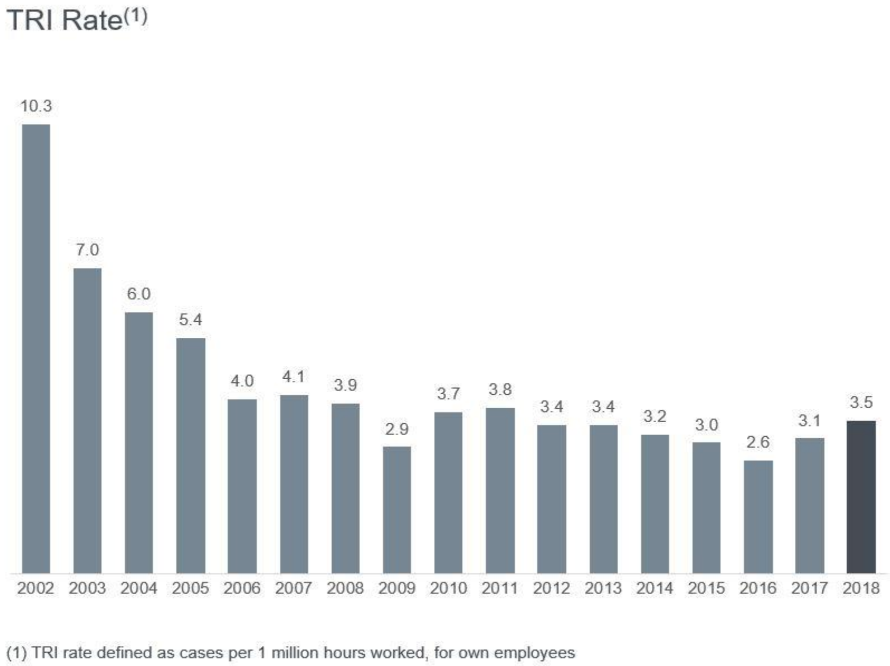
Rolled Products consists of five European rolling mills including Hydro's 50 per cent. interest in the AluNorf rolling mill in Germany. Rolled Products also includes the Neuss primary aluminium smelter in Germany.

Extruded Solutions consists of Hydro's extrusion-based business, located mainly in Europe and the Americas, which is focused on delivering solutions to the building and construction, transportation, and engineered products industries. Extruded Solutions also includes Hydro's aluminium building systems and precision tubing activities.

Energy is responsible for managing Hydro's captive hydropower production, external power sourcing arrangements to the aluminium business and identifying and developing competitive energy solutions for Hydro worldwide.

Hydro's business is subject to a broad range of risks and hazards that could result in major health, safety and security incidents. If not well managed, these incidents could cause fatalities, severe injuries to individuals, adverse health effects, damage to assets or to the environment. There has been a strong drive to improve safety performance throughout the organisation and more than 50 per cent. of all operational sites were total recordable-injury free during 2018. See "*Risk Factors – Occupational health and safety, and security risks*" for a fuller discussion.

The chart below shows the development in Hydro's total recordable incidents (TRI) rate in the period from 2002 to 2018.




**Climate strategy**

Hydro's climate strategy is an integral part of its overall business strategy, with the aim of driving improvements and development within the Group. Hydro's climate strategy is an important consideration when making any significant investment decision. The climate strategy includes reducing the environmental impact of Hydro's operations, as well as seeking out business opportunities to facilitate its customers also reducing their environmental impact. While some of Hydro's production plants or products have a higher carbon footprint than others, Hydro aims to have a carbon balance (the difference between emissions and benefits) across the Group of zero or less by 2020. In order to achieve this goal, Hydro aims to increase production of primary aluminium in Norway, which is produced using hydropower, increase its recycling and increase deliveries to the automotive sector.

**The Alunorte situation**

In February 2018 the region of Barcarena in northern Brazil suffered from flooding following two days of extreme rainfall. The areas flooded included Hydro's Alunorte alumina refinery. Brazilian authorities and local communities were concerned that flooding might have led to harmful spills into the surrounding areas. The relevant authorities imposed several measures while reviewing the situation. The measures restricted the production at the refinery to 50 per cent. of its capacity. Consequently, Alunorte's primary bauxite source, Paragominas, and Hydro's part-owned subsidiary, Albras aluminium plant, both in the state of Pará, reduced their production by 50 per cent.

More than 90 investigations and inspections were conducted by the relevant authorities, including the environmental agency in the state of Pará, Semas and, the federal environmental agency, Ibama. Semas and Ibama have both confirmed that there was no overflow from Alunorte's bauxite residue deposits. Reports concluded there was no indication or evidence of contamination of nearby local communities, nor any significant or lasting environmental impact to nearby rivers from Alunorte as a result of the extreme rainfall.

In addition to the production restriction at Alunorte, an embargo was enforced by the authorities on the press filters and on the new bauxite residue deposit area ("**DRS2**") which were under commissioning. Using DRS2 in combination with new state-of-the art press filters is the only viable long-term solution for Alunorte to dispose of bauxite residue. The current bauxite residue deposit area ("**DRS1**"), has an estimated remaining capacity of approximately 12 to 18 months based on volume of bauxite residue processed by the press filters. Subject to further geotechnical verifications, remaining capacity of DRS1 might be extended beyond this. The timing depends on both actual production volumes from Alunorte and DRS1's final regulated capacity.

In October 2018 the embargo previously imposed by Ibama on DRS2 and the press filters was suspended. On 15 January 2019 Semas issued a technical opinion confirming that Alunorte can operate safely at its installed capacity in respect of effluent treatment.

At the date of this Prospectus, the production embargoes on Alunorte as well as the embargoes on DRS2 by the Federal Court, both civil and criminal, remain in force. The timing with regards to when the embargoes may be lifted remains uncertain. Once the embargoes are lifted, it is expected to take around two months to reach 75 to 85 per cent. of Alunorte's nameplate production capacity. The timing of a return to full production capacity at Alunorte depends on the commissioning process of DRS2 and the press filters.

On 5 September 2018, Alunorte signed two agreements with the government of Pará and Ministerio Público, representing an important step towards resuming normal operations. The agreements regulate certain technical improvements, audits, fines, studies as well as additional investments related to the social development of communities in Barcarena. The combined investments, costs and fines are estimated at BRL 360 million (approximately NOK 750 million). See note 35 "*Provisions*" of Hydro's consolidated financial statements for the year ended 31 December 2018.

In response to the flooding in the area, Alunorte has expanded its voluntary social measures for communities close to the refinery. Alunorte continues to support the communities with water supply and health services and has committed to contribute to long-term improvements. To support broad collaboration for social change in Barcarena, Alunorte has committed BRL 100 million (approximately NOK 200 million) over 10 years in local community investments through the Sustainable Barcarena Initiative. The initiative is establishing an independent organisation, bringing stakeholders together to discuss, prioritise and decide on critical issues in Barcarena, reduce conflict, and strengthen the ability of local actors to drive social change and development in Barcarena.

Hydro has initiated several investments related to the wastewater handling and treatment systems at Alunorte, totaling 675 MBRL (approximately NOK 1.5 billion). These aim at increasing the wastewater treatment capacity by 50 per cent. and the water reservoir capacity by 350 per cent., as well as strengthening the infrastructure related to the water management system and enhancing the robustness and the flexibility of the system.

Hydro is in dialogue with all relevant authorities, at the local, regional and national level in Brazil. Hydro continues to seek a common agreed solution to resume operations, using the new and modern deposit area and the state-of-the-art press filters.

Following Vale's Brumadinho incident in Brazil in January 2019, Hydro is reviewing its tailings management system to ensure it can continue to operate safely. The tailings dams at Paragominas are built using mainly downstream elevation which provides high structural integrity and safety. At one dam, however, there is one section using centerline elevation. This section is part of the top elevation which is one metre high. The material stored in Hydro's dams is also of a much higher final solids content (55 to 60 per cent.). Hydro is closely monitoring and analysing the impact on the industry, including potential regulatory, political and societal implications on the back of the Brumadinho incident. Safe operations in compliance with regulatory requirements is crucial for Hydro. The Paragominas dams are stable and regularly monitored and audited by external experts. The dams meet all parameters of current environmental and mining legislation.

Hydro is also a 5 per cent. shareholder in Mineração Rio do Norte ("**MRN**"), where the tailings disposal process is designed to allow tailings to achieve a final solids content similar to that of Paragominas. MRN is the operator of the mine and is responsible for the management of its tailings system. Hydro works with MRN and the other shareholders through the board of directors and relevant technical committees to require the safe operation of MRN's tailings ponds in accordance with applicable laws and standards.

The operating segments are described below.

**Bauxite & Alumina**

***Industry overview***

Bauxite rock is composed mainly of aluminium hydroxide-bearing ore minerals, with accompanying accessory minerals commonly containing iron oxides and hydroxides, and silica as clay and/or quartz. The three main ore minerals are gibbsite, boehmite and diaspore. The amount of each in a particular bauxite source will determine alumina processing characteristics, and consequently will impact on the design, capital and operating costs of a related alumina refinery. In general, gibbsitic bauxite is preferred, as it can be processed at a lower temperature and pressure than boehmitic or diasporic bauxites. Most bauxites occur within a lateritic crust formed by intense tropical weathering, as near-surface blanket deposits. Bauxite is typically extracted from open cut mines, and either processed at nearby refineries, or transported to distant refineries, which can add substantial logistical costs to the production of alumina. According to CRU, about 80 per cent. of alumina refining outside of China is based on integrated bauxite mines, while approximately 65 per cent. of alumina refining in China is based on integrated sources.

Australia, China, Guinea and Brazil accounted for 29, 28, 17 and 11 per cent., respectively, of global bauxite production of 329 million mt in 2018, according to data from CRU. The five largest mines outside China represented around 43 per cent. of the western world bauxite production of 237 million mt in 2018.

Alumina is a significant cost element in the production of aluminium. The alumina market is competitive, but relatively few players hold a long position. According to CRU, China is the largest producing country representing approximately 57 and 54 per cent. of global demand and capacity.

*Bauxite and alumina price developments*

In the alumina industry, pricing has been moving away from fixed per cent. of the aluminium price to index pricing. Introduced in 2010, the Platts alumina price index reflects the fundamental supply and demand balance as well as general cost developments in the alumina market. The index continues to gain support in the industry and represents the main reference for contracts. Since 1990, average annual contract prices have risen from a level of around 12 per cent. of LME aluminium reference prices to above 22 per cent. in average for 2018. The Platts alumina index was strongly influenced by the Alunorte curtailment and United States (the "**U.S.**") sanctions against UC Rusal in 2018. Prices started in 2018 at around USD 389 per mt and were close to USD 408 per mt at year end. To balance the world market in the wake of the Alunorte curtailment, China was a net exporter of alumina in 2018.

China imported 82.7 million mt of bauxite in 2018, 20 per cent. more than the previous year. Driven by increasing mine production, imports from Guinea increased by 38 per cent. from 2017 to 38.2 million mt, outstripping the 17 per cent. increase in imports from Australia (29.8 million mt). Those two countries accounted for 82 per cent. of China's bauxite imports. The first full year of exports after a government-imposed export ban was lifted in the middle of 2017 resulted in a significant increase of imports from Indonesia (7.5 million mt). Imports from Brazil fell 52 per cent. to 1.6 million mt. Imports from Malaysia decreased 92 per cent. to 0.5 million mt as a bauxite mining moratorium imposed since January 2016 was strictly enforced.

The price of bauxite imported into China in 2018 increased to an annual average of USD 53 per mt CIF China compared to USD 51 per mt CIF China in 2017.

***Operations***

Bauxite from Paragominas is mined in open pits, sorted and crushed into sizes suitable for transportation as a slurry through a pipeline approximately 240 kilometres long to Alunorte for refining into alumina. Bauxite from MRN is transported by vessel. Alumina processing begins by removing the water from the bauxite slurry, then mixing the bauxite with caustic soda at high temperature and pressure. The resulting mixture is pumped into a digester, where a chemical reaction dissolves the alumina. This process produces a sodium aluminate solution, which is transferred into tanks to separate impurities through settling and filtration. The cooled sodium aluminate solution is then pumped into precipitators to grow alumina crystals, which are transferred to thickening tanks and then to fluid bed calciners to remove water, producing pure alumina.

*Cost and revenues drivers*

The main costs for bauxite are labour, maintenance and consumables, electricity and fuel for mining equipment, representing around 75 per cent. of the cash cost of Hydro's mining activities in 2018. Labour, the largest cost factor, accounting for about 33 per cent. in 2018, is influenced by Brazilian wage levels and productivity developments. Maintenance and consumables are influenced by inflation and the efficiency of operations.

Alumina refining, bauxite, energy and caustic soda represented around 80 per cent. of Hydro's cash costs in 2018. Energy costs are a mix of fuel, coal and electricity and represented around 30 per cent. of Hydro's total costs in the same year. Caustic soda represented around 15 per cent. of cash costs in 2018. In 2018, the prices of the main raw materials including fuel, coal, electricity and caustic soda increased compared to the previous year. Bauxite purchases from Paragominas, and under off-take agreements from MRN, are based on prices partly linked to LME prices and alumina market prices.

*Commercial Operations*

When operating at full production capacity, Hydro has a long position in bauxite of 3-4 million mt and in alumina of approximately 2-3 million mt. Because of the Alunorte curtailment in 2018, Hydro had to source significant additional volumes of alumina externally. Hydro prices bauxite on its own fundamentals to reflect high quality Brazilian bauxite. As mentioned above, in addition to Paragominas and Hydro's equity interests in MRN bauxite mine, Hydro has volume off-take agreements for Vale S.A.'s ("**Vale**") 40 per cent. interest in MRN, which amounted to 5.8 million mt in 2018. The excess bauxite not consumed in Alunorte is sold to third parties.

In addition to Alunorte, Hydro buys alumina from a number of external sources. The main external source is Hydro's contract with Rio Tinto Alcan for the supply of 900,000 mt of alumina annually until 2030. In addition, Hydro buys and sells alumina in order to optimise its physical alumina portfolio on a short and medium-term basis.

*Technology and Innovation*

Hydro's Bauxite and Alumina business is continuously investing in a portfolio of innovative technology developments and R&D projects and initiatives, with the aim of improving its competitive position in the industry.

Hydro is using enhanced dry-stacking disposal technology, which includes an improved residue filtration step and in-situ mechanical compaction. Alunorte is now using press filtration technology before transporting the residue to the disposal area. The press filter technology produces a filtered cake with a lower moisture content, which allows for further in-situ mechanical compaction and storage at steeper slopes, thus reducing the disposal area requirements and its environmental footprint.

The economic utilisation of Alunorte's bauxite residue, in partnership with the national Brazilian entity SENAI (National Service of Industrial Apprenticeship), is an important R&D programme. Hydro is also working closely with the International Alumina Institute's Bauxite and Alumina committee to monitor industry developments that could be applicable to Alunorte. Alunorte is committed to developing a product based on bauxite residue within the next three years.

Two other R&D programmes currently underway, improved solid to solid separation processes at the Paragominas beneficiation plant and a modified bauxite digestion process at Alunorte, are directed at minimising the economic impact of the relatively high kaolinite content of Amazonian bauxite, which requires a high consumption of caustic soda at Alunorte. The targeted result will be a significant reduction in the operating cost at Alunorte in the future, and the increase in the amount of Hydro´s economically viable bauxite resources. Hydro is developing these programmes together with external organisations.

Paragominas and Alunorte are rapidly implementing a comprehensive portfolio of initiatives with good financial returns, ranging from advanced analytics, process digitalisation, automation and robotics. A disciplined process of screening is in place to allow correct prioritisation of identified digitalisation opportunities.

**Primary Metal**

***Industry overview***

The basic raw material for aluminium is bauxite which is refined into alumina. Aluminium smelting is a capital-intensive, technology-driven industry. Energy represents approximately 50 per cent. of the costs throughout the aluminium value chain. As the world's largest consumer and producer of aluminium, China has a significant impact on market fundamentals. Global primary production amounted to roughly 64 million mt in 2018. In 2018, China represented 55 per cent. of worldwide primary aluminium consumption and 57 per cent. of corresponding production. India and the Middle East are also growing in importance in the production of aluminium.

High quality aluminium products are also derived from remelting and recycling of aluminium scrap. Aluminium scrap is generated both in the production (pre-consumer) and use (post-consumer) of aluminium products. Around 70 to 75 per cent. of all aluminium produced since the Hall-Heroult process was discovered in 1886 is still in use. The actual share depends on lifetime assumption for aluminium products in different applications and in different regions of the world.

Aluminium is used in a variety of applications in several industries. The major consumer segments are transportation, building and construction, packaging and foil and electrical applications. The major consuming areas are China, North America, Western Europe, Japan and the rest of Asia.

Demand for aluminium products in mature markets like North America and Europe is normally in line with economic developments, although with greater volatility. However, substitution for steel and other metals by aluminium, in particular for automotive applications, contributes to higher growth levels and is a key fundamental driver underlying increasing demand in aluminium markets. In recent years, global demand has exceeded growth in GDP and is expected to continue to do so in the medium term. Consumer demand and continued infrastructure investment in China are expected to drive global demand growth in primary metal in the range of 2 to 3 per cent. for 2019 and around 3 per cent. over the coming 10 years. This is despite an expected lower pace of global economic development compared to the previous decade. Primary demand is expected to grow 1 to 3 per cent. in the world outside China in 2019, with largely stable macroeconomic development and increasing market penetration of aluminium components within the transportation market segments.

Although growth in the Chinese economy is slowing, the growth in aluminium consumption continues to outpace most other commodities. However, despite limited capacity development throughout 2018 in China, the structural oversupply in China amid weaker domestic demand has meant exports of semi-fabricated products were above historical levels for 2018.

*Structural developments*

The 10 largest aluminium companies in the world represent close to 50 per cent. of global aluminium production, and the 10 largest Chinese aluminium companies accounted for around 34 per cent. of the world's primary production in 2018. Chinese producers focus primarily on supplying the Chinese markets. Private companies such as Hongqiao group, Xinfa and East Hope have grown significantly in the last several years. In recent years, state-owned companies in China such as Chalco have increased in size due to restructuring efforts, incentivised partly through policies for the Chinese state-owned companies. Outside China, the strongest production growth has been among companies active in India, in particular Vedanta, and to a minor degree the Middle East. Alcoa has reduced its production due to smelter closures, in particular in North America.

*Aluminium price developments*

Primary aluminium is traded on several metal exchanges, but primarily the LME. The Shanghai Futures Exchange (the "**SHFE**") has grown in importance for international trade of standard ingots produced in China. Prices quoted on the SHFE include 16 per cent. value added tax. China has an export tax of 15 per cent. on primary aluminium, China also has a 13-15 per cent. VAT tax rebate on the export of semi-fabricated and finished aluminium products. In May 2015, the export tax was eliminated for several alloyed products while being maintained for pure primary aluminium ingots. No changes were made for aluminium and aluminium products during 2018. This development indicates that China intends to continue to discourage the export of pure primary aluminium while encouraging the export of higher value-added products.

LME aluminium prices are heavily influenced by macroeconomic and market developments. Prices have been volatile in the period following the historic decline during the financial crisis of 2008/2009. Through 2015, prices remained at a level that resulted in smelter closures not just in the U.S., but also in China. From early 2016, prices increased, and this trend continued through most of 2018, although with significant volatility throughout the year. Prices decreased towards the end of the year, impacted by weaker macro sentiment. The main cost was higher and volatile alumina prices due to the Alunorte refinery curtailment as well as other disturbances to global alumina production. Carbon and energy costs increased as well. Continued strict capacity control in China discouraged capacity expansions during 2018. The capacity control measures implemented mostly in 2017 resulted in capacity, mainly privately owned, being closed due to its classification as so called "illegal expansions", or because of contribution to pollution during the winter season. See "*Market Developments*".

Premiums outside China affect the incentive for Chinese exports, and Chinese semis export increased throughout 2017 and 2018. Arbitrage opportunities are expected to continue to occur in the future and will influence the size of exports of semi-fabricated products from China, and consequently also metal prices going forward. There has been an increase in trade and anti-dumping cases following increases in Chinese exports of semi-fabricated products, in particular for imports to the U.S. from China. Significant uncertainty remains with regard to further trade restrictions possibly being implemented during 2019.

In March 2018, the U.S. administration announced a 10 per cent. tariff on aluminium imports to the U.S., effective from 23 March 2018. Argentina and Australia are exempted from the 10 per cent. tariff, although Argentina will be covered by a quota. On 30 September 2018, the U.S., Canada and Mexico came to an agreement on a revised trade deal, called the United States – Mexico - Canada Agreement (the "**USMCA**"), replacing the 1994 NAFTA agreement. The USMCA is expected to be ratified during 2019 but does not address the 10 per cent. tariff on imported aluminium.

In April 2018, the U.S. Department of Treasury's Office of Foreign Assets Control ("**OFAC**") issued a sanctions list that included Russian individuals and companies, including the Russian aluminium company Rusal, which is controlled by Oleg Deripaska. The implementation of these sanctions was postponed at several instances throughout the year, but added to the overall uncertainty and volatility of aluminium and alumina markets throughout 2018. In December 2018, OFAC submitted a notification to the U.S. Congress of its intention to remove Rusal from the sanctions list, and despite attempts by the Democrats to block the removal of the sanctions, the sanctions were lifted on 27 January 2019.

China is still working actively to develop new domestic applications for aluminium, to make use of its properties and to reduce the overcapacity, such as applications within transport/railways.

*Cost developments*

World average production costs (business operating costs) increased in 2018 primarily due to higher operating costs, both in and outside China. Operating costs increased due to higher costs for alumina, power, labour and carbon in particular. Currency movements also affected the relative position of companies on the cost curve. In the latter part of the year the combination of high alumina prices and falling LME resulted in pressure on profitability for the least competitive smelters, typically located in China.

***Operations***

Hydro's primary aluminium plants have reduction facilities with pot lines and casthouses, where liquid and remelted aluminium is cast to form value-added products such as extrusion ingot, primary foundry alloys, sheet ingot and wire rod, in addition to standard ingot.

*Cost and revenue drivers*

The main costs incurred by Hydro in connection with its production of primary aluminium include alumina, power and carbon, which together comprised approximately 85 per cent. of the cash costs of electrolysis metal in 2018. Approximately two metric tons of alumina are required by Hydro to produce one metric ton of aluminium, representing about 40 per cent. of Hydro's production cost in respect of primary aluminium in 2018. For primary production, energy represented on average about 25 per cent. of Hydro's operating costs in the same period. Carbon anodes consumed in the smelting process accounted for approximately 20 per cent. of Hydro's total production cost of primary aluminium in 2018.

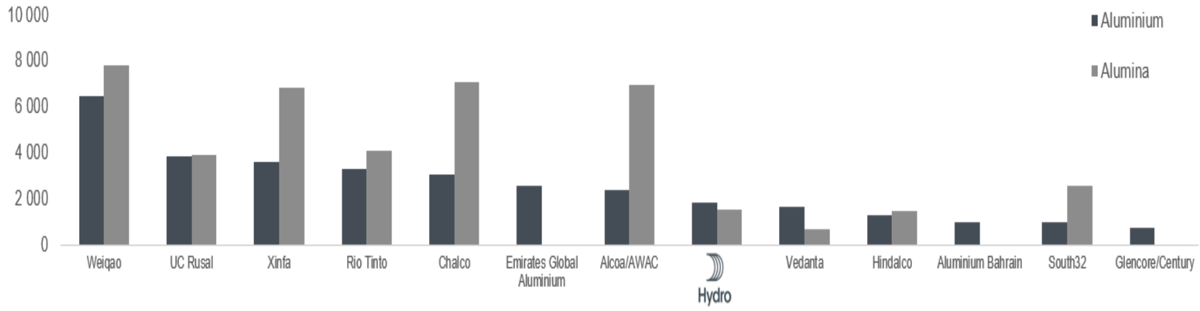
Realised aluminium prices are the most important revenue driver. Prices are fixed on average one month prior to production. As a result, and due to the hedging of product inventories, Hydro's realised aluminium prices lag LME spot prices by around 1 to 2 months.

*Competitive strengths*

Hydro has a global production network of cost efficient primary aluminium facilities including the Norwegian plant in Sunndal and Qatalum, its smelter in Qatar which has a very competitive position in the first quartile of the industry's cost curve according to business operating cost estimates in 2018 of CRU.

The graph below sets out Hydro's equity production in aluminium equivalents in 2018.

Equity production in 2018 in aluminium equivalents, thousand mt



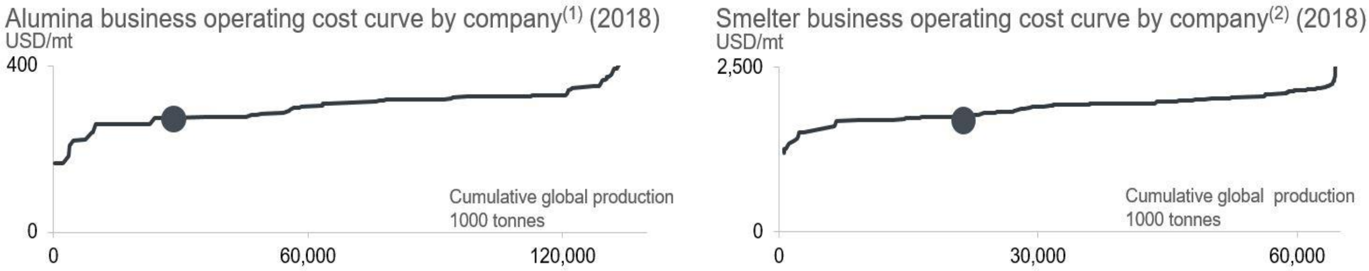

Source: Republished under license from CRU International Ltd

*Competitive position on the industry cash-cost curve*

Hydro has a culture of continuous improvement and a strong track record of continually upgrading the efficiency of its smelter portfolio. Most of Hydro's primary aluminium output is sold in the form of value-added casthouse products.

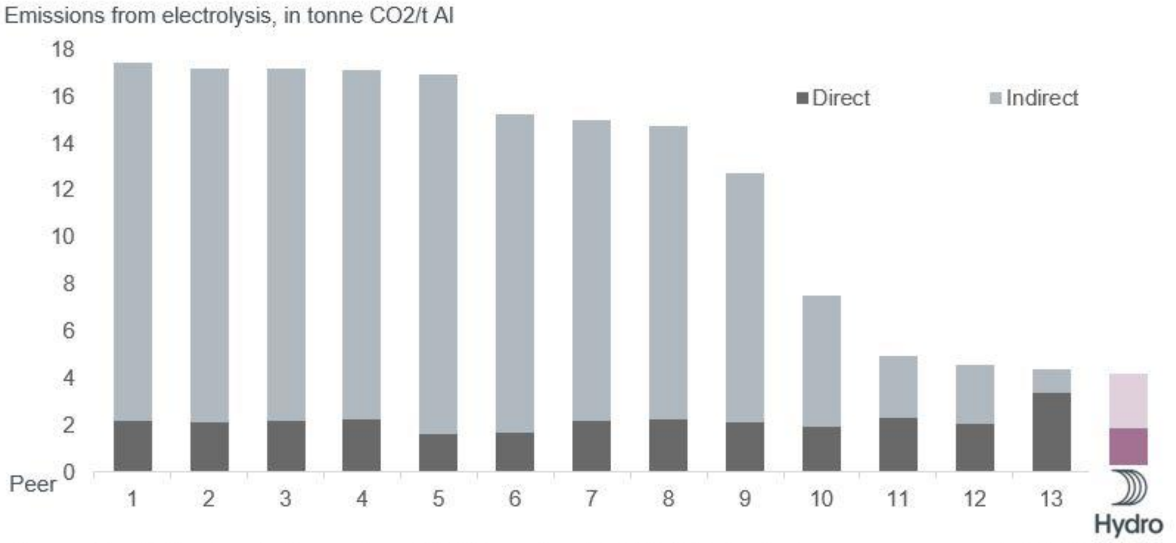
Hydro has a captive alumina position with more than 100 per cent. coverage, dependent upon full capacity at the Alunorte alumina refinery, and a robust power business, largely based on hydro power. Furthermore, Hydro's substantial coverage of current production until 2030 and beyond and its technological leadership and advanced smelter technology strengthens its competitive position.

The below graphs show the alumina business operating cost curve in 2018 and the smelter business operating cost curve in 2018. A lower position on the respective cost curves represents a strong competitive position, with higher value creation and improved robustness during periods of adverse market conditions.




Source: Republished under license from CRU International Ltd. Business operating cost assuming 100% production at Alunorte and Albras
(1) Alumina business operating cost curve: caustic soda USD 600, USD/BRL 3.75
(2) Aluminium business operating cost curve: LME USD 1 945, alumina USD 412, NOK/USD 8.5

According to CRU, Hydro has the lowest carbon emissions from electrolysis, compared to peers, shown in the graph below. Hydro believes this is a key factor, as well as a competitive advantage, in mitigating climate and environmental risk. See "*Risk Factors - Climate change and environmental risks*" for a fuller discussion.




Source: Republished under license from CRU International Ltd. Weighted emissions per company calculated by Hydro

*Aluminium smelter system*

Hydro had installed capacity in 10 wholly or partly owned plants in 2018. In the same year, Hydro produced around 2.0 million mt of primary aluminium, which is around 250 thousand mt below full capacity. Production was affected by the partial curtailments at the Husnes plant in Norway and the Albras plant in Brazil. An investment decision to upgrade and restart the curtailed capacity at Husnes was made in 2017, and first metal is expected in the first half of 2020. From April 2018, around 50 per cent. of the Albras smelter yearly production was curtailed due to the Alunorte situation.

Internal supply contracts between Hydro's hydro power production operations and its aluminium metal business covered about half of the energy consumption of its wholly-owned Norwegian smelters in 2018. The remainder was mainly covered by an external supply contract with Statkraft, a Norwegian electricity company. The contract will expire in 2020, however Hydro has entered into various power supply contracts, providing for a total annual power supply of 8.46 terrawatt hours ("**TWh**") for the period 2021 to 2030, 5.65 TWh for the period 2031 to 2035 and 5.11 TWh for the period 2036 to 2039, securing a significant part of the power consumption required by its Norwegian smelters for these periods.

Electricity for Qatalum is provided by an integrated natural gas-fired power plant supplied with gas by Hydro's joint venture partner, Qatar Petroleum. The rest of the global joint ventures are covered under medium to long-term contracts, expiring between 2021 and 2030.

*Technology and innovation*

Technology development and innovation are important pillars for primary metal to develop future benchmark technology platforms for aluminium production and to lift performance in existing smelters. The implementation of the Karmøy technology pilot in 2018 was an important milestone, introducing Hydro's next generation technology platform for electrolysis with considerably increased efficiency and performance.

The Karmøy technology pilot is now operating at full capacity, producing environmentally friendly and energy-efficient aluminium. Furthermore, the Karmøy technology pilot is testing a broad range of technical innovations that will increase efficiency and reduce the climate footprint of Hydro's production of primary aluminium.

**Metal Markets**

***Operations***

Hydro's Metal Markets team is responsible for all sales and distribution activities relating to products from its primary metal plants and its stand-alone remelters. Hydro operates seven remelters, which recycle mainly scrap, but also standard ingot, into new products. Hydro also markets metal products from its part-owned smelters and third parties, and engage in other sourcing and trading activities, including hedging activities on behalf of all business areas in Hydro.

*Cost and revenue drivers*

Hydro's results are predominantly affected by the operating results of its stand-alone remelters, margins on sales of third-party products and results from ingot and LME trading activities.

Revenues for Hydro's stand-alone remelters are influenced by volumes and product premiums over LME. Costs are driven by the cost of scrap and standard ingot premiums over LME, freight costs to customers and operational costs, including energy consumption and prices.

Hydro's results can be greatly influenced by currency effects and ingot inventory valuation effects. Changes in currency rates on sales and purchase contracts denominated in foreign currencies (mainly USD and Euro for Hydro's Norwegian operations) and the effects of such changes in currency rates on the fair market valuation of dollar denominated derivative contracts (including LME futures) and inventories, mainly translated to Norwegian kroner, can significantly affect Hydro's results. Hydro manages its external currency exposure on a consolidated basis in order to take advantage of offsetting positions. See "*Key financial exposures*".

Ingot inventory valuation effects are comprised of hedging gains and losses relating to standard ingot inventories in Hydro's metal sourcing and trading operations. Increasing LME prices result in unrealised hedging losses, while the offsetting gains on physical inventories are not recognised until realised. In periods of declining prices, unrealised hedging gains are offset by write-downs of physical inventories.

*Competitive strengths*

Hydro is a large worldwide supplier of extrusion ingot, sheet ingot, foundry alloys and wire rod, with a high share of value-added products, a multi-sourcing system including broad network of primary casthouses, stand-alone remelters and partly owned primary sources, as well as recycling capabilities, including advanced scrap sorting technology. Moreover, Hydro has a flexible sourcing system enabling rapid and cost-effective volume adjustments. This, together with Hydro's commercial expertise and risk management competence, enables Hydro to secure manufacturing margins.

*Remelting*

Hydro has a network of seven stand-alone remelt plants that convert scrap metal and standard ingot into extrusion ingot. Hydro has five plants in Europe and two in the U.S. with a total capacity of approximately 0.6 million mt, nearly 0.4 million mt of which is located in Europe. Hydro's remelters in Europe are located in Luxembourg, the United Kingdom, Germany, Spain and France. In addition, Hydro operates the scrap shredding and sorting plant at St. Peter, Germany, which has a capacity of approximately 36 thousand mt of scrap. Total remelt activity, including remelted metal from casthouses integrated with Hydro's primary metal plants and third-party sourcing, has historically represented about half of Hydro's total sales of metal each year, but has been reduced during the past years to adjust to market balance and improve margins. In addition to remelting process scrap returned from customers, Hydro purchases pre and post-consumer scrap from third parties. Standard ingot is procured globally under a combination of short and long-term contracts.

*Sourcing and trading*

To optimise the global standard ingot portfolio, Hydro sources standard ingot for remelting at its remelters and primary casthouses from third parties, as Hydro's production of standard ingot goes to other regions to optimise logistics. Third-party contracts are also entered to optimise Hydro's total portfolio position and to reduce logistics costs. Hydro also sells standard ingot to external customers. Hydro's main risk management objectives are to achieve an average LME aluminium price on smelter production, matching the average customer pricing pattern, and to secure margins in Hydro's midstream and downstream businesses. Hydro's sourcing and trading operation acts as an internal broker for all LME-hedging transactions by its business units in order to consolidate Hydro's exposure and reduce transaction costs. These hedging activities, which are designed to mitigate cash exposures, can generate significant underlying accounting effects, partly due to asymmetrical accounting treatment.

*Markets, products and customers*

Most of Hydro's aluminium is sold in the form of value-added casthouse products such as extrusion ingot, sheet ingot, foundry alloys and wire rod. Hydro's product with the highest volume is extrusion ingot, which is sold to extruders producing aluminium profiles. The most important end-use segments include the building and construction industry, transport and general engineering. Hydro's key market region for extrusion ingot is Europe. However, Asia and the U.S. are also important markets for Hydro selling units from Qatalum and Tomago. Other important markets for Qatalum include Turkey, the Middle East, Australia and New Zealand.

Foundry alloys are sold to foundries producing cast parts primarily for the automotive industry, with Asia being a significant market for this product in addition to Europe which is Hydro's largest market. Sheet ingot is sold to European rolling mills, with packaging and transportation as the most important end-use segments. Wire rod is sold to wire and cable mills in Europe for power transmission and other electrical applications.

In addition to marketing its own products, Hydro has commercial agreements to market products from part-owned smelters including a full marketing responsibility for all of the casthouse production at the smelters in Qatar and Slovakia.

Hydro's regional market teams are key to its customer approach, delivering commercial, technical, logistical and scrap conversion services. Optimised solutions, such as Hydro's customer service programmes and online customer portal, add further value and help build and reinforce customer relationships.

*Technology and innovation*

Innovation and development is undertaken pursuant to close collaboration between customers and Hydro's production and R&D units. Hydro's three main areas or focus are the quality of Hydro's products, the efficiency of Hydro's production system and the development of new alloys to enhance the functional characteristics of Hydro's products. Hydro's casthouse production process is based on Hydro's advanced proprietary casting technology, developed by the fully-owned equipment producer Hycast and Hydro's R&D centre.

Quality improvements are closely linked to Hydro's customer technical service, which addresses customer needs while improving Hydro's own casthouse process. Hydro develops new alloys with distinct properties to support the development of new or enhanced applications within the automotive, building, electronics and other industries. This work begins with developing an understanding of metallurgical processes that form the basis for sample compositions and production methodologies carried out in laboratory or test production facilities. Finally, full scale testing is often completed with customers and/or end users.

Recycling of post-consumer scrap is an important way Hydro reduces costs, increase capacity utilisation and reduce the carbon footprint of Hydro's products. Hydro's casting and alloy expertise enables it to produce products that can be recycled and used as raw material for high quality semi-finished products. Developing products that optimise the use of recycled material is another of Hydro's focus areas.

In 2017, Hydro launched its first certified sustainable products. Hydro offers the Hydro 75R product, guaranteeing at least 75 per cent. recycled content, all from post-consumer scrap. Similarly, Hydro offers the certified Hydro 4.0 product, with a carbon footprint of less than 4 kg $CO_2$ per kilo aluminium.

During 2018, Hydro sold certified sustainable products and will continue to further increase capacity in this segment.

**Rolled Products**

***Industry overview***

The aluminium rolled products industry is characterised by economies of scale, with significant capital investments required to achieve and maintain the required technological capabilities and to meet product standards.

In 2018, global consumption amounted to approximately 27 million mt, of which foil, beverage cans and transport comprised the most-common uses. Europe and North America each represent around 20 per cent. of world's consumption. The five largest producers in Western Europe supply about 70 per cent. of the European market. China is the largest single market, representing around 35 per cent. of global consumption.

The market in 2018 was affected by uncertainty driven by the U.S. administration imposing import tariffs on aluminium, the sanctions imposed on Rusal and the Alunorte situation.

The export of semi-fabricated and fabricated aluminium products from China to the rest of the world has steadily increased over the last several years, driven by the utilisation of Chinese production overcapacity as well as export tax rebates provided for several semi-fabricated products. Several countries have initiated, or are considering, anti-dumping measures on Chinese imports. The U.S. imposed 10 per cent. import duty on aluminium has redirected some Chinese export volumes to other regions including Europe.

***Operations***

The rolling process starts with "hot rolling": the process of heating 600 millimetres ("**mm**") sheet ingots to about 500 degrees Celsius and gradually rolling them into thicknesses of 3-13 mm for further processing. Depending on the final product, these sheet ingots are produced with various alloy compositions. An alternative process, continuous casting, converts molten metal directly into coiled strip, typically 4-8 mm thick. Once cool, the thinner metal is further processed in cold rolling mills, producing various types of products for all markets supplied.

*Cost and revenue drivers*

Rolled products is a margin-focused business based on a conversion price where the LME cost element is passed on to the customer. Contracts are generally medium term. The cost structure includes a high proportion of fixed costs, so results are volume-sensitive.

*Competitive strengths*

Hydro has market-positions with respect to high-end products including automotive, foil and lithographic sheet. It has a global reach, with more than 30 per cent. export share for high-end markets, serving key customers in the Americas, the Middle East and Asia-Pacific.

Hydro also has a R&D facility dedicated to rolled products, as well as closely linked assets including a 50 per cent. share in Alunorf and the wholly-owned Grevenbroich multi-product finishing mill. Moreover, the close proximity of Alunorf, Grevenbroich, the Rheinwerk smelter and R&D Bonn provides significant logistical advantages.

*Rolling mills*

In 2018 Hydro generated approximately 79 per cent. of its total sales in Europe. More than half of Hydro's production was produced in the Grevenbroich and Alunorf rolling system in Germany. Grevenbroich is the centre of Hydro's packaging, lithographic and automotive sheet operations. Hydro's production network mainly comprises so-called "wall-to-wall" processing, including an integrated casthouse combined with both hot and cold rolling mills.

Around 30 per cent. of the metal used was sourced internally, based on arm's-length conditions related to LME and applicable premium prices. External supplies of liquid metal, sheet ingots, standard ingots as well as post-consumer and pre-consumer scrap from Hydro's customers accounted for around 70 per cent. of its total requirements in 2018.

*Neuss smelter*

Rolled Products operates the Neuss aluminium smelter in Germany, with a primary metal capacity of 235,000 mt per year including one curtailed pot line. Rheinwerk Neuss also has a recycling capacity of 90,000 mt including a UBC recycling line which is currently in the ramp-up phase. The plant supplies the near-by AluNorf rolling mill with primary and recycling based sheet ingots for processing and subsequent fabrication of rolled products in Grevenbroich.

The Neuss smelter is an important element of this integrated system and provides significant operating synergies.

*Markets, products and customers*

Hydro's ambition is to leverage its position as a preferred supplier by focusing on quality, product development and innovative solutions, together with excellent customer service and overall cost efficiency. To ensure a strong market orientation, Hydro's sales function is organised centrally along business lines. Hydro has sales offices in Europe, Brazil, the U.S., and Singapore to optimise market contact and sales potential.

Hydro's rolled products business is organised in two business units serving the different market segments in which it operates: global products and special products.

*Business unit Global products*

Lithography: Hydro is a large global supplier of lithographic sheet for printing plates, a market characterised by stringent requirements for surface quality, metal characteristics and mechanical properties. Hydro differentiates its products through innovation, consistent high quality, supply chain solutions and extensive service to its customers. Key customers in this segment include Agfa, FujiFilm and Kodak. Hydro's lithographic production is concentrated at the Grevenbroich plant.

Automotive: Hydro is a major supplier of aluminium sheet and coil to the European automotive market for interior and exterior vehicle body parts, chassis and component applications. Key customers include Audi, BMW, Daimler, PSA and Jaguar Land Rover. Production is concentrated within Hydro's Grevenbroich and Hamburg plants. To increase its car body sheet capacity, Hydro has invested in a new production line in Grevenbroich (automotive line 3), which is currently in the ramp-up phase.

Heat Exchanger: Hydro produces a wide variety of mainly clad strip and sheet used in the manufacture of heat exchangers for passenger and commercial vehicles as well as other product applications. Hydro is among the top producers in Europe, working with key tier one suppliers such as Mahle Behr, Denso, Modine and Linde to develop specially adapted alloys and optimised production techniques to fit their manufacturing processes.

Foil: Hydro serves customer needs in the rigid, semi-rigid and flexible packaging industry, offering plain foil and strip. Hydro provides packaging solutions combining high-quality manufacturing with innovation, cost effectiveness and sound ecological characteristics. Hydro also offers a wide range of services relating to Hydro's packaging products in terms of consulting and technical support. Hydro is specialists in thin-gauge foil for flexible packaging, offering foil as thin as 5.0 µm for the packaging of food as well as for technical applications. Tetra Pak, Amcor Flexibles and Constantia Flexibles are key customers. Production of packaging is mainly concentrated in Hydro's Grevenbroich rolling mill.

Beverage can: Hydro is a worldwide supplier of body, end and tab stock in the form of rolled coil for the production of aluminium beverage cans. Hydro's modern and efficient production facilities, technical know-how and experienced development support facilitate the delivery of high-quality materials to meet the specific requirements of can manufacturers. Hydro's Grevenbroich plant is dedicated to the production of Hydro's quality proprietary can-end stock efficiEND®, which promotes productivity and cost-effective manufacturing to major beverage can manufacturers such as Ardagh, Ball and Crown.

*Business unit special products*

General Engineering: General Engineering products are mainly used in the building and construction, transportation, industrial and electrical markets. Products include coil and sheet for wholesalers and end-producers. Hydro operates modern and efficient manufacturing processes, offering quality products and extensive technical support.

Building (coated): Hydro is a large manufacturer of coated aluminium strips, with decades of experience in the building market. Hydro offers to its customers a portfolio of cost-effective solutions from the dedicated production lines in Hydro's Holmestrand rolling mill, including product applications for roofing and cladding, roller shutters, ceilings, composites and other specific applications.

*Technology and innovation*

Hydro differentiates its business through innovative products, processes and services that save resources, reduce emissions and increase performance. Customers benefit from this, which increases Hydro's market share and margins. Hydro cooperates with customers to develop innovative solutions through R&D and Hydro's sophisticated technical customer service. Hydro's experienced in-house simulation team utilises the latest computer-aided process design and alloy development tools. The sophisticated modelling seeks to deliver optimum results as well as to provide all the necessary information for efficient application by Hydro's customers.

Supported by its advanced scrap processing and melting concepts, Hydro intends to increase the volume of recycled material used in its production processes. Hydro also focuses on optimising its alloys to make aluminium the material of choice in all its markets.

In many markets, automotive in particular, product design complexity and demands on new high strength materials are increasing. Hydro recently launched three new aluminium alloys specifically for hot-metal forming of aluminium sheets, which is applicable for thin-walled complex automotive components. Unique property combinations like higher elongation, better formability and higher post-forming strength are allowing larger parts to be formed in one piece and are surpassing currently available alternatives in the market.

During 2018, Hydro and Forschungsgesellschaft Kraftfahrwesen mbH (FKA) in Aachen, Germany, developed a new concept for a fully electric L7e micro-car class. The study shows how aluminium can enable cars to achieve the L7e classification and still reach the safety typically provided by larger cars. In this advanced study, Hydro participated with engineering expertise from three of its business areas: extruded solutions, primary metal and rolled products.

Hydro's R&D centre continues the work to develop solutions for the recycling of automotive scrap. Further process development has been completed following last year's installation of the laser-induced breakdown spectroscopy (LIBS) based pilot scale sorting line at its R&D centre. Hydro sees clear opportunities for this technology to enhance its and aluminium's competitiveness and enable further growth in automotive.

*Digitalisation and Industry 4.0*

Digital transformation of Hydro's business is an important element for future value generation. New technologies provide opportunities to digitise along the whole value chain, capitalising on fast and continuous access to reliable and accurate data. Hydro aims to utilise digital technology for its benefits in production, such as stabilising material flow, increasing through-put and improving safety performance, as well as improved administrative functions and interfaces with customers and suppliers.

Rolled Products has developed a roadmap for digitalisation focusing on Big Data, Machine Learning, Track & Trace as well as Digital Worker.

**Extruded Solutions**

***Industry overview***

The global extrusion industry is characterised by fragmentation, with numerous local suppliers. Hydro's extrusion business ("**Extruded Solutions**") is the global market leader and largest player in the industry, according to sales volume data of CRU. However, competition is fierce with local suppliers that are well-established in their respective markets.

*North America, Brazil and Argentina*

North American demand for extruded products increased by approximately 4 per cent. in 2018, driven by growth in the transportation segment and higher activity in the building and construction market. The increased demand has been driven by a strong transportation sector, with heavy-duty truck and trailer build rates increasing as a result of robust freight demand and economic activity. Despite consistent build rates and soft car sales in the light vehicle segment, demand for extrusion has increased over recent years, supported by material substitution trends. The demand in the building and construction market has also grown, supported by strong housing starts in the residential segment and improved outlook in the commercial sector. In North America, although a large part of the business is local, the structure of certain markets, such as transportation, automotive, and rolling stock, is more often regional or even global. Beyond Hydro and its competitors such as Kaiser Aluminium, NMLP Aluminium Group and Bonnell Aluminium, the majority of extrusion operations in North America are local, independently-owned companies.

In South America, the economic development in Brazil and Argentina, the region's two largest economies, has been challenging. Despite various growth projections and reforms, South American development experienced a slower recovery in 2018 than expected.

*Europe*

Proximity is usually very important to European customers. Some European competitors that previously served local markets such as Cortizo, Exlabesa, and Hammerer Aluminium Industries, have expanded their footprint into other countries. There are more than 250 extruders with more than 730 presses in Europe. Despite overcapacity in Europe, Hydro is seeing new extruders entering selected markets. The European demand for extruded products has increased in 2018. The building and construction market continued its recovery, while the transportation sector had mixed developments across its sub-segments. The automotive market experienced a slowdown towards the end of 2018, driven by the backlog in certifying vehicles' carbon dioxide emissions, as part of the Worldwide Harmonised Light Vehicles Test Procedure ("**WLTP**"). Despite the slow-down in the automotive sector, extruders continued to benefit from material substitution trends, while the production of cars in Europe remained at high levels in 2018.

The building and construction industry is the largest consumer of aluminium extrusions in Europe and the market remains highly fragmented. The building and construction market is largely local or regional and is experiencing consolidation. With the harmonisation of building regulations across the EU, vendors are creating systems that are not limited by national borders and are coordinating development, production, purchasing, logistics and marketing. The Building Systems organisation in Hydro is taking on the same approach. Competitors include Schüco, Corialis, Ponzio, Kawneer, Reynaers, Heroal, and Hueck.

*Asia*

After two decades of strong investment-driven GDP growth, the Chinese economy is now entering an era of slower consumption-driven growth. The large government stimulus packages put in place after 2008 helped stimulate demand and led to a significant capacity increase in the extrusion industry. With somewhat lower growth rates, especially in the building and construction segment, more extruders are expected to move to the higher-end industrial and automotive segments.

Within the automotive sector, despite the recent slowdown, lightweight vehicle production continues to increase within the Chinese market. In addition, the Chinese government is heavily facilitating and promoting new energy vehicle infrastructure and technology, creating opportunities for new applications in the tubing business.

*Precision Tubing*

Precision Tubing is a global industry, represented in several regions. Consumption of extruded aluminium round tubes, multiport extrusions, and welded aluminium tubes is driven by thermal management applications in the automotive market. With the emergence of E-Mobility, additional applications in battery cooling have arisen as potential tubing segments. Another industry that is recognising the benefits of aluminium is Heating, Ventilation, Air Conditioning and Refrigeration ("**HVAC&R**"). In light of stricter legislation and tougher standards for energy efficiency and especially refrigerants, coupled with the hike in copper prices in 2017, aluminium represents a viable alternative solution.

Aluminium consumption in the automotive industry is expected to grow, driven largely by the increase in worldwide production of light vehicles, electric and hybrid cars, and higher penetration of air conditioning in emerging markets. In parallel, the HVAC&R market still represents considerable potential in substituting copper with aluminium at current production volumes. Precision Tubing is a provider of aluminium solutions for heat transfer applications. Hydro’s main competitors include Erbslöh Aluminium, Impol, and StandardMetallwerke in Europe and Brazeway, Peerless, and Penn Aluminium in the U.S. Competitors in Asia include UACJ, Wanhe, Mitsubishi, Vikas Altech, OKB, Yatal and CA Auto. Significant competitors of Extruded Solutions are also found in the copper segment, including Golden Dragon in Asia and the U.S., and Mueller Industries in Europe.

***Operations***

According to sales volume data from CRU, Extruded Solutions is the leading global supplier of extrusion-based aluminium solutions. Extruded Solutions also has a solid foothold in emerging markets with extrusion capacity in South America and Asia. Extruded Solutions is organised in four business units: Extrusion Europe, Extrusion North America, Precision Tubing and Building Systems. The business units are responsible for their respective value chains, from casthouses, aluminium extrusion and value-add operations to commercial activities such as product development and sales.

Extruded Solutions has an extensive network of production plants that ensures global reach combined with local presence. During 2018, Extruded Solutions focused on simplification, and adding more value and locating resources closer to customers.

*Cost and revenue drivers*

Extruded Solutions is a margin business and the LME aluminium cost element is passed on to the customer. Contracts are typically short to medium term. Extruded Solutions will continue to seek to shift the portfolio towards higher margin products.

*Competitive strengths*

Extruded Solutions’ strong technology competence and dedicated R&D centres and more than 1,000 engineers is one of its key strengths, as is its ability to reach customers globally and at a local level, as well as its delivery speed. Further strengths include its value chain breadth and depth, from extrusion to surface finishing and fabrication, welding and assembly, its strong and agile product development capabilities and technical leadership in precision tubing extrusion.

*Technology and innovation*

Extruded Solutions’ has four R&D centres, located in Finspång (Sweden), Troy (the U.S.), Karmøy (Norway) and Toulouse (France), complemented by application centres covering nearly 40 locations across the four business units and three corrosion labs in China, USA and Norway.

Efforts are shared across business units to achieve optimal knowledge transfer and enable a faster and more effective impact in other markets where similar opportunities arise.

To deliver better products to the customers faster, Extruded Solutions collaborate with leading universities such as the Norwegian University of Science & Technology (the “**NTNU**”), Michigan Technological University, Massachusetts Institute of Technology, and the University of Oxford, and specialised companies to address specific challenges.

The Building Systems team has opened physical showrooms in selected cities in Europe to promote their latest product developments. Product innovation is vital to success in that market where end-users are becoming advanced.

In Precision Tubing, the innovation is focused on developing new aluminium applications for the automotive industry, such as fuel and brake lines. Aluminium substitutes steel, resulting in comparable performance, but lighter products. R&D in Precision Tubing is also focused on developing new alloys to achieve higher corrosion resistance in heat exchangers.

## Energy

### *Industry overview*

Electricity in the Nordic market is predominantly generated by hydropower (54 per cent. of total generation in 2018) and nuclear power (22 per cent. of total generation in 2018). Total annual Nordic consumption is approximately 400 TWh.

There has been a common Nordic electricity market since the late 1990s. Since 2010, the physical power exchange, Nord Pool, has operated a common Nordic-Baltic electricity market. The Nordic system price is calculated in the day-ahead auction in the spot market at Nord Pool. The system price is normally the main reference price for financial contracts traded bilaterally and at the financial power exchange Nasdaq. Area prices are calculated for physical delivery to constrain flows when available transmission capacity would otherwise be exceeded. There are five price areas in Norway, four in Sweden and two in Denmark. Finland, Estonia, Lithuania and Latvia constitute one bidding area each.

Prices are influenced by fuel cost (including emission allowance cost), meteorological parameters (precipitation, temperature and wind) and exchange transmission possibilities with adjoining markets, as well as fluctuations in demand. An increase in intermittent generation from solar and wind power capacity has had a significant effect on price volatility in continental markets and influenced price developments in the Nordic market.

Implementation of EU energy and climate regulations had and will continue to have a significant influence on energy prices and energy and climate policy in all EU and European Economic Area countries. Emission trading has increased electricity prices by up to 50 per cent. in periods with high emission allowance cost in Europe, including the Nordic market where electricity is predominantly generated by non-emitting sources. There is, however, an ongoing EU legislative process aimed at reducing emissions and consequently increasing future allowance prices. In order to prevent carbon leakage, the EU established guidelines in 2012 allowing national governments to support industries exposed to global competition. Actual compensation, which is dependent on national implementation, is established in Norway, Germany and Slovakia with conditions corresponding closely to the EU guidelines.

A common electricity certificate market for Norway and Sweden was established in the beginning of 2012 with the objective of supporting the development of new renewable generation capacity. The certificate system is designed to facilitate an increase in annual renewable generation in the Norwegian and Swedish market of 28.4 TWh by 2021. The Swedish government has decided to prolong the scheme with a new national target for between 2020 and 2030.

### *Operations*

Hydro is a global energy player, purchasing and consuming substantial quantities of energy for its smelters, rolling mills and alumina refinery operations. In Norway, Hydro is the largest privately-owned power producer with operating and ownership interests in 26 hydroelectric power plants. Installed capacity was approximately 2,000 MW at the end of 2018, representing normal annual production of 10 TWh[10]. Hydro also purchases over 9 TWh annually in the Nordic market, pursuant to long-term contracts, mainly from the Norwegian state-owned company Statkraft.

*Cost and revenue drivers*

Production volumes and market prices are strongly affected by hydrological conditions. Seasonal factors affect both supply and demand. Hydro’s cost base is relatively stable, however, volatile spot volumes and prices may cause significant quarterly revenue variations. Hydro’s total power portfolio is being optimised in the market and in cooperation with its smelters.

*Competitive strengths*

Hydro’s strengths include that it has confirmed power coverage until 2030 as a result of entering into new contracts, substantial captive power through equity hydropower in Norway, a high share of renewable energy, low operating costs, operational and commercial competence and stable earnings and cash generation.

*Norwegian power assets*

Hydro's power plants are located in three main areas, Telemark, Sogn and Røldal-Suldal, and managed from a common operations centre at Rjukan in Telemark. Hydro also owns the Vigeland power plant in Vennesla and a 33 per cent. interest in Skafså Kraftverk ANS in Telemark.

The ownership and utilisation of Norwegian waterfalls for hydropower production, other than small-scale power production, requires a concession from the Ministry of Petroleum and Energy. According to legislation passed in 2008, new concessions may no longer be granted to private entities such as Hydro. Approximately one-third of Hydro's normal annual production in Norway, approximately 3 TWh per year, was acquired before such laws were enacted and does not contain any compulsory reversion to the Norwegian state. However, Hydro's concession for approximately two-thirds of its normal annual power production in Norway is subject to reversion to the Norwegian state with Røldal-Suldal being the first significant production facility subject to reversion.

In addition to sourcing power for its aluminium operations, Hydro sells about 1 TWh of the electricity related to concession power obligations to the local communities where the power plants are located.

Hydro optimises power production on a daily basis, according to the market and the hydrological situation within its water reservoirs. By utilising the flexibility of the hydropower plant systems and the volatility in the spot market price, Hydro aims to realise a premium above the average spot price. Hydro's total Norwegian power portfolio, including its own production, is balanced in the market on the Nord Pool Spot power exchange. Spot market sales vary significantly between dry and wet years, with an average of 4.0 TWh.

**Liquidity management and funding**

Hydro manages its liquidity and funding requirements centrally to cover group operating requirements and long-term capital needs. Hydro operates cash pools in several currencies where all wholly-owned subsidiaries participate, to the extent permitted by country legislation. Such cash pool arrangements facilitate netting of cash positions within the Group, thereby reducing the requirement for external financing, and centralising management of aggregated positions to the Issuer.

***Funding of subsidiaries, associates and jointly controlled entities***

Normally the Issuer incurs debt and extends loans or equity to wholly-owned subsidiaries to fund capital requirements. Hydro's policy is to finance part-owned subsidiaries and investments in associates and joint arrangements according to its ownership share, on equal terms with the other owners. All financing is executed on an arm's-length basis. Project financing is used for certain funding requirements mainly to mitigate risk while also considering partnership and other relevant factors.

**Recent Developments**

On Tuesday 19 March 2019, Hydro was subject to an extensive cyber-attack which impacted operations in several of its business areas. Following detection of the problem, Hydro isolated all plants and operations. At the date of this Prospectus, there have been no reported safety incidents as a result of the cyber-attack, and most operations are running, with certain exceptions in the Extruded Solutions business area. Hydro is doing its utmost to minimise the impact on its customers and suppliers. Hydro believes the root cause of the problem has been detected, and recovery plans are in process to restart its information technology systems in a safe and secure manner. Hydro still does not have an overview of the timeline towards resuming normal operations, and it is still too early to estimate the operational and financial impact of this incident. Hydro has cyber insurance in place, but it is too early to determine the extent to which this will cover the costs and financial loss incurred by Hydro as a result of the incident.

## MARKET DEVELOPMENTS

On 8 March 2018 the U.S. administration announced a 10 per cent. tariff on aluminium imports to the U.S., effective from 23 March 2018. Argentina and Australia are exempted from the 10 per cent. tariff, although Argentina will be covered by a quota. On 30 September 2018, the U.S., Canada and Mexico came to an agreement on a revised trade deal, the USMCA, replacing the 1994 NAFTA agreement. The USMCA is expected to be ratified during 2019 and does not address the 10 per cent. tariff on imported aluminium.

On 6 April 2018 the U.S. Department of Treasury's OFAC issued a sanctions list that included Russian individuals and companies including the Russian aluminium company Rusal, which is controlled by Oleg Deripaska. On 19 December 2018 OFAC submitted a notification to the U.S. Congress of its intention to remove Rusal from the sanctions list. Despite attempts to postpone the deadline further, OFAC deleted Rusal from the sanctions list as of 27 January 2019 meaning that the sanctions directed towards the company are now lifted.

**Upstream market developments**

The Platts alumina price index started 2018 at USD 389 per mt and was volatile throughout the year, with a low of USD 357 per mt, a high of USD 710 per mt and ending the year at USD 408 per mt. Prices averaged USD 474 per mt for 2018, an increase of 34 per cent. compared to 2017. Prices as a per cent. of LME averaged 22.5 per cent. for the year, compared to 17.8 per cent. for 2017. Spot prices at the end of 2018 represented 22.1 per cent. of LME.

Following the production embargo at the Alunorte refinery, the global alumina market excluding China was in deficit in 2018. The shortfall was balanced by Chinese alumina net exports of 0.95 million mt, with 0.51 million mt of imports offset by 1.46 million mt of exports. China has traditionally been an importer of alumina, with a 2017 total of 2.9 million mt of imports.

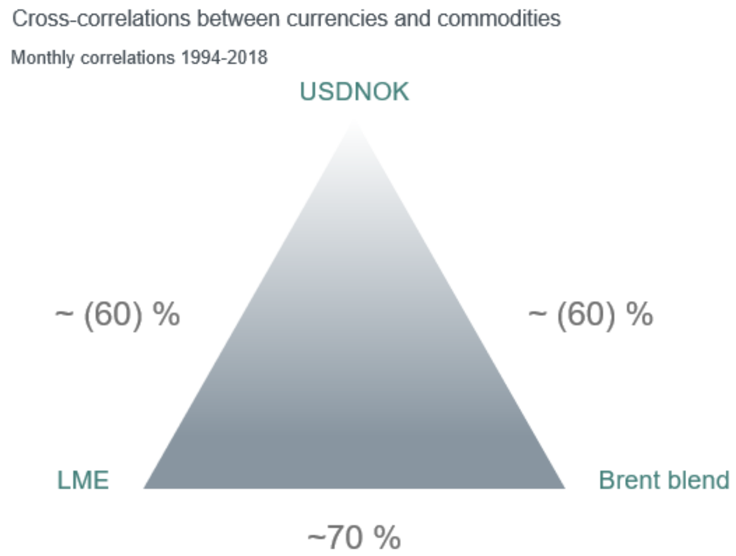
Bauxite imports into China continued to grow, with a total of 82.7 million mt in 2018, 20 per cent. higher than the 68.8 million mt imported in 2017. The increase was driven largely by the continued surge in imports from Guinea, which totalled 38.3 million mt for the year, compared to 27.6 million mt in 2017, and up from 11.9 million mt in 2016. Australia continued as a major supplier of bauxite to China, with 29.8 Mt supplied in 2018 compared to 25.5 million mt in 2017. Indonesia returned as an important source of bauxite imports with a total of 7.5 million mt in 2018, compared to just 1.3 million mt in 2017. Imports from Brazil continued to decrease, with a 2018 total of 1.6 million mt, compared to 3.3 million mt in 2017.

According to Chinese import statistics, the monthly average price of bauxite delivered by China was relatively stable in 2018, ranging between USD 52 and 55 per mt. Prices averaged USD 53 per mt for the year, an increase of 4 per cent. compared to 2017.

Three-month LME prices started 2018 around USD 2,250 per mt and experienced periods of high volatility during the year. Prices declined during the first quarter and were trading below USD 2,000 in early April. Following the announcement of U.S. sanctions against UC Rusal in early April, prices fluctuated by several hundred dollars, up to levels above USD 2,500 and back down below USD 2,300 within just a couple of weeks. Markets normalised during the latter part of the second quarter, resulting in more stable prices. In line with increased macroeconomic uncertainty, prices experienced a declining trend in the second half of 2018. At the end of the fourth quarter, prices had declined by around USD 400 per mt over the year, ending 2018 at around USD 1,850 per mt. Prices averaged USD 2,210 per mt in the first half of 2018 and declined to an average of USD 2,023 per mt in the second half of the year.

North American and European standard ingot and product premiums started the year at USD 209 per mt and at USD 162 per mt, respectively. The premiums increased sharply towards the end of the first quarter, reflecting significant events such as the imposition of a 10 per cent. import tariff in the U.S. as well as sanctions against UC Rusal. North American premiums reached a peak of USD 490 per mt in late April, largely reflecting the cost of the 10 per cent. tariff, while European premiums increased to USD 250 per mt in the same period. Premiums in both regions declined throughout the rest of the year, ending the year at USD 419 in North America and USD 115 in Europe. The decline resulted from falling LME prices, exports of semi-finished products from China and the increased availability of secondary aluminium, particularly in the North American market. Average North American standard ingot premiums increased by USD 220 per mt compared to 2017, while corresponding standard ingot premiums in Europe increased by approximately USD 15 per mt.

During the period from 1994 to 2018, the USD/NOK exchange rate has been negatively correlated with the aluminium price (LME) and Brent blend price levels, as shown in the chart below. This has reduced the volatility of Hydro's historical financial results, as high aluminium prices have been partly offset by a weak USD versus the NOK, and vice versa.

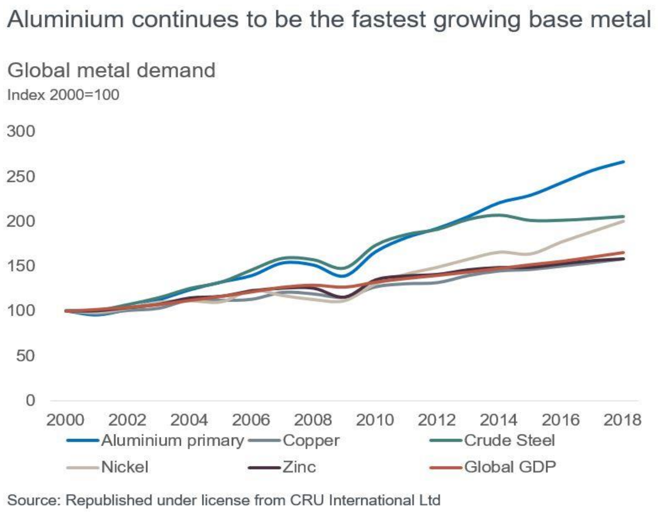


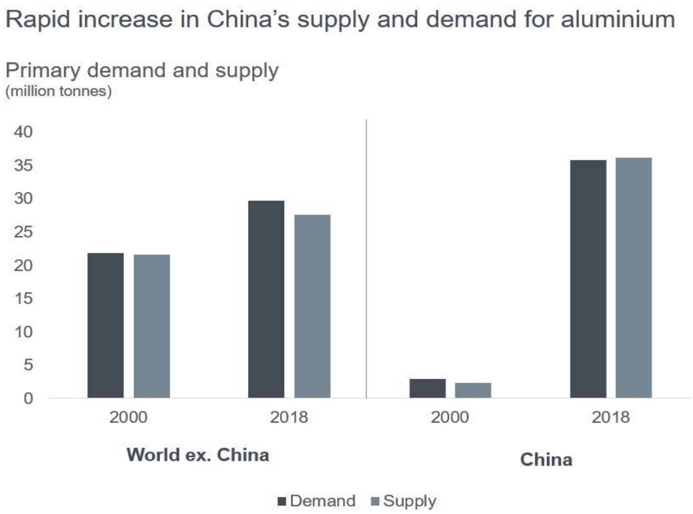

Global primary aluminium consumption increased by 3.1 per cent. to 65.5 million mt in 2018. Global supply increased by 0.5 per cent. to 63.8 million mt resulting in large global deficit of around 1.6 million mt. In 2019, global primary aluminium demand is expected to increase by 2-3 per cent., also resulting in a global deficit market.

Demand for primary aluminium outside China increased by around 2.1 per cent. in 2018, while corresponding production increased by 1.4 per cent. Overall, demand outside China exceeded production by around 2.1 million mt in 2018. Demand for primary aluminium outside China is expected to grow by around 1-3 per cent. in 2019. Corresponding production is expected to be increase 3 to 4 per cent., resulting in a deficit in the world market excluding China in 2019.

Demand for primary metal in China increased by around 4 per cent. to 35.8 million mt in 2018. Chinese production growth was close to zero in 2018, resulting in only a small surplus for the year. The low growth in Chinese production was a result of closures of illegal capacity in 2017, in addition to slower-than-expected ramp-ups of new projects as a result of low margins during the year. Chinese primary production growth is expected to increase by 2 to 4 per cent. in 2019. This is well below historical average, a result of the direction set out by Chinese authorities to reduce overcapacity within primary aluminium. Primary demand is estimated to increase by around 2 to 4 per cent., resulting in a small surplus in 2019.

The below graphs set out the rate of growth of global demand for aluminium and the increase in supply and demand for aluminium in China.



LME stocks increased slightly in 2018 from 1.1 million mt at the end of 2017 to 1.3 million mt at the end of 2018. This increase occurred mainly in the fourth quarter, driven by backwardation attracting metal to LME warehouses. Total inventories, including unreported inventories, are estimated to have declined throughout 2018. The total stock level is estimated to be around 11.0 million mt at the end of 2018.

Demand for extrusion ingot, foundry alloys and sheet ingot in Europe increased in 2018 compared to the previous year. The consumption of wire rod in the European market went up moderately in 2018 compared to 2017. Consumption of extrusion ingot has been strong in the U.S. also in 2018, while the demand for primary foundry remained stable compared to 2017. In Asia (excluding China), the market for extrusion ingot and primary foundry alloys continued to show moderate growth during 2018.

**Downstream market developments**

Motor vehicle production in Europe declined as manufacturers reduced the pace of output in response to a backlog in certifying vehicles' carbon dioxide emission as part of the new WLTP, introduced by the European Union in 2017, which became effective in September 2018.

The European market for flat rolled products increased by around 2.9 per cent. in 2018. Demand growth was stronger in the first half of the year, which was driven by automotive and general engineering.

The European extrusion market experienced growth of around 2 per cent. in 2018, driven by continued recovery in building and construction sector and positive developments in the industrial markets. The North American market also experienced an increase in demand, driven by positive developments in transportation sector, as well as building and construction markets. Despite the slow-down in the automotive sectors both in Europe and North America, extruders continue to benefit from material substitution trends.

**Energy market developments**

In 2018, Nordic electricity prices increased compared to the previous year primarily due to the weaker hydrological balance both in the Nordic and Continental areas and also higher marginal costs for coal and gas power plants. An important price driver during the year was the price of carbon which increased substantially ahead of the introduction of the Market Stability Reserve from January 2019. Nordic power prices were particularly strong during the summer and early autumn due to dry weather, low nuclear power availability and high continental power prices.

In Brazil, power prices varied significantly throughout 2018. During the wet season at the start of the year, a temporary oversupply in the North drove prices to low levels, while prices increased again during the summer and, in certain periods, to the defined maximum level as governed by the market regulators. However, heavy rainfall in October and November improved the hydrological balance and led to decreasing prices towards the end of the year.

## ADMINISTRATIVE, MANAGEMENT AND SUPERVISORY BODIES

There are no potential conflicts of interest between any duties to the Issuer of the persons referred to in this section and their private interests and/or other duties.

### Board of Directors

Set out below is the name and position of each member of the Board of Directors as at the date of this Prospectus. The business address of each member of the Board of Directors is P.O. Box 980 Skøyen, N-0240 Oslo, Norway.

***Dag Mejdell, chairperson***

- Position: Non-executive Director
- Education: Degree in Economics and Business Administration (*siviløkonom*) from the Norwegian School of Economics (NHH)
- Current directorships: Chair of International Post Corporation CV, Sparebank 1 SR Bank ASA, NSB AS, Telecomputing Topco AS, Telecomputing Finco AS and his wholly-owned investment company Nobel Partners AS and deputy chairperson of SAS AB

***Irene Rummelhoff, deputy chairperson***

- Position: Executive vice president, Marketing, Midstream and Processing, Equinor ASA
- Education: Master of Science in Geology/Geophysics (*sivilingeniør*) from the Norwegian Institute of Technology (NTH)
- Current directorships: None

***Arve Baade, employee representative***

- Position: Full-time employee representative representing Industri Energi
- Education: Certificate of apprenticeship in process studies
- Current directorships: None

***Finn Jebsen***

- Position: Independent businessman
- Education: Degree in Economics and Business Administration (*siviløkonom*) from the Norwegian School of Economics (NHH), Master's degree in Business Administration from the University of California, Los Angeles
- Current directorships: Chairperson of Kavli Holding AS, Board member of A. Wilhelmsen AS, Nel ASA, Norfund, Future Technology AS and his wholly-owned company Fateburet AS

***Liselott Kilaas***

- Position: Independent advisor
- Education: M.Sc Mathamatical Statistics, University of Oslo, master of Business Administration, IMD Lausanne, Switzerland
- Current directorships: Chairperson of the board of her wholly-owned company Procia Invest AS, Board member of Orkla ASA and Stiftelsen Det Norske Veritas

***Sten Roar Martinsen, employee representative***

- Position: Process operator / full-time union official representing the Norwegian Confederation of Trade Unions (LO)
- Education: Certificate of apprenticeship in electrochemistry, Work supervisor training
- Current directorships: None

***Tor Egil Skulstad, informal observer/employee representative***

- Position: Chief employee representative/full-time union official representing the Norwegian Confederation of Trade Unions (LO)
- Education: Air Force Candidate School, Machinery Focus School
- Current directorships: Board Member of Hydro Extruded Solutions AS, Hydro Extrusion Norway AS and Union Leader Fellesforbundet, Hydro Extruded Solutions AS

***Svein Kåre Sund, employee representative***

- Position: Technical supervisor, Relining/part-time union official representative in The Norwegian Society of Engineers and Technologists (NITO), Representing the employees through the Central Cooperative Council (*Sentralt samarbeidsråd*)
- Education: Bachelor of Science, HIST Trondheim
- Current directorships: None

***Thomas Schulz***

- Position: Group Chief Executive Officer, FL Smidth
- Education: PhD Mining & Mineral Processing, Rheinisch-Westfälische Universität Aachen RWTH, Germany
- Current directorships: None

***Marianne Wiinholt***

- Position: Executive vice president and Chief Financial Officer, Ørsted (formerly Dong Energy A/S)
- Education: State Authorised public Accountant

- Current directorships: Board member and Chair of the Audit Committee of Hempel A/S

**Management**

Set out below is the name and position of each member of the management team as at the date of this Prospectus. The business address of each member of the management team is: P.O. Box 980 Skøyen, N-0240 Oslo, Norway. In a press release dated 18 March 2019, Hydro announced the appointment of Hilde Merethe Aasheim as the new President & Chief Executive Officer ("**CEO**") of the Issuer. Hilde Merethe Aasheim will succeed Svein Richard Brandtzæg, who has decided to step down after 10 years. The appointment will be effective on 8 May 2019. Svein Richard Brandtzæg will act as an adviser to Hydro's CEO and technology board until the end of 2019.

***Svein Richard Brandtzæg, President and CEO***

- Key experience: Executive vice president and head of Aluminium Products, Head of Rolled Products, Head of Metal Products, Head of Magnesium
- Education: PhD, Norwegian Institute of Technology, Degree from the Norwegian School of Management (Bedriftsøkonom BI)
- External directorships: Chairperson of the Norwegian University of Science and Technology (NTNU), Member of Steering Committee of Bilderberg Meetings, Head of European Climate Committee, in the European Round Table for Industrialists

***Kjetil Ebbesberg***

- Key experience: Executive vice president Metal Markets, Head of BU Foundry alloys, CFO for Metal Products, Managing director and Plant manager at Holmestrand rolling mill and CFO for the Norwegian retail group Coop
- Education: Master of Science in Business from Norwegian School of Economics and Business Administration (NHH)
- External directorships: Chair of the board of European Aluminium (EA), member of the board of Multiconsult ASA, Supervisory Board Aluminium Norf GmbH and German-Norwegian Chamber of Commerce

***Egil Hogna***

- Key experience: President & Chief Executive Officer in Sapa, Head of Downstream in Yara International, CFO in Yara, Head of Mediterranean in Yara, VP Supply Chain Metal Products in Hydro, Consultant at McKinsey & Company
- Education: Master of Science degree from the Norwegian university of science and technology (NTNU), and an MBA from INSEAD, France
- External directorships: None

***Eivind Kallevik, CFO***

- Key experience: Head of Finance Bauxite and Alumina, Responsible for integration planning of all functional areas in the Vale deal, Head of Corporate Financial Reporting, Performance and Tax, Head of Finance Aluminium Products, Head of Business Controlling Hydro Aluminium, Responsible for Trade Finance & Cash Management in Norsk Hydro ASA. Prior to Hydro, 6 years of Oil and Gas Financing in Christiania Bank og Kreditkasse
- Education: Master of Business Administration from University of San Francisco
- External directorships: None

***Anne-Lene Midseim***

- Key experience: Company Secretary, Head of Staffs in Bauxite & Alumina, Head of Corporate Social Responsibility, Legal Counsel in Hydro, Resident Legal Advisor in East-Timor, Oil for development programme, Lawyer for Norwegian law firm Vogt & co, Executive Officer in the Ministry of Oil and Energy
- Education: Candidate in Jurisprudence (cand. jur.) from University of Oslo
- External directorships: Member of the Nomination Committee of Transparency International Norge, Chairperson of the Board Industriforsikring AS

***Arvid Moss***

- Key experience: Executive vice president and head of Corporate Strategy and Business Development, Project leader for the oil and gas merger agreement with Statoil, Head of Metal Products, Head of Automotive Structures
- Education: Degree in Economics and Business Administration (siviløkonom) from the Norwegian School of Economics (NHH)
- External directorships: President of the Confederation of Norwegian Enterprise (NHO)

***Hilde Vestheim Nordh (acting)***

- Key experience: Head of HSE & HR in Energy, HSE manager Karmøy, Cast house manager Karmøy
- Education: Diplomingenieurin (TH) in Materials Technology, Rheinisch Westfälische Technische Hochschule (RWTH) Aachen

- External directorships: None

***Inger Sethov***

- Key experience: Head of Communication & Public Affairs in Hydro, Head of Media Relations in Hydro, 10 years of experience as journalist and correspondent for Reuters and Dow Jones news agencies
- Education: BA Mass Communication & Journalism, California State University Fresno
- External directorships: None

***John Thuestad***

- Key experience: Head of Extrusion Europe in Hydro, 30 years operational and leadership experience in the aluminium industry
- Education: Master's degree Metallurgy, NTNU, MBA Carnegie Mellon University Pittsburgh
- External directorships: Board member Yara International ASA

***Hilde Merete Aasheim***

- Key experience: Head of Staff Functions and Corporate Services in StatoilHydro, Head of the integration between Statoil and Hydro's oil and gas activities, Head of Leadership and Culture in Hydro, 20 years of service in Elkem, last three years as head of the Silicon Division
- Education: Degree in Economics and Business Administration (siviløkonom) from the Norwegian School of Economics (NHH), Certified public accountant from NHH
- External directorships: Board member of IAI (International Aluminium Institute), member of the Nomination Committee Norsk Industries

## MAJOR SHAREHOLDERS

Hydro had 2,068,998,276 issued shares at the end of 2018. A total of 1.7 billion Hydro shares were traded on the OSE during 2018 at a value of NOK 80 billion, making Hydro the second most traded company on the OSE. The average daily trading volume for Hydro shares on the OSE during 2018 was 6.6 million shares.

Hydro's shares are listed on the OSE, while Hydro's American Depositary Shares trade on OTCQX International in the U.S., the premium over-the-counter market tier.

**Hydro's 20 largest shareholders as of 31 December 2018**

| Shareholder | Number of shares | Ownership interest |
|---|---|---|
| Ministry of Trade, Industry and Fisheries | 708,865,253 | 34.3 % |
| Folketrygdfondet | 139,282,717 | 6.7 % |
| Capital World Investors | 78,125,871 | 3.8 % |
| Schroder Investment Management Ltd. (SIM) | 60,666,176 | 2.9 % |
| DNB Asset Management AS | 42,461,846 | 2.1 % |
| The Vanguard Group, Inc. | 39,985,237 | 1.9 % |
| BlackRock Institutional Trust Company, N.A. | 37,948,664 | 1.8 % |
| Storebrand Kapitalforvaltning AS | 28,356,966 | 1.4 % |
| KLP Forsikring | 27,003,302 | 1.3 % |
| Danske Capital (Norway) | 26,720,822 | 1.3 % |
| JPMorgan Asset Management U.K. Limited | 24,840,602 | 1.2 % |
| SAFE Investment Company Limited | 24,561,718 | 1.2 % |
| AllianceBernstein L.P. | 21,642,565 | 1.0 % |
| Eurizon Capital SGR S.p.A. | 17,832,356 | 0.9 % |
| State Street Global Advisors (U.S.) | 17,531,855 | 0.8 % |
| Earnest Partners, LLC | 14,436,219 | 0.7 % |
| Nordea Funds Oy | 12,149,184 | 0.6 % |
| Legal & General Investment Management Ltd. | 12,053,186 | 0.6 % |
| Dimensional Fund Advisors, L.P. | 10,781,102 | 0.5 % |
| Wellington Management Company, LLP | 9,673,658 | 0.5 % |

Source: The above data is provided by Nasdaq through its share register analysis services. The data is obtained through the analysis of beneficial ownership and fund manager information provided in response to disclosure of ownership notices issued to all custodians on the Hydro share register. Whilst every reasonable effort has been made to verify the above data, Nasdaq cannot guarantee its accuracy. For a list of the largest shareholders as of 31 December 2018, from the VPS, see Note 13 "*Number of shares outstanding, shareholders and equity reconciliation*" to the financial statements of the Issuer as at and for the year ended 31 December 2018. Due to lending of shares, the shareholding of an investor registered in its VPS account may vary.

As of 31 December 2018 the Norwegian state, represented by the Ministry of Trade, Industry and Fisheries, owned 34.26 per cent. of Hydro's authorised and issued shares. Hydro holds regular meetings with the Ministry, where topics discussed include Hydro's economic and strategic development, corporate social responsibility, and the Norwegian State's expectations regarding results and returns on investments. These meetings are comparable to what is customary between a private company and its principal shareholders. The meetings comply with the provisions specified in Norwegian company and securities legislation, not least with respect to equal treatment of shareholders. As a shareholder, the Norwegian state does not usually have access to more information than what is available to other shareholders. If state participation is imperative and the government must seek approval from the Norwegian parliament (Stortinget), it may be necessary to provide the Ministry with inside information. In such cases, the state is subject to the general rules that apply to the handling of such information.

The Norwegian state has expressed a long-term ownership strategy in the Issuer for the purpose of retaining its head office and research activities in Norway (Report to the Storting no. 27 (2013-2014)). The Norwegian Ministry of Trade, Industry and Fisheries represents the Norwegian government in exercising the state's voting rights. The state has never taken an active role in the day-to-day management of Hydro and has for several decades not disposed of any of the ordinary shares owned by it, except when participating in the share buyback programmes.

## DESCRIPTION OF THE ISSUER

The legal name of the Issuer is Norsk Hydro ASA, the commercial name is Hydro.

The Issuer is registered in the Norwegian Companies Registry with registration number 914 778 271.

The Issuer was incorporated on 2 December 1905.

The Issuer is a public limited liability company organised under the laws of Norway, including the Public Limited Companies Act. See also "*Description of Hydro*".

The Issuer's registered address is P.O. Box 980 Skøyen, N-0240 Oslo, Norway. The Issuer's telephone number is +47 22 53 81 00.

## TERMS AND CONDITIONS OF THE 2025 BONDS

The issue of the €500,000,000 1.125 per cent. Bonds due 2025 (the "**Bonds**") was authorised by a resolution of the Board of Directors of Norsk Hydro ASA (the "**Issuer**") passed on 6 February 2019. A fiscal agency agreement dated 11 April 2019 (the "**Fiscal Agency Agreement**") has been entered into in relation to the Bonds between the Issuer, Citibank N.A., London Branch as fiscal agent and the other paying agents named in it. The Bonds have the benefit of a deed of covenant (the "**Deed of Covenant**") dated 11 April 2019 executed by the Issuer relating to the Bonds. The fiscal agent and the paying agents for the time being are referred to below respectively as the "**Fiscal Agent**" and the "**Paying Agents**" (which expression shall include the Fiscal Agent). "**Agents**" means the Fiscal Agent, the Paying Agents and any other agent or agents appointed from time to time with respect to the Bonds. The Fiscal Agency Agreement includes the form of the Bonds and the coupons relating to them (the "**Coupons**"). Copies of the Fiscal Agency Agreement and the Deed of Covenant are available for inspection during normal business hours at the specified offices of the Fiscal Agent and any Paying Agents. The holders of the Bonds (the "**Bondholders**") and the holders of the Coupons (whether or not attached to the relevant Bonds) (the "**Couponholders**") are deemed to have notice of all the provisions of the Fiscal Agency Agreement applicable to them.

All capitalised terms that are not defined in these terms and conditions (the "**Conditions**") will have the meanings given to them in the Fiscal Agency Agreement.

In these Conditions, "**euro**" and "**€**" means the currency introduced at the start of the third stage of the European economic and monetary union pursuant to the Treaty establishing the European Community, as amended and "**cents**" and "**cent**" shall be construed accordingly.

### 1 Form, Denomination and Title

(a) **Form and denomination**: The Bonds are serially numbered and in bearer form in the denominations of €100,000 and integral multiples of €1,000 in excess thereof up to and including €199,000, each with Coupons attached on issue. No definitive Bonds will be issued with a denomination above €199,000. Bonds of one denomination may not be exchanged for Bonds of any other denomination.

(b) **Title**: Title to the Bonds and the Coupons passes by delivery. The holder of any Bond or Coupon will (except as otherwise required by law) be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest in it, any writing on it, or its theft or loss) and no person will be liable for so treating the holder.

### 2 Status

The Bonds and the Coupons constitute direct, unconditional and (subject to Condition 3) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under the Bonds and the Coupons shall subject to Condition 3 at all times rank at least equally with all its other present and future unsecured and unsubordinated obligations, save for such exceptions as may be provided by applicable legislation.

### 3 Negative Pledge

(a) **Negative Pledge:** So long as any Bond or Coupon remains outstanding (as defined in the Fiscal Agency Agreement), the Issuer shall not create or permit to subsist any Security over any of its assets as security for Financial Indebtedness of the Issuer or any third party.

(b) **Exceptions to Negative Pledge:** Condition 3(a) shall not apply to any Security:

(i) granted pursuant to any netting or set-off arrangement entered into by the Issuer;

(ii) granted pursuant to any lien arising by operation of law or in the ordinary course of business;

(iii) granted pursuant to any title transfer or retention of title arrangement entered into in the ordinary course of business;

(iv) over or affecting any asset acquired by the Issuer after 9 April 2019; or

(v) granted by the Issuer over any of its assets in favour of a third party to secure any Financial Indebtedness of the Issuer or any third party ("**Third Party Security**"), subject to, at the same time or prior thereto, granting the Bondholders such other Security as shall be approved by an Extraordinary Resolution (as defined in the Fiscal Agency Agreement) of the Bondholders.

In these Conditions:

"**Financial Indebtedness**" means any indebtedness for or in respect of:

(a) moneys borrowed;

(b) any amount raised by acceptance under any acceptance credit facility;

(c) any amount raised pursuant to any note purchase facility or the issue of bonds, notes, debentures, loan stock or any similar instrument;

(d) receivables sold or discounted (other than any receivables to the extent they are sold on a non-recourse basis);

(e) any other transaction (including any forward sale or purchase agreement) which has the commercial effect of a borrowing and would be treated as such in accordance with generally accepted accounting principles applicable to the Issuer (but, for the avoidance of doubt, excluding any trade credit incurred in the ordinary course of business); and

(f) (without double counting) the amount of any liability in respect of any guarantee or indemnity for any of the items referred to in paragraphs (a) to (e) above,

provided, that for the avoidance of doubt, Financial Indebtedness shall not include any indebtedness for or in respect of any interest rate swap, currency swap, forward foreign exchange transaction, cap, floor, collar or option transaction or any other substantially similar treasury transaction that, for the avoidance of doubt, is not covered by any of sub-paragraphs (a) to (f) above or any combination or hybrid thereof or any derivative or other transaction entered into in connection with protection against or benefit from fluctuation in any rate or price; and

"**Security**" means a mortgage, charge, pledge, lien or other security interest securing any Financial Indebtedness.

## 4 Interest

The Bonds bear interest from and including 11 April 2019 (the "**Issue Date**") at the rate of 1.125 per cent. per annum (the "**Rate of Interest**"), payable annually in arrear on 11 April in each year (each an "**Interest Payment Date**"). Each Bond will cease to bear interest from the due date for redemption unless, upon due presentation, payment of principal is improperly withheld or refused. In such event it shall continue to bear interest at such rate (both before and after judgment) until whichever is the earlier of (a) the day on which all sums due in respect of such Bond up to that day are received by or on behalf of the relevant holder, and (b) the day seven days after the Fiscal Agent has notified Bondholders of receipt of all sums due in respect of all the Bonds up to that seventh day (except to the extent that there is failure in the subsequent payment to the relevant holders under these Conditions).

Where interest is to be calculated in respect of a period which is equal to or shorter than an Interest Period (as defined below), the day-count fraction used will be the number of days in the relevant period, from and including the date from which interest begins to accrue to but excluding the date on which it falls due, divided by the number of days in the Interest Period in which the relevant period falls (including the first such day but excluding the last).

In these Conditions, the period beginning on and including the Issue Date and ending on but excluding the first Interest Payment Date and each successive period beginning on and including an Interest Payment Date and ending on but excluding the next succeeding Interest Payment Date is called an "**Interest Period**".

Interest in respect of any Bond shall be calculated per €1,000 in principal amount of the Bonds (the "**Calculation Amount**"). The amount of interest payable per Calculation Amount for any period shall be equal to the product of the Rate of Interest, the Calculation Amount and the day-count fraction for the relevant period, rounding the resulting figure to the nearest cent (half a cent being rounded upwards).

**5 Redemption and Purchase**

(a) **Final Redemption:**

Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on 11 April 2025. The Bonds may not be redeemed at the option of the Issuer other than in accordance with this Condition.

(b) **Redemption for Taxation Reasons:**

The Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not less than 30 nor more than 60 days' notice to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption), at their principal amount (together with interest accrued to but excluding the date fixed for redemption), if (i) the Issuer has or will become obliged to pay additional amounts as provided or referred to in Condition 7 as a result of any change in, or amendment to, the laws or regulations of a Relevant Jurisdiction (as defined in Condition 7) or any change in the application or official interpretation of such laws or regulations, which change or amendment becomes effective on or after 9 April 2019, and (ii) such obligation cannot be avoided by the Issuer taking reasonable measures available to it, provided that no such notice of redemption shall be given earlier than 90 days prior to the earliest date on which the Issuer would be obliged to pay such additional amounts were a payment in respect of the Bonds then due. Prior to the publication of any notice of redemption pursuant to this Condition 5(b), the Issuer shall deliver to the Fiscal Agent a certificate signed by two directors of the Issuer stating that the Issuer is entitled to effect such redemption and setting forth a statement of facts showing that the conditions precedent to the right of the Issuer so to redeem have occurred, and an opinion of independent legal advisers of recognised standing to the effect that the Issuer has or will become obliged to pay such additional amounts as a result of such change or amendment.

All Bonds in respect of which any notice of redemption is given under this Condition 5(b) shall be redeemed on the date specified in such notice in accordance with this Condition 5(b).

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to above shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(b).

(c) **Redemption at the Option of the Issuer (Make Whole Redemption):**

The Issuer may, at any time, on giving not less than 30 nor more than 60 days' notice to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption (the "**Make Whole Optional Redemption Date**")), redeem all, but not some only, of the Bonds at the Make Whole Redemption Price together with interest accrued to but excluding the Make Whole Optional Redemption Date.

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to in the preceding paragraph shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(c).

Any notice of redemption given under this Condition 5(c) will override any notice of redemption given (whether previously, on the same date or subsequently) under Condition 5(b), Condition 5(d) or Condition 5(e).

In these Conditions:

"**Determination Agent**" means a financial adviser or bank, which is independent of the Issuer, appointed by the Issuer for the purpose of determining the Make Whole Redemption Price;

"**Frankfurt Business Day**" means any day (other than Saturday or Sunday) on which commercial banks and foreign exchange markets are open for business in Frankfurt;

"**Make Whole Redemption Price**" means, in respect of each Bond, (a) the principal amount of such Bond or, if this is higher, (b) the sum of the then present values of the remaining scheduled payments of principal and interest discounted to the Make Whole Optional Redemption Date on an annual basis (based on the actual number of days elapsed divided by 365 or (in the case of a leap year) by 366) at the Reference Dealer Rate (as defined below) plus 0.25 per cent., in each case as determined by the Determination Agent;

"**Reference Dealers**" means four (or, in the circumstances set out in the definition of "Reference Stock" below, five) credit institutions or financial services institutions that regularly deal in bonds and other debt securities as selected by the Determination Agent after consultation with the Issuer;

"**Reference Dealer Rate**" means with respect to the Reference Dealers and the Make Whole Optional Redemption Date, the average of the four quotations of the mid-market annual yield to maturity of the Reference Stock at 11.00 a.m. Central European time on the third Frankfurt Business Day preceding the Make Whole Optional Redemption Date quoted in writing to the Determination Agent by the Reference Dealers; and

"**Reference Stock**" means (a) the 0.5 per cent. German Government Bond (DBR) due 15 February 2025 or (b) if, at 11.00 a.m. Central European time on the third Frankfurt Business Day preceding the Make Whole Optional Redemption Date, the Reference Stock is no longer outstanding, such other central bank or government security that, in the majority opinion of three Reference Dealers (one of whom shall be the Determination Agent) (i) has a maturity comparable to the remaining term of the Bonds and (ii) would be utilised, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Bonds. If three Reference Dealers (one of whom shall be the Determination Agent) do not select the same central bank or government security, the Determination Agent after consultation with the Issuer shall approach a fifth Reference Dealer and, from the different central bank or government securities selected by the other Reference Dealers, such fifth Reference Dealer shall select as the Reference Stock the central bank or government security which, in its opinion (i) has a maturity comparable to the remaining term of the Bonds and (ii) would be utilised, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Bonds. The central bank or government security so selected by the fifth Reference Dealer shall then be the Reference Stock.

(d) **Redemption at the Option of the Issuer (Clean-Up):**

The Issuer may, at any time, on giving not less than 30 nor more than 60 days' notice (a "**Clean-Up Optional Redemption Notice**") to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption (the "**Clean-Up Optional Redemption Date**")), redeem all, but not some only, of the Bonds at their principal amount together with interest accrued to (but excluding) the Clean-Up Optional Redemption Date if, prior to the date the relevant Clean-Up Optional Redemption Notice is given, purchases (and corresponding cancellations) and/or redemptions have been effected in respect of 85 per cent. or more in principal amount of the Bonds originally issued, which for such purpose shall include any further Bonds issued pursuant to Condition 12 and consolidated and forming a single series with the then outstanding Bonds.

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to in the preceding paragraph shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(d).

Any notice of redemption given under this Condition 5(d) will override any notice of redemption given (whether previously, on the same date or subsequently) under Condition 5(b) or Condition 5(e).

(e) **Redemption at the Option of the Issuer (Pre-Maturity):**

The Issuer may, at any time on or after 11 January 2025, on giving not less than 30 nor more than 60 days' notice (a "**Pre-Maturity Optional Redemption Notice**") to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption (the "**Pre-Maturity Optional Redemption Date**")), redeem all, but not some only, of the Bonds at their principal amount together with interest accrued to (but excluding) the Pre-Maturity Optional Redemption Date.

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to in the preceding paragraph shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(e).

Any notice of redemption given under this Condition 5(e) will override any notice of redemption given (whether previously, on the same date or subsequently) under Condition 5(b).

(f) **Redemption at the option of the Bondholders following Change of Control:**

If a Change of Control Put Event (as defined below) occurs, the holder of each Bond will have the option (a "**Change of Control Put Option**") (unless prior to the giving of the relevant Change of Control Put Event Notice (as defined below) the Issuer has given notice of redemption under Condition 5(b), 5(c), 5(d) or 5(e) above) to require the Issuer to redeem or, at the Issuer's option, purchase (or procure the purchase of) that Bond on the Change of Control Put Date (as defined below) at its principal amount together with interest accrued to (but excluding) the Change of Control Put Date.

Promptly upon the Issuer becoming aware that a Change of Control Put Event has occurred the Issuer shall give notice (a "**Change of Control Put Event Notice**") to the Bondholders in accordance with Condition 13 specifying the nature of the Change of Control Put Event and the procedure for exercising the Change of Control Put Option.

To exercise the Change of Control Put Option, the holder of a Bond must deposit such Bond, together with all Coupons relating to it which mature after the Change of Control Put Date at the specified office of any Agent at any time during normal business hours of such Agent falling within the period (the "**Change of Control Put Period**") of 30 days after the relevant Change of Control Put Event Notice is given, accompanied by a duly signed and completed notice of exercise in the form (for the time being current) obtainable from the specified office of any Agent (a "**Change of Control Put Exercise Notice**"). No Bond so deposited may be withdrawn without the prior consent of the Issuer.

Payment in respect of any Bond so delivered will be made on the date which is the fifth payment business day (as defined in Condition 6(f)) after the expiration of the Change of Control Put Period (the "**Change of Control Put Date**"). A Change of Control Put Exercise Notice, once given, shall be irrevocable. The Issuer shall redeem or purchase (or procure the purchase of) the relevant Bonds on the Change of Control Put Date unless previously redeemed (or purchased) and cancelled.

If the rating designations employed by any of Moody's, S&P or any other Rating Agency are changed from those which are described in the definition of "Investment Grade Rating" below, the Issuer shall determine the rating designations of Moody's, S&P or such other Rating Agency (as appropriate) as are most equivalent to the prior rating designations of Moody’s, S&P or such other Rating Agency and this Condition 5(f) shall be construed accordingly.

In these Conditions:

“**Change of Control**” means (whether or not approved by the board of directors or the executive board (as applicable) of the Issuer) any person or persons acting in concert or any person or persons acting on behalf of any such person(s), at any time directly or indirectly own(s) or acquire(s) more than 50 per cent. of the issued ordinary share capital of the Issuer; provided, however, that a Change of Control shall not be deemed to have occurred if such ownership or acquisition is by the Kingdom of Norway and/or by any entity or entities (acting together or individually) controlled by the Kingdom of Norway from time to time, or in respect of which the Kingdom of Norway owns, directly or indirectly, more than 50 per cent. of the issued ordinary share capital of such entity;

“**Change of Control Announcement**” means any formal public announcement or statement by or on behalf of the Issuer, or any actual or potential bidder or any advisor thereto relating to any potential Change of Control where, within 180 days of the date of such announcement or statement a Change of Control occurs;

“**Change of Control Period**” means the period commencing on the earlier of (a) the date of the relevant Change of Control and (b) the date of the earliest Change of Control Announcement (if any) and ending, in each case, 180 days after the date of the relevant Change of Control;

A “**Change of Control Put Event**” will be deemed to occur if a Change of Control occurs and either:

(i) a Rating Downgrade shall have occurred within the Change of Control Period, or

(ii) a Negative Rating Event shall have occurred;

“**Investment Grade Rating**” means a rating of at least BBB- (or equivalent thereof) in case of S&P or a rating of at least Baa3 (or equivalent thereof) in the case of Moody’s or the equivalent rating in the case of any other Rating Agency;

“**Negative Rating Event**” means the event when neither the Issuer nor the Bonds are rated by a Rating Agency and a Change of Control occurs, and:

(i) the Issuer does not within the Change of Control Period seek, and thereafter use all reasonable endeavours to obtain from a Rating Agency, a rating of the Bonds; or

(ii) if the Issuer does so seek and use such endeavours, at the expiry of the Change of Control Period the Issuer has not obtained an Investment Grade Rating of the Bonds, provided that the Rating Agency publicly announces or publicly confirms in writing that its declining to assign an Investment Grade Rating was the result of the applicable Change of Control;

“**Rating Agency**” means Moody’s Investors Service Limited (“**Moody’s**”) or Standard & Poor’s Rating Services, a division of The McGraw-Hill Companies Inc. (“**S&P**”) or any of their respective successors or any other rating agency of equivalent international standing specified from time to time by the Issuer and notified to Bondholders by the Issuer pursuant to Condition 13; and

“**Rating Downgrade**” means the rating previously assigned to the Issuer or the Bonds by a Rating Agency is:

(i) withdrawn and not subsequently reinstated within the Change of Control Period; or

(ii) save as provided in (iii) below, changed to a rating lower than Investment Grade Rating and not subsequently upgraded to an Investment Grade Rating within the Change of Control Period; or

(iii) (if the rating assigned to the Issuer or the Bonds by any Rating Agency immediately prior to the commencement of the Change of Control Period is lower than Investment Grade Rating), lowered one or more full rating category/ies and not subsequently upgraded, within the Change of Control Period, to such rating assigned to the Issuer or the Bonds (as the case may be) prior to the commencement of the Change of Control Period,

provided that a Rating Downgrade otherwise arising by virtue of a particular change in rating shall be deemed not to have occurred in respect of a particular Change of Control if the Rating Agency making the change in rating to which this definition would otherwise apply does not publicly announce or publicly confirm that the reduction was the result of the applicable Change of Control. Notwithstanding the above, save from during a Change of Control Period, the Issuer may in its sole discretion cease to be rated by any Rating Agency.

(g) **Purchase:** The Issuer and its Subsidiaries may at any time purchase Bonds in the open market or otherwise at any price (provided that, if they should be cancelled under Condition 5(h) below, they are purchased together with all unmatured Coupons relating to them). The Bonds so purchased, while held by or on behalf of the Issuer or any such Subsidiary, shall not entitle the holder to vote at any meetings of the Bondholders (or to sign any Written Resolution (as defined in Condition 11(a)) or participate in any Electronic Consent (as defined in the Fiscal Agency Agreement)) and shall not be deemed to be outstanding for the purposes of calculating quorums at meetings of the Bondholders or otherwise for the purposes of Condition 11(a).

In these Conditions, "**Subsidiary**" means an entity from time to time:

(i) which is fully consolidated in the consolidated balance sheet of the Issuer; or

(ii) of which the Issuer directly or through or together with another Subsidiary owns more than fifty per cent. (50%) of the equity share capital (or equivalent right of ownership).

(h) **Cancellation:** All Bonds so redeemed or purchased and any unmatured Coupons attached to or surrendered with them will be cancelled and may not be re-issued or resold.

## 6 Payments

(a) **Method of Payment:** Payments of principal (including any Make Whole Redemption Price) and interest will be made against presentation and surrender (or, in the case of a partial payment, endorsement) of Bonds or the appropriate Coupons (as the case may be) at the specified office of any Paying Agent by euro cheque drawn on, or by transfer to a euro account maintained by the payee with, a bank in a city in which banks have access to the TARGET System. Payments of interest due in respect of any Bond other than on presentation and surrender of matured Coupons shall be made only against presentation and either surrender or endorsement (as appropriate) of the relevant Bond.

(b) **Payments subject to laws:** Payments will be subject in all cases to (i) any fiscal or other laws and regulations applicable thereto in the place of payment, but without prejudice to the provisions of Condition 7 and (ii) any withholding or deduction required pursuant to an agreement described in Section 1471(b) of the U.S. Internal Revenue Code of 1986 (the "**Code**") or otherwise imposed pursuant to Sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or (without prejudice to the provisions of Condition 7) any law implementing an intergovernmental approach thereto. No commissions or expenses shall be charged to the Bondholders or the Couponholders in respect of such payments.

(c) **Surrender of unmatured Coupons:** Each Bond should be presented for redemption together with all unmatured Coupons relating to it, failing which the amount of any such missing unmatured Coupon (or, in the case of payment not being made in full, that proportion of the amount of such missing unmatured Coupon which the sum of principal so paid bears to the total principal amount due) will be deducted from the sum due for payment. Each amount of principal or Make Whole Redemption Price, as applicable, so deducted will be paid in the manner mentioned above against surrender of the relevant missing Coupon not later than 10 years after the Relevant Date (as defined in Condition 7) for the relevant payment of principal or Make Whole Redemption Price, as the case may be.

(d) **Payments on payment business days:** A Bond or Coupon may only be presented for payment on a day which is a payment business day in the place of presentation. No further interest or other payment will be made as a consequence of the day on which the relevant Bond or Coupon may be presented for payment under this Condition 6 falling after the due date.

(e) **Paying Agents:** The initial Paying Agents and their initial specified offices are listed below. The Issuer reserves the right at any time to vary or terminate the appointment of any Paying Agent and appoint additional or other Paying Agents, provided that it will maintain (i) a Fiscal Agent and (ii) Paying Agents having specified offices in at least two major European cities. Notice of any change in the Paying Agents or their specified offices will promptly be given to the Bondholders.

(f) **Definitions:** In these Conditions:

"**payment business day**" means a day (other than a Saturday or a Sunday) on which banks and foreign exchange markets are open for business in the relevant city and which is a TARGET Business Day;

"**TARGET Business Day**" means a day on which the TARGET System is open for the settlement of payments in euro; and

"**TARGET System**" means the Trans-European Automated Real-Time Gross Settlement Express Transfer (TARGET2) system or any successor thereto.

## 7 Taxation

All payments of principal (including any Make Whole Redemption Price) and interest by or on behalf of the Issuer in respect of the Bonds and the Coupons shall be made free and clear of, and without withholding or deduction for, any taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by a Relevant Jurisdiction, unless such withholding or deduction is required by law. In that event the Issuer shall pay such additional amounts as will result in receipt by the Bondholders and Couponholders of such amounts as would have been received by them had no such withholding or deduction been required, except that no such additional amounts shall be payable in respect of any Bond or Coupon presented for payment:

(a) by or on behalf of a holder who is liable to such taxes, duties, assessments or governmental charges in respect of such Bond or Coupon by reason of his having some connection with the Relevant Jurisdiction other than the mere holding of the Bond or Coupon; or

(b) more than 30 days after the Relevant Date except to the extent that the holder of it would have been entitled to such additional amounts on presenting such Bond or Coupon for payment on the last day of such period of 30 days.

In these Conditions:

"**Relevant Date**" means whichever is the later of (i) the date on which such payment first becomes due and (ii) if the full amount payable has not been received in a city in which banks have access to the TARGET System by the Fiscal Agent on or prior to such due date, the date on which, the full amount having been so received, notice to that effect shall have been given to the Bondholders. Any reference in these Conditions to principal (including any Make Whole Redemption Price) and/or interest shall be deemed to include any additional amounts which may be payable under this Condition 7; and

"**Relevant Jurisdiction**" means the Kingdom of Norway or any political subdivision or any authority thereof or therein having power to tax, or any other jurisdiction or any political subdivision or any authority thereof or therein having power to tax to which the Issuer becomes subject in respect of payments made by it on the Bonds.

## 8 Events of Default

If any of the following events ("**Events of Default**") occurs:

(a) **Non-Payment:** the Issuer defaults in the payment of any principal of or interest or other amount on any of the Bonds for five payment business days following the original due date; or

(b) **Breach of Other Obligations**: the Issuer does not comply with, or defaults in the due performance or observance of, any of its obligations under the Bonds and such failure to comply continues unremedied for 30 days after notice of such non-compliance or default shall have been given to the Fiscal Agent at its specified office by any Bondholder; or

(c) **Cross Acceleration:** any Financial Indebtedness of the Issuer or a Principal Subsidiary has been duly declared due and payable prior to its specified maturity as a result of an event of default (however described), after any applicable grace periods (however described), provided that no Event of Default will occur under this Condition 8(c) if:

  (i) such claims are being legitimately contested by the Issuer or any Principal Subsidiary; or

  (ii) the aggregate amount of Financial Indebtedness is less than U.S.$100,000,000 (or its equivalent in any other currency or currencies on the basis of the middle spot rate for the relevant currency against the U.S. dollar as quoted by any leading bank on the day on which this Condition 8(c) operates).

(d) **Insolvency and cessation of business:** except as provided below, any of the following occurs in respect of the Issuer or any of its Principal Subsidiaries:

  (i) it stops payment or becomes Insolvent;

  (ii) it admits in writing its inability to pay its debts as they fall due;

  (iii) by reason of actual financial difficulties, it suspends making payments on any class of its indebtedness;

  (iv) a moratorium is duly declared in respect of all or any class of its indebtedness;

  (v) any liquidator, trustee in bankruptcy, judicial custodian, compulsory manager, receiver, administrative receiver or similar officer is duly appointed in respect of it (including, without limitation, a "*gjeldsforhandling*" under the Norwegian Bankruptcy Act of 8 June 1984);

  (vi) an order is duly made by a competent court or authority, or a resolution is duly passed by it, its shareholders or directors for its winding-up, administration or dissolution; or

  (vii) it shall cease or threaten to cease to carry on its business, otherwise than:

    (aa) pursuant to a sale, transfer or disposal to the Issuer or another Subsidiary; or

    (bb) in connection with or in pursuance of a winding up for the purpose of a reconstruction or amalgamation previously approved by an Extraordinary Resolution of the Bondholders; or (cc) in the case only of a Principal Subsidiary, by way of voluntary winding up where the surplus assets attributable to the Issuer and/or any Subsidiaries are distributed to the Issuer and/or those Subsidiaries,

provided that no Event of Default will occur under this Condition 8(d) in respect of any frivolous or vexatious proceedings presented by a creditor or other third party which is being contested in good faith and with due diligence.

In this Condition 8(d), "**Insolvent**" means the condition where a person is unable to pay its debts as they fall due and the debts of that person are greater than its aggregate property at fair value,

then any Bond may, by notice in writing given to the Fiscal Agent at its specified office by the holder, be declared immediately due and payable whereupon it shall become immediately due and payable at its principal amount together with accrued interest without further formality.

For the purpose of this Condition, "**Principal Subsidiary**" means any (directly or indirectly) wholly owned Subsidiary the gross assets of which represent more than ten per cent. of the consolidated gross assets of the Issuer and the Subsidiaries (taken as a whole) as determined from the latest consolidated financial report (quarterly unaudited financial report or audited consolidated balance sheet and profit and loss account, as applicable). Any such quarterly unaudited financial reports shall be prepared on the basis of the accounting principles essentially consistent with the principles applied in relation to the most recent annual audited consolidated accounts of the Issuer.

## 9 Prescription

Claims in respect of principal (including any Make Whole Redemption Price) and interest will become void unless presentation for payment is made as required by Condition 6 within a period of 10 years (in the case of principal and any Make Whole Redemption Price) and five years (in the case of interest) from the appropriate Relevant Date in respect of them.

## 10 Replacement of Bonds and Coupons

If any Bond or Coupon is lost, stolen, mutilated, defaced or destroyed it may be replaced at the specified office of the Fiscal Agent subject to all applicable laws and stock exchange or other relevant authority requirements, upon payment by the claimant of the expenses incurred in connection with such replacement and on such terms as to evidence, security, indemnity and otherwise as the Issuer may require (provided that the requirement is reasonable in the light of prevailing market practice). Mutilated or defaced Bonds or Coupons must be surrendered before replacements will be issued.

## 11 Meetings of Bondholders and Modification

(a) **Meetings of Bondholders:** The Fiscal Agency Agreement contains provisions for convening meetings of Bondholders to consider matters affecting their interests, including the sanctioning by Extraordinary Resolution of a modification of any of these Conditions. Such a meeting may be convened by Bondholders holding not less than 10 per cent in principal amount of the Bonds for the time being outstanding. The quorum for any meeting convened to consider an Extraordinary Resolution will be two or more persons holding or representing a majority in principal amount of the Bonds for the time being outstanding, or at any adjourned meeting two or more persons being or representing Bondholders whatever the principal amount of the Bonds held or represented, unless the business of such meeting includes consideration of proposals, *inter alia*, (i) to modify the maturity of the Bonds or the dates on which interest is payable in respect of the Bonds, (ii) to reduce or cancel the principal amount of, or Rate of Interest on, the Bonds or vary the method for calculating the Make Whole Redemption Price, (iii) to change the currency of payment of the Bonds or the Coupons or (iv) to modify the provisions concerning the quorum required at any meeting of Bondholders or the majority required to pass an Extraordinary Resolution, in which case the necessary quorum will be two or more persons holding or representing not less than $66^{2/3}$ per cent., or at any adjourned meeting not less than 25 per cent, in principal amount of the Bonds for the time being outstanding. Any Extraordinary Resolution duly passed shall be binding on Bondholders (whether or not they were present at the meeting at which such resolution was passed) and on all Couponholders.

The Fiscal Agency Agreement provides that a resolution in writing signed by or on behalf of the holders of not less than 75 per cent. in principal amount of the Bonds outstanding (a "**Written Resolution**") shall for all purposes be as valid and effective as an Extraordinary Resolution passed at a meeting of Bondholders duly convened and held. Such a resolution in writing may be contained in one document or several documents in the same form, each signed by or on behalf of one or more Bondholders.

(b) **Modification of the Fiscal Agency Agreement:** The Issuer shall only permit any modification of, or any waiver or authorisation of any breach or proposed breach of or any failure to comply with, the Fiscal Agency Agreement, if to do so could not reasonably be expected to be prejudicial to the interests of the Bondholders.

**12 Further Issues**

The Issuer may from time to time without the consent of the Bondholders or Couponholders create and issue further securities either having the same terms and conditions as the Bonds in all respects (or in all respects except for the first payment of interest on them) and so that such further issue shall be consolidated and form a single series with the outstanding securities of any series (including the Bonds) or upon such terms as the Issuer may determine at the time of their issue. References in these Conditions to the Bonds include (unless the context requires otherwise) any other securities issued pursuant to this Condition and forming a single series with the Bonds.

**13 Notices**

Notices required to be given to Bondholders pursuant to the Conditions will be valid if published in a manner which complies with the rules and regulations of the stock exchanges or other relevant authorities on which the Bonds are for the time being listed and/or admitted to trading. Any such notice shall be deemed to have been given on the date of such publication or, if published more than once, on the first date on which publication is made. Couponholders will be deemed for all purposes to have notice of the contents of any notice given to the Bondholders in accordance with this Condition.

**14 Contracts (Rights of Third Parties) Act 1999**

No person shall have any right to enforce any term or condition of the Bonds under the Contracts (Rights of Third Parties) Act 1999.

**15 Governing Law and Jurisdiction**

(a) **Governing Law:** The Fiscal Agency Agreement, the Bonds and the Coupons and any non-contractual obligations arising out of or in connection with them are governed by, and shall be construed in accordance with, English law.

(b) **Jurisdiction:** The courts of England are to have jurisdiction to settle any disputes that may arise out of or in connection with the Bonds or the Coupons and accordingly any legal action or proceedings arising out of or in connection with any Bonds or the Coupons ("**Proceedings**") may be brought in such courts. The Issuer irrevocably submits to the jurisdiction of such courts and waives any objection to Proceedings in any such courts whether on the ground of venue or on the ground that the Proceedings have been brought in an inconvenient forum. These submissions are made for the benefit of each of the Bondholders and the Couponholders and shall not limit the right of any of them to take Proceedings in any other court of competent jurisdiction nor shall the taking of Proceedings in one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction (whether concurrently or not).

(c) **Agent for Service of Process:** The Issuer irrevocably appoints Hydro Aluminium Deeside Limited of Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9PS, United Kingdom as its agent in England to receive service of process in any Proceedings in England based on any of the Bonds or the Coupons. If for any reason the Issuer does not have such an agent in England, it will promptly appoint a substitute process agent and notify the Bondholders of such appointment. Nothing herein shall affect the right to serve process in any other manner permitted by law.

## TERMS AND CONDITIONS OF THE 2029 BONDS

The issue of the €300,000,000 2.000 per cent. Bonds due 2029 (the "**Bonds**") was authorised by a resolution of the Board of Directors of Norsk Hydro ASA (the "**Issuer**") passed on 6 February 2019. A fiscal agency agreement dated 11 April 2019 (the "**Fiscal Agency Agreement**") has been entered into in relation to the Bonds between the Issuer, Citibank N.A., London Branch as fiscal agent and the other paying agents named in it. The Bonds have the benefit of a deed of covenant (the "**Deed of Covenant**") dated 11 April 2019 executed by the Issuer relating to the Bonds. The fiscal agent and the paying agents for the time being are referred to below respectively as the "**Fiscal Agent**" and the "**Paying Agents**" (which expression shall include the Fiscal Agent). "**Agents**" means the Fiscal Agent, the Paying Agents and any other agent or agents appointed from time to time with respect to the Bonds. The Fiscal Agency Agreement includes the form of the Bonds and the coupons relating to them (the "**Coupons**"). Copies of the Fiscal Agency Agreement and the Deed of Covenant are available for inspection during normal business hours at the specified offices of the Fiscal Agent and any Paying Agents. The holders of the Bonds (the "**Bondholders**") and the holders of the Coupons (whether or not attached to the relevant Bonds) (the "**Couponholders**") are deemed to have notice of all the provisions of the Fiscal Agency Agreement applicable to them.

All capitalised terms that are not defined in these terms and conditions (the "**Conditions**") will have the meanings given to them in the Fiscal Agency Agreement.

In these Conditions, "**euro**" and "**€**" means the currency introduced at the start of the third stage of the European economic and monetary union pursuant to the Treaty establishing the European Community, as amended and "**cents**" and "**cent**" shall be construed accordingly.

### 1 Form, Denomination and Title

(a) **Form and denomination**: The Bonds are serially numbered and in bearer form in the denominations of €100,000 and integral multiples of €1,000 in excess thereof up to and including €199,000, each with Coupons attached on issue. No definitive Bonds will be issued with a denomination above €199,000. Bonds of one denomination may not be exchanged for Bonds of any other denomination.

(b) **Title**: Title to the Bonds and the Coupons passes by delivery. The holder of any Bond or Coupon will (except as otherwise required by law) be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest in it, any writing on it, or its theft or loss) and no person will be liable for so treating the holder.

### 2 Status

The Bonds and the Coupons constitute direct, unconditional and (subject to Condition 3) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under the Bonds and the Coupons shall subject to Condition 3 at all times rank at least equally with all its other present and future unsecured and unsubordinated obligations, save for such exceptions as may be provided by applicable legislation.

### 3 Negative Pledge

(a) **Negative Pledge:** So long as any Bond or Coupon remains outstanding (as defined in the Fiscal Agency Agreement), the Issuer shall not create or permit to subsist any Security over any of its assets as security for Financial Indebtedness of the Issuer or any third party.

(b) **Exceptions to Negative Pledge:** Condition 3(a) shall not apply to any Security:

(i) granted pursuant to any netting or set-off arrangement entered into by the Issuer;

(ii) granted pursuant to any lien arising by operation of law or in the ordinary course of business;

(iii) granted pursuant to any title transfer or retention of title arrangement entered into in the ordinary course of business;

(iv) over or affecting any asset acquired by the Issuer after 9 April 2019; or

(v) granted by the Issuer over any of its assets in favour of a third party to secure any Financial Indebtedness of the Issuer or any third party ("**Third Party Security**"), subject to, at the same time or prior thereto, granting the Bondholders such other Security as shall be approved by an Extraordinary Resolution (as defined in the Fiscal Agency Agreement) of the Bondholders.

In these Conditions:

"**Financial Indebtedness**" means any indebtedness for or in respect of:

(a) moneys borrowed;

(b) any amount raised by acceptance under any acceptance credit facility;

(c) any amount raised pursuant to any note purchase facility or the issue of bonds, notes, debentures, loan stock or any similar instrument;

(d) receivables sold or discounted (other than any receivables to the extent they are sold on a non-recourse basis);

(e) any other transaction (including any forward sale or purchase agreement) which has the commercial effect of a borrowing and would be treated as such in accordance with generally accepted accounting principles applicable to the Issuer (but, for the avoidance of doubt, excluding any trade credit incurred in the ordinary course of business); and

(f) (without double counting) the amount of any liability in respect of any guarantee or indemnity for any of the items referred to in paragraphs (a) to (e) above,

provided, that for the avoidance of doubt, Financial Indebtedness shall not include any indebtedness for or in respect of any interest rate swap, currency swap, forward foreign exchange transaction, cap, floor, collar or option transaction or any other substantially similar treasury transaction that, for the avoidance of doubt, is not covered by any of sub-paragraphs (a) to (f) above or any combination or hybrid thereof or any derivative or other transaction entered into in connection with protection against or benefit from fluctuation in any rate or price; and

"**Security**" means a mortgage, charge, pledge, lien or other security interest securing any Financial Indebtedness.

## 4 Interest

The Bonds bear interest from and including 11 April 2019 (the "**Issue Date**") at the rate of 2.000 per cent. per annum (the "**Rate of Interest**"), payable annually in arrear on 11 April in each year (each an "**Interest Payment Date**"). Each Bond will cease to bear interest from the due date for redemption unless, upon due presentation, payment of principal is improperly withheld or refused. In such event it shall continue to bear interest at such rate (both before and after judgment) until whichever is the earlier of (a) the day on which all sums due in respect of such Bond up to that day are received by or on behalf of the relevant holder, and (b) the day seven days after the Fiscal Agent has notified Bondholders of receipt of all sums due in respect of all the Bonds up to that seventh day (except to the extent that there is failure in the subsequent payment to the relevant holders under these Conditions).

Where interest is to be calculated in respect of a period which is equal to or shorter than an Interest Period (as defined below), the day-count fraction used will be the number of days in the relevant period, from and including the date from which interest begins to accrue to but excluding the date on which it falls due, divided by the number of days in the Interest Period in which the relevant period falls (including the first such day but excluding the last).

In these Conditions, the period beginning on and including the Issue Date and ending on but excluding the first Interest Payment Date and each successive period beginning on and including an Interest Payment Date and ending on but excluding the next succeeding Interest Payment Date is called an "**Interest Period**".

Interest in respect of any Bond shall be calculated per €1,000 in principal amount of the Bonds (the "**Calculation Amount**"). The amount of interest payable per Calculation Amount for any period shall be equal to the product of the Rate of Interest, the Calculation Amount and the day-count fraction for the relevant period, rounding the resulting figure to the nearest cent (half a cent being rounded upwards).

## 5 Redemption and Purchase

(a) **Final Redemption:**

Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on 11 April 2029. The Bonds may not be redeemed at the option of the Issuer other than in accordance with this Condition.

(b) **Redemption for Taxation Reasons:**

The Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not less than 30 nor more than 60 days' notice to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption), at their principal amount (together with interest accrued to but excluding the date fixed for redemption), if (i) the Issuer has or will become obliged to pay additional amounts as provided or referred to in Condition 7 as a result of any change in, or amendment to, the laws or regulations of a Relevant Jurisdiction (as defined in Condition 7) or any change in the application or official interpretation of such laws or regulations, which change or amendment becomes effective on or after 9 April 2019, and (ii) such obligation cannot be avoided by the Issuer taking reasonable measures available to it, provided that no such notice of redemption shall be given earlier than 90 days prior to the earliest date on which the Issuer would be obliged to pay such additional amounts were a payment in respect of the Bonds then due. Prior to the publication of any notice of redemption pursuant to this Condition 5(b), the Issuer shall deliver to the Fiscal Agent a certificate signed by two directors of the Issuer stating that the Issuer is entitled to effect such redemption and setting forth a statement of facts showing that the conditions precedent to the right of the Issuer so to redeem have occurred, and an opinion of independent legal advisers of recognised standing to the effect that the Issuer has or will become obliged to pay such additional amounts as a result of such change or amendment.

All Bonds in respect of which any notice of redemption is given under this Condition 5(b) shall be redeemed on the date specified in such notice in accordance with this Condition 5(b).

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to above shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(b).

(c) **Redemption at the Option of the Issuer (Make Whole Redemption):**

The Issuer may, at any time, on giving not less than 30 nor more than 60 days' notice to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption (the "**Make Whole Optional Redemption Date**")), redeem all, but not some only, of the Bonds at the Make Whole Redemption Price together with interest accrued to but excluding the Make Whole Optional Redemption Date.

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to in the preceding paragraph shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(c).

Any notice of redemption given under this Condition 5(c) will override any notice of redemption given (whether previously, on the same date or subsequently) under Condition 5(b), Condition 5(d) or Condition 5(e).

In these Conditions:

"**Determination Agent**" means a financial adviser or bank, which is independent of the Issuer, appointed by the Issuer for the purpose of determining the Make Whole Redemption Price;

"**Frankfurt Business Day**" means any day (other than Saturday or Sunday) on which commercial banks and foreign exchange markets are open for business in Frankfurt;

"**Make Whole Redemption Price**" means, in respect of each Bond, (a) the principal amount of such Bond or, if this is higher, (b) the sum of the then present values of the remaining scheduled payments of principal and interest discounted to the Make Whole Optional Redemption Date on an annual basis (based on the actual number of days elapsed divided by 365 or (in the case of a leap year) by 366) at the Reference Dealer Rate (as defined below) plus 0.35 per cent., in each case as determined by the Determination Agent;

"**Reference Dealers**" means four (or, in the circumstances set out in the definition of "Reference Stock" below, five) credit institutions or financial services institutions that regularly deal in bonds and other debt securities as selected by the Determination Agent after consultation with the Issuer;

"**Reference Dealer Rate**" means with respect to the Reference Dealers and the Make Whole Optional Redemption Date, the average of the four quotations of the mid-market annual yield to maturity of the Reference Stock at 11.00 a.m. Central European time on the third Frankfurt Business Day preceding the Make Whole Optional Redemption Date quoted in writing to the Determination Agent by the Reference Dealers; and

"**Reference Stock**" means (a) the 0.25 per cent. German Government Bond (DBR) due 15 February 2029 or (b) if, at 11.00 a.m. Central European time on the third Frankfurt Business Day preceding the Make Whole Optional Redemption Date, the Reference Stock is no longer outstanding, such other central bank or government security that, in the majority opinion of three Reference Dealers (one of whom shall be the Determination Agent) (i) has a maturity comparable to the remaining term of the Bonds and (ii) would be utilised, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Bonds. If three Reference Dealers (one of whom shall be the Determination Agent) do not select the same central bank or government security, the Determination Agent after consultation with the Issuer shall approach a fifth Reference Dealer and, from the different central bank or government securities selected by the other Reference Dealers, such fifth Reference Dealer shall select as the Reference Stock the central bank or government security which, in its opinion (i) has a maturity comparable to the remaining term of the Bonds and (ii) would be utilised, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Bonds. The central bank or government security so selected by the fifth Reference Dealer shall then be the Reference Stock.

(d) **Redemption at the Option of the Issuer (Clean-Up):**

The Issuer may, at any time, on giving not less than 30 nor more than 60 days' notice (a "**Clean-Up Optional Redemption Notice**") to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption (the "**Clean-Up Optional Redemption Date**")), redeem all, but not some only, of the Bonds at their principal amount together with interest accrued to (but excluding) the Clean-Up Optional Redemption Date if, prior to the date the relevant Clean-Up Optional Redemption Notice is given, purchases (and corresponding cancellations) and/or redemptions have been effected in respect of 85 per cent. or more in principal amount of the Bonds originally issued, which for such purpose shall include any further Bonds issued pursuant to Condition 12 and consolidated and forming a single series with the then outstanding Bonds.

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to in the preceding paragraph shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(d).

Any notice of redemption given under this Condition 5(d) will override any notice of redemption given (whether previously, on the same date or subsequently) under Condition 5(b) or Condition 5(e).

(e) **Redemption at the Option of the Issuer (Pre-Maturity):**

The Issuer may, at any time on or after 11 January 2029, on giving not less than 30 nor more than 60 days' notice (a "**Pre-Maturity Optional Redemption Notice**") to the Bondholders in accordance with Condition 13 (which notice shall be irrevocable and shall specify the date fixed for redemption (the "**Pre-Maturity Optional Redemption Date**")), redeem all, but not some only, of the Bonds at their principal amount together with interest accrued to (but excluding) the Pre-Maturity Optional Redemption Date.

Any Bonds which are the subject of Change of Control Put Exercise Notices which have been validly delivered pursuant to Condition 5(f) before the date on which notice is provided by the Issuer as referred to in the preceding paragraph shall be redeemed as provided in Condition 5(f) and not as provided in this Condition 5(e).

Any notice of redemption given under this Condition 5(e) will override any notice of redemption given (whether previously, on the same date or subsequently) under Condition 5(b).

(f) **Redemption at the option of the Bondholders following Change of Control:**

If a Change of Control Put Event (as defined below) occurs, the holder of each Bond will have the option (a "**Change of Control Put Option**") (unless prior to the giving of the relevant Change of Control Put Event Notice (as defined below) the Issuer has given notice of redemption under Condition 5(b), 5(c), 5(d) or 5(e) above) to require the Issuer to redeem or, at the Issuer's option, purchase (or procure the purchase of) that Bond on the Change of Control Put Date (as defined below) at its principal amount together with interest accrued to (but excluding) the Change of Control Put Date.

Promptly upon the Issuer becoming aware that a Change of Control Put Event has occurred the Issuer shall give notice (a "**Change of Control Put Event Notice**") to the Bondholders in accordance with Condition 13 specifying the nature of the Change of Control Put Event and the procedure for exercising the Change of Control Put Option.

To exercise the Change of Control Put Option, the holder of a Bond must deposit such Bond, together with all Coupons relating to it which mature after the Change of Control Put Date at the specified office of any Agent at any time during normal business hours of such Agent falling within the period (the "**Change of Control Put Period**") of 30 days after the relevant Change of Control Put Event Notice is given, accompanied by a duly signed and completed notice of exercise in the form (for the time being current) obtainable from the specified office of any Agent (a "**Change of Control Put Exercise Notice**"). No Bond so deposited may be withdrawn without the prior consent of the Issuer.

Payment in respect of any Bond so delivered will be made on the date which is the fifth payment business day (as defined in Condition 6(f)) after the expiration of the Change of Control Put Period (the "**Change of Control Put Date**"). A Change of Control Put Exercise Notice, once given, shall be irrevocable. The Issuer shall redeem or purchase (or procure the purchase of) the relevant Bonds on the Change of Control Put Date unless previously redeemed (or purchased) and cancelled.

If the rating designations employed by any of Moody's, S&P or any other Rating Agency are changed from those which are described in the definition of "Investment Grade Rating" below, the Issuer shall determine the rating designations of Moody's, S&P or such other Rating Agency (as appropriate) as are most equivalent to the prior rating designations of Moody's, S&P or such other Rating Agency and this Condition 5(f) shall be construed accordingly.

In these Conditions:

"**Change of Control**" means (whether or not approved by the board of directors or the executive board (as applicable) of the Issuer) any person or persons acting in concert or any person or persons acting on behalf of any such person(s), at any time directly or indirectly own(s) or acquire(s) more than 50 per cent. of the issued ordinary share capital of the Issuer; provided, however, that a Change of Control shall not be deemed to have occurred if such ownership or acquisition is by the Kingdom of Norway and/or by any entity or entities (acting together or individually) controlled by the Kingdom of Norway from time to time, or in respect of which the Kingdom of Norway owns, directly or indirectly, more than 50 per cent. of the issued ordinary share capital of such entity;

"**Change of Control Announcement**" means any formal public announcement or statement by or on behalf of the Issuer, or any actual or potential bidder or any advisor thereto relating to any potential Change of Control where, within 180 days of the date of such announcement or statement a Change of Control occurs;

"**Change of Control Period**" means the period commencing on the earlier of (a) the date of the relevant Change of Control and (b) the date of the earliest Change of Control Announcement (if any) and ending, in each case, 180 days after the date of the relevant Change of Control;

A "**Change of Control Put Event**" will be deemed to occur if a Change of Control occurs and either:

(i) a Rating Downgrade shall have occurred within the Change of Control Period, or

(ii) a Negative Rating Event shall have occurred;

"**Investment Grade Rating**" means a rating of at least BBB- (or equivalent thereof) in case of S&P or a rating of at least Baa3 (or equivalent thereof) in the case of Moody's or the equivalent rating in the case of any other Rating Agency;

"**Negative Rating Event**" means the event when neither the Issuer nor the Bonds are rated by a Rating Agency and a Change of Control occurs, and:

(i) the Issuer does not within the Change of Control Period seek, and thereafter use all reasonable endeavours to obtain from a Rating Agency, a rating of the Bonds; or

(ii) if the Issuer does so seek and use such endeavours, at the expiry of the Change of Control Period the Issuer has not obtained an Investment Grade Rating of the Bonds, provided that the Rating Agency publicly announces or publicly confirms in writing that its declining to assign an Investment Grade Rating was the result of the applicable Change of Control;

"**Rating Agency**" means Moody's Investors Service Limited ("**Moody's**") or Standard & Poor's Rating Services, a division of The McGraw-Hill Companies Inc. ("**S&P**") or any of their respective successors or any other rating agency of equivalent international standing specified from time to time by the Issuer and notified to Bondholders by the Issuer pursuant to Condition 13; and

"**Rating Downgrade**" means the rating previously assigned to the Issuer or the Bonds by a Rating Agency is:

(i) withdrawn and not subsequently reinstated within the Change of Control Period; or

(ii) save as provided in (iii) below, changed to a rating lower than Investment Grade Rating and not subsequently upgraded to an Investment Grade Rating within the Change of Control Period; or

(iii) (if the rating assigned to the Issuer or the Bonds by any Rating Agency immediately prior to the commencement of the Change of Control Period is lower than Investment Grade Rating), lowered one or more full rating category/ies and not subsequently upgraded, within the Change of Control Period, to such rating assigned to the Issuer or the Bonds (as the case may be) prior to the commencement of the Change of Control Period,

provided that a Rating Downgrade otherwise arising by virtue of a particular change in rating shall be deemed not to have occurred in respect of a particular Change of Control if the Rating Agency making the change in rating to which this definition would otherwise apply does not publicly announce or publicly confirm that the reduction was the result of the applicable Change of Control. Notwithstanding the above, save from during a Change of Control Period, the Issuer may in its sole discretion cease to be rated by any Rating Agency.

(g) **Purchase:** The Issuer and its Subsidiaries may at any time purchase Bonds in the open market or otherwise at any price (provided that, if they should be cancelled under Condition 5(h) below, they are purchased together with all unmatured Coupons relating to them). The Bonds so purchased, while held by or on behalf of the Issuer or any such Subsidiary, shall not entitle the holder to vote at any meetings of the Bondholders (or to sign any Written Resolution (as defined in Condition 11(a)) or participate in any Electronic Consent (as defined in the Fiscal Agency Agreement)) and shall not be deemed to be outstanding for the purposes of calculating quorums at meetings of the Bondholders or otherwise for the purposes of Condition 11(a).

In these Conditions, "**Subsidiary**" means an entity from time to time:

(i) which is fully consolidated in the consolidated balance sheet of the Issuer; or

(ii) of which the Issuer directly or through or together with another Subsidiary owns more than fifty per cent. (50%) of the equity share capital (or equivalent right of ownership).

(h) **Cancellation:** All Bonds so redeemed or purchased and any unmatured Coupons attached to or surrendered with them will be cancelled and may not be re-issued or resold.

## 6 Payments

(a) **Method of Payment:** Payments of principal (including any Make Whole Redemption Price) and interest will be made against presentation and surrender (or, in the case of a partial payment, endorsement) of Bonds or the appropriate Coupons (as the case may be) at the specified office of any Paying Agent by euro cheque drawn on, or by transfer to a euro account maintained by the payee with, a bank in a city in which banks have access to the TARGET System. Payments of interest due in respect of any Bond other than on presentation and surrender of matured Coupons shall be made only against presentation and either surrender or endorsement (as appropriate) of the relevant Bond.

(b) **Payments subject to laws:** Payments will be subject in all cases to (i) any fiscal or other laws and regulations applicable thereto in the place of payment, but without prejudice to the provisions of Condition 7 and (ii) any withholding or deduction required pursuant to an agreement described in Section 1471(b) of the U.S. Internal Revenue Code of 1986 (the "**Code**") or otherwise imposed pursuant to Sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or (without prejudice to the provisions of Condition 7) any law implementing an intergovernmental approach thereto. No commissions or expenses shall be charged to the Bondholders or the Couponholders in respect of such payments.

(c) **Surrender of unmatured Coupons:** Each Bond should be presented for redemption together with all unmatured Coupons relating to it, failing which the amount of any such missing unmatured Coupon (or, in the case of payment not being made in full, that proportion of the amount of such missing unmatured Coupon which the sum of principal so paid bears to the total principal amount due) will be deducted from the sum due for payment. Each amount of principal or Make Whole Redemption Price, as applicable, so deducted will be paid in the manner mentioned above against surrender of the relevant missing Coupon not later than 10 years after the Relevant Date (as defined in Condition 7) for the relevant payment of principal or Make Whole Redemption Price, as the case may be.

(d) **Payments on payment business days:** A Bond or Coupon may only be presented for payment on a day which is a payment business day in the place of presentation. No further interest or other payment will be made as a consequence of the day on which the relevant Bond or Coupon may be presented for payment under this Condition 6 falling after the due date.

(e) **Paying Agents:** The initial Paying Agents and their initial specified offices are listed below. The Issuer reserves the right at any time to vary or terminate the appointment of any Paying Agent and appoint additional or other Paying Agents, provided that it will maintain (i) a Fiscal Agent and (ii) Paying Agents having specified offices in at least two major European cities. Notice of any change in the Paying Agents or their specified offices will promptly be given to the Bondholders.

(f) **Definitions:** In these Conditions:

"**payment business day**" means a day (other than a Saturday or a Sunday) on which banks and foreign exchange markets are open for business in the relevant city and which is a TARGET Business Day;

"**TARGET Business Day**" means a day on which the TARGET System is open for the settlement of payments in euro; and

"**TARGET System**" means the Trans-European Automated Real-Time Gross Settlement Express Transfer (TARGET2) system or any successor thereto.

## 7 Taxation

All payments of principal (including any Make Whole Redemption Price) and interest by or on behalf of the Issuer in respect of the Bonds and the Coupons shall be made free and clear of, and without withholding or deduction for, any taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by a Relevant Jurisdiction, unless such withholding or deduction is required by law. In that event the Issuer shall pay such additional amounts as will result in receipt by the Bondholders and Couponholders of such amounts as would have been received by them had no such withholding or deduction been required, except that no such additional amounts shall be payable in respect of any Bond or Coupon presented for payment:

(a) by or on behalf of a holder who is liable to such taxes, duties, assessments or governmental charges in respect of such Bond or Coupon by reason of his having some connection with the Relevant Jurisdiction other than the mere holding of the Bond or Coupon; or

(b) more than 30 days after the Relevant Date except to the extent that the holder of it would have been entitled to such additional amounts on presenting such Bond or Coupon for payment on the last day of such period of 30 days.

In these Conditions:

"**Relevant Date**" means whichever is the later of (i) the date on which such payment first becomes due and (ii) if the full amount payable has not been received in a city in which banks have access to the TARGET System by the Fiscal Agent on or prior to such due date, the date on which, the full amount having been so received, notice to that effect shall have been given to the Bondholders. Any reference in these Conditions to principal (including any Make Whole Redemption Price) and/or interest shall be deemed to include any additional amounts which may be payable under this Condition 7; and

"**Relevant Jurisdiction**" means the Kingdom of Norway or any political subdivision or any authority thereof or therein having power to tax, or any other jurisdiction or any political subdivision or any authority thereof or therein having power to tax to which the Issuer becomes subject in respect of payments made by it on the Bonds.

## 8 Events of Default

If any of the following events ("**Events of Default**") occurs:

(a) **Non-Payment:** the Issuer defaults in the payment of any principal of or interest or other amount on any of the Bonds for five payment business days following the original due date; or

(b) **Breach of Other Obligations**: the Issuer does not comply with, or defaults in the due performance or observance of, any of its obligations under the Bonds and such failure to comply continues unremedied for 30 days after notice of such non-compliance or default shall have been given to the Fiscal Agent at its specified office by any Bondholder; or

(c) **Cross Acceleration:** any Financial Indebtedness of the Issuer or a Principal Subsidiary has been duly declared due and payable prior to its specified maturity as a result of an event of default (however described), after any applicable grace periods (however described), provided that no Event of Default will occur under this Condition 8(c) if:

(i) such claims are being legitimately contested by the Issuer or any Principal Subsidiary; or

(ii) the aggregate amount of Financial Indebtedness is less than U.S.$100,000,000 (or its equivalent in any other currency or currencies on the basis of the middle spot rate for the relevant currency against the U.S. dollar as quoted by any leading bank on the day on which this Condition 8(c) operates).

(d) **Insolvency and cessation of business:** except as provided below, any of the following occurs in respect of the Issuer or any of its Principal Subsidiaries:

(i) it stops payment or becomes Insolvent;

(ii) it admits in writing its inability to pay its debts as they fall due;

(iii) by reason of actual financial difficulties, it suspends making payments on any class of its indebtedness;

(iv) a moratorium is duly declared in respect of all or any class of its indebtedness;

(v) any liquidator, trustee in bankruptcy, judicial custodian, compulsory manager, receiver, administrative receiver or similar officer is duly appointed in respect of it (including, without limitation, a "*gjeldsforhandling*" under the Norwegian Bankruptcy Act of 8 June 1984);

(vi) an order is duly made by a competent court or authority, or a resolution is duly passed by it, its shareholders or directors for its winding-up, administration or dissolution; or

(vii) it shall cease or threaten to cease to carry on its business, otherwise than:

(aa) pursuant to a sale, transfer or disposal to the Issuer or another Subsidiary; or

(bb) in connection with or in pursuance of a winding up for the purpose of a reconstruction or amalgamation previously approved by an Extraordinary Resolution of the Bondholders; or (cc) in the case only of a Principal Subsidiary, by way of voluntary winding up where the surplus assets attributable to the Issuer and/or any Subsidiaries are distributed to the Issuer and/or those Subsidiaries,

provided that no Event of Default will occur under this Condition 8(d) in respect of any frivolous or vexatious proceedings presented by a creditor or other third party which is being contested in good faith and with due diligence.

In this Condition 8(d), "**Insolvent**" means the condition where a person is unable to pay its debts as they fall due and the debts of that person are greater than its aggregate property at fair value,

then any Bond may, by notice in writing given to the Fiscal Agent at its specified office by the holder, be declared immediately due and payable whereupon it shall become immediately due and payable at its principal amount together with accrued interest without further formality.

For the purpose of this Condition, "**Principal Subsidiary**" means any (directly or indirectly) wholly owned Subsidiary the gross assets of which represent more than ten per cent. of the consolidated gross assets of the Issuer and the Subsidiaries (taken as a whole) as determined from the latest consolidated financial report (quarterly unaudited financial report or audited consolidated balance sheet and profit and loss account, as applicable). Any such quarterly unaudited financial reports shall be prepared on the basis of the accounting principles essentially consistent with the principles applied in relation to the most recent annual audited consolidated accounts of the Issuer.

## 9 Prescription

Claims in respect of principal (including any Make Whole Redemption Price) and interest will become void unless presentation for payment is made as required by Condition 6 within a period of 10 years (in the case of principal and any Make Whole Redemption Price) and five years (in the case of interest) from the appropriate Relevant Date in respect of them.

## 10 Replacement of Bonds and Coupons

If any Bond or Coupon is lost, stolen, mutilated, defaced or destroyed it may be replaced at the specified office of the Fiscal Agent subject to all applicable laws and stock exchange or other relevant authority requirements, upon payment by the claimant of the expenses incurred in connection with such replacement and on such terms as to evidence, security, indemnity and otherwise as the Issuer may require (provided that the requirement is reasonable in the light of prevailing market practice). Mutilated or defaced Bonds or Coupons must be surrendered before replacements will be issued.

## 11 Meetings of Bondholders and Modification

(a) **Meetings of Bondholders:** The Fiscal Agency Agreement contains provisions for convening meetings of Bondholders to consider matters affecting their interests, including the sanctioning by Extraordinary Resolution of a modification of any of these Conditions. Such a meeting may be convened by Bondholders holding not less than 10 per cent in principal amount of the Bonds for the time being outstanding. The quorum for any meeting convened to consider an Extraordinary Resolution will be two or more persons holding or representing a majority in principal amount of the Bonds for the time being outstanding, or at any adjourned meeting two or more persons being or representing Bondholders whatever the principal amount of the Bonds held or represented, unless the business of such meeting includes consideration of proposals, *inter alia*, (i) to modify the maturity of the Bonds or the dates on which interest is payable in respect of the Bonds, (ii) to reduce or cancel the principal amount of, or Rate of Interest on, the Bonds or vary the method for calculating the Make Whole Redemption Price, (iii) to change the currency of payment of the Bonds or the Coupons or (iv) to modify the provisions concerning the quorum required at any meeting of Bondholders or the majority required to pass an Extraordinary Resolution, in which case the necessary quorum will be two or more persons holding or representing not less than $66^{2/3}$ per cent., or at any adjourned meeting not less than 25 per cent, in principal amount of the Bonds for the time being outstanding. Any Extraordinary Resolution duly passed shall be binding on Bondholders (whether or not they were present at the meeting at which such resolution was passed) and on all Couponholders.

The Fiscal Agency Agreement provides that a resolution in writing signed by or on behalf of the holders of not less than 75 per cent. in principal amount of the Bonds outstanding (a "**Written Resolution**") shall for all purposes be as valid and effective as an Extraordinary Resolution passed at a meeting of Bondholders duly convened and held. Such a resolution in writing may be contained in one document or several documents in the same form, each signed by or on behalf of one or more Bondholders.

(b) **Modification of the Fiscal Agency Agreement:** The Issuer shall only permit any modification of, or any waiver or authorisation of any breach or proposed breach of or any failure to comply with, the Fiscal Agency Agreement, if to do so could not reasonably be expected to be prejudicial to the interests of the Bondholders.

**12 Further Issues**

The Issuer may from time to time without the consent of the Bondholders or Couponholders create and issue further securities either having the same terms and conditions as the Bonds in all respects (or in all respects except for the first payment of interest on them) and so that such further issue shall be consolidated and form a single series with the outstanding securities of any series (including the Bonds) or upon such terms as the Issuer may determine at the time of their issue. References in these Conditions to the Bonds include (unless the context requires otherwise) any other securities issued pursuant to this Condition and forming a single series with the Bonds.

**13 Notices**

Notices required to be given to Bondholders pursuant to the Conditions will be valid if published in a manner which complies with the rules and regulations of the stock exchanges or other relevant authorities on which the Bonds are for the time being listed and/or admitted to trading. Any such notice shall be deemed to have been given on the date of such publication or, if published more than once, on the first date on which publication is made. Couponholders will be deemed for all purposes to have notice of the contents of any notice given to the Bondholders in accordance with this Condition.

**14 Contracts (Rights of Third Parties) Act 1999**

No person shall have any right to enforce any term or condition of the Bonds under the Contracts (Rights of Third Parties) Act 1999.

**15 Governing Law and Jurisdiction**

(a) **Governing Law:** The Fiscal Agency Agreement, the Bonds and the Coupons and any non-contractual obligations arising out of or in connection with them are governed by, and shall be construed in accordance with, English law.

(b) **Jurisdiction:** The courts of England are to have jurisdiction to settle any disputes that may arise out of or in connection with the Bonds or the Coupons and accordingly any legal action or proceedings arising out of or in connection with any Bonds or the Coupons ("**Proceedings**") may be brought in such courts. The Issuer irrevocably submits to the jurisdiction of such courts and waives any objection to Proceedings in any such courts whether on the ground of venue or on the ground that the Proceedings have been brought in an inconvenient forum. These submissions are made for the benefit of each of the Bondholders and the Couponholders and shall not limit the right of any of them to take Proceedings in any other court of competent jurisdiction nor shall the taking of Proceedings in one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction (whether concurrently or not).

(c) **Agent for Service of Process:** The Issuer irrevocably appoints Hydro Aluminium Deeside Limited of Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9PS, United Kingdom as its agent in England to receive service of process in any Proceedings in England based on any of the Bonds or the Coupons. If for any reason the Issuer does not have such an agent in England, it will promptly appoint a substitute process agent and notify the Bondholders of such appointment. Nothing herein shall affect the right to serve process in any other manner permitted by law.

## SUMMARY OF PROVISIONS RELATING TO THE BONDS WHILE IN GLOBAL FORM

Each Temporary Global Bond and Global Bond contains provisions which apply to the relevant Series of Bonds while they are in global form, some of which modify the effect of the terms and conditions of the Bonds set out in this document. The following is a summary of certain of those provisions:

### 1 Nominal Amount and Exchange

The nominal amount of the Bonds shall be the aggregate amount from time to time entered in the records of Euroclear and Clearstream, Luxembourg or any alternative clearing system (each a "**relevant Clearing System**"). The records of such relevant Clearing System shall be conclusive evidence of the nominal amount of Bonds represented by the relevant Temporary Global Bond and Global Bond and a statement issued by such relevant Clearing System at any time shall be conclusive evidence of the records of that relevant Clearing System at that time.

Each Temporary Global Bond is exchangeable in whole or in part for interests recorded in the records of the relevant Clearing Systems in a Global Bond on or after a date which is expected to be 21 May 2019, upon certification as to non-U.S. beneficial ownership in the form set out in the relevant Temporary Global Bond. Each Global Bond is exchangeable in whole but not in part (free of charge to the holder) for the definitive bonds described below (the "**Definitive Bonds**") (1) if the relevant Global Bond is held on behalf of a relevant Clearing System and such relevant Clearing System is closed for business for a continuous period of 14 days (other than by reason of holidays, statutory or otherwise) or announces an intention permanently to cease business or does in fact do so or (2) if principal in respect of any Bonds is not paid when due and payable. Thereupon, the holder may give notice to the Principal Paying Agent of its intention to exchange a Global Bond for Definitive Bonds on or after the Exchange Date (as defined below) specified in the notice.

On or after the Exchange Date the holder of a Global Bond may surrender such Global Bond to or to the order of the Principal Paying Agent. In exchange for a Global Bond the Issuer shall deliver, or procure the delivery of, an equal aggregate principal amount of duly executed and authenticated Definitive Bonds (having attached to them all Coupons in respect of interest which has not already been paid on such Global Bond), security printed in accordance with any applicable legal and stock exchange requirements and in or substantially in the form set out in Schedule 1 (*Form of Definitive Bond*) to the relevant Fiscal Agency Agreement. On exchange of a Global Bond, the Issuer will, if the relevant Bondholder so requests, procure that it is cancelled and returned to such Bondholder together with any relevant Definitive Bonds.

"**Exchange Date**" means a day falling not less than 40 days after that on which the notice requiring exchange is given and on which banks are open for business in the city in which the specified office of the Principal Paying Agent is located and, except in the case of exchange pursuant to (1) above, in the cities in which the relevant Clearing System is located.

### 2 Payments

No payment will be made on a Temporary Global Bond unless exchange for an interest in the relevant Global Bond is improperly withheld or refused. Payments of principal and interest in respect of Bonds represented by a Global Bond will be made to its holder. The Issuer shall procure that details of each such payment shall be entered *pro rata* in the records of the relevant Clearing System and, in the case of payments of principal, the nominal amount of the Bonds will be reduced accordingly. Each payment so made will discharge the Issuer's obligations in respect thereof. Any failure to make the entries in the records of the relevant Clearing System shall not affect such discharge. For the purpose of any payments made in respect of a Global Bond, Condition 6(d) (*Payments on payment business days*) shall not apply, and all such payments shall be made on a day on which the TARGET system is open.

So long as the Bonds are represented by a Global Bond and such Global Bond is held on behalf of a relevant Clearing System, the Issuer has undertaken, *inter alia*, to pay interest in respect of such Bonds from the Issue Date in arrear at the rates, on the dates for payment, and in accordance with the method of calculation provided for in the Conditions, save that the calculation is made in respect of the total aggregate amount of the Bonds represented by such Global Bond.

## 3 Notices

So long as the Bonds are represented by a Global Bond and such Global Bond is held on behalf of a relevant Clearing System, notices to Bondholders may be given by delivery of the relevant notice to that relevant Clearing System for communication by it to entitled accountholders in substitution for publication as required by the Conditions. Such notice shall be deemed to be delivered on the date of delivery to the relevant Clearing System.

## 4 Prescription

Claims against the Issuer in respect of principal and interest on the Bonds while the Bonds are represented by a Global Bond will become void unless it is presented for payment within a period of 10 years (in the case of principal and any Make Whole Redemption Price) and five years (in the case of interest) from the appropriate Relevant Date (as defined in Condition 9 (*Prescription*)).

## 5 Meetings

The holder of a Global Bond shall (unless such Global Bond represents only one Bond) be treated as being two persons for the purposes of any quorum requirements of, or the right to demand a poll at, a meeting of Bondholders and, at any such meeting, as having one vote in respect of each €1,000 in principal amount of Bonds.

## 6 Purchase and Cancellation

On cancellation of any Bond required by the Conditions to be cancelled following its purchase, the Issuer shall procure that details of such cancellation shall be entered *pro rata* in the records of the relevant Clearing Systems and, upon any such entry being made, the nominal amount of the Bonds recorded in the records of the relevant Clearing Systems and represented by a Global Bond shall be reduced by the aggregate nominal amount of the Bonds so cancelled.

## 7 Electronic Consent and Written Resolution

While any Global Bond is held on behalf of a relevant Clearing System, then:

(a) approval of a resolution proposed by the Issuer given by way of electronic consents communicated through the electronic communications systems of the relevant Clearing System(s) in accordance with their operating rules and procedures by or on behalf of the holders of not less than 75 per cent. in nominal amount of the Bonds outstanding (an "**Electronic Consent**" as defined in the Fiscal Agency Agreement) shall, for all purposes (including matters that would otherwise require an Extraordinary Resolution (as defined in the Conditions) to be passed at a meeting for which the special quorum was satisfied), take effect as an Extraordinary Resolution passed at a meeting of Bondholders duly convened and held, and shall be binding on all Bondholders and holders of Coupons whether or not they participated in such Electronic Consent; and

(b) where Electronic Consent is not being sought, for the purpose of determining whether a Written Resolution (as defined in Condition 11(a) (*Meetings of Bondholders*)) has been validly passed, the Issuer shall be entitled to rely on consent or instructions given in writing directly to the Issuer by (1) accountholders in the clearing system with entitlements to such Global Bond and/or, (2) where the accountholders hold any such entitlement on behalf of another person, on written consent from or written instruction by the person identified by that accountholder as the person for whom such entitlement is beneficially held. For the purpose of establishing the entitlement to give any such consent or instruction, the Issuer shall be entitled to rely on any certificate or other document issued by, in the case of (1) above, the relevant Clearing System and, in the case of (2) above, the relevant Clearing System and the accountholder identified by the relevant Clearing System for the purposes of (2) above. Any resolution passed in such manner shall be binding on all Bondholders and Couponholders, even if the relevant consent or instruction proves to be defective. Any such certificate or other document shall, in the absence of manifest error, be conclusive and binding for all purposes. Any such certificate or other document may comprise any form of statement or print out of electronic records provided by the relevant Clearing System (including Euroclear's EUCLID or Clearstream, Luxembourg's

CreationOnline system) in accordance with its usual procedures and in which the accountholder of a particular principal or nominal amount of the Bonds is clearly identified together with the amount of such holding. The Issuer shall not be liable to any person by reason of having accepted as valid or not having rejected any certificate or other document to such effect purporting to be issued by any such person and subsequently found to be forged or not authentic.

## USE OF PROCEEDS

The net proceeds of the issue of the Bonds will be used by the Issuer for general corporate purposes, including refinancing its indebtedness.

# TAXATION

## The Kingdom of Norway

The following summary of Norwegian tax considerations is based on Norwegian law and practice at the date of this Prospectus, which is subject to changes that could prospectively or retrospectively modify or adversely affect the stated tax consequence. The summary is of a general nature and does not purport to be a comprehensive description of all relevant tax considerations. It does not address taxation in any jurisdiction other than the Kingdom of Norway, and prospective investors should consult their own professional advisers as to their respective tax positions.

In general, payments made by the Issuer under the Bonds to persons resident in the Kingdom of Norway are taxable as ordinary income at a rate of 22 per cent. in 2019. Losses are deductible from the ordinary income. The taxable gain or loss is calculated per Bond as the difference between the consideration received and the cost price of the security, including any costs incurred upon acquisition or redemption of the security. The exact tax consequence from a sale or redemption of the Bonds will depend, however, on whether the holder is an individual resident or a corporate entity.

Payments made by the Issuer under the Bonds to persons who are not Norwegian residents for tax purposes ("**non-residents"**), whether in respect of principal, interest or other amounts on the Bonds, are not subject to any tax imposed by the Kingdom of Norway, save for payments attributable to such person's branch, permanent establishment or operation in the Kingdom of Norway that may be subject to tax imposed by the Kingdom of Norway. In the event that any withholding is subsequently imposed with respect to any such payment, the Issuer will (subject to certain exceptions and limitations) pay such additional amounts under the Bonds as will result (after deduction of said withholding tax) in the payment of the amounts which would otherwise have been payable in respect of such Bonds had there been no such withholding tax. Moreover, the Bonds are subject to redemption at the option of the Issuer, in whole but not in part, at any time, at their principal amount together with accrued interest, in the event of certain changes affecting taxes in the Relevant Jurisdiction, as described under "*Terms and Conditions of the 2025 Bonds — Redemption and Purchase*" or "*Terms and Conditions of the 2029 Bonds — Redemption and Purchase*", as applicable.

In addition, no income, capital gains, transfer or similar tax is currently imposed by the Kingdom of Norway on a non-resident's sale, redemption or other disposition of Bonds, except for payments attributable to a non-resident's branch, permanent establishment or operation in the Kingdom of Norway that may be subject to tax imposed by the Kingdom of Norway.

### *Withholding Tax / Redemption for Tax Reasons*

Under Norwegian legislation, at the date of this Prospectus the Kingdom of Norway does not impose withholding tax on interest payments to non-Norwegian residents. However, in 2015 the Norwegian government issued a white paper describing a tax reform for the period 2016 to 2018, which included the introduction of withholding tax on interest payments from the Kingdom of Norway. The white paper and the potential introduction of withholding tax on interest payments has since been subject to a public hearing, and any changes in legislation are, at the date of this Prospectus, being considered by the Norwegian Ministry of Finance. In the event of the implementation of withholding tax, the payments of interest in respect of the Bonds may be subject to withholding tax, unless an applicable tax treaty provides relief from such withholding tax. Applicable withholding tax may require the Issuer to gross up payments in accordance with Condition 7 (*Taxation*). Such withholding tax may, however, pursuant to Condition 5(b) (*Redemption for Taxation Reasons*) also entitle the Issuer to redeem the Bonds at their principal amount (together with interest accrued to but excluding the date fixed for redemption).

In the national budget for 2019, the Norwegian government announced that a proposal for a withholding tax on interest bearing instruments would be published before the end of 2018 with expected implementation in 2019. The proposal was not published before the end of 2018, though it is expected that a proposal will be published by the Norwegian government shortly and that such proposal will be implemented during 2019.

## FATCA

Pursuant to certain provisions of the U.S. Internal Revenue Code of 1986, commonly known as FATCA, a "foreign financial institution" may be required to withhold on certain payments it makes ("**foreign passthru payments**") to persons that fail to meet certain certification, reporting, or related requirements. A number of jurisdictions (including the Kingdom of Norway) have entered into, or have agreed in substance to, intergovernmental agreements with the United States to implement FATCA ("**IGAs**"), which modify the way in which FATCA applies in their jurisdictions. Under the provisions of IGAs as currently in effect, a foreign financial institution in an IGA jurisdiction would generally not be required to withhold under FATCA or an IGA from payments that it makes. Certain aspects of the application of the FATCA provisions and IGAs to instruments such as the Bonds, including whether withholding would ever be required pursuant to FATCA or an IGA with respect to payments on instruments such as the Bonds, are uncertain and may be subject to change. Even if withholding would be required pursuant to FATCA or an IGA with respect to payments on instruments such as the Bonds, such withholding would not apply prior to the date that is two years after the date on which final regulations defining foreign passthru payments are published in the U.S. Federal Register, and Bonds characterised as debt (or which are not otherwise characterised as equity and have a fixed term) for U.S. federal tax purposes that are issued on or prior to the date that is six months after the date on which final regulations defining "foreign passthru payments" are filed with the U.S. Federal Register generally would be "grandfathered" for purposes of FATCA withholding unless materially modified after such date (including by reason of a substitution of the issuer). However, if additional bonds (as described under "*Terms and Conditions of the 2025 Bonds — Further Issues*" or "*Terms and Conditions of the 2029 Bonds — Further Issues*", as applicable) that are not distinguishable from previously issued Bonds of the same Series are issued after the expiration of the grandfathering period and are subject to withholding under FATCA, then withholding agents may treat all Bonds of the relevant Series, including Bonds issued on the Issue Date prior to the expiration of the grandfathering period, as subject to withholding under FATCA. Holders should consult their own tax advisers regarding how these rules may apply to their investment in the Bonds. In the event any withholding would be required pursuant to FATCA or an IGA with respect to payments on the Bonds, neither the Issuer nor any other person will be required to pay additional amounts as a result of the withholding.

## SUBSCRIPTION AND SALE

BNP Paribas, Citigroup Global Markets Limited, ING Bank N.V. and Nordea Bank Abp (together, the "**Joint Lead Managers**") have, pursuant to a subscription agreement dated 9 April 2019 (the "**Subscription Agreement**"), jointly and severally agreed with the Issuer, subject to the satisfaction of certain conditions, to subscribe (i) the 2025 Bonds at 99.265 per cent. of their principal amount less a combined management and underwriting commission and (ii) the 2029 Bonds at 98.938 per cent. of their principal amount less a combined management and underwriting commission. In addition, the Issuer has agreed to reimburse the Joint Lead Managers for certain of their expenses in connection with the issue of the Bonds. The Subscription Agreement entitles the Joint Lead Managers to terminate it in certain circumstances prior to payment being made to the Issuer.

### General

Neither the Issuer nor any Joint Lead Manager has made any representation that any action will be taken in any jurisdiction by the Joint Lead Managers or the Issuer that would permit a public offering of the Bonds, or possession or distribution of this Prospectus (in preliminary, proof or final form) or any other offering or publicity material relating to the Bonds (including roadshow materials and investor presentations), in any country or jurisdiction where action for that purpose is required. Each Joint Lead Manager has agreed that it will comply to the best of its knowledge and belief in all material respects with all applicable laws and regulations in each jurisdiction in which it acquires, offers, sells or delivers Bonds or has in its possession or distributes this Prospectus (in preliminary, proof or final form) or any such other material, in all cases at its own expense. It will also ensure that no obligations are imposed on the Issuer or any other Joint Lead Manager in any such jurisdiction as a result of any of the foregoing actions.

### United States

The Bonds have not been and will not be registered under the Securities Act and the Bonds are subject to U.S. tax law requirements. Subject to certain exceptions, the Bonds may not be offered, sold or delivered within the United States. Each Joint Lead Manager has agreed that it will not offer, sell or deliver any Bonds within the United States.

Each Joint Lead Manager has agreed that, except as permitted by the Subscription Agreement, it will not offer or sell the Bonds (i) as part of their distribution at any time or (ii) otherwise until 40 days after the later of the commencement of the offering and the Issue Date, within the United States or to, or for the account or benefit of, U.S. persons, and it will have sent to each dealer to which it sells Bonds during the distribution compliance period (as such term is defined in Rule 902 of Regulation S) a confirmation or other notice setting forth the restrictions on offers and sales of the Bonds within the United States or to, or for the account or benefit of, U.S. persons. Terms used in this paragraph have the meanings given to them by Regulation S.

In addition, until 40 days after the commencement of the offering of the Bonds, an offer or sale of Bonds within the United States by a dealer (whether ot not participating in the offering of the Bonds) may violate the registration requirements of the Securities Act.

United States Treasury Regulation §1.163-5(c)(2)(i)(D) ("**TEFRA D**") is applicable in relation to the Bonds. In respect of Bonds:

(a) except to the extent permitted under TEFRA D, each Joint Lead Manager (i) has represented and agreed that it has not offered or sold, and has agreed that during a 40-day restricted period it will not offer or sell, Bonds to a person who is within the United States or its possessions or to a United States person, and (ii) has represented that it has not delivered and agreed that it will not deliver within the United States or its possessions Definitive Bonds that are sold during the restricted period;

(b) each Joint Lead Manager has represented and agreed that it has and that throughout the restricted period it will have in effect procedures reasonably designed to ensure that its employees or agents who are directly engaged in selling Bonds are aware that such Bonds may not be offered or sold during the restricted period to a person who is within the United States or its possessions or to a United States person, except as permitted by TEFRA D;

(c) if it is a United States person, each Joint Lead Manager has represented and agreed that it is acquiring Bonds for purposes of resale in connection with their original issuance and if it retains Bonds for its own account, it will only do so in accordance with TEFRA D (including the requirements of U.S. Treas. Reg. Section l.163-5(c)(2)(i)(D)(6)); and

(d) with respect to each affiliate of a Joint Lead Manager that acquires Bonds from such Joint Lead Manager for the purpose of offering or selling such Bonds during the restricted period, such Joint Lead Manager has repeated and confirmed the representations and agreements contained in subparagraphs (a) to (c) on such affiliate's behalf.

Terms used in paragraphs (a) to (d) above have the meanings given to them by the Code and Treasury regulations promulgated thereunder, including TEFRA D.

**United Kingdom**

Each Joint Lead Manager has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "**FSMA**")) received by it in connection with the issue or sale of the Bonds in circumstances in which Section 21(1) of the FSMA does not apply to the Issuer; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Bonds in, from or otherwise involving the United Kingdom.

**Prohibition of Sales to EEA Retail Investors**

Each Joint Lead Manager has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Bonds to any retail investor in the EEA. For the purposes of this provision the expression "retail investor" means a person who is one (or more) of the following:

(a) a retail client as defined in point (11) of Article 4(1) of MiFID II; or

(b) a customer within the meaning of Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II.

**The Kingdom of Norway**

Each Joint Lead Manager has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Bonds in the Kingdom of Norway or to residents of the Kingdom of Norway, other than: (a) in respect of an offer of Bonds addressed to investors subject to a minimum purchase of Bonds for a total consideration of not less than €100,000 per investor; (b) to professional investors within the meaning set forth in Section 7-1 cf. Sections 10-2 to 10-5 in the Norwegian Securities Regulation of 29 June 2007 no. 876; or (c) in any other circumstances, provided that no such offer of Bonds shall result in a requirement for the registration or the publication of a prospectus pursuant to the Norwegian Securities Trading Act of 29 June 2007 no. 75, and in each case in a manner which does not require registration of the Bonds in the VPS. The Bonds are not expected to be registered in the VPS as the Bonds are denominated in a currency other than NOK (€) and issued outside of the Kingdom of Norway.

**Belgium**

The Bonds may not be distributed in Belgium by way of an offer of securities to the public, as defined in Article 3 §1 of the Belgian Law of 16 June 2006 on public offerings of investment instruments and the admission of investment instruments to trading on regulated markets (the "**Prospectus Law**"), save in those circumstances set out in Article 3 §2-4 of the Prospectus Law.

The offering is exclusively conducted under applicable private placement exemptions and therefore it has not been and will not be notified to, and this Prospectus or any other offering material relating to the Bonds has not been and will not be approved by, the Belgian Financial Services and Markets Authority ("*Autorité des services et marchés financiers / Autoriteit voor financiële diensten en markten*").

Accordingly, the offering may not be advertised and each of the Joint Lead Managers has represented and agreed that it has not offered, sold or resold, transferred or delivered, and will not offer, sell, resell, transfer or deliver, the Bonds and that it has not distributed, and will not distribute, any memorandum, information circular, brochure or any similar documents, directly or indirectly, to any individual or legal entity in Belgium other than:

(a) qualified investors, as defined in Article 10 of the Prospectus Law;

(b) investors required to invest a minimum of €100,000 (per investor and per transaction); and

(c) in any other circumstances set out in Article 3 §§2-4 of the Prospectus Law.

This Prospectus has been issued only for the personal use of the above qualified investors and exclusively for the purpose of the offering of Bonds. Accordingly, the information contained herein may not be used for any other purpose nor disclosed to any other person in Belgium.

## GENERAL INFORMATION

1. It is expected that listing of the Bonds on the Official List and admission of the Bonds to trading on the regulated market of Euronext Dublin will be granted on or before 11 April 2019, subject only to the issue of a Temporary Global Bond in respect of each Series. Transactions will normally be effected for delivery on the third working day after the day of the transaction. The Issuer estimates that the amount of expenses related to the admission of trading of the Bonds on Euronext Dublin will be approximately €8,000.

2. The Issuer has obtained all necessary consents, approvals and authorisations in connection with the issue of the Bonds and performance of its obligations under the Bonds. The issue of the Bonds was authorised by a resolution of the Board of Directors of the Issuer passed on 6 February 2019.

3.

   (a) Since 31 December 2018, there has been no significant change in the financial or trading position of the Issuer or the Group; and

   (b) Since 31 December 2018, there has been no material adverse change in the financial position or prospects of the Issuer or the Group.

4. None of the Issuer or any of its Subsidiaries is or has been involved in any governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened of which the Issuer is aware) during the 12 months preceding the date of this Prospectus which may have or has had a significant effect on the financial position or profitability of the Issuer or the Group.

5. Each Bond and Coupon will bear the following legend: "Any United States person who holds this obligation will be subject to limitations under the United States income tax laws, including the limitations provided in Sections 165(j) and 1287(a) of the Internal Revenue Code".

6. The 2025 Bonds have been accepted for clearance through Euroclear and Clearstream, Luxembourg (which are the entities in charge of keeping the records) with a Common Code of 197492244. The International Securities Identification Number ("**ISIN**") for the 2025 Bonds is XS1974922442, the Financial Instrument Short Name ("**FISN**") is NORSK HYDRO ASA/BD 20250411 and the Classification of Financial Instruments Code ("**CFI Code**") is DBFXFB.

7. The 2029 Bonds have been accepted for clearance through Euroclear and Clearstream, Luxembourg with a Common Code of 197492252. The ISIN for the 2029 Bonds is XS1974922525, the FISN is NORSK HYDRO ASA/BD 20290411 and the CFI Code is DBFXFB.

8. The address of Euroclear is 1 Boulevard du Roi Albert II, B-1210 Brussels, Belgium and the address of Clearstream, Luxembourg is 42 Avenue JF Kennedy L-1855 Luxembourg.

9. The Bonds are intended to be held in a manner which will allow Eurosystem eligibility. This means that the Bonds are intended, upon issue, to be deposited with a common safekeeper for Euroclear and Clearstream, Luxembourg and does not necessarily mean that the Bonds will be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem ("**Eurosystem eligible collateral**") either upon issue or at any or all times during their life. Such recognition will depend upon satisfaction of the Eurosystem eligibility criteria. The Issuer gives no representation, warranty, confirmation or guarantee to any investor in the Bonds that the Bonds will, either upon issue or at any time prior to redemption in full, satisfy all or any of the requirements for Eurosystem eligibility and be recognised as Eurosystem eligible collateral. Any potential investor in the Bonds should make their own conclusions and seek their own advice with respect to whether or not the Bonds constitute Eurosystem eligible collateral.

10. The Legal Entity Identifier (LEI) code of the Issuer is 549300N1SDN71ZZ8BO45.

11. The yield of the 2025 Bonds is 1.253 per cent. on an annual basis. The yield of the 2029 Bonds is 2.119 per cent. on an annual basis. The yield in respect of each Series is calculated as at 11 April 2019 on the basis of the relevant issue price. It is not an indication of future yield.

12. From the date of this Prospectus and for so long as any Bond or Coupon remains outstanding, copies (and English translations where the documents in question are not in English) of the following documents

will be available in electronic form, during usual business hours on any weekday (public holidays excepted), for inspection at the principal offices of the Issuer:

(a) the latest audited annual consolidated financial statements of the Issuer;

(b) the latest interim financial statements of the Issuer;

(c) a copy of this Prospectus together with any supplement to this Prospectus or further prospectus;

(d) a copy of each Annual Report; and

(e) the articles of association of the Issuer.

13. This Prospectus will be published on the website of Euronext Dublin at www.ise.ie. The website of Euronext Dublin does not form any part of the contents of this Prospectus.

14. The Issuer's audited consolidated financial statements for the years ended 31 December 2017 and 31 December 2018 have been prepared in accordance with IFRS and comply in all material respects with applicable Norwegian law.

15. The Issuer's independent auditors are elected at the Issuer's ordinary annual general meeting of shareholders for an annual term. Since 2010, KPMG AS ("**KPMG**") of Sørkedalsveien 6, 0369 Oslo, Norway has served as the Issuer's independent auditors. The Issuer's independent auditors are subject to supervision by the Financial Supervisory Authority of Norway. KPMG has audited the Issuer's audited consolidated financial statements as of and for the years ended 31 December 2017 and 31 December 2018 and their reports thereon are included in this Prospectus.

16. Certain of the Joint Lead Managers and their affiliates have engaged, and may in the future engage, in investment banking and/or commercial banking transactions with, and may perform services for the Issuer and its affiliates in the ordinary course of business. Certain of the Joint Lead Managers and their affiliates may have positions, deal or make markets in the Bonds, related derivatives and reference obligations, including (but not limited to) entering into hedging strategies on behalf of the Issuer and its affiliates, investor clients, or as principal in order to manage their exposure, their general market risk, or other trading activities.

In addition, in the ordinary course of their business activities, the Joint Lead Managers and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of the Issuer or the Issuer's affiliates. Certain of the Joint Lead Managers or their affiliates that have a lending relationship with the Issuer routinely hedge their credit exposure to the Issuer consistent with their customary risk management policies. Typically, such Joint Lead Managers and their affiliates would hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in securities, including potentially the Bonds. Any such positions could adversely affect future trading prices of the Bonds. The Joint Lead Managers and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

## DEFINITIONS

| | |
|---|---|
| Board of Directors | the board of directors of the Issuer |
| CAP | Companhia de Alumina do Pará's, a potential new alumina refinery to be located in Barcarena |
| Group/Hydro | the Issuer and its subsidiaries |
| Issuer | Norsk Hydro ASA, a Norwegian public limited company existing under the laws of Norway, with company registration number 914 778 271 |
| IFRS | International Financial Reporting Standards |
| ISIN | International Securities Identification Number |
| Joint Lead Managers | BNP Paribas, Citigroup Global Markets Limited, ING Bank N.V. and Nordea Bank Abp |
| LME | the London Metal Exchange |
| Management | the corporate management board of the Issuer |
| MRN | Mineração Rio do Norte, a bauxite mine in Brazil |
| NOK | Norwegian kroner |

## INDEX TO FINANCIAL STATEMENTS

**Audited Consolidated Financial Statements of the Issuer and its subsidiaries together with the report of the statutory auditor for the year ended 31 December 2017, including comparative figures for the year ended 31 December 2016.**



**Audited Consolidated Financial Statements of the Issuer and its subsidiaries together with the report of the statutory auditor for the year ended 31 December 2018, including comparative figures for the year ended 31 December 2017.**

**Audited Consolidated Financial Statements of the Issuer and its subsidiaries together with the report of the statutory auditor for the year ended 31 December 2017, including comparative figures for the year ended 31 December 2016.**

# Consolidated financial statements

## Consolidated income statements

| Amounts in NOK million (except per share amounts). Years ended December 31 | Notes | **2017** | 2016 |
|---|---|---|---|
| Revenue | 7 | **109 220** | 81 953 |
| Share of the profit (loss) in equity accounted investments | 7, 31 | **1 527** | 985 |
| Other income, net | 15 | **2 947** | 1 030 |
| Total revenue and income | | **113 693** | 83 969 |
| Raw material and energy expense | 16 | **69 848** | 52 151 |
| Employee benefit expense | 17 | **13 285** | 9 485 |
| Depreciation and amortization expense | 18 | **6 156** | 5 041 |
| Impairment of non-current assets | 19 | **5** | 433 |
| Other | 20, 21 | **12 209** | 9 848 |
| Total expenses | | **101 504** | 76 958 |
| Earnings before financial items and tax | 7 | **12 189** | 7 011 |
| Financial income | 22 | **481** | 574 |
| Financial expense | 22 | **(1 596)** | 1 552 |
| Financial income (expense), net | | **(1 114)** | 2 126 |
| Income before tax | | **11 075** | 9 137 |
| Income taxes | 23 | **(1 891)** | (2 551) |
| Net income | | **9 184** | 6 586 |
| Net income attributable to non-controlling interests | | **401** | 199 |
| Net income attributable to Hydro shareholders | | **8 783** | 6 388 |
| Basic and diluted earnings per share attributable to Hydro shareholders | 37 | **4.30** | 3.13 |

*The accompanying notes are an integral part of the consolidated financial statements.*

# Consolidated statements of comprehensive income

| Amounts in NOK million. Years ended December 31 | Notes | **2017** | 2016 |
|---|---|---|---|
| Net income | | **9 184** | 6 586 |
| ***Other comprehensive income*** | | | |
| ***Items that will not be reclassified to income statement*** | | | |
| Remeasurement postemployment benefits, net of tax | 37 | **761** | 178 |
| Share of remeasurement postemployment benefits of equity accounted investments, net of tax | 37 | **(2)** | (41) |
| Total | | **759** | 137 |
| ***Items that will be reclassified to income statement*** | | | |
| Currency translation differences, net of tax | 37 | **(1 387)** | 4 114 |
| Unrealized loss on securities, net of tax | 37 | **(255)** | (47) |
| Cash flow hedges, net of tax | 37 | **174** | 115 |
| Share of other comprehensive income that will be reclassified to income statement of equity accounted investments, net of tax | 37 | **(736)** | (281) |
| Total | | **(2 203)** | 3 901 |
| Other comprehensive income | | **(1 444)** | 4 038 |
| Total comprehensive income | | **7 740** | 10 624 |
| Total comprehensive income attributable to non-controlling interests | | **103** | 889 |
| Total comprehensive income attributable to Hydro shareholders | | **7 637** | 9 735 |

*The accompanying notes are an integral part of the consolidated financial statements.*

# Consolidated balance sheets

| Amounts in NOK million, December 31 | Notes | 2017 | 2016 |
|---|---|---|---|
| ***Assets*** | | | |
| Cash and cash equivalents | | **11 828** | 8 037 |
| Short-term investments | 24 | **1 311** | 4 611 |
| Trade and other receivables | 25 | **19 983** | 10 884 |
| Inventories | 26 | **20 873** | 12 381 |
| Other current financial assets | 13 | **602** | 457 |
| Total current assets | | **54 597** | 36 371 |
| Property, plant and equipment | 28 | **73 020** | 58 734 |
| Intangible assets | 29, 30 | **12 712** | 5 811 |
| Investments accounted for using the equity method | 31 | **11 221** | 19 807 |
| Other non-current assets | 13, 27 | **4 410** | 4 309 |
| Prepaid pension | 36 | **5 750** | 4 195 |
| Deferred tax assets | 23 | **1 617** | 1 566 |
| Total non-current assets | | **108 730** | 94 422 |
| Total assets | 7 | **163 327** | 130 793 |
| ***Liabilities and equity*** | | | |
| Bank loans and other interest-bearing short-term debt | 33 | **8 245** | 3 283 |
| Trade and other payables | 32 | **19 561** | 10 108 |
| Provisions | 34 | **2 296** | 1 417 |
| Taxes payable | | **2 570** | 1 773 |
| Other current financial liabilities | 13 | **655** | 526 |
| Total current liabilities | | **33 326** | 17 106 |
| Long-term debt | 33 | **9 012** | 3 397 |
| Provisions | 34 | **5 828** | 4 384 |
| Pension liabilities | 36 | **15 118** | 12 871 |
| Other non-current financial liabilities | 13 | **2 041** | 1 067 |
| Other liabilities | | **2 228** | 1 944 |
| Deferred tax liabilities | 23 | **3 522** | 2 384 |
| Total non-current liabilities | | **37 749** | 26 047 |
| Total liabilities | | **71 075** | 43 153 |
| Share capital | 37 | **2 272** | 2 272 |
| Additional paid-in capital | 37 | **29 097** | 29 070 |
| Treasury shares | 37 | **(810)** | (870) |
| Retained earnings | | **56 435** | 50 210 |
| Other components of equity | 37 | **80** | 1 224 |
| Equity attributable to Hydro shareholders | | **87 074** | 81 906 |
| Non-controlling interests | | **5 178** | 5 733 |
| Total equity | | **92 252** | 87 640 |
| Total liabilities and equity | | **163 327** | 130 793 |

*The accompanying notes are an integral part of the consolidated financial statements.*

# Consolidated statements of cash flows

| Amounts in NOK million. Years ended December 31 | Notes | **2017** | 2016 |
|---|---|---|---|
| ***Operating activities*** | | | |
| Net income | | **9 184** | 6 586 |
| | | | |
| Adjustments to reconcile net income to net cash provided by operating activities: | | | |
| Depreciation, amortization and impairment | 7, 18, 19 | **6 162** | 5 474 |
| Share of profit in equity accounted investments | 7, 31 | **(1 527)** | (985) |
| Dividends received from equity accounted investments | 31 | **2 247** | 836 |
| Deferred taxes | | **(685)** | 563 |
| Gain on sale of non-current assets | | **(2 046)** | (226) |
| Net foreign exchange (gain) loss | 22 | **875** | (2 266) |
| Net sales of trading securities | | **57** | 44 |
| Capitalized interest | 22 | **(76)** | (97) |
| | | | |
| Changes in assets and liabilities that provided (used) cash: | | | |
| Accounts receivable | | **(554)** | (187) |
| Inventories | | **(1 518)** | (104) |
| Trade and other payables | | **1 013** | 483 |
| Commodity derivatives | | **322** | (29) |
| Other items | | **893** | (74) |
| Net cash provided by operating activities | 41 | **14 347** | 10 018 |
| | | | |
| ***Investing activities*** | | | |
| Purchases of property, plant and equipment | | **(7 296)** | (6 913) |
| Purchases of other long-term investments | | **(11 190)** | (183) |
| Purchases of short-term investments | | **(5 094)** | (4 650) |
| Proceeds from sales of property, plant and equipment | | **57** | 77 |
| Investment grants received | | **636** | 563 |
| Proceeds from sales of other long-term investments | | **49** | 475 |
| Proceeds from sales of short-term investments | | **8 402** | 5 850 |
| Net cash used in investing activities | | **(14 436)** | (4 781) |
| | | | |
| ***Financing activities*** | | | |
| Loan proceeds | | **15 271** | 5 208 |
| Principal repayments | | **(10 917)** | (7 525) |
| Net increase in other short-term debt | | **2 515** | 265 |
| Proceeds from shares issued | | **40** | 28 |
| Dividends paid | | **(3 069)** | (2 362) |
| Net cash provided by (used in) financing activities | | **3 840** | (4 386) |
| | | | |
| Foreign currency effects on cash | | **40** | 269 |
| | | | |
| Net increase in cash and cash equivalents | | **3 791** | 1 120 |
| Cash and cash equivalents at beginning of year | | **8 037** | 6 917 |
| Cash and cash equivalents at end of year | | **11 828** | 8 037 |

*The accompanying notes are an integral part of the consolidated financial statements.*

# Consolidated statements of changes in equity

| Amounts in NOK million | Notes | Share capital | Additional paid-in capital | Treasury shares | Retained earnings | Other components of equity | Equity attributable to Hydro share-holders | Non-control-ling interests | Total equity |
|---|---|---|---|---|---|---|---|---|---|
| December 31, 2015 | | 2 272 | 29 068 | (913) | 45 850 | (2 107) | 74 169 | 5 159 | 79 329 |
| Treasury shares issued to employees | 37 | | 1 | 44 | | | 45 | | 45 |
| Dividends | 39 | | | | (2 043) | | (2 043) | (320) | (2 362) |
| Capital contribution in subsidiaries | | | | | | | | 4 | 4 |
| Items not reclassified to income statement in subsidiaries divested | 37 | | | | 16 | (16) | - | | - |
| Total comprehensive income for the year | | | | | 6 388 | 3 348 | 9 735 | 889 | 10 624 |
| December 31, 2016 | | 2 272 | 29 070 | (870) | 50 210 | 1 224 | 81 906 | 5 733 | 87 640 |
| Treasury shares issued to employees | 37 | | 27 | 60 | | | 87 | | 87 |
| Dividends | 39 | | | | (2 556) | | (2 556) | (702) | (3 258) |
| Capital contribution in subsidiaries | | | | | | | | 3 | 3 |
| Items not reclassified to income statement in subsidiaries and JVs divested | 37 | | | | (3) | 3 | - | 40 | 40 |
| Total comprehensive income for the year | | | | | 8 783 | (1 147) | 7 637 | 103 | 7 740 |
| December 31, 2017 | | 2 272 | 29 097 | (810) | 56 435 | 80 | 87 074 | 5 178 | 92 252 |

*The accompanying notes are an integral part of the consolidated financial statements.*

Oslo, March 19, 2018

**Dag Mejdell**
Chair

**Irene Rummelhoff**
Deputy chair

**Liv Monica Bargem Stubholt**
Board member

**Billy Fredagsvik**
Board member

**Finn Jebsen**
Board member

**Sten Roar Martinsen**
Board member

**Thomas Schulz**
Board member

**Svein Kåre Sund**
Board member

**Marianne Wiinholt**
Board member

**Svein Richard Brandtzæg**
President and CEO

# Notes to the consolidated financial statements

## Note 1 - Reporting entity and basis of presentation

The reporting entity reflected in these financial statements comprises Norsk Hydro ASA and consolidated subsidiaries (Hydro). Hydro is headquartered in Oslo, Norway, and the group employs around 35,000 people in more than 40 countries. Hydro is a global supplier of aluminium with operations throughout the industry value chain. Operations include power production, bauxite extraction, alumina refining, aluminium smelting, remelting and recycling, rolling activities, and extruded solutions. The Board of Directors and the President and CEO authorized these financial statements for issue on March 19, 2018. Hydro is listed on the Oslo stock exchange, Oslo Børs.

### Basis of presentation

The financial statements have been prepared on a historical cost basis except for certain assets, liabilities and financial instruments, which are measured at fair value. Preparation of financial statements including note disclosures requires management to make estimates and assumptions that affect amounts reported. Actual results may differ. See note 5 Critical accounting judgment and key sources of estimation uncertainty.

Presentation and classification of items in the financial statements is consistent for the periods presented. Gains and losses on disposal of non-current assets are presented net, as well as expenditures related to provisions that are reimbursed by a third party. However, insurance compensation and government grants are reported on a gross basis.

The functional currency of Norsk Hydro ASA is the Norwegian krone (NOK). The Hydro group accounts are presented in NOK.

As a result of rounding adjustments, the figures in one or more columns included in the financial statements may not add up to the total of that column.

Interest rates used for calculating net present values are rounded to the nearest 10 basis points for post employment benefits, to the nearest 25 basis points for other non financial assets and liabilities.

## Note 2 - Significant accounting policies

The consolidated financial statements of Norsk Hydro ASA and its subsidiaries are prepared in accordance with International Financial Reporting Standards (IFRS) as endorsed by the European Union (EU) and Norwegian authorities and are effective as of December 31, 2017. Hydro also provides the disclosure as specified under the Norwegian Accounting Law (Regnskapsloven).

The following description of accounting principles applies to Hydro's 2017 financial reporting, including all comparative figures. See note 1 Reporting entity and basis of presentation, note 4 Measurement of fair value, and note 5 Critical accounting judgment and key sources of estimation uncertainty for additional information related to the presentation, classification and measurement of Hydro's financial reporting.

### Basis of consolidation

The consolidated financial statements include Norsk Hydro ASA and subsidiaries, which are entities in which Hydro has the power to govern the financial and operating policies of the entity (control). Control is normally achieved through ownership, directly or indirectly, of more than 50 percent of the voting power. Currently, Hydro has more than 50 percent of the voting power in all subsidiaries. Subsidiaries are included from the date control commences until the date control ceases.

Intercompany transactions and balances have been eliminated. Profits and losses resulting from intercompany transactions have been eliminated.

### Non-controlling interests

Non-controlling interests represent equity interests in subsidiaries held by other owners than Hydro. Non-controlling interests are reported as a separate section of the Group's equity in accordance with IFRS 10 Consolidated Financial Statements. Results attributed to non-controlling interests are based on ownership interest, or other method of allocation if required by contract.

## Business combinations

Business combinations are accounted for using the acquisition method in accordance with IFRS 3 Business Combinations. Consideration is the sum of the fair values, as of the date of exchange, of the assets given, liabilities incurred or assumed, and equity instruments issued in exchange for control of the acquiree. The fair value of Hydro's pre-existing ownership interest in an acquiree is included in the consideration, with any gain or loss recognized in Other income, net.

The acquiree's identifiable assets, liabilities and contingent liabilities are recognized separately at the acquisition date at their fair value irrespective of any non-controlling interest. Goodwill is initially measured either as the excess of the consideration over Hydro's interest in the fair value of the acquiree's identifiable net assets (partial goodwill), or as the fair value of 100 percent of the acquiree in excess of the acquiree's identifiable net assets (full goodwill). The method is elected on a transaction-by-transaction basis. Hydro has applied the partial goodwill method for all business combinations completed prior to December 31, 2017. Goodwill is not amortized, but is tested for impairment annually and more frequently if indicators of possible impairment are observed, in accordance with IAS 36 Impairment of Assets. Goodwill is allocated to the cash generating units or groups of cash generating units expected to benefit from the synergies of the combination and that are monitored for internal management purposes.

The interest of non-controlling shareholders in the acquiree is initially measured as the non-controlling interests' proportion of the fair value of the net assets recognized (partial goodwill method), or as the non-controlling interests' proportion of the fair value of the acquiree (full goodwill method). Non-controlling interests are subsequently adjusted for changes in equity of the subsidiary after the acquisition date.

## Transactions between non-controlling shareholders and the group

Sales and purchases of share interests and equity contributions not resulting in Hydro gaining or losing control of a subsidiary are reported as equity transactions in accordance with IFRS 10. No gain, loss or change of recognized assets, liabilities or goodwill is recognized as result of such transactions.

## Investments in associates and joint ventures

An associate is an equity investment in which Hydro has the ability to exercise significant influence, which is the power to participate in the financial and operating policy decisions of the entity. Significant influence is assumed to exist when Hydro owns between 20 and 50 percent of the voting rights unless other terms and conditions affect Hydro's influence.

A joint arrangement is an entity, asset or operation that is subject to contractually established joint control. Special voting rights may extend control beyond what is conveyed through the owners' proportional ownership interest. Such rights may take the form of a specified number of board representatives, the right of refusal for important decisions, or the requirement of a qualified majority for important decisions which effectively results in joint control with the specific ownership situation. Joint ventures are joint arrangement which represents a residual interest in the arrangement rather than an interest in assets and responsibility for liabilities.

Hydro accounts for investments in associates and participation in joint ventures using the equity method. This involves recognizing Hydro's interest based on its proportional share of the entity's equity, including any excess values and goodwill. Hydro recognizes its share of net income, including depreciation and amortization of excess values and any impairment losses, in Share of the profit (loss) in equity accounted investments. Other comprehensive income derived from associates and joint ventures is included in Hydro's Other comprehensive income. Hydro's proportional share of unrealized profits resulting from transactions with associates and joint ventures, including transfer of businesses, is eliminated. Accounting policies used by associates and joint ventures may differ from the accounting policies adopted by Hydro. Differences in recognition or measurement are adjusted for prior to equity accounting.

Investments in associates and joint ventures are tested for impairment when there are indications of a possible loss in value. An impairment loss is recognized if the recoverable amount, estimated as the higher of fair value less cost of disposal or value in use, is below Hydro's carrying value. Impairment losses are reversed if circumstances change and the impairment situation is no longer deemed to exist.

## Investments in joint operations and jointly owned assets

Joint operations are arrangements under contractually joint control where the joint operators have an interest in the assets; or benefits from the service potential of the assets; as well as have a direct obligation for the liabilities of the joint arrangement. Joint operations can result from the legal form of the arrangement or other facts and circumstances resulting in an interest in the service potential of the asset and obligation for liabilities. Jointly owned assets are arrangements where Hydro and the other partners have a direct ownership in specifically identified assets, but where joint control is not established. Hydro recognizes its share of assets, liabilities, revenues, if any, and expenses of joint operations and jointly owned assets on a line-by-line basis in the group financial statements.

## Assets held for sale and Income from discontinued operations

Assets held for sale are reported separately in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations, provided that the sale is highly probable, which includes the criteria that management is committed to the sale, and that the sale will be completed within one year. Assets held for sale are not depreciated, but are measured at the lower of carrying value and the fair value less costs to sell for the asset group. Assets are not reclassified in prior period balance sheets. Immaterial disposal groups are not reclassified.

A discontinued operation is a component of Hydro that is held for sale or has been disposed of. A discontinued operation is a separate major line of business or geographical area of operations. Related cash flows, results of operations and gain or loss from disposal are reported separately as Income (loss) from discontinued operations.

Assets held for sale, liabilities in disposal groups and income and expense from discontinued operations are excluded from specifications presented in the notes unless otherwise stated.

## Revenue recognition

Revenue from sales of products, including products sold in international commodity markets, is recognized upon transfer of ownership, which generally occurs on delivery. To the extent a transaction consists of multiple elements, the transaction is analyzed into the separately identifiable components for revenue recognition. Products are generally produced based on customer order. Some standard products, such as standard aluminium ingot and certain products for the building systems product lines, are produced independently of customer orders. For multiple delivery contracts, revenue is allocated to deliveries in line with contract terms, normally either fixed price per unit or a combination of fixed elements and price references to observable market prices at either pricing date or delivery date. The price is usually fixed prior to, or at, delivery, although some contracts may refer to observable market prices in a period including transactions after delivery, such as the delivery month. Sales terms providing transportation and related services for sold goods after transfer of ownership to the customer (CIF and similar incoterms) are considered one, combined, delivery to the customer. Revenue, including the service element, is recognized at transfer of ownership of the goods, and remaining costs accrued for. Any rebates or incentive allowances are deferred and recognized in income upon the realization or at the closing of the rebate period. In arrangements where Hydro acts as an agent, such as commission sales, the net commission fee is recognized as revenue.

Margins related to the trading of derivative commodity instruments, including instruments used for risk management purposes, purchase or delivery of physical commodities on a commodity exchange, and physical commodity purchases and sales agreed in combination with a single counterpart, are presented on a net basis in the income statement with trading margins included in revenues.

## Government grants

Government grants are recognized in accordance with IAS 20 Accounting for Government Grants and Disclosure of Government Assistance. Grants are recognized when there is a reasonable assurance that Hydro will comply with relevant conditions and the grants will be received. Government grants are deferred in other non-current liabilities until the associated activity is performed or expenses recognized. Investment grants are recognized over the period the associated asset is depreciated. All government grants are recognized in Other income, net. Investment grants are included in Investing activities in the statement of cash flows.

## Other income, net

Transactions resulting in income from activities other than normal production and sales operations are classified as Other income, net. This includes gains and losses resulting from the sale or disposal of PP&E, investments in subsidiaries, associates or joint ventures as well as government grants, insurance compensation, rental revenue and revenue from utilities.

## Inventories

Inventories are valued at the lower of cost, using the first-in, first-out method (FIFO), or net realizable value. Net realizable value is the estimated selling price in the ordinary course of business less estimated costs of completion and selling costs. Inventory cost includes direct materials, direct labor and a portion of production overhead (manufactured goods) or the purchase price of the inventory. Abnormal amounts of idle facility expense, freight, handling costs, and wasted materials are recognized as expense in the current period. Inventory write-downs to net realizable value occurs when the cost of the inventory is not recoverable, and is reversed in later periods if there is clear evidence of an increase in the net realizable value.

## Property, plant and equipment

Property, plant and equipment (PP&E) is recognized at acquisition cost. The carrying value of PP&E is comprised of the historical cost less accumulated depreciation and any accumulated impairment losses. The carrying value also includes the estimated value of the asset retirement obligation upon initial recognition of the liability. Hydro uses the cost model for PP&E and investment properties.

### *Capitalized maintenance*

Expenditures for maintenance and repairs applicable to production facilities are capitalized in accordance with IAS 16 Property, Plant and Equipment when such costs are incurred on a scheduled basis with a time interval of greater than one year. Expenditures that regularly occur at shorter intervals are expensed as incurred. Major replacements and renewals are capitalized and any assets replaced are retired.

### *Stripping cost*

Stripping costs incurred during the mining production phase are allocated between cost of inventory produced and the existing mine asset. Stripping costs are allocated as a component of the mine asset in the event they represent significantly improved access to ore. Stripping costs include such activities as removal of vegetation as well as digging the actual pit for mining the ore.

### *Capitalized interest*

Hydro capitalizes borrowing costs on qualifying assets in accordance with IAS 23 Borrowing Costs. Currency gains or losses related to Hydro's foreign currency denominated borrowings are not capitalized.

### *Leased assets*

Leases which transfer to Hydro substantially all the risks and benefits incidental to ownership of the leased item are identified using the guidance in IAS 17 Leases and IFRIC 4 Determining whether an Arrangement contains a lease. Such arrangements are capitalized as finance leases and included under Property, plant and equipment at the fair value of the leased asset, or, if lower, the present value of the minimum lease payments as of the later of date of inception of the lease or getting access to the services of the asset. The assets are depreciated over the shorter of the estimated useful life of the asset or the lease term. The liability is included in Long-term debt and amortized by the amount of the lease payment less the effective interest expense. All other leases are classified as operating leases with lease payments recognized as an expense over the term of the lease.

## Asset retirement obligations

Hydro recognizes liabilities for the estimated fair value of asset retirement obligations (ARO) relating to assets where such obligations exists, in the period incurred in accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets. Fair value is estimated as the present value of costs relating to dismantlement or removal of buildings or other assets, and/or the restoration or rehabilitation of industrial or mining sites. The liability is recognized when an asset is constructed and ready for use or when the obligation is incurred if imposed at a later date. Related asset retirement costs are capitalized and depreciated over the useful life of the asset. Accretion costs are recognized for the change in the present value of the liability and classified as part of Financial expense. Liabilities that are conditional on a future event (e.g. the timing or method of settlement) are recognized when the value of the liability can be reasonably estimated.

## Intangible assets

Intangible assets acquired individually or as a group are recognized at fair value when acquired. Intangible assets acquired in a business combination are recognized at fair value separately from goodwill when they arise from contractual or legal rights or can be separated from the acquired entity and sold or transferred.

### *Emission rights*

Government granted and purchased $CO_2$ emission allowances expected to be used towards Hydro's own emissions are recognized as intangible assets at nominal value (cost). The amounts are not amortized but are tested for impairment at least annually. Actual $CO_2$ emissions which exceed the level covered by emission rights are recognized as a liability. Sale of emission rights are recognized at the time of sale at the transaction price. $CO_2$ emission allowances purchased for trading are measured and classified as inventory.

### *Research and development*

Research expenditures are expensed as incurred. Development costs are capitalized as intangible assets at cost in accordance with IAS 38 Intangible Assets when the recognition criteria are met, including probable future economic benefit and that the cost can be measured reliably.

### *Exploration cost*

Exploration cost for mineral resources are expensed as incurred. Costs related to acquired exploration rights are allocated to the relevant areas and capitalized. An area represents a unit that may be utilized based on shared infrastructure and may include several licenses. Exploration rights are transferred to mine development cost when development starts. Exploration rights related to undeveloped areas remain on the balance sheet as intangible assets (mineral rights) until a development is decided or a decision not to develop the area is made.

## Depreciation and amortization

Depreciation and amortization expenses are measured on a straight-line basis over the estimated useful life of the asset, commencing when the asset is ready for its intended use. Mine property and development costs in extractive activities are depreciated using the unit-of-production method, using proved and probable reserves. Tangible and intangible assets with an indefinite useful life are not depreciated. Estimated useful life by category is as follows:

- Machinery and equipment, initial investment 4-30 years, for power plants up to 75 years
- Machinery and equipment, capitalized maintenance 1-15 years
- Buildings 20-50 years
- Intangible assets with finite lives 3-10 years, for rights related to hydroelectric power production up to 50 years

A component of an item of property, plant and equipment with a significantly differing useful life and a cost that is significant in relation to the item is depreciated separately. At each financial year-end Hydro reviews the residual value and useful life of its assets, with any estimate changes accounted for prospectively over the remaining useful life of the asset.

## Impairment of property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable, in accordance with IAS 36 Impairment of Assets. Exploration cost for undeveloped mining areas are assessed for impairment under IFRS 6 Exploration for and Evaluation of Mineral Resources. Intangible assets with indefinite useful life are tested for impairment at least annually.

## Provisions

Provisions are recognized when Hydro has a present obligation (legal or constructive) as a result of a past event, it is probable (more likely than not) that Hydro will be required to settle the obligation, and a reliable estimate can be made of the amount, taking into account the risks and uncertainties. The provision is measured as the present value of the cash flows estimated to settle the obligation. Uncertain outcomes are measured as the expected value of reasonably possible outcomes. See also the accounting policy discussion for Asset retirement obligations.

## Exit and disposal costs

Hydro recognizes a provision in the amount of the direct costs associated with an exit and/or disposal activity when a formal commitment to a detailed exit plan is made and communicated to those affected. A provision for termination benefits to employees is recognized as of the date of employee notification. Costs related to such activities are classified as restructuring costs if the exit or disposal materially change the scope of Hydro's business.

## Contingent liabilities and assets

A contingent liability is a possible obligation that arises from a past event, with the resolution of the contingency dependent on uncertain future events, or a present obligation where no outflow is probable. Major contingent liabilities are disclosed in the financial statements unless the possibility of an outflow of economic resources is remote. Contingent assets are not recognized in the financial statements.

## Foreign currency transactions

Transactions in foreign currencies are initially recorded in the functional currency of the transacting entity by applying the rate of exchange as of the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the rate of exchange at the balance sheet date. Currency gains or losses are included in Financial expense.

## Foreign currency translation

For consolidation purposes, the financial statements of subsidiaries with a functional currency other than Norwegian kroner (NOK) are translated into NOK. Assets and liabilities, including investment in associates, joint ventures and goodwill, are translated using the rate of exchange as of the balance sheet date. Income, expenses and cash flows are translated using the average exchange rate for the reported period. Goodwill is recognized in the predominant functional currencies in the acquired businesses. Translation adjustments are recognized in Other comprehensive income and accumulated in Currency translation differences in Other components of equity. On disposal of such subsidiary, joint venture or associate, the cumulative translation adjustment of the disposed entity is recognized in the income statement as part of the gain or loss on disposal.

## Financial assets

Financial assets represent a contractual right by Hydro to receive cash or another financial asset in the future. Financial assets include financial derivatives and commodity derivative contracts, receivables and equity interests, as well as financial instruments used for cash-flow hedges. Financial assets are derecognized when the rights to receive cash from the asset have expired or when Hydro has transferred its rights to receive cash flows and has either transferred substantially all of the risks and rewards of the asset or has transferred control of the asset. Financial assets are measured at amortized cost unless another measurement basis is described below.

### *Cash and cash equivalents*

Cash and cash equivalents in the balance sheet includes cash, bank deposits and all other monetary instruments with a maturity of less than three months from the date of acquisition, and are measured at nominal value.

### *Short-term investments*

Short-term investments include bank deposits and all other monetary instruments with a maturity between three and twelve months at the date of purchase. Short-term investments also includes Hydro's current portfolio of equity and debt securities which are considered trading securities. Such instruments are measured at fair value with the resulting unrealized holding gains and losses included in Financial income. Investment income is recognized when the right to receive cash flows has been established.

### *Trade receivable*

Trade receivable are initially recognized at fair value, subsequently accounted for at amortized cost and are reviewed for impairment on an ongoing basis. Individual accounts are assessed for impairment taking into consideration indicators of financial difficulty and management assessment. Discounting generally does not have a material effect on accounts receivable, however, in special cases discounting may be applied.

*Other non-current assets*

Other non-current assets include Hydro's portfolio of equity securities that are not consolidated or accounted for using the equity method. The portfolio is classified as available-for-sale securities and is measured at fair value with changes in fair value, net of tax, recognized in Other comprehensive income. Investment income is recognized when the right to cash flows has been established. Fair value of the investment is measured under IFRS 13 Fair Value Measurement. When the estimated fair value of the investment is below Hydro's cost, and the difference is significant or prolonged, the impairment is recognized in the income statement. Any accumulated reduction in fair value previously recognized in Other comprehensive income is reclassified to the income statement.

## Financial liabilities

Financial liabilities represent a contractual obligation by Hydro to deliver cash in the future, and are classified as either short or long-term. Financial liabilities include financial derivatives, commodity derivative contracts and other financial liabilities as well as financial instruments used for cash-flow hedges. Financial liabilities, with the exception of derivatives, are initially recognized at fair value including transaction costs directly attributable to the transaction and are subsequently measured at amortized cost. Financial liabilities are derecognized when the obligation is discharged through payment or when Hydro is legally released from the primary responsibility for the liability.

## Derivative instruments

Derivative instruments are marked-to-market with the resulting gain or loss reflected in the income statement, except when the instruments meet the criteria for cash flow hedge accounting and are designated as hedge instruments. Derivatives, including hedging instruments and embedded derivatives with expected cash flows within twelve months from the balance sheet date, or held solely for trading, are classified as short-term. Instruments with expected cash flows more than 12 months after the balance sheet date are classified as short and long-term based on the timing of the estimated cash flows.

Derivative contracts are presented gross on the balance sheet unless contract terms include the possibility to settle the contracts on a net basis and Hydro has the intention and ability to do so. The ability to settle net is conditional on simultaneous offsetting cash-flows.

Physical commodity contracts are evaluated on a portfolio basis. If a portfolio of contracts contains contracts of a similar nature that are settled net in cash, or the underlying products are not intended for own use, the entire portfolio of contracts is recognized at fair value and classified as derivatives. Physical commodity contracts that are entered into and continue to be held for the purpose of the receipt or delivery of the commodity in accordance with Hydro's expected purchase, sale or usage requirements (own use) are not accounted for at fair value. Commodity purchase contracts are generally considered to be the primary source for usage requirements. Hydro's own production of such commodities, for instance electricity, alumina and primary aluminium, is considered to be available for use or sale at Hydro's discretion unless relevant concessions contains restrictions for use.

Derivative commodity instruments are marked-to-market with their fair value recorded in the balance sheet as either assets or liabilities. Adjustments for changes in the fair value of the instruments are reflected in revenue and/or cost. Forward currency contracts and currency options are recognized in the balance sheet and measured at fair value at each balance sheet date with the resulting gain or loss recorded in Financial expense. Interest income and expense relating to swaps are netted and recognized as income or expense over the life of the contract.

Hedge accounting is applied when specific hedge criteria are met, including documentation of the hedge relationship. The changes in fair value of the hedging instruments are offset in part or in full by the corresponding changes in the fair value or cash flows of the underlying hedged exposures. Gains and losses on cash flow hedging instruments are recognized in Other comprehensive income and deferred in the Hedging reserve in Other components of equity until the underlying transaction is recognized in the income statement. Deferred gains and losses relating to forecasted hedged transactions that are no longer expected to occur are immediately recognized in the income statement. Any amounts resulting from hedge ineffectiveness are recognized in the current period's income statement.

An embedded derivative is accounted for as a separate financial instrument, provided that the economic characteristics and risks of the embedded derivative are not closely related to those of the host contract, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and the host contract is not accounted for at fair value. Embedded derivatives are classified both in the income statement and on the balance sheet based on the risks in the derivatives' underlying.

## Income taxes, current and deferred

Taxes payable is based on taxable profit for the year which excludes items of income or expense that are taxable or deductible in other years. Taxable profit also excludes items that are never taxable or deductible. Hydro's liability for current tax is calculated using tax rates that have been enacted or substantively enacted as of the balance sheet date.

Deferred income tax expense is calculated using the liability method in accordance with IAS 12 Income Taxes. Deferred tax assets and liabilities are classified as non-current in the balance sheet and are measured based on the difference between the carrying value of assets and liabilities for financial reporting and their tax basis when such differences are considered temporary in nature. Temporary differences related to intercompany profits are deferred using the buyer's tax rate. Deferred tax assets are reviewed for recoverability every balance sheet date, and the amount probable of recovery is recognized.

Deferred income tax expense represents the change in deferred tax asset and liability balances during the year, except for the deferred tax related to items recognized in Other comprehensive income or resulting from a business combination or disposal. Changes resulting from amendments and revisions in tax laws and tax rates are recognized when the new tax laws or rates become effective or are substantively enacted. Uncertain tax positions are recognized in the financial statements based on management's expectations.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities, when they relate to income taxes levied by the same taxation authority, and when the Group intends to settle its current tax assets and liabilities on a net basis.

Deferred taxes are not provided on undistributed earnings of subsidiaries when the timing of the reversal of this temporary difference is controlled by Hydro and is not expected to happen in the foreseeable future. This is applicable for the majority of Hydro's subsidiaries.

## Share-based compensation

Hydro accounts for share-based compensation in accordance with IFRS 2 Share-based Payment. Share-based compensation expense is measured at fair value over the service period and includes social security taxes that will be paid by Hydro at the settlement date. All changes in fair value are recognized in the income statement.

## Employee benefits and post-employment benefits

Payments to employees, such as wages, salaries, social security contributions, paid annual leave, as well as bonus agreements are accrued in the period in which the associated services are rendered by the employee.

Post-employment benefits are recognized in accordance with IAS 19 Employee Benefits. The cost of providing pension benefits under a defined benefit plan is determined separately for each plan using the projected unit credit method. Past service costs are recognized immediately in the income statement. The interest component of the periodic cost is included in Financial expense. Remeasurement gains and losses are recognized in Other comprehensive income.

Contributions to defined contribution plans are recognized in the income statement in the period in which they accrue. Multi-employer defined benefit plans where available information is insufficient to use defined benefit accounting are accounted for as if the plan were a defined contribution plan.

## Income statements and statements of comprehensive income

Hydro has elected to present a separate income statement and a separate statement of comprehensive income, rather than a combined statement. Further, Hydro has elected to present an analysis of expenses based on their nature as a common analysis of expenses through Hydro's value chain. Hydro has elected to present a sub-total Earnings before financial items and tax (EBIT). This measure is also used as the main segment profit measure. The share of the profit (loss) in equity accounted investments is included in this sub-total because the majority of such investments are operationally integrated with Hydro's businesses. Results from such investments are managed as part of Hydro's operating activities with significant transactions between the majority of these investments and Hydro. Return on other equity investments, such as available-for-sale shares, is not as closely related to the business activities in Hydro, and classification as financial income thus better reflects the way such investments are managed.

### Statements of cash flows

Hydro uses the indirect method to present cash flows from operating activities. Interest and dividends received as well as interest paid is included in cash flows from operating activities. Dividends paid is included in cash flows from financing activities.

### Segment information

Hydro identifies its reportable segments and discloses segment information under IFRS 8 Operating Segments.

## Note 3 - Changes in accounting principles and new pronouncements

### New pronouncements

As of the date of authorization of these financial statements, the following standards relevant to Hydro have been issued by the IASB.

- IFRS 9 Financial Instruments - Classification and Measurement; effective date January 1, 2018.
- IFRS 15 Revenue from Contracts with Customers; effective date January 1, 2018.
- IFRS 16 Leases; effective date January 1, 2019.

As of the date of issue of Hydro's financial statements, all of these standards were endorsed by the EU.

### IFRS 9 Financial Instruments

IFRS 9 shall be applied retrospectively. There are some transitional effects that shall or may be recognized in the opening equity at transition, i.e. January 1, 2018. IFRS 9 will not lead to any significant changes in timing of recognition or how to measure assets or liabilities and related income and expense. Hydro has classified the currently held portfolio of equity investments that are not part of trading portfolios as instruments at fair value through Other Comprehensive Income (FVOCI). All changes in the fair value of those instruments, including an ultimate gain or loss at divestment of the instrument, will be recognized in OCI. Recognized changes to fair value of such investments of NOK 239 million, after tax, will not be recycled in future periods. There will be some changes to presentation and disclosures, however, the impact for Hydro's current portfolio of instruments is minor. Some additional risk management strategies related to commodity price exposure will qualify for hedge accounting, however, Hydro has decided not to apply hedge accounting for any additional risk management activities utilized as of the end of 2017. For one cash flow hedge program for a previous investment project which is deferred in the hedging reserve in equity and reclassified to income over the depreciation period of the asset, the remaining hedging reserve of NOK 60 million will be reclassified to reduce the carrying value of the asset and related deferred tax as a basis adjustment.

### IFRS 15 Revenue from Contracts with Customers

Hydro has decided to implement IFRS 15 retrospectively with the cumulative effect of initially applying this standard recognized directly to equity at implementation, i.e. January 1, 2018. IFRS 15 requires limited changes to identification of performance obligations and timing of recognition of revenue.

The most important change relates to revenue from custom-made products where contract clauses and/or specific designs results in a conclusion that the products have no alternative use for Hydro. Combined with contracts securing Hydro an unconditional right to payment for orders placed, revenue from such contracts are to be recognized over time according to the completion effort rather than at actual delivery of products to customers. As firm orders are placed and products produced close to delivery, the amount of revenue and related margin to be recognized earlier under IFRS 15 compared to previous standards are limited. Such contracts are mainly held in the newly acquired Extruded Solutions businesses. Review of contracts to confirm which of those that include an enforceable right to payment is still not completed. As of the end of 2017, unrecognized revenue that would be recognized earlier under IFRS 15 has been estimated to an amount of about NOK 1.3

billion, with a corresponding margin of about NOK 125 million, should we conclude that all contracts for customer specific products include an enforceable right to payment. The transitional effect will be recognized in the opening balance as of January 1, 2018, with no adjustment to comparable figures.

Another transaction type affected is the freight component included in sales of goods on incoterms CIF/CIP or similar terms. The freight component in these sales transactions were previously considered integral in the sale of goods, and recognized when risk and rewards of the goods were transferred to the customers. The freight component will, from January 1, 2018, be deemed a separate performance obligation, and recognized as the service is performed. As a result of limited goods under transportation as of year-end, the revenue recognized earlier under IAS 18 compared to IFRS 15 as of December 31, 2017 was less than NOK 10 million, and the amount of related margin was less than NOK 2 million including the impact from the joint venture Qatalum, accounted for under the equity method. As such, no transition effect for the freight component will be recognized as of January 1, 2018.

In addition, Hydro has one unit delivering equipment for casting, both to internal and external customers, where revenue has been recognized over time under IAS 11 Revenue from construction contracts. The revenue from the majority of such contracts is deemed to continue to be recognized over time, however, some contract types will be recognized at a point in time, when the customer receives control with the goods produced, under IFRS 15. Recognized revenue which under IFRS 15 should be recognized in a later period amounted to about NOK 11 million as of December 31, 2017. The corresponding margin amounted to NOK 3 million, which will be recognized in later periods under IFRS 15. The transitional effect will be recognized in the opening balance as of January 1, 2018, with no adjustment to comparable figures.

The transition effect related to implementing IFRS 15 is estimated to an increase in equity of NOK 95 million should we conclude that all contracts for customer specific products include an enforceable right to payment.

### IFRS 16 Leases

Hydro has decided to implement IFRS 16 retrospectively with the cumulative effect of initially applying the standard recognized at the date of implementation, i.e. January 1, 2019. Further, Hydro will utilize the practical expedients available for measuring lease arrangements at transition and to utilize the practical expedients allowing to exclude leases with a duration of less than 12 months or covering assets of a low value (small asset leases) from lease accounting.

Preliminary assessment of IFRS 16 indicates somewhat increased recognized fixed assets and debt, with a corresponding shift of certain amounts from Other operating expenses partly to depreciation and amortization expense, partly to interest expense. The amounts of change will depend on Hydro's portfolio of leasing contracts at the time of transition. The adjustment included in Hydro's capital management measure Adjusted debt described in Note 38 Capital management, is indicative of the magnitude of increase in fixed assets and liabilities, however, as the measurement in this key figure is not the same as required in IFRS 16, and thus the recognized assets and liabilities might differ significantly from the adjustment amount.

## Note 4 - Measurement of fair value

### Measurement of fair value

Hydro measures certain assets and liabilities at fair value for the purpose of recognition or disclosure, see note 2 Significant accounting policies. Recurring fair value measurement is used primarily for financial instruments. Non-recurring fair value measurement is used for transactions, such as business combinations, divestments with non-cash consideration and certain other non-routine transactions. Fair value is estimated using inputs which are to varying degrees objectively observable. Certain items are valued on the basis of quoted prices in active markets for identical assets or liabilities, others are valued on the basis of inputs that are derived from observable prices, while certain positions are valued on the basis of judgmental assumptions that are to a limited degree or not at all based on observable market data.

*Financial instruments*

The estimated fair value of Hydro's financial instruments is based on market prices and valuation techniques. Valuations are made with the objective to include relevant factors that market participants would consider in setting a price, and to apply accepted economic and financial methodologies for the pricing of financial instruments. References for less active markets are carefully reviewed to establish relevant and comparable data. Extrapolations and other accepted valuation techniques are employed in periods with few or no transactions, such as for long-term commodity contracts in markets with few observations beyond the short or mid term period.

Hydro's estimated credit spread for similar liabilities is used when determining the fair value of financial instruments where Hydro is net liable. Hydro determines the appropriate discount factor and credit spread for financial assets based on both an individual and portfolio assessment.

*Equity securities*
Fair value for listed shares is based on quoted market prices as of the balance sheet date. Fair value for unlisted shares is based on commonly accepted valuation techniques utilizing significant unobservable data, primarily cash flow based models. To the extent there are transactions in such shares, the transaction price is assessed and to the extent comparable to rights embodied in the investment held by Hydro, used for reference. For investments where share holdings are associated with offtake rights and/ or obligations or other specific clauses, those rights and obligations are included in the valuation of the equity securities.

*Debt instruments*
Fair value for listed instruments is based on quoted market prices as of the balance sheet date. Fair value for other debt instruments is estimated primarily through cash flow models using contractual cash flow where relevant, and discount rates reflecting the perceived credit risk and other relevant risks associated with the instrument.

*Derivatives*
Fair value of financial derivatives with a currency or interest rate as underlying is estimated as the present value of future cash flows, calculated by reference to quoted swap price curves and exchange rates as of the balance sheet date. For derivatives covering a period beyond the liquid period of price curves, the curves are extrapolated using unobservable data.

Fair value of commodity derivatives is measured as the present value of future cash flows, calculated using forward curves and exchange rates as of the balance sheet date. Estimates from brokers and extrapolation techniques are applied for non-quoted periods to achieve the most relevant forward curve. In addition, when deemed appropriate, correlation techniques between commodities are applied. Options are revalued using option pricing models and credit spreads are applied where deemed to be significant. Markets are assessed to determine whether they are active for the relevant instruments. Currency and interest markets are considered liquid for the periods used for price references, and thus applied unadjusted. For aluminium contracts priced to observations at the London Metal Exchange (LME), liquidity is considered good for the first few years, with fewer transactions for longer durations. For electricity contracts priced to the electricity exchange Nasdaq Electricity Nordic, liquidity is considered good for the first two to three years. For longer durations there are fewer transactions and higher uncertainty. Similar assessment is made for other markets used for price references. For less liquid periods, adjustments to remove outliers and extrapolation techniques are applied.

*Embedded derivatives*
Hydro measures embedded derivatives that are separated from the host contract by comparing the forward curve at contract inception to the forward curve as of the balance sheet date. Changes in the present value of the cash flows related to the embedded derivative are recognized in the balance sheet and in the income statement. Forward curves are established as described above under Derivatives.

## Note 5 - Critical accounting judgment and key sources of estimation uncertainty

The application of accounting policies requires that management makes estimates and judgments in determining certain revenues, expenses, assets, and liabilities. The following accounting policies represent areas that are considered more critical, involving a higher degree of judgment and complexity.

### Impairment of non-current assets

IAS 36 requires that Hydro assess conditions that could cause an asset or a Cash Generating Unit (CGU) to become impaired and to test recoverability of potentially impaired assets. These conditions include internal and external factors such as Hydro's market capitalization, significant changes in Hydro's planned use of the assets or a significant adverse change in the expected prices, sales volumes or raw material cost. The identification of CGUs involves judgment, including assessment of where active markets exist, and the level of interdependency of cash inflows. For Hydro, the CGU is either the individual plant, a group of plants that forms an integrated value chain where no independent prices for the intermediate products exist, a group of plants that are combined and managed to serve a common market, or a group of assets where circumstances otherwise indicate significant interdependencies.

In accordance with IAS 36, goodwill and certain intangible assets are reviewed at least annually for impairment. If a loss in value is indicated, the recoverable amount is estimated as the higher of the CGU's fair value less cost of disposal, or its value in use. Directly observable market prices rarely exist for our assets, however, fair value may be estimated based on recent transactions on comparable assets, internal models used by Hydro for transactions involving the same type of assets or other relevant information. Calculation of value in use is a discounted cash flow calculation based on continued use of the assets in its present condition, excluding potential exploitation of improvement or expansion potential.

Determination of the recoverable amount involves management estimates on highly uncertain matters, such as commodity prices and their impact on markets and prices for upgraded products, development in demand, inflation, operating expenses and tax and legal systems. We use internal business plans, quoted market prices and our best estimate of long-term development in commodity prices, currency rates, discount rates and other relevant information. A detailed forecast is developed for a period of three to five years with projections thereafter. Hydro does not include a general growth factor to volumes for the purpose of impairment tests, however, cash flows are generally increased by expected inflation and, where market conditions are depressed, we consider whether full or partial market recovery towards previously observed volumes is justified. Estimated cash flows are discounted with a nominal risk adjusted discount rate. For further information about impairment tests, see note 19 Impairment of non-current assets.

## Business combinations

In a business combination, consideration, assets and liabilities are recognized at estimated fair value, and any excess purchase price included in goodwill. Where Hydro had an existing ownership interest in the acquiree, that interest is also reassessed to determine its acquisition date estimated fair value, resulting in the acquisition date gain or loss. In the businesses Hydro operates, fair values of individual assets and liabilities are normally not readily observable in active markets. Estimation of fair values requires the use of valuation models for acquired assets and liabilities as well as ownership interests. Such valuations are subject to numerous assumptions and thus uncertain. The quality of fair value estimates may impact assessment of possible impairment of assets and/or goodwill in future periods.

## Contingent assets and liabilities, uncertain assets and liabilities

Liabilities that are uncertain in timing or amount are recognized when a liability arises from a past event and an outflow of cash or other resources is probable and can be reasonably estimated. Contingent liabilities are possible obligations where a future event will determine whether Hydro will be required to make a payment to settle the liability, or where the size of the payment cannot be determined reliably. Material contingent liabilities are disclosed unless a future payment is considered remote. Evaluation of uncertain liabilities and contingent liabilities and assets requires judgment and assumptions regarding the probability of realization and the timing and amount, or range of amounts, that may ultimately be incurred. Such estimates may vary from the ultimate outcome as a result of differing interpretations of laws and facts.

*Environmental liabilities and asset retirement obligations*

Hydro's industrial and mining activities are subject to a wide range of environmental laws and regulations, including end-of-life remediation regulations. The extent of site and off-site contamination, the remediation methods and requirements that relevant environmental authorities may impose, are uncertain. The long-term use of sites, with increasing awareness of effects of contamination in society, a generally lower acceptance of contamination in communities over time, as well as changes in remediation methods and requirements, contributes to the uncertainty in assessing and measuring such obligations. Remediation and closure activities expected to be conducted far into the future are less accurately measured than near-term planned activities. Consequently, there is significant uncertainty inherent in the estimates. A discussion of Hydro's major provision for environmental and other liabilities is included in note 34 Provisions. Significant contingent obligations are discussed in note 35 Contingent liabilities and contingent assets.

*Taxes*
Hydro calculates income tax expense based on reported income in the different legal entities. Deferred income tax expense is calculated based on the differences between the carrying value of assets and liabilities for financial reporting purposes and their respective tax basis that are considered temporary in nature. Valuation of deferred tax assets is dependent on management's assessment of future recoverability of the deferred benefit. Expected recoverability may result from expected taxable income in the future, planned transactions or planned tax optimizing measures, all of which may be uncertain. Economic conditions may change and lead to a different conclusion regarding recoverability. Tax authorities in different jurisdictions may challenge Hydro's calculation of taxes payable from prior periods. Such processes may lead to changes to prior periods' taxable income, resulting in changes to income tax expense in the period of change.

Indirect tax regimes are complex in many jurisdictions and cross-border. Basis for such taxes may differ from actual transaction prices. In some jurisdictions, including Brazil, significant credit amounts are generated for use against future indirect and/or income tax payments. The value of such credits depend on future generation of taxes. Economic conditions and tax regulations may change and lead to a different conclusion regarding recoverability. Tax authorities may challenge Hydro's calculation of taxes and credits from prior periods. Such processes may lead to changes to prior periods' operating or financial expenses to be recognized in the period of change.

### Financial instruments
Certain commodity contracts are deemed to be financial instruments under IAS 39 or to contain embedded derivatives which are required to be recognized at fair value, with subsequent changes in fair value impacting the income statement. Determining whether contracts qualify as financial instruments at fair value involves evaluation of markets, Hydro's use of those instruments and historic or planned use of physically delivered products under such contracts. Determining whether embedded derivatives are required to be separated and accounted for at fair value involves assessing price correlations and normal market pricing mechanisms for relevant products and market places. Where no directly observable market prices exist, fair value is estimated through valuation models which rely on internal assumptions as well as observable market information such as forward curves, yield curves and interest rates. Market stability impacts the reliability of observed prices and other market information, and consequently, the extent of judgment necessary to estimate appropriate market prices for valuation purposes. Volatility also impacts the magnitude of changes in estimated fair value, which can be substantial, in particular on long-term contracts. Historically, financial and commodity markets have been highly volatile.

### Employee retirement plans
Hydro provides both defined benefit employee retirement plans and defined contribution plans. A significant but decreasing share is defined benefit plans. Measurement of pension cost and obligations under such plans require numerous assumptions and estimates that can have a significant impact on the recognized pension cost and obligation, such as discount rates, turnover rate and mortality, as well as future pension increases and salary levels.

## Note 6 - Significant subsidiaries and changes to the consolidated group

### Acquisition of Sapa
On July 10, 2017, Hydro entered into a contract to acquire 50 percent of the shares in Sapa AS, which was a joint venture owned 50 percent by Hydro and 50 percent by Orkla, a listed company in Norway. Following completion of the transaction on October 2, 2017, Hydro owns 100 percent of the parent company Sapa AS, which is now renamed Hydro Extruded Solutions AS. Hydro's acquisition of Sapa AS in October 2017 resulted in a significant increase in the number of subsidiaries and plants.

The acquisition of Orkla's ownership interest in Sapa confirms Hydro's strategy of being integrated and the combination is intended to make Hydro fully integrated across the value chain and markets. Hydro will increase its strength in technology, research and development, innovation and product development, and the service offering to the customers.

Hydro has paid a cash consideration of NOK 11,860 million for the 50 percent shares acquired on October 2, with certain post-closing adjustments made during December resulting in a payment of NOK 46 million for the shares in January 2018. The pricing is based on an agreed enterprise value of NOK 27 billion for 100 percent of Sapa on a cash and debt free basis, adjusted for certain items such as level of working capital and investments made during 2017. The fair value of Hydro's previously held 50 percent interest in Sapa is measured, using significant unobservable (level3) input, at NOK 8,906 million, resulting in a total value of Sapa's net assets of NOK 20,813 million. A remeasurement gain of NOK 2,171 million, including certain items previously recognized in Other Comprehensive Income of NOK 751 million, was recognized in Other income, net, in 2017.

Acquisition related costs incurred during 2017 were approximately NOK 35 million, included in operating costs.

Hydro has started the process of identifying the fair value of assets acquired and liabilities assumed. This process depends on access to detailed information of Sapa's businesses, and many of these procedures could thus not start before Hydro obtained control with Sapa at completion of the transaction. The estimated fair value of assets and liabilities of Sapa included in the table below are the current estimates based on the valuation of the specific assets and liabilities, which is not yet completed. The valuation of property, plant and equipment and intangible assets is considered good estimates, however, certain quality assurance procedures have not yet been completed.

Sapa had uncertain and contingent liabilities mainly related to historic environmental issues on sites held and sites resold to others prior to Hydro's acquisition, as well as certain tax exposures. Investigation of the magnitude of such uncertain and contingent liabilities is not yet completed. Further, Sapa Profiles Inc, a US subsidiary of Sapa, is under investigation by the United States Department of Justice. The outcome of this investigation is not known, and the estimate included in the summary of assets and liabilities below may thus be changed. As no claim has been specified towards the company, a range of possible outcomes has not been established. Hydro will be entitled to reimbursement from the seller for 50 percent of the amount to be finally paid related to this case, and indemnification for certain environmental costs. The preliminary estimate of contingent obligations in the acquired business included in the table below amounts to about NOK 850 million and a related indemnity asset receivable from the seller of about NOK 130 million.

A preliminary estimate of goodwill in the transaction amounts to NOK 4,119 million, including goodwill recognized in Sapa prior to the acquisition, and is reflected in the preliminary purchase price allocation. Significant contributors to the estimated goodwill are synergies in the transaction, the assembled and skilled work force in the organization as well as the time value of deferred tax liabilities recognized at nominal amounts as required by IFRS.

Any adjustments in later period will impact deferred tax and goodwill in addition to the item valued. Depreciation and amortization of assets may be impacted should the value of property, plant and equipment or intangible assets, or the remaining useful life of such assets, be reconsidered in later periods. The final fair value assessment is required to be completed within 12 months from completion of the transaction, and may differ from these estimates.

*Acquired assets and liabilities*

| NOK million | |
|---|---|
| Cash and cash equivalents | 892 |
| Accounts receivables | 8 775 |
| Inventories | 6 469 |
| Other current assets | 233 |
| Total current assets | 16 369 |
| | |
| Property, plant and equipment | 14 052 |
| Intangible assets, including goodwill | 7 016 |
| Other non-current assets | 1 969 |
| Total non-current assets | 23 037 |
| | |
| Total assets acquired | 39 405 |
| | |
| Bank loans and other interest-bearing short-term debt | 3 556 |
| Other current liabilities | 10 081 |
| Total current liabilities | 13 637 |
| | |
| Long-term debt | 64 |
| Deferred tax liabilities | 2 486 |
| Other non-current liabilities | 2 365 |
| Total non-current liabilities | 4 915 |
| | |
| Net assets acquired | 20 853 |
| | |
| Non-controlling interests | 40 |
| Net assets acquired by Hydro | 20 813 |

The results from January to September for Sapa are reported as result from the 50 percent owned joint venture accounted for under the equity method, no results from the acquired businesses were included in Hydro's consolidated income statement as results from the Group's controlled business as of September 30, 2017. The result for the fourth quarter is included in the consolidated income statement, including certain effects of the acquisition, such as the holding gain on the previously held shares, depreciation and amortization of fair value adjustments related to long-lived assets, and the expensed mark-up on inventory values. The acquired business is reported as a separate segment, Extruded Solutions in the period after the acquisition. Revenue in the acquired business for the fourth quarter of 2017 amounted to NOK 14,153 million. Earnings before financial items and tax (EBIT) from the acquired business, including the expensed mark-up on inventory values amounted to a loss of NOK 449 million for the fourth quarter. Excluding the higher cost of goods sold, EBIT amounted to a positive NOK 258 million.

The following information represents pro forma financial information as if the acquisition was completed as of the beginning of 2017. The pro forma financial information is based on Hydro's financial statements as of December 31, 2017, and Sapa's management reporting as of September 30, 2017. This pro forma financial information is based on the transaction completed by Hydro and Orkla as of October 2, 2017. Terms of the transaction may have been different had the acquisition been completed at an earlier time. Items directly related to the transaction as such, including the holding gain on previously held shares and the expensed mark-up on inventory values as of the transaction date has been excluded from the pro forma information as those items are not considered illustrative for the result of the combined businesses on an ongoing basis. Pro forma information has been prepared for information purposes only, and is not intended to indicate what the results of operations would have been if the transaction had occurred at the beginning of 2017.

*Pro forma condensed combined financial information Hydro*

| NOK million | 2017 |
|---|---|
| Revenue | 148 920 |
| Earnings before financial items and tax (EBIT) | 11 927 |
| Net income | 8 090 |
| Net income (loss) attributable to non-controlling interests | 402 |
| Net income (loss) attributable to Hydro shareholders | 7 687 |

Hydro issued an information memorandum dated July 31, 2017 describing the acquisition. The document contains more detailed information about the transaction, and is available at www.hydro.com.

## Subsidiaries with significant non-controlling interests

The Hydro group consists of about 200 companies in about 40 countries. Most subsidiaries, including the large operating units in Norway and Germany, are 100 percent owned, directly or indirectly, by Norsk Hydro ASA. Restrictions in the ability to transfer dividend based on reported results and/or equity in the relevant subsidiaries exist in most countries where we operate. In some countries, including Brazil, there are also legal restrictions in our ability to integrate cash holdings in subsidiaries in the group's cash pool. There are non-controlling interests in some subsidiaries. The more significant ones are described below.

*Albras*

Hydro holds 51 percent of the shares in the Brazilian aluminium smelter Alumínio Brasileiro S.A. (Albras), which is part of Primary Metal. The non-controlling owner has significant influence on certain decisions in the entity, including operational and investment budgets. The non-controlling interests in Albras amounted to NOK 2,824 million as of December 31, 2017 and NOK 3,171 million as of December 31, 2016. Funds held by the entity are not available to the group through cash pool arrangements. Dividends need to be approved by the shareholders jointly. The shareholder agreement supports transfer of dividend to the extent possible under statutory regulations. The smelter produces standard ingots, which are sold to its shareholders, or the entities appointed by the shareholders, in proportion to ownership interest at a price based on prevailing aluminium prices at the London Metal Exchange and product premiums.

*Slovalco*

Hydro holds 55 percent of the total shares and 60 percent of the voting interest in the Slovac smelter Slovalco a.s, which is part of Primary Metal. The non-controlling owner has significant influence on certain decisions in the entity, including operational and investment budgets. The non-controlling interests in Slovalco amounted to NOK 1,036 million as of December 31, 2017 and NOK 1,080 million as of December 31, 2016. Funds held by the entity are not available to the group through cash pool arrangements. Dividends need to be approved by the shareholders jointly. The shareholder agreement supports transfer of dividend to the extent possible under statutory regulations. The smelter produces metal products, of which the majority is sold to Hydro at a price based on prevailing aluminium prices at the London Metal Exchange and product premiums.

*Alunorte*

Hydro holds about 92 percent of the shares in the Brazilian alumina refinery Alumina do Norte do Brasil S.A. (Alunorte), which is part of Bauxite & Alumina. The non-controlling owners have limited influence on the operational decisions. The non-controlling interests in Alunorte amounted to NOK 1,167 million as of December 31, 2017 and NOK 1,378 million as of December 31, 2016. Funds held by the entity are not available to the group through cash pool arrangements. Dividends need to be approved by the shareholders jointly. The shareholder agreement supports transfer of dividend to the extent possible under statutory regulations. The refinery produces alumina, which is sold to its shareholders in proportion to ownership interest at a price based on prevailing aluminium prices at the London Metal Exchange, with a minimum price based on production cost plus a margin, and a fixed maximum price. Prior to 2017, the minimum price was a fixed amount.

The table below summarizes key figures for Albras, the only subsidiary with non-controlling interests considered material, as included in the group financial statements. Fair value adjustments from Hydro's acquisition of the subsidiary are included. Intercompany transactions and balances are included, and any internal profit and loss in inventory and fixed assets purchased from group companies are not eliminated in the numbers below.

| | Albras | |
|---|---|---|
| Amounts in NOK million | **2017** | 2016 |
| Internal revenue | **3 963** | 3 293 |
| External revenue | **3 839** | 3 016 |
| Earnings before financial items and tax | **975** | 220 |
| Net income | **635** | 175 |
| Other comprehensive income | **(18)** | 75 |
| Total comprehensive income | **618** | 250 |
| Net cash flows from operating activities | **786** | 522 |
| Net cash flows from investing activities | **(420)** | (310) |
| Net cash flows from financing activities | **(381)** | (148) |
| Cash and cash equivalents | **160** | 175 |
| Other current assets | **2 442** | 1 288 |
| Non-current assets | **5 018** | 6 453 |
| Current liabilities | **(1 362)** | (946) |
| Non-current liabilities | **(497)** | (500) |
| Equity attributable to Hydro | **(2 937)** | (3 298) |
| Equity attributable to non-controlling interests | **(2 824)** | (3 171) |
| Share of net income attributable to non-controlling interest | **312** | 88 |
| Dividends paid to non-controlling interests | **307** | 87 |

There were no other significant changes to the group during 2017 or 2016.

## Note 7 - Operating and geographic segment information

Hydro identifies its reportable segments and discloses segment information under IFRS 8 Operating Segments which requires Hydro to identify its segments according to the organization and reporting structure used by management. Operating segments are components of a business that are evaluated regularly by the chief operating decision maker for the purpose of assessing performance and allocating resources. Hydro's chief operating decision maker is the President and CEO. Generally, financial information is required to be disclosed on the same basis that is used by the CEO.

Hydro's operating segments represent separately managed business areas with products serving different markets. Hydro's reportable segments are the six business areas Bauxite & Alumina, Primary Metal, Metal Markets, Rolled Products, Extruded Solutions, and Energy.

Bauxite & Alumina activities includes bauxite mining activities, production of alumina and related commercial activities, primarily the sale of alumina.

Primary Metal includes primary aluminium production, remelting and casting activities. The main products are comprised of extrusion ingots, foundry alloys, sheet ingot and standard ingot.

Metal Markets includes all sales activities relating to products from our primary metal plants and operational responsibility for Hydro's stand-alone remelters as well as physical and financial metal trading activities.

Rolled Products includes Hydro's rolling mills and the dedicated primary metal plant in Neuss, Germany. The main products are comprised of aluminium foil, strip, sheet, and lithographic plate for application in such sectors as packaging, automotive and transport industries, as well as for offset printing plates.

Extruded Solutions delivers products within extrusion profiles, building systems and precision tubing and is present in more than 40 countries. Hydro acquired control with the business as of October 2017, see note 6 Significant subsidiaries and changes to the consolidated group. The previous 50 percent ownership in the business as the joint venture Sapa is also reported as part of the segment now named Extruded Solutions.

Energy includes operating and commercial responsibility for Hydro's power stations in Norway and energy sourcing for Hydro's world-wide operations.

Other consist of Hydro's captive insurance company Industriforsikring, its industry parks, internal service providers, and certain other activities.

## Operating segment information

Hydro uses two measures of segment results, Earnings before financial items and tax - EBIT and EBITDA. EBIT is consistent with the same measure for the group, considering the principles for measuring certain intersegment transactions and contracts described below. Hydro defines EBITDA as Income (loss) before tax, financial income and expense, depreciation, amortization and write-downs, including amortization and impairment of excess values in equity accounted investments. Hydro's definition of EBITDA may be different from other companies.

Because Hydro manages long-term debt and taxes on a group basis, Net income is presented only for the group as a whole.

Intersegment sales and transfers reflect arm's length prices as if sold or transferred to third parties at the time of inception of the internal contract, which may cover several years. Transfers of businesses or fixed assets within or between Hydro's segments are reported without recognizing gains or losses. Results of activities not considered part of Hydro's main operations as well as unallocated revenues, expenses, liabilities and assets are reported together with Other under the caption Other and eliminations.

The accounting policies used for segment reporting reflect those used for the group. The following exceptions apply for intersegment transactions: Internal commodity contracts may meet the definition of a financial instrument in IAS 39 or contain embedded derivatives that are required to be reported separately and valued at fair value under IAS 39. However, Hydro considers these contracts as sourcing of raw materials or sale of own production, and accounts for such contracts as executory contracts. Certain other internal contracts may contain lease arrangements that qualify as a finance lease. However, the segment reporting reflects the responsibility allocated by Hydro's management for those assets. Costs related to certain pension schemes covering more than one segment are allocated to the operating segments based either on the premium charged or the estimated service cost. Any difference between these charges and pension expenses measured in accordance with IFRS, as well as pension assets and liabilities are included in Other and eliminations.

The following tables include information about Hydro's operating segments.

| | External revenue | | Internal revenue | | Share of the profit (loss) in equity accounted investments | |
|---|---|---|---|---|---|---|
| Amounts in NOK million | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Bauxite & Alumina | **15 188** | 12 059 | **10 234** | 7 484 | **-** | - |
| Primary Metal | **7 578** | 5 529 | **28 888** | 25 333 | **745** | 96 |
| Metal Markets | **44 264** | 39 420 | **6 341** | 3 834 | **-** | - |
| Rolled Products | **25 538** | 22 469 | **178** | 163 | **-** | - |
| Extruded Solutions [1)] | **14 083** | - | **70** | - | **812** | 889 |
| Energy | **2 550** | 2 426 | **5 155** | 4 753 | **(7)** | - |
| Other and eliminations | **18** | 50 | **(50 865)** | (41 567) | **(24)** | - |
| Total | **109 220** | 81 953 | **-** | - | **1 527** | 985 |

| Amounts in NOK million | Depreciation, amortization and impairment 2017 | 2016 | Earnings before financial items and tax (EBIT) [2] 2017 | 2016 | EBITDA 2017 | 2016 |
|---|---|---|---|---|---|---|
| Bauxite & Alumina | **2 486** | 2 279 | **3 704** | 1 196 | **6 190** | 3 475 |
| Primary Metal | **2 026** | 1 913 | **4 729** | 2 285 | **6 747** | 4 199 |
| Metal Markets | **95** | 94 | **485** | 629 | **579** | 723 |
| Rolled Products | **860** | 799 | **512** | 953 | **1 372** | 1 752 |
| Extruded Solutions [1] | **444** | - | **2 522** | 889 | **2 966** | 889 |
| Energy | **223** | 210 | **1 531** | 1 343 | **1 757** | 1 553 |
| Other and eliminations | **28** | 178 | **(1 295)** | (285) | **(1 268)** | (107) |
| Total | **6 162** | 5 474 | **12 189** | 7 011 | **18 344** | 12 485 |

| Amounts in NOK million | Non-current assets 2017 | 2016 | Total assets [3] 2017 | 2016 | Investments [4] 2017 | 2016 |
|---|---|---|---|---|---|---|
| Bauxite & Alumina | **33 876** | 36 641 | **41 075** | 43 546 | **1 634** | 3 544 |
| Primary Metal | **30 827** | 31 297 | **42 950** | 40 573 | **3 537** | 3 396 |
| Metal Markets | **1 292** | 1 147 | **7 802** | 6 955 | **143** | 101 |
| Rolled Products | **9 094** | 8 253 | **19 513** | 16 629 | **997** | 1 615 |
| Extruded Solutions [1] | **26 174** | 8 399 | **41 946** | 8 399 | **22 137** | - |
| Energy | **5 645** | 5 208 | **6 677** | 6 247 | **361** | 318 |
| Other and eliminations | **1 821** | 3 477 | **3 364** | 8 444 | **39** | 162 |
| Total | **108 730** | 94 422 | **163 327** | 130 793 | **28 848** | 9 137 |

1) The Extruded Solutions segment includes the business acquired as a 100 percent owned subsidiary in fourth quarter 2017. For the previous periods, the segment includes the same business reported as 50 percent owned joint venture, reported using the equity method. See note 6 Significant subsidiaries and changes to the consolidated group for further information.

2) Total segment Earnings before financial items and tax is the same as Hydro group's total Earnings before financial items and tax. Financial income and financial expense are not allocated to the segments. There are no reconciling items between segment Earnings before financial items and tax to Hydro Earnings before financial items and tax. Therefore, a separate reconciliation table is not presented.

3) Total assets exclude internal cash pool accounts and accounts receivables related to group relief.

4) Additions to property, plant and equipment (capital expenditures) plus long-term securities, intangible assets, long-term advances and investments in equity accounted investments, including amounts recognized in business combinations.

The identification of assets, non-current assets and investments is based on location of operation. Included in non-current assets are investments in equity accounted investments; property, plant and equipment (net of accumulated depreciation) and non-current financial assets.

Operating revenues are identified by customer location.

| | Revenue | | Non-current assets | | Investments [4)] | |
|---|---|---|---|---|---|---|
| Amounts in NOK million | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Norway | **3 094** | 2 986 | **22 500** | 28 007 | **2 722** | 3 404 |
| Germany | **15 354** | 12 490 | **11 511** | 8 431 | **3 171** | 1 636 |
| Spain | **4 656** | 3 920 | **732** | 89 | **578** | 3 |
| Poland | **4 618** | 3 102 | **543** | - | **476** | - |
| Italy | **4 422** | 3 075 | **362** | - | **317** | - |
| France | **4 102** | 2 769 | **2 690** | 36 | **2 601** | 6 |
| United Kingdom | **3 932** | 3 844 | **1 295** | 77 | **654** | 4 |
| The Netherlands | **2 687** | 1 905 | **1 319** | 675 | **677** | 23 |
| Austria | **2 324** | 1 620 | **298** | - | **291** | - |
| Denmark | **1 933** | 1 443 | **900** | - | **900** | - |
| Sweden | **1 545** | 945 | **805** | - | **808** | - |
| Belgium | **1 394** | 1 092 | **1 370** | - | **1 188** | - |
| Czech Republic | **1 134** | 715 | **-** | - | **-** | - |
| Hungary | **1 061** | 622 | **1 329** | - | **1 324** | - |
| Portugal | **883** | 639 | **172** | - | **173** | - |
| Slovakia | **721** | 466 | **1 230** | 1 140 | **288** | 45 |
| Other | **2 051** | 1 385 | **212** | 143 | **55** | 21 |
| Total EU | **52 818** | 40 033 | **24 768** | 10 591 | **13 502** | 1 739 |
| Switzerland | **5 031** | 4 042 | **157** | 296 | **1** | - |
| Turkey | **1 827** | 1 363 | **2** | - | **2** | - |
| Other Europe | **906** | 566 | **-** | - | **-** | - |
| Total Europe | **63 675** | 48 990 | **47 426** | 38 895 | **16 221** | 5 144 |
| USA | **13 225** | 7 101 | **8 885** | 779 | **8 244** | 44 |
| Canada | **742** | 613 | **2 071** | 1 931 | **409** | 64 |
| Brazil | **5 484** | 3 700 | **37 172** | 40 618 | **2 551** | 3 856 |
| Mexico | **1 023** | 870 | **222** | - | **195** | - |
| Other America | **653** | 206 | **104** | - | **108** | - |
| Singapore | **4 586** | 2 870 | **2** | - | **2** | - |
| Japan | **4 277** | 3 665 | **2** | 3 | **-** | - |
| China | **2 321** | 1 627 | **743** | - | **714** | - |
| South Korea | **2 135** | 1 879 | **-** | - | **-** | - |
| Qatar | **1 957** | 1 682 | **10 931** | 11 461 | **-** | - |
| India | **1 248** | 774 | **232** | - | **123** | - |
| Saudi Arabia | **1 099** | 1 619 | **-** | - | **-** | - |
| Taiwan | **986** | 685 | **-** | - | **-** | - |
| Thailand | **838** | 742 | **-** | - | **-** | - |
| Malaysia | **832** | 431 | **-** | - | **-** | - |
| Bahrain | **441** | 445 | **240** | - | **220** | - |
| Other Asia | **2 119** | 2 666 | **44** | - | **11** | - |
| Australia and New Zealand | **767** | 941 | **656** | 735 | **45** | 29 |
| Africa | **810** | 448 | **-** | - | **-** | - |
| Total outside Europe | **45 544** | 32 963 | **61 303** | 55 527 | **12 627** | 3 993 |
| Total | **109 220** | 81 953 | **108 730** | 94 422 | **28 848** | 9 137 |

# Note 8 - Board of Directors' statement on executive management remuneration

## Board of Directors' statement on executive management remuneration

The statement on the remuneration of the company's Chief Executive Officer (CEO) and other members of the Corporate Management Board has been prepared in accordance with the provisions of the Norwegian Public Limited Companies Act, the Norwegian Accounting Act and the Norwegian Code of Practice for Corporate Governance.

### Guidelines for executive management remuneration

Hydro's guidelines for the remuneration of the company's CEO and other members of the Corporate Management Board reflect Hydro's global human resources policy, whereby *"Hydro shall offer its employees an overall compensation package that is competitive and in line with generally accepted industry standards in the country in question. Where appropriate this package should, in addition to the base salary, comprise a performance-based incentive, which combined, should reflect individual performance."*

### Process for determination of remuneration

The Board of Directors has appointed a separate compensation committee. The committee currently includes the board chair, deputy chair and one employee-elected board member. The CEO normally participates in the committee's meetings unless the committee is considering issues regarding the CEO. Other representatives of senior management may attend meetings if requested to do so.

The committee functions as an advisory body to the Board of Directors and the CEO, and is primarily responsible for:

- Making recommendations to the Board of Directors based on the committee's evaluation of the principles and systems underlying the remuneration of the CEO and other members of the Corporate Management Board.
- Making recommendations to the Board of Directors based on the committee's evaluation of the overall remuneration of the CEO, including the annual basis for bonus payments and bonus payments actually made.
- Assisting the CEO by consulting on the remuneration of the other members of the Corporate Management Board.
- Advising the Board of Directors and the CEO in remuneration matters which the committee finds to be of material or principal importance for Hydro.
- Overseeing the company's process for succession planning.

## Key principles for determination of remuneration in the coming financial year

The following statement regarding the remuneration of members of the Corporate Management Board will be presented for an indicative vote to the annual general meeting to be held in May 2018. The Board of Directors proposes that the principles set forth below shall apply for 2018 and up until the annual general meeting in 2019.

The remuneration of members of the Corporate Management Board shall reflect at all times the responsibility of the CEO and the other members of the Corporate Management Board for the management of Hydro, taking into account the complexity and breadth of the company's operations, as well as the growth and sustainability of the company. The total remuneration will be rooted in the company's objective of being competitive, but not a remuneration leader, within the relevant labor markets, while at the same time reflecting Hydro's international focus and presence.

Hydro attaches importance to transparency and to ensuring that remuneration arrangements are developed and implemented in accordance with principles for good corporate governance.

The total remuneration of the CEO and other members of the Corporate Management Board consists of a fixed compensation, performance-based bonus, share-based long-term incentive plan, employee share plan, pension and insurance arrangements and, in certain cases, a severance pay arrangement. The Board of Directors will continue to ensure moderation in executive management remuneration.

### Fixed compensation

The fixed compensation provided to members of the Corporate Management Board includes a base salary (which is the main element of remuneration) and benefits in kind such as a company car or car allowance, a telephone, newspapers and other similar benefits. The base salaries of individual members of the Corporate Management Board are evaluated annually in light of the complexity and responsibility of the relevant employee's role and his or her contribution, qualifications and experience, together with conditions in the labor market and general salary trends.

## Variable compensation

*Bonus*
The maximum annual performance-based bonus payable to the CEO is equal to 50 percent of annual base salary. The maximum annual performance-based bonus payable to the other members of the Corporate Management Board appointed on Norwegian employment terms is equal to 40 percent of annual base salary. The Board of Directors evaluates and determines annually the bonus system for the CEO and members of the Corporate Management Board. Bonus payments to the CEO and the other members of the Corporate Management Board are dependent on Hydro achieving positive underlying earnings before interest and tax (EBIT). The bonus parameters are established as part of the annual business-planning process with the objective of having parameters that are ambitious and balanced, and objective and measurable, and which reflect the varied nature of Hydro's operations. The annual bonus shall be determined on the basis of overall achievement of the following elements:

(a) achievement of one or more pre-defined financial targets for underlying EBIT,

(b) achievement of strategic, operational, financial and organizational goals, referred to as “key performance indicators” (KPIs). Depending on the business area, these goals includes,

- productivity and improvements including optimizing of production and margins,
- resource allocation and availability,
- cost reduction and control,
- investment projects,
- technology,
- quality control,
- health, safety, environment, corporate social responsibility and compliance,
- customer relations,
- organization development,

(c) contribution to the company's development, as well as compliance with and the promotion of Hydro's core values (The Hydro Way) and achievement of individual targets, and

(d) the Board of Directors' overall discretionary assessment.

Bonus payments are not taken into account when determining the basis for pensionable salary.

*Long Term Incentive (LTI)*
The company has a share-based long-term incentive plan for the CEO and the other members of the Corporate Management Board of up to 30 percent of annual base salary. The plan is evaluated and determined annually by the Board of Directors. LTI payments are dependent on Hydro achieving positive underlying earnings before interest and tax (EBIT) for the previous financial year.

Payments will be based partly on return on capital employed achieved in the company, and partly on return on capital employed achieved in proportion to a weighted average of return on capital employed achieved by a group of peer companies. Recipients of LTI payments are required to invest the net amount (after tax) in Hydro shares with a lock-in period of three years. Any holder of such shares who voluntarily terminates his or her employment during such a three-year period must pay to the company an amount equal to the after-tax value of the relevant shares at or around the last day of employment. LTI payments are not taken into account when determining the basis for pensionable salary.

The company does not offer options or other similar arrangements.

## Other share-based compensation

The CEO and other members of the Corporate Management Board appointed on Norwegian employment terms are eligible to participate in Hydro's discounted employee share purchase plan on the same terms as all other eligible employees (as described in Note 17 Employee remuneration).

## Pensions

*Company pension plans*

There are two pension plans in Hydro in Norway, defined benefit and defined contribution. The defined contribution plan was established on March 1, 2010 at the same time as the defined benefit plan was closed to new entrants. A cash compensation scheme has been established for employees who have been transferred from the defined benefit plan to the defined contribution plan and for whom a deficit in pension capital resulting from the transfer has been estimated.

As of January 1, 2018, approximately 81 percent of the permanent employees in Norway, including six members of the Corporate Management Board, are members of the defined contribution plan. The rest, including the CEO and two members of the Corporate Management Board, are members of the defined benefit plan.

The defined contribution plan stipulates payments into the plan equaling six percent of salary between 0G and 12G, where "G" is the Norwegian National Insurance basic amount, and an additional payment of 14 percent of salary between 7.1G and 12G (totaling 20 percent in this salary range). The defined benefit plan implies a pension right of approximately 65 percent of pensionable salary subject to full service period (minimum 30 years).

Hydro Extruded Solutions AS (formerly Sapa AS) has its own defined contribution pension plan with other contribution rates. This plan covers all of the company's employees appointed on Norwegian employment terms.

*12G plan*

The company has closed the plan funded through operations for earning pension on the portion of any salary exceeding 12G ("12G plan") such that employees with salaries exceeding 12G prior to the plan being closed remain in the plan, while employees with salaries below 12G on the date of closing will not be included in the plan even if their salary later exceeds 12G. New employees, including new members of the Corporate Management Board (recruited internally or externally), will not be offered the possibility to earn pension on the portion of salary exceeding 12G.

For employees with a defined contribution plan, the 12G plan stipulates that an amount equivalent to 20 percent of the portion of salary exceeding 12G is allocated as a vested (pension) right. For employees with a defined benefit plan, the 12G plan stipulates that the portion of salary exceeding 12G is included in the final salary that forms the basis for calculating pension.

The CEO and six members of the Corporate Management Board appointed on Norwegian employment terms are among those still covered by the 12G plan. In connection with Hydro acquiring 100 percent of the shares in Sapa AS (now Hydro Extruded Solutions AS) on October 2, 2017, the company acquired two new members on the Corporate Management Board. These two members earned pension on the portion of salary exceeding 12G in Sapa, but have not been included in Hydro's 12G plan. Instead, an agreement has been reached on an annual cash payment to compensate for the loss of such earnings.

Hydro Extruded Solutions AS has its own plan funded through operations for earning pension on the portion of any salary exceeding 12G.

*Early retirement plans*

The company's early retirement plans (discussed below) were closed for new members in 2011 and 2012 respectively. Members of the Corporate Management Board who were included in the plans at the time of closing are still covered by the plans.

The CEO and six members of the Corporate Management Board appointed on Norwegian employment terms have a right to retire at the age of 65 with an entitlement to 65 percent of pensionable salary until the age of 67.

The CEO and two members of the Corporate Management Board also have the right to retire after the age of 62. In the case of the CEO, the Board may request him to do so. From the age of 62, defined pension benefits consist of 60 percent of pensionable salary. From the age of 65, the entitlement is 65 percent of pensionable salary (in accordance with the scheme described in the foregoing paragraph).

The pensionable salaries of the CEO and the two abovementioned members of the Corporate Management Board have been capped. The pensionable salary caps are subject to annual adjustment in accordance with the adjustment of the Norwegian National Insurance basic amount. Following the adjustment as of 1 January, 2018, the pensionable salaries are capped at NOK 7,330,150 for the CEO and NOK 4,496,631 for the two members of the Corporate Management Board.

*Retirement age*
Implementation of a new internal company age limit (70), combined with new flexible rules for pension withdrawals, mean that Hydro in Norway no longer employs the concept of retirement age. In the company's defined benefit pension plan, employees will continue to earn pension up until 67 years of age.

## Insurance

The CEO and other members of the Corporate Management Board appointed on Norwegian employment terms are covered by insurance arrangements applicable to Hydro employees with a rank of vice president or higher.

## Termination agreement

*Severance pay*
In the event the CEO's employment is terminated unilaterally by Hydro, the CEO has a contractual right to severance pay for 12 months, but not beyond the age of 62.

Two members of the Corporate Management Board have a similar arrangement as the CEO, i.e. right to severance pay for 12 months, but without the limitation of 62 years. Other members of the Corporate Management Board appointed on Norwegian employment terms have a right to severance pay for six months

None of the Corporate Management Board's employment contracts gives the right to severance pay if the employee has initiated the termination of employment.

*Loss of severance pay*
The CEO's employment contract contains provisions on the loss of severance pay if there are grounds for summary dismissal. Other employment contracts include provisions on the loss of severance pay in the event of gross breach of duty and/or other material breach.

*Reduction of severance pay*
The CEO's employment contract and the contracts of five members of the Corporate Management Board appointed on Norwegian employment terms include provisions stating that other income shall reduce severance pay. The other four contracts based on Norwegian terms include clauses stating that other income shall not reduce severance pay.

*Notice period*
All members of the Corporate Management Board appointed on Norwegian employment terms have a six-month notice period.

*General*
The company has no specific guidelines for severance packages, but when recruiting for corporate management in recent times, it has followed a practice whereby the total of salary during the notice period and severance pay does not exceed 12 months' salary.

### Members of the Corporate Management Board outside Norway

For members of the Corporate Management Board outside Norway, base salary and other employment conditions are determined in accordance with Hydro's global human resources policy and local industry standards, and accords generally with the remuneration principles applicable to the other members of the Corporate Management Board.

Silvio Porto, head of Hydro's business area Bauxite & Alumina, is employed by Norsk Hydro Brasil Ltda. and is covered by two local schemes for variable compensation: one short-term and one long-term incentive scheme, each with a potential of just over ten months of base salary. Both incentive schemes are performance-based as described under "Variable compensation / Bonus" above. The Board of Directors' overall assessment is that Porto's total remuneration framework is in accordance with market practice in Brazil.

Porto is also covered by the Corporate Management Board's share-based LTI plan on the same terms as the other members of the Corporate Management Board.

## Key principles for determining compensation during the previous financial year

The compensation of the CEO and the other members of the Corporate Management Board for the financial year 2017 was based on the guidelines presented at the annual general meeting in 2017.

In July 2017, the Board of Directors decided to increase the CEO's base salary by 2.8 percent, from NOK 6,217,000 to NOK 6,391,000 effective 1 January, 2017.

Bonus payments for 2016 were determined and paid in 2017 on the basis of the principles described above. Bonus payments for 2017 were determined in March 2018 on the basis of the principles described above.

LTI for 2016 was determined and paid in 2017 based on previously applicable principles, while LTI for 2017 will be determined during the first half of 2018 based on the principles described above.

Bonus and LTI for 2017 will be paid during the first half of 2018. See also Note 9 – Management remuneration.

## Note 9 - Management remuneration

Corporate management board members' salaries and other benefits, number of LTI-shares allocated, as well as Hydro share ownership as of December 31, 2017 and 2016 are presented in the table below. Unless otherwise stated, Hydro did not have any loans to or guarantees made on behalf of any of the corporate management board members in 2017 and 2016.

| Name | Base salary 1) 2) | Maximum bonus potential 1) 2) | Salary paid 1) 3) | Other benefits paid 1) 3) | Compen-sation pension paid 1) 3) | Bonus earned 1) 3) | Long-term incentive (LTI) earned 1) 3) | Pension benefits 1) 4) | LTI-shares allocated 3) | Hydro share ownership 5) |
|---|---|---|---|---|---|---|---|---|---|---|
| **2017** | | | | | | | | | | |
| Svein Richard Brandtzæg | 6 391 | 3 196 | 6 643 | 482 | - | 2 364 | 1 192 | 3 619 | 20 351 | 231 475 |
| Eivind Kallevik | 3 400 | 1 360 | 3 287 | 276 | 47 | 1 040 | 634 | 1 624 | 8 222 | 50 535 |
| Silvio Porto 6) | 3 645 | 5 823 | 3 722 | 1 102 | - | 3 697 | 680 | 234 | - | - |
| Hilde Aasheim | 3 329 | 1 332 | 3 439 | 218 | - | 1 017 | 621 | 2 361 | 8 833 | 82 287 |
| Kjetil Ebbesberg | 3 955 | 1 515 | 3 955 | 708 | 146 | 695 | 656 | 1 224 | 8 715 | 47 857 |
| Egil Hogna 7) | 5 253 | 525 | 2 595 | 69 | 265 | 401 | 245 | 134 | - | 20 000 |
| Arvid Moss | 3 098 | 1 239 | 3 164 | 275 | - | 881 | 578 | 2 745 | 8 222 | 147 203 |
| Anne-Lene Midseim | 2 477 | 991 | 2 552 | 162 | 107 | 758 | 462 | 933 | 6 571 | 21 221 |
| Inger Sethov | 2 270 | 908 | 2 338 | 268 | 142 | 694 | 423 | 891 | 6 012 | 19 184 |
| Katarina Nilsson 7) | 2 600 | 260 | 1 207 | 140 | 58 | 179 | 121 | 33 | - | - |
| Hanne Simensen 8) | 2 477 | 743 | 2 572 | 264 | 95 | 550 | 346 | 913 | 6 571 | 19 646 |
| **2016** | | | | | | | | | | |
| Svein Richard Brandtzæg | 6 217 | 3 109 | 6 390 | 300 | - | 2 331 | 1 865 | 2 578 | 29 180 | 210 613 |
| Eivind Kallevik 9) | 3 014 | 1 206 | 3 481 | 306 | 107 | 934 | 754 | 1 045 | 11 788 | 41 802 |
| Silvio Porto 6) | 2 615 | - | 2 615 | 776 | - | - | - | 193 | - | - |
| Hilde Aasheim | 3 238 | 1 295 | 3 331 | 173 | - | 935 | 810 | 1 801 | 12 662 | 72 943 |
| Kjetil Ebbesberg | 3 859 | 1 472 | 3 859 | 721 | 203 | 889 | 920 | 969 | 12 469 | 38 631 |
| Arvid Moss | 3 014 | 1 206 | 3 321 | 256 | - | 854 | 754 | 2 080 | 11 788 | 138 470 |
| Anne-Lene Midseim | 2 409 | 964 | 2 471 | 195 | 165 | 723 | 602 | 729 | 9 422 | 14 139 |
| Inger Sethov | 2 204 | 882 | 2 266 | 283 | 200 | 635 | 551 | 674 | 8 620 | 12 661 |
| Hanne Simensen | 2 409 | 964 | 2 501 | 279 | 154 | 694 | 602 | 723 | 9 422 | 12 564 |
| Alberto Fabrini 10) | 3 738 | 2 276 | 3 459 | 822 | - | 1 912 | - | 112 | 16 799 | 24 884 |

1) Amounts in NOK thousand. Amounts paid by subsidiaries outside Norway have been translated to NOK at average exchange rates for each year.

2) Annual base salary per December 31, or per the date of stepping down from the Corporate Management Board. Maximum bonus potential is for the year presented, and for the period as corporate management board member.

3) Salary is the amount paid to the individual during the year presented, and includes vacation pay. Other benefits is the total of all other cash and non-cash related benefits received by the individual during the year presented and includes such items as the taxable portion of insurance premiums, car and mileage allowances and electronic communication items. For most individuals, compensation pension is the amount paid to compensate for future pension shortfall estimated at the time of transition from Hydro's defined benefit pension plans to the defined contribution plan in line with an arrangement applicable to all affected employees in Norway. For Egil Hogna and Katarina Nilsson, compensation pension is the amount paid to compensate for lower pension benefits in Hydro compared to those of former employer Sapa AS (now Hydro Extruded Solutions AS). Bonus is the amount earned in the year presented, including vacation pay, based on performance achieved as corporate management board member. The LTI plan benefit reflects gross (pre-tax) amounts earned in the year presented, and results in LTI shares allocated in the following year. For 2017, the LTI benefits reported represent estimates. For corporate management board members on net salary employment contracts, benefits have been converted to estimated gross (pre-tax) amounts.

4) Pension benefits include the estimated change in the value of defined pension benefits, and reflects both the effect of earning an additional year's pension benefit and the adjustment to present value of previously earned pension rights (interest element). It is calculated as the increase in the Defined Benefit Obligations (DBO) calculated with stable assumptions. Pension benefits also include contributions to defined contribution plans.

5) Hydro share ownership is the number of shares held directly by the corporate management board member and any shares held by close family members and controlled entities. Hydro share ownership is as of December 31, or per the date of stepping down from the Corporate Management Board.

6) Silvio Porto became member of the Corporate Management Board as of December 13, 2016. Porto's compensation as corporate management board member commenced January 1, 2017. In addition to the performance related pay arrangement for all members of the Corporate Management Board, Porto has a cash-paid long-term incentive which is payable over three years with payments partly dependent on salary levels and business results in the following two years, included in bonus. The reported bonus amount represents an estimate.

7) Egil Hogna and Katarina Nilsson became members of the Corporate Management Board as of October 2, 2017. From this date, Hogna and Nilsson have retention agreements that vest after 12 months and six months, respectively. Hogna and Nilsson earned NOK 1,313 thousand and NOK 546 thousand under these agreements in 2017, respectively. These amounts are included in column Salary paid in the table above.

8) Hanne Simensen stepped down from the Corporate Management Board as of October 2, 2017.

9) From October 18 until December 13, 2016, Kallevik was appointed acting EVP/Head of Bauxite & Alumina business area, for which he received an extra remuneration of NOK 368 thousand that is included in the table above. During this period, Kallevik remained in his position as CFO

10) Alberto Fabrini stepped down from the Corporate Management Board and left Hydro as of October 18, 2016. In addition to the benefits included in the table above, Fabrini received salary in his notice period ended November 24, 2016, as well as other statutory benefits at termination, amounting to NOK 1,320 thousand. Fabrini had no work obligations for Hydro in the notice period. Fabrini was not required to make any payments to Hydro for non-vested LTI shares at termination of employment. In addition to the performance related pay arrangement for all members of the Corporate Management Board, Fabrini had a cash-paid long-term incentive which was payable over three years with payments partly dependent on salary levels and business results in the following two years, included in bonus. The reported bonus amount is final.

# Note 10 - Board of Directors and Corporate Assembly

## Board of Directors' remuneration and share ownership

The remuneration to the Board of Directors consists of the payment of fees and travel compensation. Travel compensation is paid to members living outside Scandinavia who attend meetings in person, with an amount of NOK 10,000 (unchanged from 2016) per meeting. Board members do not have any incentive or share-based compensation. Hydro has not made any guarantees on behalf of any of the board members. The only board members with loans from Hydro are the employee-elected members of the board.

Fees are based on the position of the board members and board committee assignments. Annual fees for 2017 for the chairperson of the board, deputy chairperson and directors are NOK 626,000 (2016: NOK 615,000), NOK 392,000 (2016: NOK 385,000) and NOK 343,000 (2016: NOK 337,000), respectively. The chairperson of the audit committee and the chairperson of the compensation committee receive an additional NOK 198,000 (2016: NOK 195,000) and NOK 114,000 (2016: NOK 112,000) annually in fees, respectively, and audit and compensation committee members receive NOK 129,000 (2016: NOK 127,000) and NOK 86,000 (2016: NOK 84,000) annually, respectively, for their participation on these committees. No fees are paid to the board observer.

Total board fees and individual board member fees for 2017 and 2016, and outstanding loans and board member share ownership as of December 31, 2017 and 2016, are presented in the tables below.

**Board of Directors' fees**

| Amounts in NOK thousand | **2017** | 2016 |
|---|---|---|
| Fees and other remuneration - normal board activities | **3 419** | 3 746 |
| Fees - compensation committee | **286** | 315 |
| Fees - audit committee | **531** | 502 |
| Total fees for board services provided to Hydro during the year | **4 236** | 4 563 |

| | Board fees [1] | | Outstanding loans [1) 2)] | | Number of shares [3] | |
|---|---|---|---|---|---|---|
| Board member / observer | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Dag Mejdell [4] | **740** | 727 | **-** | - | **35 000** | 35 000 |
| Irene Rummelhoff [5] | **478** | 449 | **-** | - | **5 000** | 5 000 |
| Finn Jebsen [6] | **541** | 486 | **-** | - | **53 406** | 53 406 |
| Thomas Schulz [7] | **343** | 197 | **-** | - | **-** | - |
| Liv Monica Stubholt [8] | **472** | 464 | **-** | - | **-** | - |
| Marianne Wiinholt [9] | **418** | 197 | **-** | - | **-** | - |
| Billy Fredagsvik [10) 11)] | **418** | 411 | **87** | 175 | **4 587** | 4 076 |
| Sten Roar Martinsen [11) 12)] | **429** | 421 | **-** | - | **5 643** | 5 132 |
| Svein Kåre Sund [11) 13)] | **200** | - | **49** | | **5 208** | |
| Tor Egil Skulstad [11) 14)] | **-** | - | **-** | | **-** | |
| Ove Ellefsen [11) 15)] | **197** | 390 | **-** | - | **8 972** | 8 461 |
| Pedro Rodrigues [16] | **-** | 387 | **-** | - | **-** | - |
| Inge K. Hansen [17] | **-** | 242 | | - | | 12 000 |
| Eva Persson [18] | **-** | 193 | | - | | - |
| Total | **4 236** | 4 563 | **137** | 175 | **117 816** | 123 075 |

1) Amounts in NOK thousand.
2) Loans are extended to board members who are also Hydro employees under an employee benefit scheme available to all employees in Norway. Loans are as of December 31, 2017 and 2016 for board members as of December 31, 2017 and 2016; otherwise loans are as of the date the individual stepped down from the Board of Directors. At the end of 2017, the loan to Billy Fredagsvik had an interest rate of 7.5 percent, with a repayment period of 11 months. At the end of 2017, the loan to Svein Kåre Sund had an interest rate of 7.5 percent, with a repayment period of 13 months. All payments have been made in a timely fashion and in accordance with the agreed payment schedule. Loans have not been extended to close members of family and controlled entities.
3) Number of shares owned as of December 31, 2017 and 2016 for board members as of December 31, 2017 and 2016; otherwise it is the number of shares owned as of the date the individual stepped down from the Board of Directors. Shareholdings disclosed include shares held by close members of family and controlled entities, in addition to shares held directly by the board member.
4) Chairperson of the board and chairperson of the board compensation committee.
5) Deputy chairperson of the board as of May 26, 2016. Member of the board compensation committee.
6) Chairperson of the board audit committee as of May 26, 2016. Member of the board compensation committee until May 26, 2016.
7) Member of the board as of May 26, 2016.
8) Member of the board audit committee.
9) Member of the board audit committee as of June 7, 2017. Member of the board as of May 26, 2016.
10) Member of the board audit committee until August 1, 2016, and as of June 7, 2017.
11) Employee representative on the board elected by the employees in accordance with Norwegian Company Law. As such, these individuals also are paid regular salary, remuneration in kind and pension benefits that are not included in the table above.
12) Member of the board compensation committee.
13) Member of the board as of May 23, 2017.
14) Observer on the board as of October 2, 2017.
15) Member of the board and the board audit committee until May 23, 2017. Member of the board audit committee as of August 1, 2016.
16) Member of the board until January 1, 2017.
17) Deputy chairperson of the board and chairperson of the board audit committee until May 26, 2016.
18) Member of the board and member of the board audit committee until May 26, 2016.

## Corporate Assembly

Corporate Assembly members owned 23,047 shares as of December 31, 2017. Loans to employees who are members of the Corporate Assembly were extended under an employee benefit scheme that is available to all employees in Norway. Loans outstanding to Corporate Assembly members who are also Hydro employees totaled NOK 210 thousand as of December 31, 2017. The interest rates on these loans are 3.15 percent and 7.50 percent, with a repayment period between five and seven years.

# Note 11 - Related party information

As of December 31, 2017, The Norwegian state had ownership interests of 34.7 percent of total shares outstanding (2016: 34.7 percent) in Hydro through the Ministry of Trade, Industry and Fisheries. In addition, Folketrygdfondet, which manages the Government Pension Fund - Norway [1] held 6.5 percent (2016: 6.2 percent). There are no preferential voting rights associated with the shares held by the Norwegian State. Hydro has concluded that the Norwegian state's shareholding represents significant interest in Hydro, and that the State thus is a related party.

The Norwegian state has ownership interests in a substantial number of companies. The ownership interests in 74 companies are managed by the ministries and covered by public information from the Ministry of Trade, Industry and Fisheries [2]. We have not assessed which of these companies that are controlled by the State. Hydro has business transactions with a number of these companies, including purchase of power from Statkraft SF. Generally, transactions are agreed independent of the possible control exercised by the State.

The public enterprise Enova, which supports new energy and climate-related technology development in Norway, decided in June 2014 to contribute up to NOK 1.6 billion to Hydro's pilot project for new electrolysis technology at Karmøy, Norway. The contribution was approved by the European Free Trade Association, EFTA, in February 2015 with the first payment in July 2015. The majority of the grant has been paid over the preparation and building period. As of the end of 2017, a total of NOK 1,244 million was received. The final project report to Enova is planned to be issued towards the middle of 2018, with final payments after approval of report, which is estimated during the second half of 2018.

A significant share of Hydro's defined benefit post-employment plans is managed by the independent pension trust, Norsk Hydro Pensjonskasse. Employees managing and operating the pension trust are employees of Norsk Hydro ASA. Their salaries and other benefits are reimbursed by the pension trust on a monthly basis, in total NOK 8 million for both 2017 and 2016. Further, the pension trust is located in Hydro's head office. Office costs, including heating and administrative services, are charged with a total of NOK 2 million for 2017 and NOK 5 million for 2016.

The pension trust owns some of the office buildings rented by Hydro. The rental arrangement was entered into in 2006, and priced based on market price benchmarks at that time. Hydro has paid a total of NOK 142 million and NOK 152 million for 2017 and 2016, respectively, related to the contract, of which NOK 23 million was outstanding at year end 2017. In 2013, Hydro concluded that the rental contract was loss making, and in December 2015 the contract was renegotiated, reducing the area rented. Hydro pays compensation for reduced rental level related to this area, and certain costs including identified maintenance projects over the remaining contract period until 2021. Such costs are included in the amounts above. The remaining provision as of December 31, 2017 was NOK 315 million.

The members of Hydro's board of directors during 2017 and 2016 are stated in note 10 Board of Directors and Corporate Assembly, where their remuneration and share ownership is outlined. Some of the board members or their close members of family serve as board members or executive directors in other companies. In addition, some members of Hydro's corporate management board or their close members of family serve as board members in other companies. Hydro has transaction with some of those companies; however, have not identified any transactions where the relationship is known to have influenced the transaction. The board member Liv Monica Stubholt is partner in the Norwegian law firm Advokatfirmaet Selmer DA. Selmer has had assignments for Hydro resulting in fees of NOK 2.0 million in 2017 and NOK 2.0 million in 2016. Stubholt has not been involved in these services to Hydro. Some close family members of members of Hydro's management are employed in non-executive positions in Hydro.

Hydro's significant joint arrangements and transactions with those entities are described in note 31 Investments in joint arrangements and associates. Hydro has joint arrangements with a number of other companies. Generally, the relationships are limited to a combined effort within a limited area. Hydro considers the joint venture partners as competitors in other business transactions, and do not see these relationships as related party relationships.

1) Shareholding is based on information from the Norwegian Central Securities Depositary (VPS) as of December 31, 2017 and 2016. Due to lending of shares, an investor's holdings registered in its VPS account may vary.

2) According to information on the Government web site www.regjeringen.no, state ownership.

## Note 12 - Financial and commercial risk management

Hydro is exposed to market risks from fluctuations in the price of commodities bought and sold, prices of other raw materials, currency exchange rates and interest rates. Price volatility, which may be significant, can have a substantial impact on Hydro's results. Market risk exposures are evaluated based on a holistic approach in order to take advantage of offsetting positions and to manage risk on a net exposure basis. Natural hedging positions are established where possible and economically viable. Hydro uses financial derivatives to some extent to manage financial and commercial risk exposures. Hydro's main policy to manage market volatility is to keep a strong financial position. Hydro's market risk strategy is materially unchanged in 2017 compared to previous years.

### Commodity price risk exposure

*Aluminium*

Hydro produces primary aluminium, aluminium casthouse products both based on primary aluminium and remelted aluminium, and fabricated aluminium products. Hydro also engages in sourcing and trading activities to procure raw materials and primary aluminium for internal use and for resale to customers. These activities serve to optimize capacity utilization, reduce logistical costs and strengthen our market positions. Hydro also participates in trading activities within strict volume and risk limits.

Hydro enters into future contracts on the London Metal Exchange (LME) mainly for two purposes. The first is to achieve an average LME aluminium price on smelter production, matching the average customer pricing pattern. Second, because Hydro's downstream businesses, remelting, and the sale of third party products are based on margins above the LME price, Hydro seeks to offset the metal price exposure when entering into customer and supplier contracts with corresponding physical or derivative future contracts at fixed prices (back-to-back hedging). Hydro manages these exposures on a portfolio basis, taking LME positions based upon net exposures within given limits. Aluminium price volatility can result in significant fluctuations in earnings as the derivative positions are marked to their market value with changes to market value recognized in the income statement, while the underlying physical metal transactions normally are not marked-to-market, except for those included in trading portfolios. The majority of Hydro's LME contracts mature within one year.

Hydro's sales of primary aluminium, aluminium casthouse products and fabricated aluminium products include a premium above the LME aluminium price. The pricing of these premiums can be volatile, and is related to physical demand and supply, with regional and product-related differences. Over the later years, these premiums have been a higher share of the revenue than historic averages, however, have during 2017 been closer to historic averages. There are limited possibilities for hedging future premiums, except for standard ingot premiums, for which a forward market exists. Hydro has from time to time entered into contracts for standard ingot premiums to mitigate risk in sales contracts.

In order to secure cash flow or margins for specific projects or special circumstances, Hydro might enter into futures contracts on a longer-term basis. In these cases, hedge accounting has normally been applied.

*Bauxite and alumina*
Hydro's production of alumina exceeds the alumina consumption in its primary aluminium production. In addition, Hydro has entered into long-term agreements to purchase alumina from third parties. The older alumina purchase and sale contracts are priced as a percentage of the LME aluminium price. New contracts, and thus an increasing part of the contracts, are purchased and sold with reference to a spot market price index.

Hydro is a producer and consumer of bauxite. Hydro's needs for bauxite are secured through long-term contracts as well as by own production. The purchasing contracts have links to the LME aluminium price and to alumina indexes. Bauxite is sold under medium and short-term contracts with prices linked to the alumina price index or open price negotiations.

*Electricity*
Hydro is a large power consumer with significant power production. Hydro's consumption is mainly secured through long-term contracts with power suppliers and through Hydro's own production in Norway. Hydro's own production is influenced by hydrological conditions which can vary significantly. The net power position in Norway is balanced out in the Nordic power market. In order to manage and mitigate risks related to price and volume fluctuations, Hydro utilizes physical contracts and derivatives including future contracts, forwards and options. Hydro also participates in trading activities within strict volume and risk limits.

A significant part of Hydro's power purchase contracts are linked to aluminium prices in order to mitigate market price risk related to the sales of its aluminium products. These contract elements are separated from their host contracts and accounted for as derivatives. Further, some power contracts in Norway are priced in Euro. There is no consensus that the Euro is a commonly used currency in the relevant market, the euro price clauses are thus accounted for separately as currency forwards.

*Other raw materials*
Hydro is party to both long-term and short-term sourcing agreements for a range of raw materials and services with both fixed and variable prices. Such agreements include pitch, petroleum coke, caustic, natural gas, coal, fuel oil and freight. The number of purchasing agreements with prices linked to the price of other commodities such as aluminium is limited and the fair value exposure is considered to be immaterial.

## Foreign currency risk exposure
The prices of Hydro's upstream products bauxite, alumina and primary aluminium, are mainly denominated in US dollars. Margins for mid- and downstream products are mainly priced in US dollars and Euro. Further, the prices of major raw materials used in Hydro's production processes, are quoted in US dollars in the international commodity markets. Hydro also incurs local costs related to the production, distribution and marketing of products in a number of different currencies, mainly Norwegian Krone, Brazilian Real, Euro and US dollar.

Hydro's primary underlying foreign currency risk is consequently linked to fluctuations in the value of the US dollar and Euro versus the currencies in which significant costs are incurred. In addition, Hydro's results and equity are influenced by value changes for the functional currencies of the individual entities and the Norwegian Krone as the Group's presentation currency.

To mitigate the impact of exchange rate fluctuations, long-term debt is mainly maintained in currencies reflecting underlying exposures and cash generation, while considering attractiveness in main financial markets. To reduce the effects of fluctuations in the US dollar and other exchange rates, Hydro also uses foreign currency swaps and forward currency contracts from time to time.

*Foreign currency risk exposure in financial instruments*
Short-term receivables and payables are often held in currencies other than the functional currency of the unit. Fluctuations between the functional currency and the currency in which the receivable or payable is denominated are reported in Financial expense. Borrowings and deposits may be denominated in other currencies than the functional currency of the unit. Fluctuations between the functional currency and the instrument's currencies, both short and long term, impact the recognized value of the debt or deposit, and are reported in Financial expense. Embedded currency derivatives in non-financial contracts, including the Euro priced electricity contracts discussed above, contains a currency exposure with changes to the fair value of the embedded derivative included in Financial expenses. Investments in equity and debt instruments of other entities are often impacted by changes in currency exchange rates. To the extent such investments are carried at fair value, the currency changes are included in the changes of fair value and reported as an integral part of such changes.

## Interest rate exposure
Hydro is exposed to changes in interest rates, primarily as a result of financing its business operations and managing its liquidity in different currencies. Cash and other liquid resources, as well as debt, are currently mainly held in Norwegian Krone, Swedish Krone, Euro, US dollars and Brazilian real. The corresponding interest rate exposures are consequently related to Norwegian Krone, Swedish Krone, Euro, US dollar and Brazilian real short-term rates.

Financial instruments and provisions are also exposed to changes in interest rates in connection with discounting of positions to present value. See sensitivity analysis of financial instruments in note 13 Financial instruments.

## Credit risk management
Hydro manages credit risk by setting counterparty risk limits and establishing procedures for monitoring exposures and timely settlement of customer accounts. Prepayments or guarantees are required where credit risk is outside the limits set for the relevant counterpart. Hydro is also monitoring the financial performance of key suppliers in order to reduce the risk of default on operations and key projects. Our overall credit risk exposure is reduced due to a diversified customer base representing various industries and geographic areas. Enforceable netting agreements, guarantees, and credit insurance, also contribute to a lower credit risk.

Credit risk arising from derivatives is generally limited to net exposures. Exposure limits are established for financial institutions relating to current accounts, deposits and other obligations. Credit risk related to commodity derivatives is limited by settlement through commodity exchanges such as the London Metal Exchange, Nasdaq, and banks. Current counterparty risk related to the use of derivative instruments and financial operations is considered limited.

## Liquidity risk
Volatile commodity prices and exchange rates as well as fluctuating business volumes and inventory levels can have a substantial effect on Hydro's cash positions and borrowing requirements.

To fund cash deficits of a more permanent nature Hydro will normally raise equity, long-term bond or bank debt in available markets.

Repayments of long-term debt are disclosed in note 33 Short and long-term debt. Further, all other financial liabilities, such as trade payables, with the exception of derivatives, have a final maturity date within one year. An overview of estimated gross cash flows from derivatives accounted for as liabilities and assets is presented below. Many of these assets and liabilities are offset by cash flows from contracts not accounted for as derivatives.

Risk of significant cash payments or margin calls related to derivative instruments is limited due to strict volume limits, value-at-risk and tenor limits for relevant trading activities.

Information about derivatives and other financial instruments held, including sensitivity analysis, is presented in note 13 Financial instruments.

Expected gross cash flows from derivatives accounted for as financial liabilities and financial assets, respectively, as of end of year:

| | December 31, 2017 | | December 31, 2016 | |
|---|---|---|---|---|
| Amounts in NOK million | Liabilities | Assets | Liabilities | Assets |
| 2017 | | | (408) | 396 |
| 2018 | (456) | 526 | (23) | 40 |
| 2019 | (47) | 47 | (9) | 5 |
| 2020 | (14) | 12 | (4) | - |
| Total | (517) | 585 | (444) | 441 |

The cash flows above are to a large extent subject to enforceable netting agreements reducing Hydro's exposure substantially.

For additional information on contracts accounted for at fair value, see note 14 Derivative instruments and hedge accounting.

# Note 13 - Financial instruments

Financial instruments, and contracts accounted for as such, are in the balance sheet included in several line items and classified in categories for accounting treatment. A reconciliation of the financial instruments in Hydro is presented below:

| Amounts in NOK million | Financial instruments at fair value through profit or loss [1] | Derivatives identified as hedging instruments | Loans and receivables | Available-for-sale financial assets [2] | Other financial liabilities [3] | Non-financial assets and liabilities [4] | Total |
|---|---|---|---|---|---|---|---|
| **2017** | | | | | | | |
| ***Assets - current*** | | | | | | | |
| Cash and cash equivalents | - | - | 11 828 | - | - | - | 11 828 |
| Short-term investments | 1 053 | - | 257 | - | - | - | 1 311 |
| Trade and other receivables | - | - | 17 031 | - | - | 2 953 | 19 983 |
| Other current financial assets | 602 | - | - | - | - | - | 602 |
| ***Assets - non-current*** | | | | | | | |
| Investments accounted for using the equity method | - | - | 1 | - | - | 11 220 | 11 221 |
| Other non-current assets | 268 | - | 960 | 1 505 | - | 1 678 | 4 410 |
| ***Liabilities - current*** | | | | | | | |
| Bank loans and other interest-bearing short-term debt | - | - | - | - | 8 245 | - | 8 245 |
| Trade and other payables | - | - | - | - | 12 318 | 7 243 | 19 561 |
| Other current financial liabilities | 645 | 8 | - | - | 2 | - | 655 |
| ***Liabilities - non-current*** | | | | | | | |
| Long-term debt | - | - | - | - | 9 012 | - | 9 012 |
| Other non-current financial liabilities | 2 004 | 37 | - | - | - | - | 2 041 |
| **2016** | | | | | | | |
| ***Assets - current*** | | | | | | | |
| Cash and cash equivalents | - | - | 8 037 | - | - | - | 8 037 |
| Short-term investments | 1 067 | - | 3 544 | - | - | - | 4 611 |
| Trade and other receivables | - | - | 8 902 | - | - | 1 982 | 10 884 |
| Other current financial assets | 457 | - | - | - | - | - | 457 |
| ***Assets - non-current*** | | | | | | | |
| Investments accounted for using the equity method | - | - | 2 | - | - | 19 805 | 19 807 |
| Other non-current assets | 47 | - | 713 | 1 667 | - | 1 882 | 4 309 |
| ***Liabilities - current*** | | | | | | | |
| Bank loans and other interest-bearing short-term debt | - | - | - | - | 3 283 | - | 3 283 |
| Trade and other payables | - | - | - | - | 5 860 | 4 247 | 10 108 |
| Other current financial liabilities | 446 | 79 | - | - | - | - | 526 |
| ***Liabilities - non-current*** | | | | | | | |
| Long-term debt | - | - | - | - | 3 397 | - | 3 397 |
| Other non-current financial liabilities | 867 | 201 | - | - | - | - | 1 067 |

1) Financial instruments at Fair Value Through Profit or Loss (FVTPL) are trading instruments required by IAS 39 to be at FVTPL.
2) Includes the investment in the independent pension trust Norsk Hydros Pensjonskasse, carried at cost.
3) Items disclosed under this category are financial liabilities at amortized cost.
4) Includes items that are excluded from the scope of IFRS 7, such as investments accounted for using the equity method, except loans to such entities.

The above specification relates to financial statement line items containing financial instruments.

Hydro's liability to acquire the remaining shares in Paragominas, which was recognized net of certain warranties measured at fair value, was settled in December 2016, resulting in a gain.

Financial assets, classified as current and non-current, represent the maximum exposure Hydro has towards credit risk as at the reporting date.

Collateral or margin calls are required for some financial liabilities, primarily related to derivative transactions. Such collaterals for financial instruments are reported as part of Short-term investments.

Impairment of receivables are disclosed in note 25 Trade and other receivables. No other financial assets are currently impaired based on credit losses.

*Gains and losses*

Realized and unrealized gains and losses from financial instruments and contracts accounted for as financial instruments are included in several line items in the income statement. Below is a reconciliation of the effects from Hydro's financial instruments in the income statements:

| Amounts in NOK million | Financial instruments at fair value through profit or loss | Derivatives identified as hedging instruments | Loans and receivables | Available-for-sale financial assets | Other financial liabilities | Non-financial assets and liabilities | Total [1] |
|---|---|---|---|---|---|---|---|
| **2017** | | | | | | | |
| ***Income statement line item*** | | | | | | | |
| Revenue | 541 | - | - | - | - | - | 541 |
| Raw material and energy expense | 281 | 85 | - | - | - | - | 366 |
| Financial income | (44) | - | - | (115) | - | - | (158) |
| Financial expense | 811 | - | - | - | - | - | 811 |
| ***Gain/loss directly in Other comprehensive income*** | | | | | | | |
| Recognized in Other comprehensive income (before tax) | | | | 266 | | | |
| Removed from Other components of equity and recognized in the income statement | | | | - | | | |
| **2016** | | | | | | | |
| ***Income statement line item*** | | | | | | | |
| Revenue | (13) | - | - | - | - | - | (13) |
| Other income | (254) | - | - | - | - | - | (254) |
| Raw material and energy expense | 141 | 124 | - | - | - | - | 265 |
| Other expense | (141) | - | - | - | - | - | (141) |
| Financial income | (27) | - | - | (77) | - | - | (104) |
| Financial expense | (795) | - | - | - | - | - | (795) |
| ***Gain/loss directly in Other comprehensive income*** | | | | | | | |
| Recognized in Other comprehensive income (before tax) | | | | 71 | | | |
| Removed from Other components of equity and recognized in the income statement | | | | - | | | |

1) Amount indicates the total gains and losses to financial instruments for each specific income statement line item.

Currency effects, with the exception of currency derivatives, are not included above. Negative amounts indicate a gain.

## Sensitivity analysis

In accordance with IFRS, Hydro has chosen to provide information about market risk and potential exposure to hypothetical loss from its use of derivative financial instruments and other financial instruments and derivative commodity instruments through sensitivity analysis disclosures. The sensitivity analysis depicted in the tables below reflects the hypothetical gain/loss in fair values that would occur assuming a 10 percent increase in rates or prices and no changes in the portfolio of instruments as of December 31, 2017 and December 31, 2016. Effects shown below are largely also representative of reductions in rates or prices by 10 percent but with the opposite sign convention. Only effects that would ultimately be accounted for in the income statement, or equity, as a result of a change in rates or prices, are included. All changes are before tax.

| | | Gain (loss) from 10 percent increase in | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Fair value as of December 31, | Foreign currency exchange rates | | | Commodity prices | | Interest | |
| Amounts in NOK million | 2017 1) | USD | EUR | Other | Aluminium | Other | rates | Other |
| Derivative financial instruments 2) | (1 574) | (1) | (2 018) | (3) | - | - | 21 | - |
| Other financial instruments 3) | 2 088 | (160) | 128 | (214) | - | - | 2 | 31 |
| Derivative commodity instruments 4) | (205) | (56) | 23 | 11 | (130) | (41) | (14) | (3) |
| Financial instruments through OCI 5) | 924 | 282 | (5) | - | - | 33 | (122) | 95 |

| | | Gain (loss) from 10 percent increase in | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Fair value as of December 31, | Foreign currency exchange rates | | | Commodity prices | | Interest | |
| Amounts in NOK million | 2016 1) | USD | EUR | Other | Aluminium | Other | rates | Other |
| Derivative financial instruments 2) | (805) | - | (1 625) | - | - | - | 9 | - |
| Other financial instruments 3) | 10 261 | (146) | 299 | 87 | - | - | 3 | 31 |
| Derivative commodity instruments 4) | (4) | (103) | (8) | - | (323) | (50) | 2 | (5) |
| Financial instruments through OCI 5) | 852 | 277 | (28) | - | - | 18 | (98) | 91 |

1) The change in fair value due to price changes is calculated based on pricing formulas for certain derivatives, the Black-Scholes/Turnbull-Wakeman models for options and the net present value of cash flows for certain financial instruments or derivatives. Discount rates vary as appropriate for the individual instruments.

2) Includes forward currency contracts and embedded currency derivatives.

3) Includes cash and cash equivalents, investments in securities, bank loans and other interest-bearing short-term debt and long-term debt. Trade payables and trade receivables are also included.

4) Includes all contracts with commodities as underlying, both financial and physical contracts, such as LME contracts and NASDAQ Nordic Power contracts, which are accounted for at fair value.

5) Includes shares classified as available-for-sale and hedging derivatives.

The above sensitivity analysis reflects sensitivities for the instruments held at the balance sheet dates only. Related offsetting physical positions, contracts, and anticipated transactions are not reflected. The calculations do not take into consideration any adjustments for potential correlations between the risk exposure categories, such as the effect of a change in a foreign exchange rate on a commodity price.

The above discussion about Hydro's risk management policies and the estimated amounts included in the sensitivity analysis relates to the balance sheet position as of December 31. Outcomes at other dates could differ materially based on actual developments in the global markets and Hydro's positions. The methods used by Hydro to analyze risks discussed above should not be considered as projections of future events, gains or losses.

The following is an overview of fair value measurements categorized on the basis of observability of significant measurement inputs. Certain items are valued on the basis of quoted prices in active markets for identical assets or liabilities (level 1 inputs), others are valued on the basis of inputs that are derived from observable prices (level 2 inputs), while certain positions are valued on the basis of judgmental assumptions that are to a limited degree or not at all based on observable market data (level 3 inputs). The level in this fair value hierarchy within which measurements are categorized is determined on the basis of the lowest level input that is significant to the fair value measurement.

| Amounts in NOK million | **2017** | **Level 1** | **Level 2** | **Level 3** | 2016 | Level 1 | Level 2 | Level 3 |
|---|---|---|---|---|---|---|---|---|
| ***Assets*** | | | | | | | | |
| Commodity derivatives | **845** | **451** | **199** | **195** | 504 | 139 | 339 | 26 |
| Currency derivatives | **25** | **25** | **-** | **-** | - | - | - | - |
| Securities held for trading | **1 053** | **331** | **722** | **-** | 1 067 | 317 | 740 | 10 |
| Available for sale financial assets | **969** | **-** | **-** | **969** | 1 132 | - | - | 1 132 |
| Total | **2 893** | **808** | **921** | **1 164** | 2 703 | 456 | 1 080 | 1 167 |
| ***Liabilities*** | | | | | | | | |
| Commodity derivatives | **(1 049)** | **(419)** | **(157)** | **(473)** | (508) | (62) | (398) | (47) |
| Currency derivatives | **(1 600)** | **(34)** | **(1 566)** | **-** | (805) | - | (805) | - |
| Cash flow hedges | **(45)** | **-** | **-** | **(45)** | (280) | - | - | (280) |
| Total | **(2 694)** | **(453)** | **(1 723)** | **(519)** | (1 593) | (62) | (1 203) | (328) |

The following is an overview in which changes in level 3 measurements are specified:

| Amounts in NOK million | Commodity derivatives Assets | Commodity derivatives Liabilities | Currency derivatives Liabilities | Cash flow hedges | Available for sale financial assets | Other |
|---|---|---|---|---|---|---|
| December 31, 2015 | 167 | (221) | - | (443) | 1 263 | 360 |
| Total gains (losses) | | | | | | |
| in income statement | (146) | 85 | - | - | (10) | 408 |
| in Other comprehensive income | - | - | - | 39 | (71) | - |
| Settlements | 4 | 98 | - | 124 | - | (738) |
| Currency translation difference | - | (10) | - | - | (51) | (21) |
| December 31, 2016 | 26 | (47) | - | (280) | 1 132 | 10 |
| Total gains (losses) | | | | | | |
| in income statement | 174 | (473) | - | - | - | - |
| in Other comprehensive income | - | - | - | 149 | (266) | - |
| Purchases | - | - | - | - | 7 | - |
| Reclassified to level 2 | - | - | - | - | - | (5) |
| Settlements | (1) | 51 | - | 86 | - | (5) |
| Currency translation difference | (4) | (3) | - | - | 98 | - |
| December 31, 2017 | 195 | (473) | - | (45) | 969 | - |
| Total gains (losses) for the period | 174 | (473) | - | 149 | (266) | - |
| Total gains (losses) for the period included in the income statement for assets held at the end of the reporting period | 174 | (473) | - | - | - | - |

Gains or losses relating to level 3 commodity derivatives appearing in the table above are included in the income statement in Raw material and energy expense. Changes in fair value for embedded derivatives are reported as gains or losses for the period. Changes in fair value for hedge instruments are reported in Other comprehensive income. Changes in fair value on available for sale assets are reported in Other comprehensive income while dividends received and realized gains and losses are included in Financial income.

Certain measurements classified as level 3 are highly sensitive to changes in assumptions, the effects of which would be material. Some of the instruments are sensitive to judgmental factors such as probabilities of certain future events and interpretation of contracts or legal issues. These are not reflected in the table below. Sensitivities relating to commodity derivatives are based on models utilized in the calculation of position balance as of December 31, adjusted for alternate assumptions. Effects shown below are largely also representative of increases in rates or prices by 10 percent but with the opposite sign convention. The following is an overview of such sensitivity:

| Amounts in NOK million | Gain (loss) from 10 percent decrease in USD | EUR | Aluminium | Other commodity | Interest rates |
|---|---|---|---|---|---|
| Commodity derivatives | 69 | - | 20 | 41 | 16 |
| Cash flow hedges | - | 5 | - | (33) | - |
| Available for sale financial assets | (337) | - | - | - | 142 |

# Note 14 - Derivative instruments and hedge accounting

Derivative instruments, whether physically or financially settled, are accounted for under IAS 39. All derivative instruments are accounted for at fair value with changes in the fair value recognized in the income statement, unless specific hedge criteria are met. Some of Hydro's commodity contracts are deemed to be derivatives under IFRS. For further explanation on the principles for which physical commodity contracts that are accounted for as derivatives, and which are considered own use, see note 2 Significant accounting policies.

## Embedded derivatives

Some contracts contain pricing links that affect cash flows in a manner different than the underlying commodity or financial instrument in the contract. For accounting purposes, these embedded derivatives are in some circumstances separated from the host contract and recognized at fair value. Hydro has separated and recognized at fair value embedded derivatives related to currency, aluminium, inflation and coal links from the underlying contracts.

## Commodity derivatives

The following types of commodity derivatives were recorded at fair value on the balance sheet as of December 31, 2017 and December 31, 2016. Contracts that are designated as hedging instruments in cash flow hedges are not included. The presentation of fair values for electricity and aluminium contracts shown in the table below includes the fair value of traditional derivative instruments such as futures, forwards and swaps, in conjunction with the physical contracts accounted for at fair value, as well as embedded derivatives.

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| ***Assets*** | | |
| Electricity contracts | **175** | 320 |
| Aluminium futures, forwards and options | **719** | 395 |
| Other | **164** | 153 |
| Netting | **(213)** | (364) |
| Total | **845** | 504 |
| ***Liabilities*** | | |
| Electricity contracts | **(162)** | (409) |
| Coal forwards | **(397)** | (364) |
| Aluminium futures, forwards and options | **(704)** | (99) |
| Netting | **213** | 364 |
| Total | **(1 049)** | (508) |

Embedded derivatives are classified based on the underlying in the contract feature constituting a separable embedded derivative in the table above. Where there are more than one embedded derivative in the same host contract, those embedded derivatives are offset in settlement an thus presented net on the balance sheet.

Changes in the fair value of commodity derivatives are included in operating revenues or cost of goods sold based on classification of host contract for embedded derivatives and on the purpose of the instrument for freestanding derivatives.

## Cash flow hedges

Hydro has to a limited extent used cash flow hedge accounting for its risk management positions. Gains and losses on the hedge derivatives are recognized in Other comprehensive income, and accumulated in the hedging reserve in equity and reclassified into operating revenues or cost when the corresponding forecasted sale or consumption is recognized. In 2012 Hydro entered into a hedge arrangement for parts of the power consumption in the Rheinwerk smelter in Germany. The price differential between the German and the Nordic power market was secured through derivative contracts for 150 MW for the period 2013 to 2020.

No ineffectiveness was recognized in the income statement in 2017 or 2016.

The table below gives aggregated numbers related to the cash flow hedges for the period 2016 to 2017.

| | 2018 | **2017** | 2016 |
|---|---|---|---|
| Expected to be reclassified to the income statement during the year (NOK million) | (8) | **(73)** | (33) |
| Reclassified to the income statement from Other components of equity (NOK million) 1) | | **(79)** | (81) |

1) Deviates from expected reclassifications due to changes in market prices throughout the year. Negative amounts indicate a loss.

Liabilities of NOK 45 million and NOK 280 million were recognized as the fair value of cash flow hedging instruments for December 31, 2017 and 2016, respectively.

Hydro performs trading operations to reduce currency exposures on commodity positions. The effect of such operations is recognized as a part of Financial expense in the income statement.

For the after tax movement in Hydro's equity relating to cash-flow hedges for 2017 and 2016, please see note 37 Shareholders' equity.

### Fair Value of Derivative Instruments

The fair value of derivative financial instruments such as currency forwards and swaps is based on quoted market prices. The fair market value of aluminium and electricity futures/forwards and option contracts is based on quoted market prices obtained from the London Metals Exchange and NASDAQ Nordic Power/EEX (European Energy Exchange) respectively. The fair value of other commodity over-the-counter contracts and swaps is based on quoted market prices, estimates obtained from brokers and other appropriate valuation techniques. Where long-term physical delivery commodity contracts are recognized at fair value in accordance with IAS 39, such fair market values are based on quoted forward prices in the market, and assumptions of forward prices and margins where market prices are not available. Hydro takes credit-spread into consideration when valuating positions when necessary.

For further information on fair values, see note 4 Measurement of fair value. See note 13 Financial instruments for a specification of the classification of derivative positions according to a fair value hierarchy.

## Note 15 - Other income

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Gain on sale of property, plant and equipment | **30** | 102 |
| Net gain (loss) on sale of subsidiaries, associates and joint ventures 1) | **2 177** | 234 |
| Revenue from utilities 2) | **89** | 161 |
| Rental revenue | **42** | 85 |
| Government grants 3) | **498** | 64 |
| Other 4) | **110** | 385 |
| Other income, net | **2 947** | 1 030 |

1) Amount in 2017 related mainly to the net remeasurement gain on the previously owned shares in Sapa. Gain in 2016 mainly related to the sale of Herøya Industripark AS.
2) Revenue from utilities includes quay structures, pipe network, tank terminal, process water and grid rental.
3) Government grants consist mainly of export grants in Brazil.
4) Other includes royalties and insurance compensations. Amount in 2016 also includes a gain of NOK 254 million related to the settlement of a contingent consideration related to the acquisition of certain businesses from Vale.

## Note 16 - Raw material and energy expense

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Raw material expense and production related cost | **70 050** | 52 364 |
| Change in inventories own production | **(202)** | (213) |
| Raw material and energy expense | **69 848** | 52 151 |

Raw material expense and production related cost include effect of commodity derivative instruments. See note 14 Derivative instruments and hedge accounting.

## Note 17 - Employee remuneration

### Employee share purchase plan

Hydro has established a share purchase plan for employees in Norway. The plan payout is based on whether the share price (adjusted for dividend paid) increases with at least 12 percent or not during the performance period. Employees are eligible to receive an offer to purchase shares under this plan if they were 1) employed by Norsk Hydro ASA or a more than 90 percent owned Norwegian subsidiary, and 2) employed as of December 31 through the final acceptance date of the share purchase offer. Employees are invited to purchase shares with a rebate of 50 percent for a value of NOK 12,500 or NOK 25,000, depending on shareholder return. The share purchase is financed through a non-interest bearing loan from the company with a repayment period of 12 months.

Compensation expense related to the 2016 performance measurement period was accrued and recognized over the service period of December 31, 2016 through March 31, 2017, the final acceptance date of the offer. In 2017 and 2016 the participation rates of eligible employees in the employee share purchase plan were 92 and 85 percent, respectively. Details related to the employee share purchase plan are provided in the table below.

| **Employee share purchase plan**<br>**Performance measurement period** | 2017 | 2016 | 2015 |
|---|---|---|---|
| Total shareholder return performance target achieved | ≥12% | ≥12% | <12% |
| Employee rebate offered, NOK | 12 500 | 12 500 | 6 250 |

| **Share purchase plan compensation** | **2017** | 2016 |
|---|---|---|
| Award share price, NOK | **48.40** | 34.53 |
| Number of shares issued, per employee | **511** | 378 |
| Total number of shares issued to employees | **1 729 735** | 1 184 274 |
| Compensation expense related to the award, NOK thousand | **41 496** | 21 293 |

### Employee benefit expense

The average number of employees in Hydro for 2017 and 2016 was 18,422 and 12,924, respectively. As of year end 2017 and 2016, Hydro employed 34,625 and 12,911 people, respectively. Employees in joint operations are not included. The specification of employee benefit expenses, including employee benefits in joint operations, is given in the table below.

**Employee benefit expense**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Salary | **10 434** | 7 407 |
| Social security costs | **1 660** | 1 183 |
| Other benefits | **400** | 316 |
| Pension expense (note 36) | **791** | 579 |
| Total | **13 285** | 9 485 |

## Note 18 - Depreciation and amortization expense

**Specification of depreciation and amortization by asset category**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Buildings | **930** | 790 |
| Machinery and equipment | **5 004** | 4 146 |
| Intangible assets | **222** | 105 |
| Depreciation and amortization expense | **6 156** | 5 041 |

## Note 19 - Impairment of non-current assets

All Cash Generating Units (CGUs) or fixed assets that are not part of a CGU are reviewed for impairment indicators at each balance sheet date with the exception of goodwill and assets from recent acquisitions where the allocation of fair values is provisionally determined as of the balance sheet date. Tests for impairment have been performed for the CGUs where impairment indicators have been identified. The recoverable amount for these units have been determined estimating the Value in Use (VIU) of the asset and/or, if appropriate, its fair value less cost of disposal (FV), and comparing the highest of the two against the carrying value of the CGUs. The calculation of VIU has been based on management's best estimate, reflecting Hydro's business planning process. The discount rates are derived as the weighted average cost of capital (WACC) for a similar business in the same business environment. For Hydro's businesses the pre-tax nominal discount rate is estimated at between 8.75 and 16.0 percent (2016: 9.0-17.25 percent), with the higher rates applicable for assets in Brazil. Impairment losses have been recognized where the recoverable amount is less than the carrying value.

Goodwill and intangible assets with indefinite life are required to be tested for impairment annually, in addition to any tests required when impairment indicators are determined to be present. Hydro has elected to do the annual impairment test of goodwill in the fourth quarter.  The carrying amount is not recoverable if it exceeds the higher of the asset's or cash generating unit's fair value less costs to sell or the value in use. An impairment loss is recognized in the amount that the carrying value exceeds its recoverable amount. Losses are reversed in the event of a subsequent increase in the recoverable amount of an impaired asset, however, impairment of goodwill is not reversed.

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| **Classification by asset category** | | |
| ***Impairment losses*** | | |
| Property, plant and equipment | **5** | 428 |
| Intangible assets | **-** | 5 |
| Total impairment of non-current assets | **5** | 433 |
| | | |
| **Classification by segment** | | |
| ***Impairment losses*** | | |
| Bauxite & Alumina | **-** | 294 |
| Rolled Products | **-** | - |
| Primary Metal | **-** | (6) |
| Metal Markets | **-** | - |
| Extruded Solutions | **5** | - |
| Energy | **-** | 5 |
| Other activities | **-** | 140 |
| Total impairment of non-current assets | **5** | 433 |

Goodwill is allocated to CGUs or groups of CGUs as shown in the following table:

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Bauxite & Alumina Operations | **2 572** | 2 740 |
| Remelters sector (Metal Markets) | **388** | 396 |
| Total goodwill | **2 960** | 3 135 |

In addition, an amount of goodwill is provisionally recognized related to the acquisition of Sapa, see note 6 Significant subsidiaries and changes to the consolidated group. The amount of goodwill finally recognized is likely to change as the values of assets and liabilities are determined. The allocation of goodwill to CGUs or groups of CGUs within the segment Extruded Solutions will be determined when the amount of goodwill is determined. The goodwill related to Extruded Solutions has not been tested for impairment in 2017.

Goodwill in Bauxite & Alumina is allocated to a CGU consisting of the Alunorte alumina refinery, the main bauxite source Paragominas and certain related activities. The recoverable amount has been determined based on a VIU calculation, and amounts to about NOK 42 billion. The value significantly exceeds the carrying value of NOK 27 billion. The calculation used cash flow forecasts in BRL based on internal plans approved by management covering a five-year period. All significant price assumptions are internally derived based on external references. Cash flows have been projected for the following 35 years based on the five-year detailed forecast period using Hydro's long-term assumptions for alumina prices and key raw material prices. The CGU is expected to remain in operation for at least the 40-year period. Improvements expected from the currently implemented improvement programs and certain planned equipment replacements are included. Further improvements are not included in the cash flow forecasts. Cash flows beyond the five-year period are inflated by the expected long-term inflation levels in Brazil and the main western economies.

The main assumptions, expressed in real 2017 values, to which the test is sensitive are shown in the table below:

| | Assumptions | |
|---|---|---|
| | 2018 | Long-term |
| Exchange rate BRL/USD | 3.25 | 3.47 |
| Alumina price (USD/mt) | 357 | 398 |
| Production volume alumina (million mt) | 6.4 | 6.4 |
| Discount rate nominal, pre-tax | 16.0 % | 16.0 % |

Significant cash flows are denominated in US dollars. These are translated to BRL at a rate of 3.25 for 2018 with an increase to a nominal rate of 4.10 in 2025, equal to a real exchange rate of 3.47. For future periods the exchange rate is projected with a rate development reflecting the inflation difference of 2.5 percentage points between international inflation and the higher expected Brazil specific inflation.

If one of the key parameters were changed with no changes to the other assumptions, the estimated recoverable amount for the CGU would equal the carrying amount with the following long-term real 2017 assumptions over the entire 40-year period:

| | % change | Value |
|---|---|---|
| Exchange rate BRL/USD | (15%) | 2.77 |
| Alumina price (USD/mt) | (9%) | 326 |
| Production volume alumina (million mt) | (15%) | 5.4 |
| Discount rate (% point) | 42 % | 22.75% |

For Metal Markets the impairment test on goodwill has been based on approved business plan for the next year, managements best estimate of cash flows for the following four years and extrapolated to a 15 years cash flow estimate, providing a VIU exceeding the carrying value.

Hydro also has indefinite life intangible assets of NOK 138 million related to the Vigeland power plant in Norway. This CGU is tested for impairment using a FV approach based on observed transaction values for power production assets in the Nordic region. The recoverable amount, estimated as a post-tax fair value, exceeds the carrying amount significantly.

In 2017 we identified an impairment indicator for the primary aluminium plant at Husnes, Norway. The recoverable amount was determined as the VIU based on Hydro's internal assumptions for aluminium prices, raw material prices including energy, currency exchange rates and timing of cash flows. Contract prices are used for raw materials and energy for periods covered by specific contracts with external suppliers. For periods where such consumption is not yet contracted, or where internal supply of such items as electric power and alumina is expected, estimated market prices are used. Power prices above the currently observed market prices combined with $CO_2$ compensation to energy intensive industry is assumed. Hydro has decided to upgrade and restart the closed line, which is assumed in the test. The recoverable amount exceeded the carrying amount of about NOK 0.4 billion significantly.

In 2016 we identified impairment indicators for two of Primary Metal's smelters, the Husnes smelter in Norway, and the Slovak smelter Slovalco. VIU for Slovalco, which had a carrying value of PPE of about NOK 1.1 billion, exceeded carrying amount by about 80 percent. Coverage for the Husnes plant, which had a carrying value of PPE of about NOK 0.4 billion, was more limited. No impairment write-down was recognized for these plants.

The carrying amount of CAP, an alumina refinery under construction in Para, Brazil, was reviewed during 2016. The project is currently on hold due to the alumina market balance, and Hydro has reviewed the design that is basis for the current engineering work capitalized. It was determined that a better design, improving the cost position when built, can be developed. About 40 percent of the carrying value of the project was thus written down as impaired, resulting in a charge of NOK 285 million.

An industrial park in Hanover, Germany, was assessed for remediation need and future use in 2016. Hydro has currently no operational activity in the park. Industrial activities has resulted in remediation needs with an estimated cost of about NOK 90 million, recognized as an asset retirement obligation increasing the carrying value of the site to NOK 140 million. As the site has limited sales value, the amount was immediately written down to zero. The site is part of Other activities.

In addition certain assets were written down as impaired due to physical damage or obsolescence both in 2017 and 2016.

See note 5 Critical accounting judgment and key sources of estimation uncertainty for additional information about impairment testing. Impairment assessment for investments in associates, joint ventures and other financial assets are discussed in the specific notes.

## Note 20 - Research and development

Total expensed research and development cost was NOK 500 million in 2017 and NOK 370 million in 2016. Research and development activities are aiming at making production of aluminium more efficient including further improving the operational and environmental performance of Hydro's electrolysis technology. The Karmøy Technology Pilot will be important for verifying the next generation electrolysis technology at an industrial level, which is necessary for reducing the risk of implementing new technology. The Karmøy Technology Pilot started production in January 2018. A significant proportion of the research and development means are also used for further developing the production processes and products within casting and alloy technology as well as extruded solutions, rolled products and alumina.

To the extent development costs are directly contributing to the construction of a fixed asset, the development costs are capitalized as part of the asset provided all criteria for capitalizing the cost are met. Costs incurred during the preliminary project stage, as well as maintenance costs, are expensed as incurred. The capitalized development costs were NOK 24 million in 2017 and NOK 18 million in 2016.

## Note 21 - Operating leases

Future minimum lease payments due under non-cancellable operating leases are as follows:

| Amounts in NOK million | Less than 1 year | 1-5 years | Thereafter | Total |
|---|---|---|---|---|
| Operating lease obligation 2017 | 771 | 1 283 | 284 | 2 338 |
| Operating lease obligation 2016 | 144 | 368 | 253 | 766 |

Operating lease expense for office space, machinery and equipment amounts to NOK 311 million for 2017 and NOK 202 million for 2016.

## Note 22 - Financial income and expense

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Interest income | **322** | 468 |
| Dividends received and net gain (loss) on securities | **159** | 105 |
| Financial income | **481** | 574 |
| Interest expense | **(378)** | (362) |
| Capitalized interest | **76** | 97 |
| Net foreign exchange gain (loss) | **(875)** | 2 266 |
| Accretion | **(368)** | (409) |
| Other | **(51)** | (41) |
| Financial expense | **(1 596)** | 1 552 |
| Financial income (expense), net | **(1 114)** | 2 126 |

Accretion represent the period's interest component for pension obligations, asset retirement obligations and other liabilities measured as present value of future expected payments.

# Note 23 - Income taxes

| Amounts in NOK million | 2017 | 2016 |
|---|---|---|
| ***Income before tax*** | | |
| Norway | **6 954** | 4 627 |
| Other countries | **4 121** | 4 510 |
| Total | **11 075** | 9 137 |
| ***Current taxes*** | | |
| Norway | **1 715** | 690 |
| Other countries | **860** | 1 297 |
| Current income tax expense | **2 575** | 1 988 |
| ***Deferred taxes*** | | |
| Norway | **(315)** | 100 |
| Other countries | **(369)** | 464 |
| Deferred tax expense (benefit) | **(685)** | 563 |
| Total income tax expense (benefit) | **1 891** | 2 551 |

**Components of deferred taxes**

| | | |
|---|---|---|
| Origination and reversal of temporary differences | **(311)** | (427) |
| Change in deferred tax asset from tax loss carryforwards | **269** | 709 |
| Effect of tax rate changes | **(171)** | (6) |
| Net change in unrecognized deferred tax assets | **(207)** | 288 |
| Tax (expense) benefit allocated to Other comprehensive income | **(265)** | (1) |
| Deferred tax expense (benefit) | **(685)** | 563 |

**Reconciliation of tax expense to Norwegian nominal statutory tax rate**

| Amounts in NOK million | 2017 | 2016 |
|---|---|---|
| Expected income taxes at statutory tax rate [1)] | **2 658** | 2 284 |
| Hydro-electric power surtax [2)] | **708** | 554 |
| Equity accounted investments | **(372)** | (246) |
| Foreign tax rate differences | **(142)** | 305 |
| Favorable decisions in tax disputes [3)] | **(108)** | (602) |
| Tax free income | **(601)** | (209) |
| Deferred tax asset not recognized and expired tax loss carryforwards | **(144)** | 221 |
| Other tax benefits and deductions with no tax benefits, net [4)] | **(108)** | 243 |
| Income tax expense (benefit) | **1 891** | 2 551 |

1) Norwegian nominal statutory tax rate is 24 percent. It is changed to 23 percent from 2018.

2) A surtax of 34.3 percent is applied to taxable income, with certain adjustments, for Norwegian hydro-electric power plants. The surtax comes in addition to the normal corporate taxation. The tax rate is changed to 35.7 percent from 2018.

3) The Norwegian Tax Appeal Board has in both 2017 and 2016 ruled in favor of Hydro in tax disputes. This relates to losses on refinancing of subsidiaries that were denied deduction for tax purposes. The 2017 decision relates to losses incurred in 2009-2011 while the 2016 decision relates to losses incurred in 2008

4) A US tax reform was enacted in December 2017 and resulted in significant changes to existing tax law in several areas, including corporate tax rates. From 2018 the corporate income tax rate (federal) is 21 percent compared to 35 percent in 2017. The reduced tax rate has resulted in a decrease in the deferred tax liability and hence a positive effect on the income tax expense in 2017. The effect is included in the line Other tax benefits and deductions with no tax benefits, net.

The tax effects of temporary differences and tax loss carryforwards giving rise to deferred tax assets and liabilities were as follows as of December 31, 2017 and December 31, 2016:

| Amounts in NOK million | **Assets 2017** | **Liabilities 2017** | Assets 2016 | Liabilities 2016 |
|---|---|---|---|---|
| Inventory valuation | **375** | **(558)** | 246 | (304) |
| Accrued expenses | **1 477** | **(278)** | 1 005 | (293) |
| Property, plant and equipment | **10 097** | **(15 936)** | 5 003 | (9 554) |
| Intangible assets | **1 538** | **(2 368)** | 1 052 | (1 156) |
| Pensions | **2 747** | **(1 274)** | 2 415 | (1 078) |
| Derivatives | **536** | **(145)** | 369 | (120) |
| Other | **162** | **(724)** | 352 | (792) |
| Tax loss carryforwards | **5 187** | | 3 536 | |
| Subtotal | **22 120** | **(21 282)** | 13 979 | (13 296) |
| Of which not recognized as tax asset | **(2 743)** | | (1 501) | |
| Gross deferred tax assets (liabilities) | **19 377** | **(21 282)** | 12 477 | (13 296) |
| Net deferred tax assets (liabilities) | | **(1 905)** | | (819) |

| **Reconciliation to balance sheets** | **2017** | 2016 |
|---|---|---|
| Deferred tax assets | **1 617** | 1 566 |
| Deferred tax liabilities | **3 522** | 2 384 |
| Net deferred tax assets (liabilities) | **(1 905)** | (819) |

Recognition of net deferred tax asset is based on expected taxable income in the future.

At the end of 2017, Hydro had tax loss carryforwards of NOK 16,853 million, mainly in Brazil, Spain, Australia, Italy and Belgium. The majority of the tax loss carryforwards expire after 2022. Of the total, NOK 13,571 million is without expiration. Tax assets are recognized for about 49 percent of the tax losses.

## Note 24 - Short-term investments

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Bank, time deposits | **-** | 3 350 |
| Equity securities | **315** | 312 |
| Debt securities | **738** | 756 |
| Other | **257** | 194 |
| Total short-term investments | **1 311** | 4 611 |

## Note 25 - Trade and other receivables

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Trade receivables | **16 591** | 8 676 |
| VAT and other sales taxes | **2 008** | 1 478 |
| Other receivables | **1 438** | 759 |
| Allowance for credit losses | **(54)** | (29) |
| Trade and other receivables | **19 983** | 10 884 |

Of total trade receivables at year end 2017, about nine percent were past due, with the majority within 30 days. Extruded Solutions has a higher share of overdue receivables than the average of the other business areas.

## Note 26 - Inventories

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Spare parts and raw materials | **5 990** | 3 654 |
| Work in progress | **5 052** | 3 666 |
| Alumina | **1 189** | 803 |
| Aluminium casthouse products | **4 393** | 2 903 |
| Fabricated products | **4 249** | 1 355 |
| Inventories | **20 873** | 12 381 |

Raw materials includes purchased raw materials such as bauxite, caustic soda, oil, coal and other input factors used in the production; however, excluding alumina and aluminium intended for use in Hydro's production of other products. All amounts are net of any write-downs.

## Note 27 - Other non-current assets

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Equity securities | **969** | 1 132 |
| Other securities | **537** | 536 |
| Employee loans | **100** | 105 |
| Derivative instruments | **268** | 47 |
| Income taxes, VAT and other sales taxes | **1 678** | 1 882 |
| Other receivables | **857** | 607 |
| Other non-current assets | **4 410** | 4 309 |

# Note 28 - Property, plant and equipment

| Amounts in NOK million | Land | Buildings | Machinery and equipment | Plant under construction | Total |
|---|---|---|---|---|---|
| ***Cost*** | | | | | |
| December 31, 2015 | 1 110 | 23 291 | 76 039 | 4 101 | 104 541 |
| Additions | 11 | 538 | 4 033 | 4 369 | 8 950 |
| Disposals | (13) | (848) | (1 615) | (3) | (2 480) |
| Transfers | - | 602 | 1 505 | (2 107) | - |
| Foreign currency translation effect | (47) | 930 | 3 630 | 484 | 4 997 |
| December 31, 2016 | 1 060 | 24 512 | 83 592 | 6 844 | 116 009 |
| | | | | | |
| Additions | 4 | 519 | 2 602 | 4 212 | 7 338 |
| Acquisitions through business combinations | 738 | 3 198 | 9 102 | 1 014 | 14 052 |
| Disposals | (13) | (209) | (1 881) | (57) | (2 162) |
| Transfers [1)] | - | 4 036 | 3 531 | (7 567) | - |
| Foreign currency translation effect | 101 | (178) | (462) | (82) | (621) |
| December 31, 2017 | 1 891 | 31 878 | 96 484 | 4 363 | 134 616 |
| | | | | | |
| ***Accumulated depreciation and impairment*** | | | | | |
| December 31, 2015 | (5) | (10 679) | (42 683) | - | (53 367) |
| Depreciation for the year | - | (790) | (4 146) | - | (4 936) |
| Impairment losses | - | (138) | (10) | (285) | (434) |
| Reversal of impairment loss | - | - | 6 | - | 6 |
| Disposals | - | 650 | 1 516 | - | 2 166 |
| Transfers | - | (11) | 11 | - | - |
| Foreign currency translation effect | - | (131) | (567) | (13) | (710) |
| December 31, 2016 | (5) | (11 098) | (45 873) | (298) | (57 275) |
| | | | | | |
| Depreciation for the year | - | (930) | (5 004) | - | (5 934) |
| Impairment losses | (2) | - | (3) | - | (5) |
| Disposals | - | 128 | 1 696 | - | 1 824 |
| Transfers [1)] | - | (719) | 719 | - | - |
| Foreign currency translation effect | - | (3) | (221) | 18 | (206) |
| December 31, 2017 | (8) | (12 621) | (48 686) | (280) | (61 596) |
| | | | | | |
| ***Carrying value*** | | | | | |
| December 31, 2016 | 1 055 | 13 414 | 37 719 | 6 545 | 58 734 |
| December 31, 2017 | 1 882 | 19 257 | 47 797 | 4 083 | 73 020 |

1) Transfers includes reclassification of certain industrial structures following renewed assessment.

The table above includes assets held under finance lease arrangements by a total of NOK 739 million, which are mainly included in Machinery and equipment.

# Note 29 - Intangible assets

| Amounts in NOK million | Intangible assets under development | Mineral rights | Waterfall rights | Software | Acquired sourcing contracts | Other intangibles assets | Total |
|---|---|---|---|---|---|---|---|
| ***Cost*** | | | | | | | |
| December 31, 2015 | 233 | 747 | 139 | 940 | 1 036 | 983 | 4 078 |
| Additions | 84 | - | - | 70 | - | 33 | 186 |
| Disposals | - | - | - | (6) | - | (19) | (25) |
| Transfers | (27) | - | - | 27 | - | - | - |
| Foreign currency translation effect | - | 133 | - | 9 | 184 | 5 | 331 |
| December 31, 2016 | 289 | 880 | 139 | 1 041 | 1 220 | 1 001 | 4 570 |
| Additions | 65 | - | - | 84 | - | 17 | 167 |
| Acquisitions through business combinations | 2 | - | - | 250 | - | 2 645 | 2 897 |
| Disposals | - | - | - | (88) | - | (30) | (118) |
| Transfers | (95) | - | - | 94 | - | - | - |
| Foreign currency translation effect | 1 | (54) | - | 38 | (75) | 150 | 60 |
| December 31, 2017 | 263 | 826 | 139 | 1 420 | 1 146 | 3 783 | 7 576 |
| ***Accumulated amortization and impairment*** | | | | | | | |
| December 31, 2015 | - | - | - | (740) | (353) | (597) | (1 690) |
| Amortization for the year [1)] | - | - | - | (84) | (68) | (21) | (172) |
| Impairment loss | - | - | - | - | - | (5) | (5) |
| Disposals | - | - | - | 5 | - | 10 | 16 |
| Foreign currency translation effect | - | - | - | 3 | (70) | 23 | (44) |
| December 31, 2016 | - | - | - | (815) | (491) | (589) | (1 895) |
| Amortization for the year [1)] | - | - | - | (132) | (73) | (90) | (295) |
| Disposals | - | - | - | 87 | - | 5 | 93 |
| Foreign currency translation effect | - | - | - | (30) | 33 | (38) | (35) |
| December 31, 2017 | - | - | - | (890) | (531) | (713) | (2 133) |
| ***Carrying value*** | | | | | | | |
| December 31, 2016 | 289 | 880 | 139 | 226 | 729 | 412 | 2 675 |
| December 31, 2017 | 263 | 826 | 139 | 530 | 615 | 3 070 | 5 443 |

1) Amortization of a sourcing contract is reported as Raw material and energy expense in the income statement.

Mineral rights are not depreciated until extraction of the resources starts. Waterfall rights have indefinite life and are thus not depreciated.

# Note 30 - Goodwill

| Amounts in NOK million | Extruded Solutions | Bauxite & Alumina | Metal Markets | Total |
|---|---|---|---|---|
| ***Cost*** | | | | |
| December 31, 2015 | - | 2 325 | 408 | 2 734 |
| Foreign currency translation effect | - | 414 | (13) | 402 |
| December 31, 2016 | - | 2 740 | 396 | 3 135 |
| Acquisitions through business combinations | 4 119 | - | - | 4 119 |
| Foreign currency translation effect | 190 | (168) | (8) | 14 |
| December 31, 2017 | 4 309 | 2 572 | 388 | 7 269 |

See note 19 Impairment of non-current assets for information about the annual impairment testing of goodwill.

The goodwill in Extruded Solutions relates to the acquisition of Sapa, see note 6 Significant subsidiaries and changes to the consolidated group. The amount of goodwill in this transaction is provisionally recognized, and is likely to change as the values of assets and liabilities are determined.

## Note 31 - Investments in joint arrangements and associates

Hydro is engaged in various arrangements on a joint basis with other companies. In assessing whether joint control exists for these arrangements we evaluate the legal framework and contracts governing the arrangement combined with an assessment of which decisions that significantly influence the return from the arrangement. Arrangements owned on a 50/50 basis and/or governed by unanimous decisions constitute the majority of our joint arrangements.

Most of our joint arrangements are joint production facilities supplying metal and other products for Hydro's value chain. Hydro assesses whether joint arrangements are joint operations where Hydro has a direct interest in the assets and direct liability to settle obligations, directly or indirectly, or a joint venture where we have an interest in the net assets of the joint arrangement. In this assessment we evaluate the contracts governing the arrangement and the legal framework for the type of entity in which the arrangement is operated. Hydro is engaged in both joint arrangements that are considered joint ventures, and arrangements that are concluded to be joint operations.

### Joint operations

Of our joint operations, two are classified as joint operations based on the legal form of the operations. These are Tomago, an aluminium smelter in Australia, and Skafså ANS, a power producer in Norway. Another two arrangements are classified as joint operations based on the contractual arrangements whereby all output is sold to the shareholders in proportion to their ownership interest at a cost based price formula. The major or sole sources of cash inflows for the joint arrangements are the owners, who are legally obliged to cover production costs. These are Aluminium Norf GmbH (Alunorf), a large rolling mill in Germany, and Aluminium & Chemie Rotterdam B.V., Aluchemie, an anode producer in the Netherlands.

### Joint ventures

The following joint ventures are considered material for Hydro:

**Qatar Aluminium Ltd. (Qatalum)** is a primary aluminium smelter with a dedicated power plant located in Qatar. Qatalum has an annual production capacity of about 600,000 mt of liquid metal. Qatalum is owned by Hydro and Qatar Petroleum Ltd., (50 percent each). Qatalum has a tax holiday from the start of production, expiring in 2020. According to the joint venture agreement it is the generally applicable tax rate that will apply after 2020. A tax reform came into effect from 2010, which introduced a generally applicable corporate income tax rate of 10 percent. A different tax rate may apply to entities with oil and gas operations or where the activities are carried out under an agreement with the government or entities owned by the government, unless the agreement specifies another tax rate. It is Hydro's position that the generally applicable income tax rate, currently at 10 percent, shall apply to Qatalum after the expiry of the tax holiday.

Hydro is committed to sell fixed quantities of alumina and purchase all products from Qatalum at market based prices. Purchases of metal from Qatalum amounted to NOK 11,363 million in 2017 and NOK 9,346 million in 2016. Related payables amounted to NOK 1,051 million at the end of 2017 and NOK 1,017 million at the end of 2016. Sales from Hydro to Qatalum amounted to NOK 2,222 million in 2017 and NOK 1,892 million in 2016, primarily alumina. Related receivables amounted to NOK 128 million and NOK 337 million at the end of the periods. Qatalum is part of Primary Metal.

**Sapa AS**, a world leader in aluminium solutions delivering products within extrusions, building systems and precision tubing, was established in September 2013 as a joint venture between Hydro and Orkla ASA, a listed company in Norway. On October 2, 2017, Hydro acquired the additional 50 percent owned by Orkla ASA. Following completion of the transaction, Hydro owns 100 percent of the parent company Sapa AS, which has been renamed Hydro Extruded Solutions AS. All activities in the former Sapa group have been included in Hydro as business area Extruded Solutions. For further information about the transaction, please see note 6 Significant subsidiaries and changes to the consolidated group.

Hydro issued certain guarantees towards Sapa as part of establishing the company, primarily related to tax exposure. A provision of about NOK 100 million was recognized for these guarantees during the time of joint venture. Hydro sold metal products to Sapa at market prices. Sales from Hydro to Sapa amounted to NOK 3,916 million in the period up until completion of the acquisition, from January 1, 2017 to October 2, 2017, and NOK 4,650 million in 2016. Hydro's accounts receivables amounted to NOK 616 million at the end of 2016.

The table below summarizes key figures for these joint ventures for 2017 and 2016. The figures are on the same basis as used for inclusion in the group financial statements. Fair value adjustments from Hydro's contribution of assets and businesses to the joint ventures are included. Intercompany transactions and balances are included, and internal profit and loss in inventory and fixed assets purchased from group companies are not eliminated in the numbers below. All amounts are for the joint ventures on 100 percent basis. The 2017 income and expense amounts for Sapa are for the joint venture period January 1, 2017 to October 2, 2017. All balance sheet amounts are at the end of the years 2017 and 2016.

| | Qatalum Year/year ended | | Sapa Period owned | |
|---|---|---|---|---|
| Amounts in NOK million | **2017** | 2016 | **2017** | 2016 |
| Revenue | **11 645** | 9 577 | **43 616** | 53 327 |
| Depreciation, amortization and impairment | **2 301** | 2 284 | **974** | 1 319 |
| Earnings before financial items and tax | **1 963** | 687 | **2 240** | 2 420 |
| Financial income (expense), net [1] | **(472)** | (495) | **(107)** | (52) |
| Income tax expense | **-** | - | **(533)** | (583) |
| Net income (loss) | **1 491** | 192 | **1 600** | 1 785 |
| Other comprehensive income | **194** | 210 | **(168)** | (857) |
| Total comprehensive income | **1 685** | 403 | **1 432** | 928 |
| Cash and cash equivalents | **3 133** | 3 054 | **-** | 671 |
| Other current assets | **4 168** | 4 160 | **-** | 12 546 |
| Non-current assets | **30 940** | 34 451 | **-** | 12 722 |
| Current financial liabilities | **1 854** | 1 385 | **-** | 863 |
| Non-current financial liabilities | **12 931** | 15 516 | **-** | 124 |
| Other liabilities | **1 426** | 1 843 | **-** | 11 152 |
| Net assets | **22 031** | 22 921 | **-** | 13 801 |
| Hydro's share of net assets | **11 015** | 11 461 | **-** | 6 873 |
| Goodwill in Hydro's investment | **-** | - | **-** | 1 526 |
| Accumulated elimination of internal gain in inventory | **(85)** | (39) | **-** | (26) |
| Carrying value of Hydro's equity investment | **10 930** | 11 421 | **-** | 8 374 |
| Loans extended to joint ventures | **-** | - | **-** | - |
| Total investment | **10 930** | 11 421 | **-** | 8 374 |

1) Financial income (expense), net includes interest expense for Qatalum with NOK 467 million and NOK 481 million for 2017 and 2016, respectively. Interest expense for Sapa is included with NOK 87 million for the period January 1, 2017 to October 2, 2017, and NOK 183 million for 2016.

As part of the acquisition of Sapa, Hydro acquired an ownership interest in Technal Middle East W.L.L, a joint venture owned 50 percent each by Hydro and Bahrain Aluminium Extrusion Company B.S.C.

Hydro also holds interests in certain associates accounted for using the equity method. In November 2017, Hydro purchased 26 percent of Corvus Energy Inc., a Canadian company producing battery solutions for ships. The following table provides a summary of changes in carrying value for Hydro's joint ventures and associates.

| Amounts in NOK million | Qatalum | Sapa | Other JVs | Associates | Total |
|---|---|---|---|---|---|
| December 31, 2015 | 12 222 | 7 913 | (12) | 15 | 20 138 |
| Hydro's share of net income (loss) | 96 | 889 | 13 | | 998 |
| Hydro's share of other comprehensive income | 105 | (427) | | | (322) |
| Dividends and other payments received by Hydro | (836) | | | | (836) |
| Companies acquired/(sold), net | | | | (2) | (2) |
| Amortization | | | | (1) | (1) |
| Changes elimination of internal gain in inventory | 17 | (1) | | | 16 |
| Foreign currency translation and other | (184) | | | | (184) |
| December 31, 2016 | 11 421 | 8 374 | - | 12 | 19 807 |
| Hydro's share of net income (loss) | 746 | 800 | 13 | (4) | 1 554 |
| Hydro's share of other comprehensive income | 97 | (84) | | | 13 |
| Dividends and other payments received by Hydro | (747) | (1 500) | | | (2 247) |
| Companies acquired/(sold), net | | | 227 | 39 | 266 |
| Amortization | | | | (3) | (3) |
| Changes elimination of internal gain in inventory | (46) | 25 | | | (21) |
| Derecognized at acquisition of control | | (7 615) | | | (7 615) |
| Foreign currency translation and other | (541) | | | 8 | (533) |
| December 31, 2017 | 10 930 | - | 240 | 52 | 11 221 |

# Note 32 - Trade and other payables

| Amounts in NOK million | 2017 | 2016 |
|---|---|---|
| Accounts payable | **15 178** | 7 439 |
| Payroll and value added taxes | **2 976** | 1 357 |
| Accrued liabilities and other payables | **1 407** | 1 311 |
| Trade and other payables | **19 561** | 10 108 |

# Note 33 - Short and long-term debt

| Amounts in NOK million | 2017 | 2016 |
|---|---|---|
| Bank loans and overdraft facilities | **7 595** | 2 510 |
| Other interest-bearing short-term debt | **276** | 294 |
| Current portion of long-term debt | **373** | 479 |
| Bank loans and other interest-bearing short-term debt | **8 245** | 3 283 |

| Amounts in NOK million | 2017 | 2016 |
|---|---|---|
| USD | **860** | 1 305 |
| SEK | **3 007** | - |
| NOK | **4 497** | 1 500 |
| Other | **38** | - |
| Total unsecured loans | **8 402** | 2 805 |
| Finance lease obligations | **983** | 1 071 |
| Outstanding debt | **9 385** | 3 875 |
| Less: Current portion | **(373)** | (479) |
| Total long-term debt | **9 012** | 3 397 |

**Repayments of long-term debt including interest**

| Amounts in NOK million | Unsecured loans | Other | Interest | Total |
|---|---|---|---|---|
| 2018 | 333 | 40 | 236 | 609 |
| 2019 | 2 780 | 38 | 228 | 3 046 |
| 2020 | 1 281 | 38 | 137 | 1 455 |
| 2021 | 2 | 38 | 127 | 166 |
| 2022 | 3 002 | 41 | 124 | 3 166 |
| Thereafter | 1 004 | 789 | 430 | 2 223 |
| Total | 8 402 | 983 | 1 281 | 10 667 |

**Reconciliation of liabilities arising from financing activities**

| Amounts in NOK million | Long-term debt | Bank loans and other interst-bearing short-term debt | Total liabilities from financing activities |
|---|---|---|---|
| December 31, 2016 | 3 397 | 3 283 | 6 679 |
| Cash flows | 5 934 | 935 | 6 869 |
| Non-cash changes: | | | |
| Net change in current balance | (410) | 410 | - |
| Business combinations | 64 | 3 556 | 3 620 |
| Amortizations | 9 | - | 9 |
| Foreign currency effects | 18 | 61 | 79 |
| **December 31, 2017** | **9 012** | **8 245** | **17 257** |

# Note 34 - Provisions

| | **2017** | | | 2016 | | |
|---|---|---|---|---|---|---|
| Amounts in NOK million | **Short-term** | **Long-term** | **Total** | Short-term | Long-term | Total |
| Environmental clean-up and asset retirement obligations (ARO) | **384** | **4 201** | **4 585** | 532 | 3 197 | 3 730 |
| Employee benefits | **1 048** | **714** | **1 762** | 552 | 446 | 998 |
| Indirect taxes | **246** | **200** | **446** | - | 102 | 102 |
| Onerous contracts | **118** | **208** | **326** | 100 | 310 | 410 |
| Other | **500** | **505** | **1 005** | 232 | 330 | 562 |
| Total provisions | **2 296** | **5 828** | **8 124** | 1 417 | 4 384 | 5 801 |

The following table includes a specification of changes to provisions for the year ending December 31, 2017 and the expected timing of cash outflows relating to the provisions.

| Amounts in NOK million | Environ-mental clean-up and ARO | Employee benefits | Indirect taxes | Contracts | Other | Total |
|---|---|---|---|---|---|---|
| ***Specification of change in provisions*** | | | | | | |
| December 31, 2016 | 3 730 | 998 | 102 | 410 | 562 | 5 801 |
| Business combinations | 555 | 590 | 102 | - | 426 | 1 673 |
| Additions | 432 | 814 | 249 | 27 | 288 | 1 809 |
| Used during the year | (187) | (682) | - | (118) | (229) | (1 216) |
| Reversal of unused provisions | (116) | (10) | - | - | (46) | (173) |
| Accretion expense and effect of change in discount rate | 171 | 9 | - | 7 | - | 187 |
| Foreign currency translation | - | 44 | (6) | - | 5 | 42 |
| December 31, 2017 | 4 585 | 1 762 | 446 | 326 | 1 005 | 8 124 |
| ***Timing of cash outflows*** | | | | | | |
| 2018 | 384 | 1 048 | 246 | 118 | 500 | 2 296 |
| 2019-2022 | 1 839 | 400 | 50 | 208 | 251 | 2 748 |
| Thereafter | 2 362 | 313 | 150 | - | 254 | 3 079 |
| | 4 585 | 1 762 | 446 | 326 | 1 005 | 8 124 |

Provisions for environmental clean-up and asset retirement obligations relate to production facilities currently in operation and facilities that are closed. The obligations relate to such actions as restoration or rehabilitation of industrial or mining sites, disposal of contaminated material and related activities. Hydro has provided for demolition of buildings and installations only where there is a legal or contractual obligation, or a specific decision to demolish, which is the case for few sites. The provision represents the present value of expected outflows at the times of expected payments. There is significant uncertainty both in the timing and amount of these remediation actions, as they are linked to future business decisions as well as decisions and approval by authorities in the jurisdictions we operate. Provisions are based on the current legal framework.

The most significant provisions relate to the following sites and issues. For Bauxite and Alumina's mine in Brazil we have obligations to remediate the tailing areas and mining sites, including reforestation of the area and monitoring and maintenance of the site after initial remediation. For Bauxite and Alumina's alumina refinery in Brazil we have obligations to remediate red mud deposits, including monitoring the contamination levels and other aspects after initial remediation. For Primary Metal's closed Kurri Kurri smelter site in Australia we have obligations to remediate certain contaminated areas at the site as well as securing appropriate deposit of spent pot lining and certain other waste material. The plan for remediation is not yet approved by the authorities. Renewed assessment of remediation methods and discussions with regulatory authorities resulted in an increase of NOK 183 million to the provision. Hydro also has obligations for remediation of contamination on site and in related areas related to historic industrial activities in Germany and Norway, reported in Other and eliminations. The more significant of these sites are the sites in Schwandorf and Hannover in Germany. For many of these provisions, there are no standard remediation methods available and cost is therefore uncertain. The provision also includes remediation of spent pot lining in all active smelters, site clearance for certain leased land as well as certain liabilities related to Norwegian power plant concessions to be reverted to the Norwegian Government.

Provisions for employee benefits relate to expected short-term performance bonus payments and short and long-term provisions for expected bonus payments that are based on the number of years of service, primarily for our European operations. Such bonuses are expected to be paid in periods between 10 to 50 years of service, or upon termination of employment.

Indirect taxes include taxes not related to taxable income, such as value added taxes, duties and property taxes. Provision for indirect taxes includes a charge related to a customs case in Germany.

Contracts comprise onerous contracts, and relate to rental of premises.

Other includes insurance provisions related to insurance contracts issued by Hydro's captive insurance company, Industriforsikring AS, to external parties including associates and joint arrangements, provisions for legal and other disputes, and certain liabilities related to representation and warranty provisions related to sale of businesses. Sapa Profiles Inc. (SPI), a Portland, Oregon based subsidiary of Hydro Extruded Solutions AS (formerly Sapa AS) is under investigation by the United

States Department of Justice (DOJ) Civil and Criminal Divisions regarding certain aluminum extrusions that SPI manufactured from 1996 to 2015, including extrusions that were delivered to a supplier to NASA. SPI is cooperating fully in these investigations. The investigations are currently ongoing, and, at this point, the outcome of the investigations and of any identified quality issues, including financial consequences, is uncertain. SPI is also subject to proceedings regarding a potential debarment as a federal government contractor. Additional cost beyond the provision for these liabilities are possible. As part of the share purchase agreement for Sapa, the parties have agreed that Orkla ASA shall indemnify Hydro for 50 percent of any liability in relation to this case.

For Extruded Solutions, our analysis of the acquisition date liabilities is not yet completed, see note 6 Significant subsidiaries and changes to the consolidated group.

## Note 35 - Contingent liabilities and contingent assets

Hydro is involved in or threatened with various legal and tax matters arising in the ordinary course of business. See note 5 Critical accounting judgment and key sources of estimation uncertainty for a discussion of how such items are assessed and measured. Where Hydro considers there is a current obligation based on a past event, and payment or remediation actions is probable, a provision is established, see note 34 Provisions. Where Hydro considers an obligation to be possible, i.e. not probable yet not remote, it is disclosed as a contingent liability.

Hydro is involved in a significant number of tax cases related to various types of taxes. Hydro’s widespread business operations expose us to several tax regimes and their interaction. We see that tax authorities challenge transfer prices to an increasing degree. Although Hydro currently has no significant transfer price disputes with tax authorities, our long value chain with a large number of internal transactions and business operations covering multiple tax jurisdictions expose us to such disputes, both related to prior and future transactions. Hydro’s businesses in Brazil have a large portfolio of cases disputed by tax authorities, of which the majority relates to indirect taxes. This includes cases in the administrative and legal dispute systems with various background and risk of loss. In total known cases amount to about NOK 5.5 billion, of which about NOK 3.7 billion is considered possible. About half of those amounts are covered by tax indemnifications from acquisition. The final outcome of these cases is not expected until several years into the future, and is highly uncertain. Additional cases may be raised by tax authorities based on tax declarations for periods not yet assessed. Hydro has provided for individual tax cases where the risk of loss is considered above 50 percent. Provisions for indirect taxes are included in provisions disclosed in Note 34 Provisions, while provisions for income tax expenses are included in Taxes payable.

Hydro has environmental liabilities related to several sites and issues. Where remediation is acknowledged as Hydro's responsibility or a legal obligation is deemed to exist, a provision for the best estimate of costs to be incurred is established and disclosed in note 34 Provisions. For many of our industrial sites, in particular sites where operation is expected to continue indefinitely, remediation costs are difficult to assess. The precise need for remediation actions, their timing and cost has not yet been planned, and is thus uncertain. For some sites, the exact level of pollution may also be uncertain as ground and water are not sampled where no indication of contamination is identified. Obligations for historic contamination of sites and surrounding areas in addition to areas provided for may be identified and deemed Hydro's responsibility, whether related to currently owned or used sites, or sites we previously have been owned and/or used. The cost of remediation of any additional contamination deemed Hydro's responsibility is uncertain.

Hydro is also exposed to increased product warranty responsibilities, both as result of contractual commitments and in response of liability under background law. Product warranty may impose significant costs depending amongst other on the application of the product sold.

Hydro is also exposed to legal cases based on contractual or other basis, including warranties and representations given in relation to sale of businesses. Where a payment is probable, a provision for the likely amount is deducted from the recognized sales proceeds, or recognized as an expense at the later date when a payment is considered probable. Currently, Hydro has limited provisions related to such divestments.

## Note 36 - Employee retirement plans

Hydro provides post-employment benefits covering a substantial portion of employees. Plans and benefit levels vary between companies and countries. In recent years, there has been a shift from traditional final salary defined benefit plans to defined contribution and contribution-oriented plans. Many defined benefit plans have been closed for new entrants, and in some defined benefit plans, large groups of employees have converted to defined contribution arrangements. Still, a number of employees continues to earn benefits under defined benefit plans, but many of these plans are heavily impacted by deferred members and pensioners.

| | **2017** | | | | 2016 | | | |
|---|---|---|---|---|---|---|---|---|
| Amounts in NOK million | **Norway** | **Germany** | **Other** | **Total** | Norway | Germany | Other | Total |
| **Pension expense** | | | | | | | | |
| Defined benefit plans | **132** | **186** | **29** | **347** | 145 | 163 | (3) | 305 |
| Defined contribution plans | **153** | **-** | **100** | **253** | 86 | - | 41 | 127 |
| Multiemployer plans | **48** | **-** | **2** | **50** | 49 | - | 2 | 51 |
| Termination benefits and other | **44** | **3** | **41** | **87** | 29 | (5) | 27 | 51 |
| Social security cost | **49** | **-** | **4** | **53** | 46 | - | - | 46 |
| Pension expense | **425** | **189** | **177** | **791** | 355 | 158 | 67 | 579 |
| Interest expense (income) | **(2)** | **136** | **18** | **152** | 18 | 176 | 16 | 210 |
| Remeasurement (gain) loss in other comprehensive income | **(763)** | **(167)** | **(56)** | **(986)** | (764) | 596 | 1 | (168) |

| | **2017** | | | | 2016 | | | |
|---|---|---|---|---|---|---|---|---|
| Amounts in NOK million | **Norway** | **Germany** | **Other** | **Total** | Norway | Germany | Other | Total |
| **Recognized defined benefit assets and liability** | | | | | | | | |
| Defined benefit obligation major plans | **(12 247)** | **(9 173)** | **(5 512)** | **(26 932)** | (12 495) | (8 327) | (102) | (20 924) |
| Plan assets | **13 189** | **-** | **5 343** | **18 532** | 12 624 | - | 102 | 12 727 |
| Reimbursement rights | **303** | **-** | **-** | **303** | 311 | - | - | 311 |
| Liability other plans | **(21)** | **(127)** | **(532)** | **(681)** | (16) | (28) | (221) | (265) |
| Social security cost | **(552)** | **-** | **(40)** | **(591)** | (524) | - | - | (524) |
| Net defined benefit liability | **673** | **(9 300)** | **(741)** | **(9 368)** | (100) | (8 355) | (220) | (8 676) |
| Recognized prepaid pension | **5 143** | **47** | **559** | **5 750** | 4 149 | 45 | 1 | 4 195 |
| Recognized pension liability | **(4 471)** | **(9 348)** | **(1 300)** | **(15 118)** | (4 249) | (8 401) | (221) | (12 871) |
| Net amount recognized | **673** | **(9 300)** | **(741)** | **(9 368)** | (100) | (8 355) | (220) | (8 676) |

Other plans include some minor plans in various entities and countries. These plans may be funded or unfunded. None of these plans are considered material, neither individually nor combined.

| Amounts in NOK million | 2017 Norway | Germany | Other | Total | 2016 Norway | Germany | Other | Total |
|---|---|---|---|---|---|---|---|---|
| **Change in defined benefit obligation (DBO)** | | | | | | | | |
| Opening Balance | **(12 495)** | **(8 327)** | **(102)** | **(20 924)** | (13 044) | (8 116) | (92) | (21 252) |
| Current service cost | **(127)** | **(186)** | **(8)** | **(321)** | (139) | (163) | (1) | (302) |
| Past service cost and curtailment gain (loss) | **-** | **-** | **(19)** | **(19)** | - | - | 4 | 4 |
| Interest expense | **(305)** | **(135)** | **(42)** | **(482)** | (330) | (176) | (3) | (509) |
| Actuarial gain (loss) economic assumptions | **(164)** | **103** | **(165)** | **(227)** | 199 | (606) | (29) | (435) |
| Experience gain (loss) | **(44)** | **68** | **16** | **41** | 77 | 11 | - | 88 |
| Benefit payments | **618** | **266** | **56** | **940** | 626 | 268 | 2 | 896 |
| Termination benefits | **(46)** | **-** | **-** | **(46)** | (64) | - | - | (64) |
| Settlements | **340** | **-** | **147** | **487** | 60 | - | - | 60 |
| Business combinations | **(29)** | **(220)** | **(5 184)** | **(5 433)** | - | - | - | - |
| Divestments | **4** | **-** | **-** | **4** | 119 | - | - | 119 |
| Foreign currency translation | **-** | **(741)** | **(211)** | **(952)** | - | 456 | 17 | 473 |
| Closing Balance | **(12 247)** | **(9 173)** | **(5 512)** | **(26 932)** | (12 495) | (8 327) | (102) | (20 924) |

| Amounts in NOK million | 2017 Norway | Germany | Other | Total | 2016 Norway | Germany | Other | Total |
|---|---|---|---|---|---|---|---|---|
| **Change in pension plan assets** | | | | | | | | |
| Opening Balance | **12 624** | **-** | **102** | **12 726** | 12 298 | - | 108 | 12 406 |
| Interest income | **312** | **-** | **41** | **353** | 317 | - | 4 | 321 |
| Return on plan assets above (below) interest income | **971** | **-** | **169** | **1 140** | 473 | - | 11 | 484 |
| Company contributions | **92** | **-** | **3** | **94** | 145 | - | 1 | 146 |
| Benefit payments | **(469)** | **-** | **(51)** | **(520)** | (481) | - | (2) | (483) |
| Settlements | **(340)** | **-** | **(147)** | **(487)** | (60) | - | - | (60) |
| Business combinations | **-** | **-** | **5 015** | **5 015** | - | - | - | - |
| Divestments | **-** | **-** | **-** | **-** | (68) | - | - | (68) |
| Foreign currency translation | **-** | **-** | **211** | **211** | - | - | (20) | (20) |
| Closing Balance | **13 189** | **-** | **5 343** | **18 532** | 12 624 | - | 102 | 12 726 |

| Amounts in NOK million | 2017 Norway | Germany | Other | Total | 2016 Norway | Germany | Other | Total |
|---|---|---|---|---|---|---|---|---|
| **Analysis of the defined benefit obligation (DBO)** | | | | | | | | |
| Active members | **(3 462)** | **(4 622)** | **(631)** | **(8 716)** | (3 414) | (4 173) | - | (7 587) |
| Deferred members | **(706)** | **(731)** | **(2 181)** | **(3 618)** | (681) | (598) | (75) | (1 354) |
| Pensioners | **(8 079)** | **(3 819)** | **(2 700)** | **(14 598)** | (8 400) | (3 555) | (27) | (11 983) |
| Defined benefit obligation | **(12 247)** | **(9 173)** | **(5 512)** | **(26 932)** | (12 495) | (8 327) | (102) | (20 924) |
| Weighted average duration (years) | **13.1** | **18.5** | | | 13.1 | 18.8 | | |

Contributions to funded pension plans, benefit payments from unfunded pension plans, and social security tax imposed on such contributions and payments amounted to a cash outflow of about NOK 950 million for 2017 and about NOK 850 million for 2016. Hydro's cash impact is expected to be at a somewhat higher level in the coming year.

Hydro's main pension plans are offered in Norway and Germany. The plans are described below:

## Norway

Hydro has closed the main defined benefit plans for new members, and the majority of employees are now covered by defined contribution plans that are based on salaries up to a maximum level subject to tax deduction. For additional salaries, employees earn retirement benefits in unfunded contribution based plans. The remaining employees are covered by defined benefit plans that offer benefits based on final salary level and the number of years in service, and include benefits for dependents. Contributions to the plans providing benefits based on salaries up to a maximum level are subject to tax deduction. The plans are funded; all vested benefits are required by law to be funded for such plans. Benefits based on salaries above this level are covered by unfunded plans. The main funded plans are managed by Norsk Hydros Pensjonskasse, a separate, regulated legal entity. Hydro's pension plans complement the public pension schemes in Norway. Plans providing benefits for salary levels above the tax deductible level have been closed for new members from January 1, 2017.

Effective January 1, 2017, Hydro increased contributions to defined contribution plans for most affected employees in Norway.

Hydro participates in a supplementary pension plan that entitles the majority of its Norwegian employees life-long benefits in addition to other pension benefits. The benefits are financed through a pooled arrangement by private sector employers (avtalefestet pensjon, AFP) where also the Norwegian state contributes. The plan is a defined benefit plan with limited funding and where plan assets are not segregated. The information required to calculate the share of the plan and account for the plan as a defined benefit plan is not available from the plan administrator. Hydro therefore accounts for the plan as if it were a defined contribution plan. The annual contributions have increased since inception and are expected to increase further. The employer contributions are included in Multiemployer plans.

Significant actuarial assumptions for the main Norwegian defined benefit plans include:

| Assumptions | **Benefit obligation 2017** | **Benefit expense 2017** | Benefit obligation 2016 | Benefit expense 2016 |
|---|---|---|---|---|
| Discount rate | **2.40%** | **2.50%** | 2.50% | 2.60% |
| Expected salary increase | **2.25%** | **2.25%** | 2.25% | 2.25% |
| Expected pension increase | **1.00%** | **1.00%** | 1.00% | 1.25% |
| Mortality basis | **K2013** | **K2013** | K2013 | K2013 |

The discount rate is based on the yield on covered bonds (debt securities backed by cash flows from mortgages) issued in Norway. The market for covered bonds has developed in size and liquidity, and we deem this market to be sufficiently deep to serve as reference for the discount rate for our post-employment benefit plans in Norway.

The sensitivities shown in the table below have been calculated for the main Norwegian plans illustrating the effects of changing one assumption while keeping the other assumptions unchanged. Possible correlation between assumptions is not reflected in the calculations.

| Sensitivities decrease (increase) benefit obligation year end<br>Amounts in NOK million, except percent | 2017 | 2017 |
|---|---|---|
| Discount rate increase 0.5% point | 6.2% | 760 |
| Salary increase 0.5% point | (1.2%) | (147) |
| Pension increase 0.5% point | (6.1%) | (748) |
| One year longer life all members | (4.4%) | (535) |

The plan assets in the funded plans provided through Norsk Hydros Pensjonskasse were invested as follows at the end of 2017 and 2016:

| Amounts in NOK million, except percent | **2017** | **2017** | 2016 | 2016 |
|---|---|---|---|---|
| Cash and cash equivalents | **3.0%** | **393** | 3.5% | 434 |
| Equity instruments Norway | **21.4%** | **2 767** | 20.2% | 2 493 |
| Equity instruments other countries | **19.1%** | **2 463** | 17.6% | 2 170 |
| Debt instruments | **32.1%** | **4 144** | 32.3% | 3 980 |
| Investment funds | **6.0%** | **779** | 6.7% | 822 |
| Real estate | **18.4%** | **2 379** | 19.8% | 2 440 |
| Total | **100.0%** | **12 927** | 100.0% | 12 340 |

Real estate consists of office buildings in the Oslo area. A share of the buildings are leased and occupied by Hydro. Investment funds are primarily private equity funds investing in unlisted companies across various industries in Europe, the US and Asia, and infrastructure funds investing in the UK, continental Europe and the US. Equity instruments are held through liquid funds invested in listed companies in Norway and globally. Debt instruments are mainly bond issues with maturities up to 10 years and investment grade rating.

## Germany

In Germany, the majority of plan members are covered by defined benefit plans that offer benefits based on final salary level and the number of years in service. The main plans are unfunded. Hydro's main plans are closed for new entrants, and all new employees are now offered benefits under new defined contribution-oriented plans. These plans are unfunded and treated as defined benefit plans for financial reporting purposes.

Significant actuarial assumptions for the main German plans include:

| Weighted-average assumptions | **Benefit obligation 2017** | **Benefit expense 2017** | Benefit obligation 2016 | Benefit expense 2016 |
|---|---|---|---|---|
| Discount rate | **1.6%** | **1.6%** | 1.6% | 2.3% |
| Expected salary increase | **2.4%** | **2.4%** | 2.4% | 2.8% |
| Expected pension increase | **1.5%** | **1.5%** | 1.5% | 1.7% |
| Mortality basis | **RT 2005 G** | **RT 2005 G** | RT 2005 G | RT 2005 G |

The sensitivities shown in the table below have been calculated for the main German plans illustrating the effects of changing one assumption while keeping the other assumptions unchanged. Possible correlation between assumptions is not reflected in the calculations.

| Sensitivities decrease (increase) benefit obligation year end<br>Amounts in NOK million, except percent | 2017 | 2017 |
|---|---|---|
| Discount rate increase 0.5% point | 8.5% | 780 |
| Salary increase 0.5% point | (2.2%) | (204) |
| Pension increase 0.5% point | (6.4%) | (584) |
| One year longer life all members | (5.3%) | (483) |

## Other

Other includes Hydro's post-employment benefits outside Norway and Germany. Following the acquisition of the Sapa Group, October 2, 2017, Extruded Solutions' post-employment benefit plans outside Norway and Germany are included here. Most employees affected are covered by defined contribution plans. Defined benefit plans relate largely to the UK and the US, and where the majority of the benefit obligation is financed and administered through independent pension trusts.

# Note 37- Shareholders' equity

## Share capital

| Number of shares | Ordinary shares issued | Treasury shares | Ordinary shares outstanding |
|---|---|---|---|
| December 31, 2015 | 2 068 998 276 | (27 410 584) | 2 041 587 692 |
| Treasury shares issued to employees | | 1 306 424 | 1 306 424 |
| December 31, 2016 | 2 068 998 276 | (26 104 160) | 2 042 894 116 |
| Treasury shares issued to employees | | 1 803 232 | 1 803 232 |
| December 31, 2017 | 2 068 998 276 | (24 300 928) | 2 044 697 348 |

The share capital of Norsk Hydro ASA as of December 31, 2017 and 2016 was NOK 2,271,760,107 consisting of 2,068,998,276 ordinary shares at a par value of NOK 1.098 per share. All shares have equal rights and are freely transferable.

## Treasury shares

The treasury shares may, pursuant to the decision of the General Meeting at the time these shares were acquired, be used as consideration in connection with commercial transactions or share schemes for the employees and representatives of the Corporate Assembly and the Board of Directors.

The treasury shares amount per December 31, 2017 of NOK 810 million was comprised of NOK 27 million share capital and NOK 783 million retained earnings.

## Change in Other components of equity

The table below specifies the changes in Other components of equity for 2017 and 2016.

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| **Items that will not be reclassified to income statement:** | | |
| ***Remeasurement postemployment benefits*** | | |
| January 1 | **22** | (140) |
| Remeasurement postemployment benefits during the year | **986** | 168 |
| Reclassified to retained earnings on divestment of subsidiaries | **(14)** | (23) |
| Deferred tax offset | **(221)** | 16 |
| December 31 | **773** | 22 |
| ***Remeasurement postemployment benefits equity accounted investments*** | | |
| January 1 | **(11)** | 30 |
| Remeasurement postemployment benefits during the year | **(2)** | (41) |
| Reclassified to retained earnings on divestment of equity accounted investments | **13** | - |
| December 31 | **-** | (11) |
| **Items that will be reclassified to income statement:** | | |
| ***Currency translation differences*** | | |
| January 1 | **(467)** | (4 581) |
| Currency translation differences during the year | **(1 394)** | 4 114 |
| Reclassified to Net income on liquidation of foreign operation | **8** | - |
| December 31 | **(1 854)** | (467) |
| ***Unrealized gain (loss) on available-for-sale securities*** | | |
| January 1 | **16** | 62 |
| Period unrealized loss on available-for-sale securities | **(266)** | (71) |
| Tax expense | **11** | 25 |
| December 31 | **(239)** | 16 |
| ***Cash flow hedges - See note 14 Derivative instruments and hedge accounting*** | | |
| January 1 | **(158)** | (273) |
| Period gain recognized in Other comprehensive income | **149** | 39 |
| Reclassification of hedging gain (loss) to Net income | **79** | 117 |
| Tax expense | **(55)** | (41) |
| December 31 | **15** | (158) |
| ***Other components of equity in equity accounted investments*** | | |
| January 1 | **769** | 1 050 |
| Period gain (loss) recognized in Other comprehensive income | **15** | (272) |
| Reclassified to Net income on divestment of equity accounted investments | **(751)** | (9) |
| December 31 | **33** | 769 |
| Total other components of equity attributable to Hydro shareholders as of December 31 | **80** | 1 224 |
| Total other components of equity attributable to non-controlling interests as of December 31 | **(1 352)** | (1 055) |

## Earnings per share

Basic and diluted earnings per share is computed using Net income attributable to Hydro shareholders and the weighted average number of outstanding shares in each year. There are no significant diluting elements. The weighted average number of outstanding shares used for calculating basic and diluted earnings per share was 2,044,105,404 for 2017 and 2,042,481,930 for the year 2016.

Hydro's outstanding founder certificates and subscription certificates entitle the holders to participate in any share capital increase, provided that the capital increase is not made in order to allot shares to third parties as compensation for their transfer of assets to Hydro. These certificates represent dilutive elements for the earnings per share computation.

# Note 38 - Capital management

Hydro's capital management policy is to maximize value creation over time, while maintaining a strong financial position and an investment grade credit rating. In October 2017 Hydro acquired Orkla's 50 percent share in Sapa. The transaction was financed with surplus cash and bond financing. During 2017 net cash provided by operating activities was sufficient to cover net cash used in investing activities.

## Credit rating

To secure access to capital markets at attractive terms and remain financially solid, Hydro aims to maintain an investment grade credit rating from the leading agencies, Standard & Poor's (current rating BBB) and Moody's (current rating Baa2), both with stable outlook. Hydro targets, over the business cycle, a ratio of Funds from operations to Adjusted net cash (debt) of at least 40 percent, and an Adjusted net cash (debt) to Equity ratio below 55 percent.

## Liquidity management and funding

Hydro manages its liquidity and funding requirements centrally to cover group operating requirements and long-term capital needs. Hydro operates cash pools in several currencies where all wholly-owned subsidiaries participate, to the extent permitted by country legislation. Such cash pool arrangements facilitate netting of cash positions within the group, thereby reducing the requirement for external financing, and centralizing management of aggregated positions to the parent company. At the end of 2017, NOK 3.2 billion of Hydro's cash position of NOK 11.8 billion was outside such group arrangements, mainly in Brazil.

Hydro has an ambition to access national and international capital markets as primary sources for external long-term funding. Hydro issued bonds amounting to NOK 3 billion and SEK 3 billion in 2017.

Hydro has a syndicated USD 1,700 million revolving credit facility maturing in 2020. Drawing per year-end 2017 was approximately NOK 3 billion, and was repaid in January 2018.

## Funding of subsidiaries, associates and jointly controlled entities

Normally the parent company, Norsk Hydro ASA, incurs debt and extends loans or equity to wholly-owned subsidiaries to fund capital requirements. Hydro's policy is to finance part-owned subsidiaries and investments in associates and joint arrangements according to its ownership share, on equal terms with the other owners. All financing is executed on an arm's-length basis. Project financing is used for certain funding requirements mainly to mitigate risk while also considering partnership and other relevant factors.

## Shareholder return

Long-term return to shareholders should reflect the value created by Hydro, and consists of dividends and share price development. Hydro aims to provide its shareholders with a predictable and competitive return compared with alternative investments in similar companies. Our ambition is to pay out a predictable dividend and in the long term to pay out, on average, 40 percent of net income as ordinary dividend over the cycle to our shareholders. The dividend policy has a floor of NOK 1.25 per share. Dividends for a particular year are based on expected future earnings and cash flow, future investment opportunities, the outlook for world markets and Hydro's current financial position. Share buybacks or extraordinary dividends may be used to supplement ordinary dividends during periods of strong financial results after considering the status of the business cycle and capital requirements for future growth.

## Hydro's capital management measures

Hydro's management uses the Adjusted net cash (debt) to Equity ratio to assess the group's financial solidity and ability to absorb volatility in the markets. Net cash (debt) is defined as Hydro's cash and cash equivalents plus short-term investments, less short- and long-term interest-bearing debt. Adjusted net cash (debt) is adjusted for Net cash (debt) positions regarded as unavailable for servicing debt, and includes pension liabilities and other obligations which are considered debt-like in nature.

The ability to generate cash compared to financial liabilities is another important measure of risk exposure and financial solidity. Hydro's management uses Funds from operations and the ratio Funds from operations to Adjusted net cash (debt) as capital management measures. Funds from operations reflects the cash generation from Hydro's wholly and partly owned operating assets before changes in net operating capital, including the contribution from equity accounted investments, and after current tax expense.

Both financial ratio calculations include adjustments for the indebtedness of Hydro's equity accounted investments. Though Hydro has no financial obligations towards the lenders of its equity accounted investments, the adjustments are considered relevant as the debt and cash flow level in these entities affect Hydro's overall cash generation and financial risk profile.

Adjusted net cash (debt), Equity, Funds from operations and the above mentioned financial ratios are presented in the following table.

**Adjusted net cash (debt) including net debt equity accounted investments (EAI)**

| Amounts in NOK million, except ratio | **2017** | 2016 |
|---|---|---|
| Cash and cash equivalents | **11 828** | 8 037 |
| Short-term investments | **1 311** | 4 611 |
| Bank loans and other interest-bearing short-term debt | **(8 245)** | (3 283) |
| Long-term debt | **(9 012)** | (3 397) |
| Net cash (debt) | **(4 118)** | 5 969 |
| Cash and cash equivalents and short-term investments in captive insurance company [1] | **(1 076)** | (1 103) |
| Net pension obligation at fair value, net of expected income tax benefit [2] | **(7 895)** | (7 338) |
| Operating lease commitments, net of expected income tax benefit [3] | **(1 585)** | (507) |
| Short- and long-term provisions net of expected income tax benefit, and other liabilites [4] | **(3 295)** | (2 619) |
| Adjusted net cash (debt) | **(17 968)** | (5 598) |
| Net debt in EAI [5] | **(5 798)** | (6 887) |
| Adjusted net cash (debt) including EAI | **(23 767)** | (12 485) |

**Adjusted net cash (debt) including EAI / Equity**

| | | |
|---|---|---|
| Total equity | **(92 252)** | (87 640) |
| Adjusted net cash (debt) including EAI / Equity | **0.26** | 0.14 |

**Funds from operations / Adjusted net cash (debt) including EAI**

| Amounts in NOK million, except ratio | **2017** | 2016 |
|---|---|---|
| Net income (loss) | **9 184** | 6 586 |
| Depreciation, amortization and impairment | **6 161** | 5 474 |
| Deferred taxes | **(685)** | 563 |
| Loss (gain) on sale of non-current assets | **(2 046)** | (226) |
| Transaction related effects (Sapa)[6] | **707** | - |
| Net foreign exchange (gain) loss | **875** | (2 266) |
| Capitalized interest | **(75)** | (97) |
| Commodity derivatives | **322** | (29) |
| Hydro's share of depreciation, amortization and impairment in EAI | **1 638** | 1 802 |
| Funds from operations | **16 081** | 11 807 |
| Funds from operations / Adjusted net cash (debt) including EAI | **0.68** | 0.95 |

1) Cash and cash equivalents and short-term investments in Hydro's captive insurance company Industriforsikring AS are assumed to not be available to service or repay future Hydro debt, and are therefore excluded from the measure Adjusted net cash (debt).

2) The expected income tax benefit related to the net pension liability is NOK 1,474 million and NOK 1,338 million, respectively, for 2017 and 2016.

3) Operating lease commitments are discounted using a rate of 1.14 percent and 1.29 percent for 2017 and 2016, respectively. The expected tax benefit on operating lease commitments is estimated at 30 percent. Measurement of operating lease commitments is different from measurement under the forthcoming IFRS 16 Leases.

4) Consists of Hydro's short and long-term provisions related to asset retirement obligations, net of an expected tax benefit estimated at 30 percent, and other non-current financial liabilities.

5) Net debt in equity accounted investments is defined as the total of Hydro's relative ownership percentage of each equity accounted investment's short and long-term interest-bearing debt less their cash positions, reduced by total outstanding loans from Hydro to the equity accounted investment. Net debt per individual equity accounted investment is limited to a floor of zero. For 2017, the adjustment is related to Qatalum only. 2016 also includes share of net debt in Sapa.

6) Reversal of inventory re-valuation in Sapa.

## Note 39 - Dividends

Hydro's Board of Directors normally proposes a dividend per share in connection with the fourth quarter results that are published in February each year. The Annual General Meeting considers this proposal, normally in May, and the approved dividend is then paid to the shareholders. Dividends are paid once each calendar year; generally occurring in May. For non-Norwegian shareholders, Norwegian withholding tax will be deducted at source in accordance with the applicable Norwegian tax regulations. For additional information related to Hydro's dividend and shareholder policy see note 38 Capital management.

For fiscal year 2017 the Board of Directors has proposed a dividend of NOK 1.75 per share to be paid in May 2018. The Annual General Meeting, scheduled to be held May 7, 2018, will consider this dividend proposal. If approved, this would be a total dividend of approximately NOK 3,578 million. In accordance with IFRS, the fiscal year 2017 proposed dividend is not recognized as a liability in the 2017 financial statements.

Dividends declared and paid in 2017 and 2016 for the prior fiscal year, respectively, are as follows:

| | **Paid in 2017 for fiscal year 2016** | Paid in 2016 for fiscal year 2015 |
|---|---|---|
| Dividend per share paid, NOK | **1.25** | 1.00 |
| Total dividends paid, NOK million | **2 556** | 2 043 |
| Date proposed | **February 8, 2017** | February 16, 2016 |
| Date approved | **May 3, 2017** | May 2, 2016 |
| Dividend payment date | **May 12, 2017** | May 12, 2016 |

Dividends to non-controlling shareholders in Hydro's subsidiaries are reported as dividends in Consolidated statements of changes in equity.

## Note 40 - Contractual commitments and commitments for future investments

| Amounts in NOK million | 2018 | Investments thereafter | Total |
|---|---|---|---|
| Contract commitments for investments in property, plant and equipment | 1 465 | 164 | 1 629 |
| Additional authorized future investments in property, plant and equipment | 1 489 | 631 | 2 119 |
| Contract commitments for other future investments | 34 | 3 | 38 |
| Total | 2 988 | 798 | 3 786 |

Additional authorized future investments include projects formally approved for development by the Board of Directors or management. General investment budgets are excluded from these amounts.

Hydro has long-term contractual commitments for the purchase of aluminium, raw materials, electricity, and transportation in addition to long-term sales commitments. The future non-cancellable fixed and determinable obligations under these commitments as of December 31, 2017 are shown in the table below:

| Amounts in NOK million | Bauxite, alumina and aluminium | Energy related | Other | Sales commit-ments |
|---|---|---|---|---|
| 2018 | 16 902 | 9 697 | 4 091 | (20 789) |
| 2019 | 6 892 | 7 923 | 2 777 | (12 880) |
| 2020 | 5 983 | 6 957 | 1 603 | (10 466) |
| 2021 | 5 164 | 5 813 | 1 040 | (7 120) |
| 2022 | 5 340 | 6 030 | 896 | (5 177) |
| Thereafter | 23 121 | 37 444 | 8 661 | (19 221) |
| Total | 63 403 | 73 864 | 19 069 | (75 652) |

Amounts relating to contracts which are entirely or partly linked to market prices such as LME are based on the spot price at the balance sheet date.

Long-term sales commitments mainly relate to alumina, aluminium and electricity. The amounts include commitments for the delivery of electricity from power stations that will revert to the Norwegian Government. The volume from these power stations is 547 GWh in 2018 and 12.2 TWh in total. Commitments relating to concession power from stations that are not subject to reversion have an annual volume of 258 GWh.

Hydro also has contractual commitments for the sales and purchase of products from part-owned entities, see note 31 Investments in joint arrangement and associates. These commitments are excluded from the table above. Furthermore, Hydro has additional long-term purchase and sales commitments which include variable elements that are not included in the table above.

## Note 41 - Cash flow information

**Cash disbursements and receipts included in cash from operations**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Income taxes paid | **2 180** | 1 110 |
| Interest paid | **362** | 379 |
| Interest received | **322** | 468 |
| Dividends received from available-for-sale investments | **112** | 87 |

In 2017 and 2016, non-cash investing activities for asset retirement costs amounted to NOK 118 million and NOK 953 million, respectively. In 2016, non-cash investing activities for assets acquired via finance lease amounted to NOK 370 million.

## Note 42 - Auditor's remuneration

KPMG is the Group auditor of Norsk Hydro ASA. EY was the appointed group auditor for Sapa prior to the transaction on October 2, 2017, and has continued as auditor for the former Sapa units now constituting business area Extruded Solutions. The following table shows fees to the appointed auditors for 2017 and 2016. For 2017, the table includes fees to KPMG for the period January 1 to December 31, and fees to EY for the period October 2 to December 31. For all categories the reported fee is the recognized expense for the year.

| Amounts in NOK million | Audit [1] | Audit related [2] | Other services [3] | Tax related | Total |
|---|---|---|---|---|---|
| **2017** | | | | | |
| Norway | 15 | 1 | 6 | - | 23 |
| Outside Norway | 24 | 1 | 2 | - | 27 |
| Total | 39 | 2 | 8 | - | 50 |
| | | | | | |
| **2016** | | | | | |
| Norway | 12 | 1 | 2 | - | 15 |
| Outside Norway | 12 | - | - | 1 | 13 |
| Total | 24 | 1 | 2 | 1 | 28 |

1) Audit fees included audit fee to other auditors than KPMG for one subsidiary in 2016. Following completion of the Sapa transaction, audit fees in 2017 include fees to EY for the period October 2, 2017 to December 31, 2017. Audit fees of NOK 39 million consist of fees to KPMG of NOK 28 million, and fees to EY of NOK 11 million.

2) Audit related fees of NOK 2 million are fees to KPMG.

3) Other services mainly include KPMG's review of viability performance and EY services related to tax and immigration services for expatriated employees. Fees for other services of NOK 8 million consist of fees to KPMG of NOK 2 million, and fees to EY of NOK 6 million.

## Note 43 - Subsequent events

In February 2018, extreme rainfall in Barcarena in the state of Pará, Brazil, lead to regional flooding. Due to concerns over possible water contamination from Alunorte during this flooding, authorities have taken several measures against the alumina refinery. These include orders to reduce production by 50 percent and halt operations at its DRS2 bauxite residue deposit, which is currently under commissioning. In addition, suspending operations on one of two tailing dams at the Paragominas bauxite mine. All of these requirements have been fulfilled. Hydro issued a force majeure notice towards its alumina and alumina hydrate customers due to the production cuts and current lack of clarity into what measures it would take to return to normal operations.

Measures are being implemented to resolve the situation at Alunorte, including establishing an internal taskforce to conduct a review of Alunorte and commissioning an independent external review of Alunorte. Hydro has also decided to initiate a NOK 500 million investment to the water treatment system at Alunorte. This aims at increasing the water treatment capacity by 50 percent and improving the robustness of the plant to withstand future extreme weather conditions. So far, no spills or leakages have been detected from Alunorte’s bauxite residue deposits after the extreme rain event.

Regardless of the cause of contamination, Hydro collaborates with local institutions on humanitarian relief to assist communities in Barcarena within health and water. For neighboring communities Vila Nova, Burajuba and Bom Futuro, Hydro commits to working with local partners and investing in proper water supply. Hydro further commits to work with community, civil society and government to clarify the sources of water pollution and other water-related issues in the Barcarena region.

Fines of about NOK 50 million have been issued to Hydro by Brazilian federal authorities. As the period of reduced production and measures required to resume full production is not yet known and potential additional negative effects might materialize, we are not in a position to estimate the financial impact of the incident.

On February 26, 2018, Hydro made a binding offer to acquire Rio Tinto's Icelandic aluminium plant Rio Tinto Iceland Ltd (ISAL), its 53 percent share in Dutch anode facility Aluminium & Chemie Rotterdam B.V. (Aluchemie) in which Hydro currently holds 47 percent, and 50 percent of the shares in Swedish aluminium fluoride plant Alufluor AB. The transaction is subject to statutory consultation with employees and other stakeholders, as well as approval from the EU competition authorities. The offered price is USD 345 million, equivalent to about NOK 2.8 billion, on a cash and debt free basis, subject to certain adjustments.

# Financial statements Norsk Hydro ASA

| Amounts in NOK million | Notes | **2017** | 2016 |
|---|---|---|---|
| Revenue | | **317** | 316 |
| Gain (loss) on sale of subsidiaries, net | 7 | **41** | 304 |
| Total operating income | | **357** | 619 |
| Employee benefit expense | 2, 3 | **535** | 436 |
| Depreciation and impairment | 4 | **18** | 19 |
| Other | | **278** | 182 |
| Total operating expenses | | **831** | 637 |
| Operating loss | | **(474)** | (17) |
| Financial income, net | 5 | **(17)** | 8 654 |
| Income before tax | | **(491)** | 8 637 |
| Income taxes | 6 | **307** | 477 |
| Net income | | **(183)** | 9 114 |
| ***Appropriation of net income and equity transfers*** | | | |
| Dividend proposed | | **3 578** | 2 554 |
| Retained earnings | | **(3 762)** | 6 560 |
| Total appropriation | | **(183)** | 9 114 |

*The accompanying notes are an integral part of the financial statements.*

| Amounts in NOK million, December 31 | Notes | **2017** | 2016 |
|---|---|---|---|
| ***Assets*** | | | |
| Property, plant and equipment and intangible assets | 4 | **214** | 205 |
| Shares in subsidiaries | 7 | **57 052** | 57 063 |
| Receivables from subsidiaries | 8, 10 | **11 598** | 11 884 |
| Prepaid pension, investments and other non-current assets | 2, 9 | **4 943** | 4 261 |
| Total financial non-current assets | | **73 592** | 73 208 |
| Receivables from subsidiaries | | **10 142** | 8 207 |
| Prepaid expenses and other current assets | 10 | **40** | 86 |
| Short-term investments | | **-** | 3 350 |
| Cash and cash equivalents | | **7 889** | 5 442 |
| Total current assets | | **18 072** | 17 085 |
| Total assets | | **91 878** | 90 498 |
| ***Equity and liabilities*** | | | |
| ***Paid-in capital*** | | | |
| Share capital | 13 | **2 272** | 2 272 |
| Treasury shares | 13 | **(27)** | (29) |
| Paid-in premium | 13 | **28 987** | 28 987 |
| Other paid-in capital | 13 | **110** | 82 |
| ***Retained earnings*** | | | |
| Retained earnings | 13 | **30 521** | 33 938 |
| Treasury shares | 13 | **(783)** | (841) |
| Equity | 13 | **61 080** | 64 409 |
| Long-term provisions | 2, 9 | **3 219** | 3 302 |
| Long-term debt | 12 | **8 056** | 2 365 |
| Payables to subsidiaries | | **49** | 230 |
| Other long-term liabilities | | **8 105** | 2 595 |
| Bank loans and other interest-bearing short-term debt | | **3 616** | 578 |
| Dividends payable | | **3 578** | 2 554 |
| Payables to subsidiaries | | **11 774** | 16 287 |
| Other current liabilities | | **506** | 773 |
| Total current liabilities | | **19 473** | 20 192 |
| Total equity and liabilities | | **91 878** | 90 498 |

*The accompanying notes are an integral part of the financial statements.*

**Statements of cash flows**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Net income | **(183)** | 9 114 |
| Depreciation and impairment | **18** | 19 |
| Net foreign exchange (gain) loss | **819** | (509) |
| Changes in receivables and payables, and other items | **3 883** | (5 087) |
| Net cash provided by operating activities | **4 537** | 3 537 |
| | | |
| Purchases of short-term investments | **(5 094)** | (4 650) |
| Proceeds from sales of short-term investments | **8 402** | 5 850 |
| Net sales (purchases) of other investments | **(602)** | 463 |
| Net cash provided by investing activities | **2 706** | 1 663 |
| | | |
| Dividends paid | **(2 556)** | (2 043) |
| Proceeds from shares issued | **37** | 24 |
| Other financing activities, net | **(2 405)** | (2 662) |
| Net cash used in financing activities | **(4 924)** | (4 681) |
| | | |
| Foreign currency effects on cash | **128** | (23) |
| | | |
| Net increase in cash and cash equivalents | **2 447** | 496 |
| | | |
| Cash and cash equivalents at beginning of year | **5 442** | 4 947 |
| Cash and cash equivalents at end of year | **7 889** | 5 442 |

*The accompanying notes are an integral part of the financial statements.*

# Notes to the financial statements Norsk Hydro ASA

## Note 1 - Summary of significant accounting policies

The financial statements of Norsk Hydro ASA are prepared in accordance with the Norwegian accounting act and accounting principles generally accepted in Norway (N GAAP). Financial statement preparation requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses as well as disclosures of contingencies. Actual results may differ from estimates. Interest rates used for calculating net present values are rounded to the nearest 10 basis points for post employment benefits, to the nearest 25 basis points for other non financial assets and liabilities. As a result of rounding adjustments, the figures in one or more columns included in the financial statements may not add up to the total of that column.

### Shares in subsidiaries, associates and jointly controlled entities

Shares in subsidiaries, associates and jointly controlled entities are presented according to the cost method. Group relief received is included in dividends from subsidiaries. Dividend from subsidiaries is recognized in the year for which it is proposed by the subsidiary to the extent Norsk Hydro ASA can control the decision of the subsidiary through its share holdings. Shares in subsidiaries, associates and jointly controlled entities are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may exceed the fair value of the investment. An impairment loss is reversed if the impairment situation is deemed to no longer exist.

### Employee retirement plans

Norsk Hydro ASA has adopted the alternative treatment allowed in NRS 6 whereby employee retirement plans are measured as required by IAS 19, see note 2 Significant accounting policies to the consolidated financial statements for additional information.

### Foreign currency

The functional currency of the company is the Norwegian kroner, NOK. Realized and unrealized currency gains or losses on transactions denominated in other currencies than NOK, as well as currency gains or losses on assets and liabilities denominated in a currency other than the NOK, are included in Financial income, net. This is in accordance with NRS' preliminary standard on transactions and accounts in foreign currency.

### Cash and cash equivalents

Cash and cash equivalents includes cash, bank deposits and all other monetary instruments with a maturity of less than three months at the date of purchase.

### Short-term investments

Short-term investments includes bank deposits and all other monetary instruments with a maturity between three and twelve months at the date of purchase and current listed equity and debt securities held for trading and valued at fair value. The resulting unrealized holding gains and losses are included in Financial income, net. Investment income is recognized when earned.

### Property, plant and equipment

Property, plant and equipment is carried at historical cost less accumulated depreciation and impairment losses. According to NRS' preliminary standard regarding impairment of non-current assets such assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. The impairment of long-lived assets is recognized when the recoverable amount determined as the higher of fair value less cost to sell or value in use of the asset or group of assets is less than the carrying value. The amount of the impairment is the difference between the carrying value and the recoverable amount. An impairment loss is reversed if the impairment situation is deemed to no longer exist.

### Intangible assets

Intangible assets acquired individually or as a group are recognized at fair value when acquired, in accordance with NRS' preliminary standard on intangible assets. Intangible assets are amortized on a straight-line basis over their useful life and tested for impairment whenever indications of impairment are present.

Norsk Hydro ASA accounts for $CO_2$ emission allowances at cost as an intangible asset. The emission rights are not amortized, impairment testing is done on an annual basis. Sale of $CO_2$ emission rights is recognized at the time of sale at the transaction price.

### Leased assets
Leases are assessed under NRS 14 Leasing. Lease arrangements that transfer the majority of risks and control to Hydro are considered financial lease, and recognized as asset and liability. Payments under other leases and rental arrangements are expensed over the lease term.

### Derivative instruments
Forward currency contracts and currency options are recognized in the financial statements and measured at fair value at each balance sheet date with the resulting unrealized gain or loss recorded in Financial income, net.

### Provisions
Provisions are recognized when Norsk Hydro ASA has a present obligation (legal or constructive) as a result of a past event, it is probable (more likely than not) that Norsk Hydro ASA will be required to settle the obligation, and a reliable estimate can be made of the amount, taking into account the risks and uncertainties. The provision is measured at the present value of the cash flows estimated to settle the obligation. Uncertain outcomes are measured as the expected value of reasonably possible outcomes.

### Contingencies and guarantees
Norsk Hydro ASA recognizes a liability for the fair value of obligations it has undertaken in issuing guarantees. Contingencies are recognized in the financial statements when probable of occurrence and reliably estimable.

### Share-based compensation
Norsk Hydro ASA accounts for share-based payment in accordance with NRS 15A Share-Based Payment. NRS 15A requires share-based payments to be accounted for as required by IFRS 2 Share-based Payment. See note 2 Significant accounting policies to the consolidated financial statements for additional information.

### Risk management
For information about risk management in Norsk Hydro ASA see note 12 Financial and commercial risk management to the consolidated financial statements.

### Income taxes
Deferred income tax expense is calculated using the liability method in accordance with NRS' preliminary standard on Income Taxes. Under the liability method, deferred tax assets and liabilities are measured based on the differences between the carrying values of assets and liabilities for financial reporting and their tax basis which are considered temporary in nature. Deferred income tax related to remeasurements of pension obligations are recognized directly in equity. The tax effect of equity transactions, such as group contribution given, is recognized as a part of the equity transaction and do not affect the income tax expense. Other changes in deferred income tax assets and liability balances during the year represent the deferred income tax expense. Changes resulting from amendments and revisions in tax laws and tax rates are recognized when the new tax laws or rates are enacted.

## Note 2 - Employee retirement plans
Norsk Hydro ASA has closed the main defined benefit plans for new members, and the majority of employees are now covered by a defined contribution plan that is based on salaries up to a maximum level subject to tax deduction. For additional salaries, employees earn retirement benefits in an unfunded contribution based plan. The remaining employees are covered by defined benefit plans that offer benefits based on final salary level and the number of years in service, and include benefits for dependents. Contributions to the plan providing benefits based on salaries up to a maximum level are subject to tax deduction. This plan is funded; all vested benefits are required by law to be funded for such plans. Benefits based on salaries above this level are covered by unfunded plans. The main funded plan is managed by Norsk Hydros Pensjonskasse, a separate, regulated

legal entity. Hydro's pension plans supplement the public pension schemes in Norway. The plans comply with legal requirements for pension plans in Norway. Plans providing benefits for salary levels above the tax deductible level have been closed for new members from January 1, 2017.

Norsk Hydro ASA participates in a pension plan that entitles the majority of its employees life-long benefits in addition to other pension benefits. The benefits are financed through a pooled arrangement by private sector employers (avtalefestet pensjon, AFP) where also the Norwegian state contributes. The plan is a defined benefit plan with limited funding and where plan assets are not segregated. The information required to calculate the share of the plan and account for the plan as a defined benefit plan is not available from the plan administrator. Hydro therefore accounts for the plan as if it were a defined contribution plan. The annual contributions have increased since inception and are expected to increase further. The employer contributions are included in Multiemployer plans.

**Pension cost**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Defined benefit plans | **36** | 37 |
| Defined contribution plans | **17** | 8 |
| Multiemployer plans | **3** | 3 |
| Termination benefits and other | **8** | 4 |
| Social security cost | **9** | 9 |
| Pension expense | **75** | 61 |
| Interest expense (income) | **(32)** | (21) |
| Remeasurement (gain) loss directly to equity | **(458)** | (422) |

**Recognized defined benefit assets and liability**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Defined benefit obligation major plans | **(5 103)** | (5 205) |
| Plan assets | **6 832** | 6 369 |
| Reimbursement rights | **303** | 311 |
| Liability other plans | **(2)** | - |
| Social security cost | **(309)** | (298) |
| Net defined benefit asset | **1 722** | 1 176 |
| Recognized prepaid pension | **4 221** | 3 590 |
| Recognized pension liability | **(2 499)** | (2 414) |
| Net amount recognized | **1 722** | 1 176 |

**Change in defined benefit obligation (DBO)**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Opening Balance | **(5 205)** | (5 402) |
| Current service cost | **(35)** | (36) |
| Interest expense | **(127)** | (137) |
| Actuarial gain (loss) economic assumptions | **(61)** | 81 |
| Experience gain (loss) | **(40)** | (20) |
| Benefit payments | **307** | 313 |
| Terminations benefits | **(6)** | (7) |
| Settlements | **65** | 2 |
| Closing Balance | **(5 103)** | (5 205) |

**Change in pension plan assets**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Opening Balance | **6 369** | 6 050 |
| Interest income | **158** | 158 |
| Return on plan assets above (below) interest income | **563** | 358 |
| Contributions to plans | **20** | 27 |
| Benefit payments | **(211)** | (219) |
| Settlements | **(67)** | (4) |
| Closing Balance | **6 832** | 6 369 |

**Analysis of the defined benefit obligation (DBO)**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Active members | **(1 119)** | (1 061) |
| Deferred members | **(426)** | (402) |
| Pensioners | **(3 557)** | (3 743) |
| Defined benefit obligation | **(5 103)** | (5 205) |

| Assumptions | **Benefit obligation 2017** | **Benefit expense 2017** | Benefit obligation 2016 | Benefit expense 2016 |
|---|---|---|---|---|
| Discount rate | **2.40%** | **2.50%** | 2.50% | 2.60% |
| Expected salary increase | **2.25%** | **2.25%** | 2.25% | 2.25% |
| Expected pension increase | **1.00%** | **1.00%** | 1.00% | 1.25% |
| Mortality basis | **K2013** | **K2013** | K2013 | K2013 |

See note 36 Employee retirement plans in notes to the consolidated financial statements for information about sensitivities.

## Note 3 - Management remuneration, employee costs and auditor fees

See note 9 Management remuneration in the notes to the consolidated financial statements for information and details related to the Corporate Management Board remuneration. Costs for some corporate management board members employed by subsidiaries are charged to Norsk Hydro ASA for services rendered as members of the Corporate Management Board.

See note 10 Board of Directors and Corporate Assembly in the notes to the consolidated financial statements for information and details related to the Board of Directors' remuneration.

See note 17 Employee remuneration in the notes to the consolidated financial statements for information on the employee share purchase plan.

Partners and employees of Hydro's appointed auditors, KPMG, own no shares in Norsk Hydro ASA or any of its subsidiaries. Audit fees were NOK 8 million in 2017 and NOK 7 million in 2016. Audit related fees were NOK 1 million in 2017. Fees for other services were NOK 1 million in both 2017 and 2016.

The average number of employees in Norsk Hydro ASA was 272 in 2017 as compared to 250 in 2016. As of year end 2017 and 2016, Norsk Hydro ASA employed 277 and 267 employees, respectively.

Total loans given by Norsk Hydro ASA to Norwegian employees as of December 31, 2017 were NOK 89 million. Loans to employees consist of NOK 40 million secured loans (home and car loans) with the remainder unsecured. The unsecured loan balance as of December 31, 2017 related to the employee share purchase plan was NOK 13 million.

Certain employee costs for Norsk Hydro ASA employees engaged in activities for other Group companies are accounted for on a net basis, reducing Employee benefit expense. Payroll related expenses are provided in the table below.

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| ***Employee benefit expense:*** | | |
| Salaries | **402** | 362 |
| Social security costs | **60** | 52 |
| Other benefits | **1** | - |
| Pension expense (note 2) | **75** | 61 |
| Internal invoicing of payroll related costs | **(3)** | (39) |
| Total | **535** | 436 |

## Note 4 - Property, plant and equipment and intangible assets

Operating lease expense amounted to NOK 72 million in 2017 and NOK 76 million in 2016. The company has the following future operating lease commitments under non-cancellable leases: 2018: NOK 73 million, 2019: NOK 73 million, 2020: NOK 73 million, 2021: NOK 12 million.

| Amounts in NOK million | Property, plant and equipment | Intangible assets | Total |
|---|---|---|---|
| Cost December 31, 2016 | 334 | 79 | 413 |
| Additions at cost | 11 | 18 | 29 |
| Disposals at cost | (1) | (32) | (33) |
| Accumulated depreciation and impairment December 31, 2017 | (176) | (19) | (195) |
| Carrying value December 31, 2017 | 167 | 47 | 214 |
| Depreciation and impairment in 2017 | (9) | (9) | (18) |

Intangible assets mainly consist of software.

## Note 5 - Financial income and expense

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Dividends from subsidiaries | **588** | 7 721 |
| Interest from group companies | **362** | 417 |
| Other interest income | **73** | 198 |
| Interest paid to group companies | **(106)** | (42) |
| Other interest expense | **(151)** | (147) |
| Net foreign exchange gain (loss) | **(819)** | 509 |
| Loss on loans to group companies | **-** | (28) |
| Other, net | **36** | 26 |
| Financial income, net | **(17)** | 8 654 |

# Note 6 - Income taxes

The tax effect of temporary differences resulting in deferred tax assets (liabilities) are:

| | Temporary differences Tax effect | |
|---|---|---|
| Amounts in NOK million | **2017** | 2016 |
| Short-term items | **6** | 17 |
| Long-term receivables from subsidiaries | **-** | (321) |
| Pensions[1)] | **(396)** | (282) |
| Long-term debt | **-** | 98 |
| Other long-term items | **25** | 58 |
| Tax loss carryforwards | **-** | - |
| Deferred tax assets (liabilities) | **(365)** | (430) |

1) Include NOK (111) million and NOK (100) million of tax benefit (expense) allocated directly to equity in 2017 and 2016 respectively.

In accordance with the preliminary accounting standard for tax, taxable temporary differences and deductible temporary differences, which reverse or may reverse in the same period, are netted.

**Reconciliation of tax expense**

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Income (loss) before taxes | **(491)** | 8 637 |
| Expected income taxes at statutory tax rate | **(118)** | 2 159 |
| Dividend exclusion | **(44)** | (1 911) |
| Effect of tax law change | **(18)** | (24) |
| Favorable decisions in tax disputes | **(108)** | (602) |
| Permanent differences and other, net | **(20)** | (99) |
| Income taxes | **(307)** | (477) |
| ***Components of income taxes*** | | |
| Current income taxes | **(131)** | (212) |
| Change in deferred taxes | **(176)** | (265) |
| Income taxes | **(307)** | (477) |

See note 23 Income taxes in the consolidated financial statements for further information.

Taxes payable were NOK 63 million per December 31, 2017 and NOK 308 million per December 31, 2016.

## Note 7 - Shares in subsidiaries and associates

The following shares in subsidiaries are directly owned by Norsk Hydro ASA.

| Company name | Country | Location | Percentage of shares owned by Norsk Hydro ASA | Total share capital of the company (1,000's) | Book value (NOK million) |
|---|---|---|---|---|---|
| Hydro Aluminium AS | Norway | Oslo | 100.00 | 14 472 252 | 51 293 |
| Hydro Energi AS | Norway | Oslo | 100.00 | 868 560 | 5 643 |
| Hydro Aluminium Deutschland GmbH [1)] | Germany | Grevenbroich | 25.04 | 73 894 | 92 |
| Industriforsikring AS | Norway | Oslo | 100.00 | 20 000 | 20 |
| Hydro Kapitalforvaltning AS | Norway | Oslo | 100.00 | 2 500 | 4 |
| Total | | | | | 57 052 |

1) The company is owned 74.96 percent by Hydro Aluminium AS, and 25.04 percent by Norsk Hydro ASA.

Percentage of shares owned equals percentage of voting shares owned. Several of the above-mentioned companies also own shares in other companies.

In addition to the directly owned subsidiaries listed above, Norsk Hydro ASA has the following subsidiaries with significant operational activities. Sales offices, companies mainly serving as holding companies, and dormant companies, as well as companies holding smaller operational activities are not included in the list below. A full list of subsidiaries is available in Hydro's country by country reporting and at www.hydro.com. The companies are listed by the business area in which the majority of their activities are managed.

| Company name | Country | Ownership |
|---|---|---|
| ***Bauxite & Alumina*** | | |
| ALUNORTE - Alumina do Norte do Brasil S.A. | Brazil | 92,13 |
| Mineração Paragominas SA | Brazil | 100.00 |
| ***Rolled Products*** | | |
| Hydro Aluminium Rolled Products GmbH | Germany | 100.00 |
| Hydro Aluminium Rolled Products AS | Norway | 100.00 |
| ***Primary Metal*** | | |
| ALBRAS - Alumínio Brasileiro SA | Brazil | 51.00 |
| Sør-Norge Aluminium AS | Norway | 100.00 |
| Slovalco a.s. | Slovakia | 55.30 |
| ***Metal Markets*** | | |
| Extrusion Services S.a.r.l | France | 100.00 |
| Hydro Aluminium Gieβerei Rackwitz GmbH | Germany | 100.00 |
| Hydro Aluminium Clervaux S.A. | Luxembourg | 100.00 |
| Hydro Aluminium Iberia S.A.U | Spain | 100.00 |
| Hydro Aluminium Deeside Ltd. | United Kingdom | 100.00 |
| Hydro Aluminium Metals USA, LLC | United States | 100.00 |
| ***Extruded Products*** | | |
| Hydro Extrusion Nenzing GmbH | Austria | 100.00 |
| Hydro Extrusion Lichtervelde NV | Belgium | 100.00 |
| Hydro Building Systems Belgium NV | Belgium | 100.00 |
| Sapa Precision Tubing Lichtervelde NV | Belgium | 100.00 |
| Hydro Extrusion Raeren SA | Belgium | 100.00 |
| Sapa Aluminium Brasil S.A. | Brazil | 100.00 |
| Sapa Canada Inc. | Canada | 100.00 |
| Sapa Precision Tubing (Suzhou) Co. Ltd. | China | 100.00 |
| Hydro Extrusion Denmark A/S | Denmark | 100.00 |
| Hydro Precision Tubing Tønder A/S | Denmark | 100.00 |
| Hydro Building Systems France SARL | France | 100.00 |
| Hydro BuildEx S.a.r.l. | France | 100.00 |
| Hydro Extrusion Lucé/Chateauroux SAS | France | 100.00 |
| Hydro Extrusion Puget SAS | France | 100.00 |
| Hydro Extrusion Albi SAS | France | 100.00 |
| Hydro Extrusion Offenburg GmbH | Germany | 94.80 |
| Hydro Extrusion Deutschland GmbH | Germany | 100.00 |
| Sapa Building Systems GmbH | Germany | 100.00 |
| Hydro Extrusion Hungary Kft | Hungary | 100.00 |
| Hydro Extrusion Italy Srl | Italy | 100.00 |
| Hydro Building Systems Italy S.p.a. | Italy | 100.00 |
| Hydro Extrusion Hoogezand B.V. | Netherlands | 100.00 |
| Hydro Extrusion Drunen B.V. | Netherlands | 100.00 |
| Sapa Aluminium Sp. z.o.o. | Poland | 100.00 |
| Hydro Extrusion Slovakia a.s. | Slovakia | 100.00 |
| Hydro Building Systems Spain S.L.U. | Spain | 100.00 |
| Hydro Extrusion Spain S.A.U. | Spain | 100.00 |
| Hydro Extrusion Sweden AB | Sweden | 100.00 |
| Hydro Extrusion UK Ltd. | United Kingdom | 100.00 |
| Hydro Components UK Ltd. | United Kingdom | 100.00 |
| Hydro Building Systems UK Ltd | United Kingdom | 100.00 |
| Hydro Extrusion USA LLC | United States | 100.00 |
| Hydro Extrusion Delhi LLC | United States | 100.00 |
| Hydro Extrusion North America LLC | United States | 100.00 |
| Sapa Precision Tubing Rockledge LLC | United States | 100.00 |
| Hydro Extrusion Portland Inc | United States | 100.00 |
| Hydro Extruder LLC | United States | 100.00 |
| ***Energy*** | | |
| Røldal Suldal Kraft as | Norway | 91.26 |

Net gain on sale of subsidiaries in 2017 refers to sale of Herøya Nett AS. Net gain on sale of subsidiaries in 2016 refers to liquidation of Norsk Hydro Plastic Pipe AS and sale of Herøya Industripark AS.

Norsk Hydro ASA has a 25.85 percent ownership and voting interest in Corvus Energy Inc. in Richmond, Canada. The carrying value was NOK 48 million as of the end of 2017.

## Note 8 - Related party information

See note 11 Related party information in the notes to the consolidated financial statements for identification of related parties and primary relationships with those parties.

Norsk Hydro ASA operates the cash pooling arrangements in Hydro. Further, Norsk Hydro ASA extends loans to subsidiaries, associates and jointly controlled entities at terms and conditions reflecting prevailing market conditions for corresponding services, allowing for a margin to cover administration and risk. See note 5 Financial income and expense for information on interest paid to and received from group companies.

Norsk Hydro ASA allocates costs for corporate staff services and shared services to subsidiaries. The total amount allocated was NOK 96 million in 2017 and NOK 107 million in 2016. Receivables related to such costs amounted to NOK 93 million and NOK 93 million per December 31, 2017 and 2016, respectively.

For information on transactions with employees and management, see note 3 Management remuneration, employee costs and auditor fees and note 9 Management remuneration in the notes to the consolidated financial statements. For information on transactions with Board of Directors and Corporate Assembly see note 10 Board of Directors and Corporate Assembly in the notes to the consolidated financial statements. See note 11 for information on guarantees provided on behalf of subsidiaries and jointly controlled entities.

## Note 9 - Specification of balance sheet items

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Securities | **535** | 535 |
| Prepaid pension | **4 221** | 3 590 |
| Investments in associates | **48** | 1 |
| Other non-current assets | **138** | 134 |
| Total prepaid pension, investments and other non-current assets | **4 943** | 4 261 |
| | | |
| Pension liability | **2 499** | 2 414 |
| Deferred tax liabilities | **365** | 430 |
| Other long-term provisions | **356** | 458 |
| Total long-term provisions | **3 219** | 3 302 |

Other long-term provisions relate primarily to an onerous contract of office space, see note 11 Related party information in the notes to the consolidated financial statements.

## Note 10 - Financial instruments

Norsk Hydro ASA offers currency derivatives to subsidiaries using such instruments for risk management. Contracts are recognized at estimated market value, determined by calculating the contractual cash flows using currency rates at the balance sheet date and discounting those cash flows to a present value. At the end of 2017 and 2016, the value of currency forward contracts outstanding with subsidiaries were as follows:

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Currency forward contracts, short-term | **5** | 29 |
| Currency forward contracts, long-term | **8** | 157 |
| Financial income, net | **13** | 186 |

The contracts represent exposure mainly in US dollar and Euro. In addition, there are some contracts with exposure to British pounds, Swiss franc, Danish krone, Swedish krone, Japanese yen and Canadian dollars, representing lower amounts. The contracts mature no later than 2020.

## Note 11 - Guarantees

Norsk Hydro ASA provides guarantees arising in the ordinary course of business including stand-by letters of credit, performance bonds and various payment or financial guarantees. All commercial guarantees are on behalf of subsidiaries.

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| Guarantees related to jointly controlled entities | **22** | 20 |
| Commercial guarantees | **3 449** | 4 539 |
| Total guarantees not recognized | **3 471** | 4 559 |

## Note 12 - Long-term debt

| Amounts in NOK million | **2017** | 2016 |
|---|---|---|
| USD | **833** | 1 160 |
| SEK | **3 007** | - |
| NOK | **4 497** | 1 500 |
| Total unsecured loans | **8 337** | 2 660 |
| | | |
| Less: Current portion | **(281)** | (295) |
| Total long-term debt | **8 056** | 2 365 |

As of December 31, 2017, long-term debt that falls due after 2022 amounted to NOK 999 million. See note 33 Short and long-term debt in notes to the consolidated financial statements for further information.

## Note 13 - Number of shares outstanding, shareholders and equity reconciliation

The share capital of Norsk Hydro ASA as of December 31, 2017 was NOK 2,271,760,107 consisting of 2,068,998,276 ordinary shares at NOK 1.098 per share. As of December 31, 2017 Norsk Hydro ASA had purchased 24,300,928 treasury shares at a cost of NOK 810 million. See Consolidated statements of changes in equity and note 37 Shareholders' equity for additional information.

The table shows shareholders holding one percent or more of the total 2,044,697,348 shares outstanding as of December 31, 2017, according to information in the Norwegian securities' registry system (Verdipapirsentralen).

| **Name** | **Number of shares** |
|---|---|
| The Ministry of Trade, Industry and Fisheries of Norway | 708 865 253 |
| Folketrygdfondet | 133 912 794 |
| JPMorgan Chase Bank, N.A., London I [1)] | 64 000 000 |
| Clearstream Banking S.A.[1)] | 48 479 234 |
| HSBC BANK PLC [1)] | 35 291 870 |
| State Street Bank and Trust Comp I [1)] | 35 080 209 |
| State Street Bank and Trust Comp II [1)] | 34 459 471 |
| Banque Pictet & Cie SA [1)] | 33 730 160 |
| The Northern Trust Comp, London Br [1)] | 31 664 313 |
| State Street Bank and Trust Comp III [1)] | 21 766 049 |
| JPMorgan Chase Bank, N.A., London II [1)] | 21 572 379 |
| State Street Bank and Trust Comp IV [1)] | 20 761 351 |

1) Nominee accounts.

**Changes in equity**

| Amounts in NOK million | Paid-in capital | Retained earnings | Total equity |
|---|---|---|---|
| December 31, 2016 | 31 313 | 33 097 | 64 409 |
| Net income | | (183) | (183) |
| Remeasurement postemployment benefits | | 347 | 347 |
| Dividend paid in 2017 not accrued [1)] | | (2) | (2) |
| Dividend proposed | | (3 578) | (3 578) |
| Treasury shares | 29 | 58 | 87 |
| December 31, 2017 | 31 342 | 29 738 | 61 080 |

1) Owners of shares sold from treasury shares in April 2017 received dividends for those shares in May 2017. However, this was not accrued in 2016.

# Responsibility statement

We confirm to the best of our knowledge that the consolidated financial statements for 2017 have been prepared in accordance with IFRS as adopted by the European Union, as well as additional information requirements in accordance with the Norwegian Accounting Act, that the financial statements for the parent company for 2017 have been prepared in accordance with the Norwegian Accounting Act and generally accepted accounting practice in Norway, and that the information presented in the financial statements gives a true and fair view of the assets, liabilities, financial position and result of Norsk Hydro ASA and the Hydro Group for the period. We also confirm to the best of our knowledge that the Board of Directors' Report includes a true and fair review of the development, performance and financial position of Norsk Hydro ASA and the Hydro Group, together with a description of the principal risks and uncertainties that they face, and that the country by country report for 2017 has been prepared in accordance with the Norwegian Accounting Act §3-3d and the Norwegian Security Trading Act §5-5a.

Oslo, March 19, 2018

**Dag Mejdell**
Chair

**Irene Rummelhoff**
Deputy chair

**Liv Monica Bargem Stubholt**
Board member

**Billy Fredagsvik**
Board member

**Finn Jebsen**
Board member

**Sten Roar Martinsen**
Board member

**Thomas Schulz**
Board member

**Svein Kåre Sund**
Board member

**Marianne Wiinholt**
Board member

**Svein Richard Brandtzæg**
President and CEO

# Independent auditor's report

KPMG

To the Annual Shareholders' Meeting of Norsk Hydro ASA

## Report on the Audit of the Financial Statements

### Opinion

We have audited the financial statements of Norsk Hydro ASA. The financial statements comprise:

- The financial statements of the parent company Norsk Hydro ASA (the "Company"), which comprise the balance sheet as at 31 December 2017, and the income statement and cash flow statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and
- The consolidated financial statements of Norsk Hydro ASA and its subsidiaries (the "Group"), which comprise the balance sheet as at 31 December 2017, and income statement, statement of comprehensive income, statement of changes in equity, cash flow for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion:

- The financial statements are prepared in accordance with the law and regulations.
- The accompanying financial statements give a true and fair view of the financial position of the Company as at 31 December 2017, and its financial performance and its cash flows for the year then ended in accordance with the Norwegian Accounting Act and accounting standards and practices generally accepted in Norway ("NGAAP").
- The accompanying consolidated financial statements give a true and fair view of the financial position of the Group as at 31 December 2017, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the EU ("IFRS").

### Basis for Opinion

We conducted our audit in accordance with laws, regulations and auditing standards and practices generally accepted in Norway, including International Standards on Auditing ("ISAs"). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company and of the Group as required by laws and regulations, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

## *Purchase price allocation from the acquisition of Sapa AS with subsidiaries*

Refer to Note 6 Significant subsidiaries and changes to the consolidated group

| The key audit matter | How the matter was addressed in our audit |
|---|---|
| In October 2017, the group acquired the remaining shares of Sapa, a 50% owned joint venture.<br><br>The relevant framework requires the Group to allocate fair values to the identified assets, liabilities and goodwill. The Sapa group is complex in terms of geographical spread, number of production plants, number of product groups and brands. There is also complexity associated with estimating the fair value of obligations including environmental provisions and contingent liabilities. Therefore, determining the fair value and subsequent allocation of the purchase price has been an area of focus in the audit as it requires a high level of judgement performed by management.<br><br>In addition there are judgemental items related to the calculated gain pertaining to the previously existing share in Sapa and the total consideration.<br><br>The Group engaged a valuation expert to assist in the valuation of the assets, liabilities and goodwill in addition to considering the estimated useful lives of the identified fixed and intangible assets.<br><br>The calculation of goodwill is performed based on the residual fair value not allocated to identified assets and liabilities.<br><br>The total value of Sapa's net assets is NOK 20,813 million consisting of NOK 11,906 million for the 50 % shares acquired, which includes post-closing adjustments of NOK 46 million and NOK 8,906 million for the 50 % previously held share in Sapa.<br><br>The figures presented are preliminary and may be subject to adjustments until Q3 2018. | Our audit procedures in this area included:<br>• Reading and understanding the share purchase agreement and other relevant documents to establish the date of acquisition and to identify other factors which may impact the financial statements<br>• Re-calculation and evaluation of the gain on sale related to the 50% share previously held<br>• Using our own valuation specialists to assist us in critically challenging the methodology used to identify the assets and liabilities acquired<br>• Engaging our own valuation specialists to support us in challenging the valuation calculations and estimates made by the Group<br>• Examining key assumptions and methodologies in determining the fair values using externally derived data<br>• Assessing the credibility and substance of internally derived assumptions from sources such as business plans and forecasts<br>• Assessing the completeness and valuation of the identified intangible assets by considering potential revenue streams generated from the assets and estimated use of brand and technology<br>• Assessing the completeness of recognised contingent liabilities related to the acquisition by reading due diligence reports, legal letters, correspondence with tax offices and previous years financial statements<br>• Evaluating the competence, capability and objectivity of experts engaged by the Group through enquiry and discussion<br>• Considering the adequacy of the disclosure of the acquisition in the notes to the Financial statements. |

## *Environmental clean-up cost and asset retirement obligations*

Refer to Note 5 Critical accounting judgement and key sources of estimation uncertainty, Note 34 Provisions, Note 35 Contingent liabilities and contingent assets in the consolidated Financial Statements and Note 43 Subsequent events in the consolidated Financial Statements.

| The key audit matter | How the matter was addressed in our audit |
|---|---|
| The Group is involved in operations such as bauxite mining, alumina refining and primary aluminium production. There is an inherent risk that these operations may generate significant obligations related to site restoration, reforestation and other remediation work. Such potential obligations are dependent on the environments in which the company operates and changes in the relevant political and legislative environments.<br><br>Management decisions to expand, curtail or terminate operations in specific locations can also impact obligations as described above.<br><br>Estimating and calculating these obligations and the probability they will occur requires significant management judgement. The risk of inaccurate estimates is increased due to the uncertainty of scope and timing of such obligations and the limited amount of historical data available.<br><br>The Group has recognized environmental clean-up provisions and asset retirement obligations of NOK 4,585 million as explained in note 34 and disclosed information pertaining to contingent liabilities in note 35. Subsequent events related to high levels of rainfall and high water levels in and around Alunorte and Paragominas in February 2018 leading to an order by the authorities to reduce activity are described in note 43 Subsequent events. | Our audit procedures in this area included:<br>• Performing retrospective reviews of the accuracy of management's estimates in terms of timing, cash outflows and other assumptions where historical data is available<br>• Assessing the cost and timing of activities applied in the calculations by comparing management forecasts with prior year estimates and also assessing the appropriateness of intended methods for the various types of remediation work proposed<br>• Comparing management's assumptions to relevant market data to test the reasonableness of discount rates, inflation rates, foreign exchange rates and other assumptions used in the calculations<br>• Assessing the accounting treatment for compliance with IFRS and consistency of application, in particular related to the extent to which obligations are capitalized or expensed and the amortization period for capitalized assets<br>• Testing the mathematical accuracy of the models used to calculate provisions and asset retirement obligations<br>• Assessing the adequacy of the disclosures pertaining to estimation uncertainty, provisions, contingent liabilities and subsequent events. |

### *Impairment of goodwill, intangible and non-current assets*

Refer to Note 19 Impairment of non-current assets, Note 28 Property, plant and equipment, Note 29 Intangible assets and Note 30 Goodwill in the consolidated Financial Statements.

| The key audit matter | How the matter was addressed in our audit |
|---|---|
| The Group's operations are sensitive to certain commodity prices and other factors, including aluminum and alumina prices, energy prices, inflation rates and relevant foreign exchange rates, which impact key assumptions in cash flow forecasts and can give rise to impairment indicators.<br><br>The economic environment, and volatility of long-term assumptions indicate that impairment could be a risk related to specific assets, and cash generating units and can also impact the assessment of impairment of goodwill.<br><br>Management exercise judgement related to expected timing of future cash flows and key assumptions related to commodity and other prices, foreign exchange rates and discount rates.<br><br>As at 31 December 2017, the Group has goodwill of NOK 7,269 million, Property, plant and equipment of NOK 73,020 million and intangible assets of NOK 5,443 million. No significant impairment has been recognised during 2017. | Our audit procedures in this area included:<br>• Assessing management's process and results for identification and classification of CGU's and assessing whether they were appropriate and in accordance with relevant accounting standards<br>• Evaluating management's assessment of impairment indicators<br>• Performing retrospective reviews of the accuracy of management's estimates in terms of timing of cash outflows and other assumptions such as long-term pricing where historical data is available<br>• Evaluating and challenging the forecasted cash flows including timing of future cash flows applied in the models with reference to historical accuracy and approved business plans<br>• Testing the sensitivity of movements in key assumptions<br>• Evaluating, with assistance from our valuation specialists, key assumptions such as aluminium and alumina prices, inflation rates, energy and fuel prices, relevant foreign exchange rates and discount rates by reference to external sources and relevant benchmarks<br>• Testing the mathematical accuracy of the models used to calculate value in use<br>• Assessing the adequacy of the disclosures related to impairment |

### *Tax assets and liabilities*

Refer to Note 5 Critical accounting judgement and key sources of estimation uncertainty, Note 23 Income Tax, Note 27 Other non-current assets and Note 35 Contingent liabilities and contingent assets in the consolidated Financial Statements.

| The key audit matter | How the matter was addressed in our audit |
|---|---|
| The Group's global operations create exposures to different tax regimes with complex legislation. The Group has recognized significant tax assets related to tax credits and losses carried forward and has exposure to tax claims in several jurisdictions.<br><br>The volume of tax credits is significant and the assessment of recoverability is dependent on interpretation of laws and regulations which may be subject to change over time.<br><br>Recoverability of deferred tax assets related to losses carried forward are assessed based on estimates of future taxable profits and are judgmental in nature.<br><br>Tax provisions and contingent liabilities are recognized and disclosed based on management's assessment of the probability of a future cash outflow and also the ability to reliably estimate the amount of any obligation. Due to the complexity of the various tax regimes in which the Group operates, there is significant judgement involved in these assessments.<br><br>As of 31 December 2017 the Group has recognized NOK 1,678 million in Prepaid taxes and tax credits, deferred tax assets of NOK 1,617 million including deferred tax assets related to losses carried forward and taxes payable of NOK 2,570 million. | Our audit procedures in this area included:<br>• Assessing the eligibility of tax credits recognized as assets and the recoverability of these amounts<br>• Assessing the judgment applied to the recognition of deferred tax assets and the reversal or recoverability of these within the many tax jurisdictions<br>• Assessing the process for identification of uncertain tax positions and management's assessment of the probable outcome<br>• Using our knowledge of local jurisdictions and involvement of our local tax specialists to obtain an overview of the local requirements relevant to management's judgements and conclusions for significant estimates<br>• Reading correspondence with relevant tax authorities and assessments from external legal advisors and comparing these with the basis for accounting entries and disclosures<br>• Challenging management as to which cases and exposures are significant and the level of corresponding disclosures to be included in the Annual report |

## Other information

Management is responsible for the other information. The other information comprises the information included in the Annual Report, with the exception of the financial statements and the Independent auditor's report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon, with the exception of our report on Other Legal and Regulatory Requirements below.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

## Responsibilities of the Board of Directors and the President and CEO ("Management")for the Financial Statements

The Board of Directors and the President and CEO ("Management") are responsible for the preparation in accordance with law and regulations, and fair presentation of the financial statements of the Company in accordance with NGAAP, and for the preparation and fair presentation of the financial statements of the Group in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's and the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern. The financial statements of the Company use the going concern basis of accounting insofar as it is not likely that the enterprise will cease operations. The financial statements of the Group use the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

## Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error. We design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's or the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

## Report on Other Legal and Regulatory Requirements

### Opinion on the Board of Directors' report

Based on our audit of the financial statements as described above, it is our opinion that the information presented in the Board of Directors' report, including the statements on corporate governance and corporate social responsibility, concerning the financial statements and the going concern assumption is consistent with the financial statements and complies with the law and regulations.

### Opinion on Registration and Documentation

Based on our audit of the financial statements as described above, and control procedures we have considered necessary in accordance with the International Standard on Assurance Engagements (ISAE) 3000, «Assurance Engagements Other than Audits or Reviews of Historical Financial Information», it is our opinion that management has fulfilled its duty to produce a proper and clearly set out registration and documentation of the Company's accounting information in accordance with the law and bookkeeping standards and practices generally accepted in Norway.

Oslo, 19 March 2018

KPMG AS

Lars Inge Pettersen

*State Authorized Public Accountant*

Note: This translation from Norwegian has been prepared for information purposes only.

# Statement of the Corporate Assembly to the Annual general meeting of Norsk Hydro ASA

The Board of Directors' proposal for the financial statements for the financial year 2017 and the Auditors' report have been submitted to the corporate assembly.

The Corporate Assembly recommends that the directors' proposal regarding the financial statements for 2017 for the parent company, Norsk Hydro ASA, and for Norsk Hydro ASA and its subsidiaries be approved by the annual general meeting, and that the net income for 2017 of Norsk Hydro ASA be appropriated as recommended by the directors.

Oslo, March 19, 2018

Terje Venold

**Audited Consolidated Financial Statements of the Issuer and its subsidiaries together with the report of the statutory auditor for the year ended 31 December 2018, including comparative figures for the year ended 31 December 2017.**

# Consolidated financial statements

## Consolidated income statements

| Amounts in NOK million (except per share amounts). Years ended December 31 | Notes | **2018** | 2017 |
|---|---|---|---|
| Revenue | 7, 15 | **159,377** | 109,220 |
| Share of the profit (loss) in equity accounted investments | 7, 32 | **765** | 1,527 |
| Other income, net | 16 | **772** | 2,947 |
| Total revenue and income | | **160,913** | 113,693 |
| Raw material and energy expense | 17 | **102,523** | 69,848 |
| Employee benefit expense | 18 | **23,176** | 13,285 |
| Depreciation, amortization and impairment | 19, 20 | **7,369** | 6,162 |
| Other | 21, 22 | **19,324** | 12,209 |
| Total expenses | | **152,391** | 101,504 |
| Earnings before financial items and tax | 7 | **8,522** | 12,189 |
| Finance income | 23 | **255** | 481 |
| Finance expense | 23 | **(2,315)** | (1,596) |
| Finance income (expense), net | | **(2,060)** | (1,114) |
| Income before tax | | **6,462** | 11,075 |
| Income taxes | 24 | **(2,139)** | (1,891) |
| Net income | | **4,323** | 9,184 |
| Net income attributable to non-controlling interests | | **67** | 401 |
| Net income attributable to Hydro shareholders | | **4,256** | 8,783 |
| Basic and diluted earnings per share attributable to Hydro shareholders | 38 | **2.08** | 4.30 |

*The accompanying notes are an integral part of the consolidated financial statements.*

# Consolidated statements of comprehensive income

| Amounts in NOK million. Years ended December 31 | Notes | **2018** | 2017 |
|---|---|---|---|
| Net income | | **4,323** | 9,184 |
| ***Other comprehensive income*** | | | |
| ***Items that will not be reclassified to income statement*** | | | |
| Remeasurement postemployment benefits, net of tax | 38 | **(718)** | 761 |
| Share of remeasurement postemployment benefits of equity accounted investments, net of tax | 38 | **-** | (2) |
| Unrealized gain (loss) on securities, net of tax | 38 | **394** | (255) |
| Total | | **(324)** | 504 |
| ***Items that will be reclassified to income statement*** | | | |
| Currency translation differences, net of tax | 38 | **(2,031)** | (1,387) |
| Cash flow hedges, net of tax | 38 | **(14)** | 174 |
| Share of other comprehensive income that will be reclassified to income statement of equity accounted investments, net of tax | 38 | **72** | (736) |
| Total | | **(1,973)** | (1,949) |
| Other comprehensive income | | **(2,296)** | (1,444) |
| Total comprehensive income | | **2,027** | 7,740 |
| Total comprehensive income attributable to non-controlling interests | | **(273)** | 103 |
| Total comprehensive income attributable to Hydro shareholders | | **2,300** | 7,637 |

*The accompanying notes are an integral part of the consolidated financial statements.*

# Consolidated balance sheets

| Amounts in NOK million, December 31 | Notes | **2018** | 2017 Restated |
|---|---|---|---|
| ***Assets*** | | | |
| Cash and cash equivalents | | **5,995** | 11,828 |
| Short-term investments | 25 | **975** | 1,311 |
| Trade and other receivables | 26 | **20,743** | 19,983 |
| Inventories | 27 | **26,483** | 20,711 |
| Other current financial assets | 13 | **801** | 798 |
| Total current assets | | **54,997** | 54,631 |
| Property, plant and equipment | 29 | **71,299** | 72,933 |
| Intangible assets | 30, 31 | **11,443** | 12,712 |
| Investments accounted for using the equity method | 32 | **11,570** | 11,221 |
| Other non-current assets | 13, 28 | **5,720** | 4,410 |
| Prepaid pension | 37 | **5,162** | 5,750 |
| Deferred tax assets | 24 | **1,664** | 1,617 |
| Total non-current assets | | **106,858** | 108,643 |
| Total assets | 7 | **161,855** | 163,273 |
| ***Liabilities and equity*** | | | |
| Bank loans and other interest-bearing short-term debt | 34 | **8,543** | 8,245 |
| Trade and other payables | 33 | **20,381** | 19,571 |
| Provisions | 35 | **3,281** | 2,296 |
| Taxes payable | | **2,266** | 2,570 |
| Other current financial liabilities | 13 | **515** | 655 |
| Total current liabilities | | **34,987** | 33,337 |
| Long-term debt | 34 | **7,080** | 9,012 |
| Provisions | 35 | **5,588** | 5,828 |
| Pension liabilities | 37 | **15,648** | 15,118 |
| Other non-current financial liabilities | 13 | **2,429** | 2,041 |
| Other liabilities | | **2,318** | 2,228 |
| Deferred tax liabilities | 24 | **3,037** | 3,501 |
| Total non-current liabilities | | **36,098** | 37,728 |
| Total liabilities | | **71,086** | 71,064 |
| Share capital | 38 | **2,272** | 2,272 |
| Additional paid-in capital | 38 | **29,126** | 29,097 |
| Treasury shares | 38 | **(756)** | (810) |
| Retained earnings | | **57,127** | 56,452 |
| Other components of equity | 38 | **(1,936)** | 20 |
| Equity attributable to Hydro shareholders | | **85,833** | 87,032 |
| Non-controlling interests | | **4,936** | 5,178 |
| Total equity | | **90,769** | 92,209 |
| Total liabilities and equity | | **161,855** | 163,273 |

*The accompanying notes are an integral part of the consolidated financial statements.*

# Consolidated statements of cash flows

| Amounts in NOK million. Years ended December 31 | Notes | **2018** | 2017 |
|---|---|---|---|
| ***Operating activities*** | | | |
| Net income | | **4,323** | 9,184 |
| | | | |
| Adjustments to reconcile net income to net cash provided by operating activities: | | | |
| Depreciation, amortization and impairment | 19, 20 | **7,369** | 6,162 |
| Share of profit in equity accounted investments | | **(765)** | (1,527) |
| Dividends received from equity accounted investments | 32 | **1,219** | 2,247 |
| Deferred taxes | | **(585)** | (685) |
| Loss (gain) on sale of non-current assets | | **188** | (2,046) |
| Net foreign exchange loss | 23 | **1,303** | 875 |
| Net sales of trading securities | | **187** | 57 |
| Capitalized interest | 23 | **(1)** | (76) |
| | | | |
| Changes in assets and liabilities that provided (used) cash: | | | |
| Trade and other receivables | | **(1,412)** | (554) |
| Inventories | | **(5,599)** | (1,518) |
| Trade and other payables | | **675** | 1,013 |
| Commodity derivatives | | **(415)** | 322 |
| Other items | | **538** | 893 |
| Net cash provided by operating activities | 42 | **7,025** | 14,347 |
| | | | |
| ***Investing activities*** | | | |
| Purchases of property, plant and equipment | | **(7,219)** | (7,296) |
| Purchases of other long-term investments | | **(389)** | (11,190) |
| Purchases of short-term investments | | **-** | (5,094) |
| Proceeds from sales of property, plant and equipment | | **80** | 57 |
| Investment grants received | | **333** | 636 |
| Proceeds from sales of other long-term investments | | **(1)** | 49 |
| Proceeds from sales of short-term investments | | **-** | 8,402 |
| Net cash used in investing activities | | **(7,196)** | (14,436) |
| | | | |
| ***Financing activities*** | | | |
| Loan proceeds | | **7,057** | 15,271 |
| Principal repayments | | **(5,984)** | (10,917) |
| Net increase (decrease) in other short-term debt | | **(2,934)** | 2,515 |
| Proceeds from shares issued | | **47** | 40 |
| Dividends paid | | **(3,622)** | (3,069) |
| Net cash provided by (used in) financing activities | | **(5,436)** | 3,840 |
| | | | |
| Foreign currency effects on cash | | **(226)** | 40 |
| | | | |
| Net increase (decrease) in cash and cash equivalents | | **(5,833)** | 3,791 |
| Cash and cash equivalents at beginning of year | | **11,828** | 8,037 |
| Cash and cash equivalents at end of year | | **5,995** | 11,828 |

*The accompanying notes are an integral part of the consolidated statements.*

# Consolidated statements of changes in equity

| Amounts in NOK million | Notes | Share capital | Additional paid-in capital | Treasury shares | Retained earnings | Other components of equity | Equity attributable to Hydro share-holders | Non-control-ling interests | Total equity |
|---|---|---|---|---|---|---|---|---|---|
| December 31, 2016 | | 2,272 | 29,070 | (870) | 50,210 | 1,224 | 81,906 | 5,733 | 87,640 |
| Treasury shares issued to employees | 38 | | 27 | 60 | | | 87 | | 87 |
| Dividends | 40 | | | | (2,556) | | (2,556) | (702) | (3,258) |
| Capital contribution in subsidiaries | | | | | | | | 3 | 3 |
| Items not reclassified to income statement in subsidiaries divested | 38 | | | | (3) | 3 | - | 40 | 40 |
| Total comprehensive income for the year | | | | | 8,783 | (1,147) | 7,637 | 103 | 7,740 |
| December 31, 2017 | | 2,272 | 29,097 | (810) | 56,435 | 80 | 87,074 | 5,178 | 92,252 |
| Effect of change in accounting principle | | | | | 17 | (60) | (43) | - | (43) |
| January 1, 2018 | | 2,272 | 29,097 | (810) | 56,452 | 20 | 87,032 | 5,178 | 92,209 |
| Treasury shares issued to employees | 38 | | 29 | 53 | | | 83 | | 83 |
| Dividends | 40 | | | | (3,581) | | (3,581) | (106) | (3,687) |
| Capital contribution in subsidiaries | | | | | | | | 138 | 138 |
| Total comprehensive income for the year | | | | | 4,256 | (1,956) | 2,300 | (273) | 2,027 |
| December 31, 2018 | | 2,272 | 29,126 | (756) | 57,127 | (1,936) | 85,833 | 4,936 | 90,769 |

*The accompanying notes are an integral part of the consolidated statements.*

Oslo, March 12, 2019

Dag Mejdell
Chair

Irene Rummelhoff
Deputy chair

Arve Baade
Board member

Finn Jebsen
Board member

Liselott Kilaas
Board member

Sten Roar Martinsen
Board member

Thomas Schulz
Board member

Svein Kåre Sund
Board member

Marianne Wiinholt
Board member

Svein Richard Brandtzæg
President and CEO

# Notes to the consolidated financial statements

## Note 1 - Reporting entity and basis of presentation

The reporting entity reflected in these financial statements comprises Norsk Hydro ASA and consolidated subsidiaries (Hydro). Hydro is headquartered in Oslo, Norway, and the group employs around 36,000 people in more than 40 countries. Hydro is a global supplier of aluminium with operations throughout the industry value chain. Operations include power production, bauxite extraction, alumina refining, aluminium smelting, remelting and recycling, rolling activities, and extruded solutions. The Board of Directors and the President and CEO authorized these financial statements for issue on March 12, 2019. Hydro is listed on the Oslo stock exchange, Oslo Børs.

**Basis of presentation**
The financial statements have been prepared on a historical cost basis except for certain assets, liabilities and financial instruments, which are measured at fair value. Preparation of financial statements including note disclosures requires management to make estimates and assumptions that affect amounts reported. Actual results may differ. See note 5 Critical accounting judgment and key sources of estimation uncertainty.

Presentation and classification of items in the financial statements is consistent for the periods presented except certain effects of implementation of new accounting standards where implementation regulation allows or requires implementation as of the beginning of the year of transition. Such effects are described in note 3 Changes of accounting principles and new pronouncements.

Gains and losses on disposal of non-current assets are presented net, as well as expenditures related to provisions that are reimbursed by a third party. However, insurance compensation and government grants are reported on a gross basis.

The functional currency of Norsk Hydro ASA is the Norwegian krone (NOK). The Hydro group financial statements are presented in NOK.

As a result of rounding adjustments, the figures in one or more columns included in the financial statements may not add up to the total of that column.

Interest rates used for calculating net present values are rounded to the nearest 10 basis points for post employment benefits, to the nearest 25 basis points for other non financial assets and liabilities.

## Note 2 - Significant accounting policies

The consolidated financial statements of Norsk Hydro ASA and its subsidiaries are prepared in accordance with International Financial Reporting Standards (IFRS) as endorsed by the European Union (EU) and Norwegian authorities and effective as of December 31, 2018. Hydro also provides the disclosure as specified under the Norwegian Accounting Act (Regnskapsloven).

The following description of accounting principles applies to Hydro's 2018 financial reporting, including all comparative figures, except where the implementation provisions in IFRS 15 Revenue from Contracts with Customers specifies that the new accounting principles are applied from January 1, 2018. See note 1 Reporting entity and basis of presentation, note 3 Changes in accounting principles and new pronouncements, note 4 Measurement of fair value, and note 5 Critical accounting judgment and key sources of estimation uncertainty for additional information related to the presentation, classification and measurement of Hydro's financial reporting.

**Basis of consolidation**
The consolidated financial statements include Norsk Hydro ASA and subsidiaries, which are entities in which Hydro has the power to govern the financial and operating policies of the entity (control). Control is normally achieved through ownership, directly or indirectly, of more than 50 percent of the voting power. Currently, Hydro has more than 50 percent of the voting power in all subsidiaries. Subsidiaries are included from the date control commences until the date control ceases.

Intercompany transactions and balances have been eliminated. Profits and losses resulting from intercompany transactions have been eliminated.

**Non-controlling interests**
Non-controlling interests represent equity interests in subsidiaries held by other owners than Hydro. Non-controlling interests are reported as a separate section of the Group's equity in accordance with IFRS 10 Consolidated Financial

Statements. Results attributed to non-controlling interests are based on ownership interest, or other method of allocation if required by contract.

**Business combinations**
Business combinations are accounted for using the acquisition method in accordance with IFRS 3 Business Combinations. Consideration is the sum of the fair values, as of the date of exchange, of the assets given, liabilities incurred or assumed, and equity instruments issued in exchange for control of the acquiree. The fair value of Hydro's pre-existing ownership interest in an acquiree is included in the consideration, with any gain or loss recognized in Other income, net.

The acquiree's identifiable assets, liabilities and contingent liabilities are recognized separately at the acquisition date at their fair value irrespective of any non-controlling interest. Goodwill is initially measured either as the excess of the consideration over Hydro's interest in the fair value of the acquiree's identifiable net assets (partial goodwill), or as the fair value of 100 percent of the acquiree in excess of the acquiree's identifiable net assets (full goodwill). The method is elected on a transaction-by-transaction basis. Hydro has applied the partial goodwill method for all business combinations completed prior to December 31, 2018. Goodwill is not amortized, but is tested for impairment annually, and more frequently if indicators of possible impairment are observed, in accordance with IAS 36 Impairment of Assets. Goodwill is allocated to the cash generating units or groups of cash generating units expected to benefit from the synergies of the combination and that are monitored for internal management purposes.

The interest of non-controlling shareholders in the acquiree is initially measured as the non-controlling interests' proportion of the fair value of the net assets recognized (partial goodwill method), or as the non-controlling interests' proportion of the fair value of the acquiree (full goodwill method). Non-controlling interests are subsequently adjusted for changes in equity of the subsidiary after the acquisition date.

**Transactions between non-controlling shareholders and the group**
Sales and purchases of share interests and equity contributions not resulting in Hydro gaining or losing control of a subsidiary are reported as equity transactions in accordance with IFRS 10. No gain, loss or change of recognized assets, liabilities or goodwill is recognized as a result of such transactions.

**Investments in associates and joint ventures**
An associate is an equity investment in which Hydro has the ability to exercise significant influence, which is the power to participate in the financial and operating policy decisions of the entity. Significant influence is assumed to exist when Hydro owns between 20 and 50 percent of the voting rights unless other terms and conditions affect Hydro's influence.

A joint arrangement is an entity, asset or operation that is subject to contractually established joint control. Special voting rights may extend control beyond what is conveyed through the owners' proportional ownership interest. Such rights may take the form of a specified number of board representatives, the right of refusal for important decisions, or the requirement of a qualified majority for important decisions which effectively results in joint control with the specific ownership situation. Joint ventures are joint arrangement which represents a residual interest in the arrangement rather than an interest in assets and responsibility for liabilities.

Hydro accounts for investments in associates and participation in joint ventures using the equity method. This involves recognizing Hydro's interest based on its proportional share of the entity's equity, including any excess values and goodwill. Hydro recognizes its share of net income, including depreciation and amortization of excess values and any impairment losses, in Share of the profit (loss) in equity accounted investments. Other comprehensive income derived from associates and joint ventures is included in Hydro's Other comprehensive income. Hydro's proportional share of unrealized profits resulting from transactions with associates and joint ventures, including transfer of businesses, is eliminated. Accounting policies used by associates and joint ventures may differ from the accounting policies adopted by Hydro. Differences in recognition or measurement are adjusted for prior to equity accounting.

Investments in associates and joint ventures are tested for impairment when there are indications of a possible loss in value. An impairment loss is recognized if the recoverable amount, estimated as the higher of fair value less cost of disposal or value in use, is below Hydro's carrying value. Impairment losses are reversed if circumstances change and the impairment situation is no longer deemed to exist.

**Investments in joint operations and jointly owned assets**
Joint operations are arrangements under contractually joint control where the joint operators have an interest in the assets; or benefits from the service potential of the assets; as well as have a direct obligation for the liabilities of the joint arrangement. Joint operations can result from the legal form of the arrangement or other facts and circumstances resulting in an interest in the service potential of the asset and obligation for liabilities. Jointly owned assets are arrangements where Hydro and the other partners have a direct ownership in specifically identified assets, but where joint control is not established. Hydro recognizes its share of assets, liabilities, revenues, if any, and expenses of joint operations and jointly owned assets on a line-by-line basis in the group financial statements.

**Assets held for sale and Income from discontinued operations**
Assets held for sale are reported separately in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations, provided that the sale is highly probable, which includes the criteria that management is committed to the sale, and that the sale will be completed within one year. Assets held for sale are not depreciated, but are measured at the lower of carrying value and the fair value less costs to sell for the asset group. Assets are not reclassified in prior period balance sheets. Immaterial disposal groups are not reclassified.

A discontinued operation is a component of Hydro that is held for sale or has been disposed of. A discontinued operation is a separate major line of business or geographical area of operations. Related cash flows, results of operations and gain or loss from disposal are reported separately as Income (loss) from discontinued operations.

Assets held for sale, liabilities in disposal groups and income and expense from discontinued operations are excluded from specifications presented in the notes unless otherwise stated.

**Revenue recognition**
Hydro implemented IFRS 15 Revenue from Contracts with Customers as of January 1, 2018. The new standard is implemented retrospectively with the cumulative effect of initially applying this standard recognized directly to equity at implementation. As such, IFRS 15 applies to the results reported for 2018 only, while the amounts for 2017 follows the principles in IAS 18 Revenue. The transition is further described in note 3 Changes in accounting principles and new pronouncements.

IFRS 15 requires us to, for each contract with a customer, identify the performance obligations, determine the transaction price, allocate the transaction price to performance obligations to the extent the contract covers more than one performance obligation, determine whether revenue should be recognized over time or at a point in time, and, finally, recognize revenue when or as performance obligations are satisfied. The significant judgment in applying IFRS 15 for Hydro is related to which contracts that qualify for recognition over time, versus recognition at a point in time; at delivery to customer.

For products which are not made to the customer's specification, revenue is recognized at delivery to the customer. For products made to customer specifications and orders, we have assessed whether revenue from those contracts should be recognized over time or at a point in time. We have assessed whether Hydro has an enforceable right to payment for performance completed to date, including a reasonable margin, throughout the production period. Our conclusion is that for close to all contracts we do not have enforceable right to payment as described in IFRS 15, and thus recognition at a point in time is appropriate.

A performance obligation is satisfied when or as the customer obtains control with the goods or services delivered. For some contracts, mainly where products are delivered to the customer's site as consignment stock, control is concluded to pass to the customer at an earlier time than transfer of risk and rewards as assessed under IAS 18.

Sale of electricity continues to be recognized as electricity is delivered to customers through the relevant grid.

Under IAS 18, applied for the 2017 income statement, revenue from sales of products, including products sold in international commodity markets, was recognized upon transfer of ownership, which generally occurs on delivery. For multiple delivery contracts, revenue was allocated to deliveries in line with contract terms, normally either fixed price per unit or a combination of fixed elements and price references to observable market prices. Sales terms providing transportation and related services for sold goods after transfer of ownership to the customer (CIF and similar incoterms) were considered one, combined, delivery to the customer. Revenue, including the service element, was recognized at transfer of ownership of the goods, and remaining costs accrued for. Any rebates or incentive allowances were deferred and recognized in income upon the realization or at the closing of the rebate period. In arrangements where Hydro acted as an agent, such as commission sales, the net commission fee was recognized as revenue.

Margins related to the trading of derivative commodity instruments, including instruments used for risk management purposes, purchase or delivery of physical commodities on a commodity exchange, and physical commodity purchases and sales agreed in combination with a single counterpart, are presented on a net basis in the income statement with trading margins included in revenues.

**Government grants**
Government grants are recognized in accordance with IAS 20 Accounting for Government Grants and Disclosure of Government Assistance. Grants are recognized when there is a reasonable assurance that Hydro will comply with relevant conditions and that the grants will be received. Government grants are deferred in other non-current liabilities until the associated activity is performed or expenses recognized. Investment grants are recognized over the period the associated asset is depreciated. All government grants are recognized in Other income, net. Investment grants are included in Investing activities in the statement of cash flows.

**Other income, net**
Transactions resulting in income from activities other than normal production and sales operations are classified as Other income, net. This includes gains and losses resulting from the disposal of PP&E, investments in subsidiaries, associates or joint ventures as well as government grants, insurance compensation, rental revenue and revenue from utilities.

## Inventories

Inventories are valued at the lower of cost, using the first-in, first-out method (FIFO), or net realizable value. Net realizable value is the estimated selling price in the ordinary course of business less estimated costs of completion and selling costs. Inventory cost includes direct materials, direct labor and a portion of production overhead (manufactured goods) or the purchase price of the inventory. Abnormal amounts of idle facility expense, freight, handling costs, and wasted materials are recognized as expense in the current period. Inventory write-downs to net realizable value occurs when the cost of the inventory is not recoverable, and is reversed in later periods if there is clear evidence of an increase in the net realizable value.

## Property, plant and equipment

Property, plant and equipment (PP&E) is recognized at acquisition cost. The carrying value of PP&E is comprised of the historical cost less accumulated depreciation and any accumulated impairment losses. The carrying value also includes the estimated value of the asset retirement obligation upon initial recognition of the liability. Hydro uses the cost model for PP&E and investment properties.

*Capitalized maintenance*

Expenditures for maintenance and repairs applicable to production facilities are capitalized in accordance with IAS 16 Property, Plant and Equipment when such costs are incurred on a scheduled basis with a time interval of greater than one year. Expenditures that regularly occur at shorter intervals are expensed as incurred. Major replacements and renewals are capitalized and any assets replaced are retired.

*Stripping cost*

Stripping costs incurred during the mining production phase are allocated between cost of inventory produced and the existing mine asset. Stripping costs are allocated as a component of the mine asset in the event they represent significantly improved access to ore. Stripping costs include such activities as removal of vegetation as well as digging the actual pit for mining the ore.

*Capitalized interest*

Hydro capitalizes borrowing costs on qualifying assets in accordance with IAS 23 Borrowing Costs. Currency gains or losses related to Hydro's foreign currency denominated borrowings are not capitalized.

*Leased assets*

Leases which transfer to Hydro substantially all the risks and benefits incidental to ownership of the leased item are identified using the guidance in IAS 17 Leases and IFRIC 4 Determining whether an Arrangement contains a lease. Such arrangements are capitalized as finance leases and included under Property, plant and equipment at the fair value of the leased asset, or, if lower, the present value of the minimum lease payments as of the later of date of inception of the lease or getting access to the services of the asset. The assets are depreciated over the shorter of the estimated useful life of the asset or the lease term. The liability is included in Long-term debt and amortized by the amount of the lease payment less the effective interest expense. All other leases are classified as operating leases with lease payments recognized as an expense over the term of the lease.

## Asset retirement obligations

Hydro recognizes liabilities for the estimated fair value of asset retirement obligations (ARO) relating to assets where such obligations exists, in the period incurred in accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets. Fair value is estimated as the present value of costs relating to dismantlement or removal of buildings or other assets, and/or the restoration or rehabilitation of industrial or mining sites. The liability is recognized when an asset is constructed and ready for use or when the obligation is incurred if imposed at a later date. Related asset retirement costs are capitalized and depreciated over the useful life of the asset. Accretion costs are recognized for the change in the present value of the liability and classified as part of Financial expense. Other changes to estimated fair value of ARO is recognized when identified. The increase or reduction to the liability is recognized as an increase or reduction of the value of the asset. Liabilities that are conditional on a future event (e.g. the timing or method of settlement) are recognized when the value of the liability can be reasonably estimated.

## Intangible assets

Intangible assets acquired individually or as a group are recognized at fair value when acquired. Intangible assets acquired in a business combination are recognized at fair value separately from goodwill when they arise from contractual or legal rights or can be separated from the acquired entity and sold or transferred.

*Emission rights*

Government granted and purchased $CO_2$ emission allowances expected to be used towards Hydro's own emissions are recognized as intangible assets at nominal value (cost). The amounts are not amortized, but are tested for impairment at least annually. Actual $CO_2$ emissions which exceed the level covered by emission rights are recognized as a liability. Sale of emission rights are recognized at the time of sale at the transaction price. $CO_2$ emission allowances purchased for trading are measured and classified as inventory.

*Research and development*
Research expenditures are expensed as incurred. Development costs are capitalized as intangible assets at cost in accordance with IAS 38 Intangible Assets when the recognition criteria are met, including probable future economic benefit and that the cost can be measured reliably.

*Exploration cost*
Exploration cost for mineral resources are expensed as incurred. Costs related to acquired exploration rights are allocated to the relevant areas and capitalized. An area represents a unit that may be utilized based on shared infrastructure and may include several licenses. Exploration rights are transferred to mine development cost when development starts. Exploration rights related to undeveloped areas remain on the balance sheet as intangible assets (mineral rights) until a development is decided or a decision not to develop the area is made.

**Depreciation and amortization**
Depreciation and amortization expenses are measured on a straight-line basis over the estimated useful life of the asset, commencing when the asset is ready for its intended use. Mine property and development costs in extractive activities are depreciated using the unit-of-production method, using proved and probable reserves. Tangible and intangible assets with an indefinite useful life are not depreciated. Estimated useful life by category is as follows:

- Machinery and equipment, initial investment 4-30 years, for power plants up to 75 years
- Machinery and equipment, capitalized maintenance 1-15 years
- Buildings 20-50 years
- Intangible assets with finite lives 3-10 years, for rights related to hydroelectric power production up to 50 years

A component of an item of property, plant and equipment with a significantly differing useful life and a cost that is significant in relation to the item is depreciated separately. At each financial year-end Hydro reviews the residual value and useful life of its assets, with any estimate changes accounted for prospectively over the remaining useful life of the asset.

**Impairment of property, plant and equipment and intangible assets**
Property, plant and equipment and intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable, in accordance with IAS 36 Impairment of Assets. Exploration cost for undeveloped mining areas are assessed for impairment under IFRS 6 Exploration for and Evaluation of Mineral Resources. Intangible assets with indefinite useful life are tested for impairment at least annually.

**Provisions**
Provisions are recognized when Hydro has a present obligation (legal or constructive) as a result of a past event, it is probable (more likely than not) that Hydro will be required to settle the obligation, and a reliable estimate can be made of the amount, taking into account the risks and uncertainties. The provision is measured as the present value of the cash flows estimated to settle the obligation. Uncertain outcomes are measured as the expected value of reasonably possible outcomes. See also the accounting policy discussion for Asset retirement obligations.

**Exit and disposal costs**
Hydro recognizes a provision in the amount of the direct costs associated with an exit and/or disposal activity when a formal commitment to a detailed exit plan is made and communicated to those affected. A provision for termination benefits to employees is recognized as of the date of employee notification. Costs related to such activities are classified as restructuring costs if the exit or disposal materially change the scope of Hydro's business.

**Contingent liabilities and assets**
A contingent liability is a possible obligation that arises from a past event, with the resolution of the contingency dependent on uncertain future events, or a present obligation where no outflow is probable. Major contingent liabilities are disclosed in the financial statements unless the possibility of an outflow of economic resources is remote. Contingent assets are not recognized in the financial statements.

**Foreign currency transactions**
Transactions in foreign currencies are initially recorded in the functional currency of the transacting entity by applying the rate of exchange as of the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the rate of exchange at the balance sheet date. Currency gains or losses are included in Finance expense.

**Foreign currency translation**
For consolidation purposes, the financial statements of subsidiaries with a functional currency other than Norwegian kroner (NOK) are translated into NOK. Assets and liabilities, including investment in associates, joint ventures and goodwill, are translated using the rate of exchange as of the balance sheet date. Income, expenses and cash flows are translated using the average exchange rate for the reported period. Goodwill is recognized in the predominant functional currencies in the acquired businesses. Translation adjustments are recognized in Other comprehensive income and accumulated in Currency translation differences in Other components of equity. On disposal of such subsidiary, joint venture or associate, the

cumulative translation adjustment of the disposed entity is recognized in the income statement as part of the gain or loss on disposal.

**Cash and cash equivalents**
Cash and cash equivalents in the balance sheet includes cash, bank deposits and all other monetary instruments with a maturity of less than three months from the date of acquisition and are measured at nominal value.

**Financial assets**
Financial assets represent a contractual right by Hydro to receive cash or another financial asset in the future. Financial assets include financial derivatives and commodity derivative contracts, receivables and equity interests, as well as financial instruments used for cash-flow hedges.

Starting from January 1, 2018, financial assets are recognized in accordance with IFRS 9 Financial Instruments. On initial recognition, a financial asset is classified as measured at amortized cost; at fair value through other comprehensive income (FVOCI) or at fair value through profit or loss (FVTPL). Classification depends on the business model and, for some instruments, the company's choice. Financial assets are derecognized when the rights to receive cash from the asset have expired or when Hydro has transferred the asset.

*Trade receivables*
Trade receivables are initially recognized at transaction price, subsequently accounted for at amortized cost and are reviewed for impairment on an ongoing basis. Individual accounts are assessed for impairment taking into consideration indicators of financial difficulty and management assessment. Portfolios of trade receivable where expected losses are more than insignificant are reduced for those expected losses. Discounting generally does not have a material effect on accounts receivable, however, in special cases discounting may be applied. Hydro's business model for most trade receivable is to hold the receivables to collect the contractual cash flows. For some portfolios of trade receivables, factoring is applied, however, we have not identified portfolios where there is a mix of receivables that are held to collect contractual cash flows and receivables that are regularly sold requiring us to measure the receivable at FVOCI.

*Debt instruments*
Debt instruments other than trade receivables include bank deposits and all other monetary instruments with a maturity above three months at the date of purchase, investments in debt securities, and certain other receivables. These instruments are measured at amortized costs, with the exception of instruments where cash flows are not contractually fixed and thus required to be measured at FVTPL.

Short-term debt instruments are included in Short-term investments.  Long-term debt instruments are included in Other non-current assets, with the exception for loans to associates and joint ventures, which are included in Investments accounted for using the equity method.

*Equity instruments*
Hydro's portfolio of trading securities is measured at FVTPL, and included in Sort-term investments. Other equity investments that are not consolidated or accounted for using the equity method are classified as either FVTPL or FVOCI on an individual investment basis. Hydro classifies investments in other entities with strategic or operational purpose, such as getting access to raw materials or in other ways cooperating with those entities, primarily as FVOCI, as Hydro considers this classification to be more relevant. Any dividend received from such investment is recognized in Finance income. On disposal of these investments, no gain or loss will be recognized in the income statement, however, any related accumulated value change will be reclassified from Other components of equity to Retained earnings.

These investments were classified as available-for-sale in 2017.

**Financial liabilities**
Financial liabilities represent a contractual obligation by Hydro to deliver cash in the future, and are classified as either short- or long-term. Financial liabilities include financial derivatives, commodity derivative contracts and other financial liabilities as well as financial instruments used for cash-flow hedges. Financial liabilities, with the exception of derivatives, are initially recognized at fair value, including transaction costs directly attributable to the transaction, and are subsequently measured at amortized cost. Financial liabilities are derecognized when the obligation is discharged through payment or when Hydro is legally released from the primary responsibility for the liability.

**Derivative instruments**
Derivative instruments are marked-to-market with the resulting gain or loss reflected in the income statement, except when the instruments meet the criteria for cash flow hedge accounting and are designated as hedge instruments. Derivatives, including hedging instruments and embedded derivatives with expected cash flows within twelve months from the balance sheet date, or held solely for trading, are classified as short-term. Instruments with expected cash flows more than 12 months after the balance sheet date are classified as short and long-term based on the timing of the estimated cash flows.

Derivative contracts are presented gross on the balance sheet unless contract terms include the possibility to settle the contracts on a net basis and Hydro has the intention and ability to do so. The ability to settle net is conditional on simultaneous offsetting cash-flows.

Physical contracts for commodities that are readily convertible to cash are evaluated on a portfolio basis. Portfolios are defined based on business purpose, internal mandates and internal responsibilities. If a portfolio of contracts contains contracts of a similar nature that are settled net in cash, or the underlying products are not intended for own use, the entire portfolio of contracts is recognized at fair value and classified as derivatives. Physical commodity contracts that are entered into and continue to be held for the purpose of the receipt or delivery of the commodity in accordance with Hydro's expected purchase, sale or usage requirements (own use) are not accounted for at fair value. Commodity purchase contracts are generally considered to be the primary source for usage requirements. Hydro's own production of such commodities, for instance electricity, alumina and primary aluminium, is considered to be available for use or sale at Hydro's discretion unless relevant concessions contains restrictions for use.

Derivative commodity instruments are marked-to-market with their fair value recorded in the balance sheet as either assets or liabilities. Adjustments for changes in the fair value of the instruments are reflected in revenue and/or raw material cost. Forward currency contracts and currency options are recognized in the balance sheet and measured at fair value at each balance sheet date with the resulting gain or loss recorded in Finance expense. Interest income and expense relating to swaps are netted and recognized as income or expense over the life of the contract.

Hedge accounting is applied when specific hedge criteria are met, including documentation of the hedge relationship. The changes in fair value of the hedging instruments are offset in part or in full by the corresponding changes in the fair value or cash flows of the underlying hedged exposures. Gains and losses on cash flow hedging instruments are recognized in Other comprehensive income and deferred in the Hedging reserve in Other components of equity until the underlying transaction is recognized in the income statement. Deferred gains and losses relating to forecasted hedged transactions that are no longer expected to occur are immediately recognized in the income statement. Any amounts resulting from hedge ineffectiveness are recognized in the current period's income statement.

An embedded derivative is accounted for as a separate financial instrument, provided that the economic characteristics and risks of the embedded derivative are not closely related to those of the host contract, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and the host contract is not accounted for at fair value. Embedded derivatives are classified both in the income statement and on the balance sheet based on the risks in the derivatives' underlying.

**Income taxes, current and deferred**
Taxes payable is based on taxable profit for the year, which excludes items of income or expense that are taxable or deductible in other years. Taxable profit also excludes items that are never taxable or deductible. Hydro's liability for current tax is calculated using tax rates that have been enacted or substantively enacted as of the balance sheet date.

Deferred income tax expense is calculated using the liability method in accordance with IAS 12 Income Taxes. Deferred tax assets and liabilities are classified as non-current in the balance sheet and are measured based on the difference between the carrying value of assets and liabilities for financial reporting and their tax basis when such differences are considered temporary in nature. For items recognized as an asset and a liability at inception, such as an asset retirement obligation or a lease, temporary differences related to the asset and liability are considered in combination, and deferred tax assets and liabilities are recognized on changes to the temporary differences through the life of the items. Temporary differences related to intercompany profits are deferred using the buyer's tax rate. Deferred tax assets are reviewed for recoverability every balance sheet date, and the amount probable of recovery is recognized.

Deferred income tax expense represents the change in deferred tax asset and liability balances during the year, except for the deferred tax related to items recognized in Other comprehensive income or resulting from a business combination or disposal. Changes resulting from amendments and revisions in tax laws and tax rates are recognized when the new tax laws or rates become effective or are substantively enacted. Uncertain tax positions are recognized in the financial statements based on management's expectations.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities, when they relate to income taxes levied by the same taxation authority, and when the Group intends to settle its current tax assets and liabilities on a net basis.

Deferred taxes are not provided on undistributed earnings of subsidiaries when the timing of the reversal of this temporary difference is controlled by Hydro and is not expected to happen in the foreseeable future. This is applicable for the majority of Hydro's subsidiaries.

**Share-based compensation**
Hydro accounts for share-based compensation in accordance with IFRS 2 Share-based Payment. Share-based compensation expense is measured at fair value over the service period and includes social security taxes that will be paid by Hydro at the settlement date. All changes in fair value are recognized in the income statement.

**Employee benefits and post-employment benefits**
Payments to employees, such as wages, salaries, social security contributions, paid annual leave and bonus agreements are accrued in the period in which the associated services are rendered by the employee.

Post-employment benefits are recognized in accordance with IAS 19 Employee Benefits. The cost of providing pension benefits under a defined benefit plan is determined separately for each plan using the projected unit credit method. Past service costs are recognized immediately in the income statement. The interest component of the periodic cost is included in Finance expense. Remeasurement gains and losses are recognized in Other comprehensive income.

Contributions to defined contribution plans are recognized in the income statement in the period in which they accrue. Multiemployer defined benefit plans where available information is insufficient to use defined benefit accounting are accounted for as if the plan were a defined contribution plan.

**Income statements and statements of comprehensive income**
Hydro has elected to present a separate income statement and a separate statement of comprehensive income, rather than a combined statement. Further, Hydro has elected to present an analysis of expenses based on their nature as a common analysis of expenses through Hydro's value chain. Hydro has elected to present a sub-total Earnings before financial items and tax (EBIT). This measure is also used as the main segment profit measure. The share of the profit (loss) in equity accounted investments is included in this sub-total because the majority of such investments are operationally integrated with Hydro's businesses. Results from such investments are managed as part of Hydro's operating activities with significant transactions between the majority of these investments and Hydro. Return on other equity investments is not as closely related to the business activities in Hydro, and classification as finance income thus better reflects the way such investments are managed.

**Statements of cash flows**
Hydro uses the indirect method to present cash flows from operating activities. Interest and dividends received as well as interest paid is included in cash flows from operating activities. Dividends paid is included in cash flows from financing activities.

**Segment information**
Hydro identifies its reportable segments and discloses segment information under IFRS 8 Operating Segments.

# Note 3 - Changes in accounting principles and new pronouncements

**Changes in accounting principles**
Hydro implemented IFRS 9 and IFRS 15 as of January 1, 2018.

**IFRS 15 Revenue from Contracts with Customers**
Hydro implemented IFRS 15 as of January 1, 2018. The new standard is implemented retrospectively with the cumulative effect of initially applying this standard recognized directly to equity at implementation.

IFRS 15 requires us to, for each contract with a customer, identify the performance obligations, determine the transaction price, allocate the transaction price to performance obligations to the extent the contract covers more than one performance obligation, determine whether revenue should be recognized over time or at a point in time, and, finally, recognize revenue when or as performance obligations are satisfied.

Some contracts for sale of goods include an element of freight services, which is considered a separate performance obligation under IFRS 15, and related revenue is recognized over the time of journey. This represents recognition at a later time than under the previous regulations. There were no significant transport contracts under performance as of the time of transition. Some construction type contracts where revenue was recognized over time using IAS 11 Accounting for Construction Contracts in previous years, do not qualify for recognition over time under IFRS 15. For some contracts, mainly where products are delivered to the customer's site as consignment stock, control is concluded to pass to the customer at an earlier time than transfer of risk and rewards as assessed under IAS 18 Revenue. The effect of earlier and later recognition is included in the table below.

**IFRS 9 Financial Instruments**
IFRS 9 is applied retrospectively. Some transitional effects were recognized in the opening equity at transition, i.e. January 1, 2018 as required or allowed by the standard. IFRS 9 did not lead to any significant changes in timing of recognition or how to measure assets or liabilities and related income and expense. Hydro has classified the portfolio of equity investments that are not part of trading portfolios, which was held at transition, as instruments at fair value through Other Comprehensive Income (FVOCI). All changes in the fair value of those instruments, including an ultimate gain or loss at divestment of the instrument, will be recognized in OCI. Recognized changes to fair value of such investments of NOK 239 million, after tax, will not be recycled in future periods. There will be some changes to presentation and disclosures, however, the impact for Hydro's portfolio of instruments at transition is minor. Some additional risk management strategies related to commodity price

exposure will qualify for hedge accounting, however, Hydro has decided not to apply hedge accounting for any additional risk management activities utilized as of the end of 2017. For one cash flow hedge program for a previous investment project which is deferred in the hedging reserve in equity and reclassified to income over the depreciation period of the asset, the remaining hedging reserve of NOK 60 million was reclassified to reduce the carrying value of the asset and related deferred tax as a basis adjustment.

| Change of accounting principles, amounts in NOK million | IFRS 15 Earlier recognition | IFRS 15 Later recognition | IFRS 9 | Effect of change in accounting principles |
|---|---|---|---|---|
| Current assets | 26 | 8 | | 34 |
| Property, plant and equipment | | | (87) | (87) |
| Total assets | 26 | 8 | (87) | (54) |
| | | | | |
| Current liabilities | | 11 | | 11 |
| Deferred tax liabilities | 6 | (1) | (27) | (22) |
| Equity attributable to Hydro shareholders | 20 | (2) | (60) | (43) |
| Total liabilities and equity | 26 | 8 | (87) | (54) |

**New pronouncements**
As of the date of authorization of these financial statements, the IASB has issued IFRS 16 Leases; effective date January 1, 2019, which will be relevant for Hydro. IFRS 16 is endorsed by the EU.

Hydro has decided to implement IFRS 16 retrospectively with the cumulative effect of initially applying the standard recognized at the date of implementation, i.e. January 1, 2019. Further, Hydro will utilize the practical expedient available for measuring leased assets currently accounted for as operating leases at an amount equal to the lease liability, adjusted for any prepaid or accrued lease payments, for close to all lease contracts. Leased assets with a remaining lease period of less than 12 months at transition will be excluded from lease accounting. Further, leases of assets of a low value (small asset leases), mainly such items as PCs, office equipment and similar, will be excluded from lease accounting. When measuring leases, Hydro will include fixed lease payments for extension periods reasonably certain to be used. As a practical expedient, non-lease components will not be separated from lease contracts for most asset classes. For transportation assets, such as vessels used for transportation of material, the operating cost is a significant non-lease component, and will be excluded from lease accounting.

The implementation of IFRS 16 impacts items currently accounted for as operating leases. Hydro does not expect any changes related to finance leases. The implementation of IFRS 16 is expected to increase Hydro's carrying value of property, plant and equipment by about NOK 3.1 billion, of which about NOK 1.6 billion relates to land and buildings, while the remainder relates to various types of machinery and equipment. The implementation of IFRS 16 will also lead to a shift of periodic cost of about NOK 0.7 billion from Other operating expenses mainly to depreciation and amortization expense, partly to interest expense. Quality assurance of the implementation effect, including completeness of contracts, assumptions for renewal and purchase options, as well as testing of the measurement tools, is still ongoing. Variable lease payments, including service elements related to leases which are fully variable amounts, will be recognized as operating expenses in the periods incurred.

In addition, the IASB has issued IFRIC 23 Uncertainty over Income Tax Treatment; effective date January 1, 2019. The interpretation clarifies how to assess tax positions when there is uncertainty about what the correct understanding of tax laws and regulations is. IFRIC 23 is not expected to have any impact for Hydro at the time of transition.

# Note 4 - Measurement of fair value

Hydro measures certain assets and liabilities at fair value for the purpose of recognition or disclosure, see note 2 Significant accounting policies. Recurring fair value measurement is used primarily for financial instruments. Non-recurring fair value measurement is used for transactions, such as business combinations, divestments with non-cash consideration and certain other non-routine transactions. Fair value is estimated using inputs which are to varying degrees objectively observable. Certain items are valued on the basis of quoted prices in active markets for identical assets or liabilities, others are valued on the basis of inputs that are derived from observable prices, while certain positions are valued on the basis of judgmental assumptions that are to a limited degree or not at all based on observable market data.

*Financial instruments*
The estimated fair value of Hydro's financial instruments is based on market prices and valuation techniques. Valuations are made with the objective to include relevant factors that market participants would consider in setting a price, and to apply accepted economic and financial methodologies for the pricing of financial instruments. References for less active markets are carefully reviewed to establish relevant and comparable data. Extrapolations and other accepted valuation techniques are

employed in periods with few or no transactions, such as for long-term commodity contracts in markets with few observations beyond the short or mid term period.

Hydro's estimated credit spread for similar liabilities is used when determining the fair value of financial instruments where Hydro is net liable. Hydro determines the appropriate discount factor and credit spread for financial assets based on both an individual and on a portfolio assessment.

*Equity securities*
Fair value for listed shares is based on quoted market prices as of the balance sheet date. Fair value for unlisted shares is based on commonly accepted valuation techniques utilizing significant unobservable data, primarily cash flow-based models. To the extent there are transactions in such shares, the transaction price is assessed and, to the extent comparable to rights embodied in the investment held by Hydro, used for reference. For investments where share holdings are associated with offtake rights and/or obligations or other specific clauses, those rights and obligations are included in the valuation of the equity securities.

*Debt instruments*
Fair value for listed instruments is based on quoted market prices as of the balance sheet date. Fair value for other debt instruments is estimated primarily through cash flow models using contractual cash flow where relevant, and discount rates reflecting the perceived credit risk and other relevant risks associated with the instrument.

*Derivatives*
Fair value of financial derivatives with a currency or interest rate as underlying is estimated as the present value of future cash flows, calculated by reference to quoted swap price curves and exchange rates as of the balance sheet date. For derivatives covering a period beyond the liquid period of price curves, the curves are extrapolated using unobservable data.

Fair value of commodity derivatives is measured as the present value of future cash flows, calculated using forward curves and exchange rates as of the balance sheet date. Estimates from brokers and extrapolation techniques are applied for non-quoted periods to achieve the most relevant forward curve. In addition, when deemed appropriate, correlation techniques between commodities are applied. Options are revalued using option pricing models, and credit spreads are applied where deemed to be significant. Markets are assessed to determine whether they are active for the relevant instruments. Currency and interest markets are considered liquid for the periods used for price references, and thus applied unadjusted. For aluminium contracts priced to observations at the London Metal Exchange (LME), liquidity is considered good for the first few years, with fewer transactions for longer durations. For electricity contracts priced to the electricity exchange Nasdaq Electricity Nordic, liquidity is considered good for the first two years. For longer durations there are fewer transactions and higher uncertainty. Similar assessment is made for other markets used for price references. For less liquid periods, adjustments to remove outliers and extrapolation techniques are applied.

*Embedded derivatives*
Hydro measures embedded forward contracts that are separated from the host contract by comparing the forward curve at contract inception to the forward curve as of the balance sheet date. Changes in the present value of the cash flows related to the embedded derivative are recognized in the balance sheet and in the income statement. Forward curves are established as described above under Derivatives.

## Note 5 - Critical accounting judgment and key sources of estimation uncertainty

The application of accounting policies requires that management makes estimates and judgments in determining certain revenues, expenses, assets, and liabilities. The following accounting policies represent areas that are considered critical, involving a significant degree of judgment and complexity.

**Impairment of non-current assets**
IAS 36 requires that Hydro assess conditions that could cause an asset or a Cash Generating Unit (CGU) to become impaired and to test recoverability of potentially impaired assets. These conditions include internal and external factors such as Hydro's market capitalization, significant changes in Hydro's planned use of the assets or a significant adverse change in the expected prices, sales volumes or raw material cost. The identification of CGUs involves judgment, including assessment of where active markets exist, and the level of interdependency of cash inflows. For Hydro, the CGU is either the individual plant, a group of plants that forms an integrated value chain where no independent prices for the intermediate products exist, a group of plants that are combined and managed to serve a common market, or a group of assets where circumstances otherwise indicate significant interdependencies.

In accordance with IAS 36, goodwill and certain intangible assets are reviewed at least annually for impairment. Other assets are tested for impairment if a loss in value is indicated. When a CGU or an asset is tested for impairment, the recoverable amount is estimated as the higher of the CGU's fair value less cost of disposal, or its value in use. Directly observable market prices rarely exist for our assets, however, fair value may be estimated based on recent transactions on comparable assets, internal models used by Hydro for transactions involving the same type of assets or other relevant information. Calculation of value in use is a discounted cash flow calculation based on continued use of the assets in its present condition, excluding potential exploitation of improvement or expansion potential.

Determination of the recoverable amount involves management estimates on highly uncertain matters, such as commodity prices and their impact on markets and prices for upgraded products, development in demand, inflation, operating expenses and tax and legal systems. We use internal business plans, quoted market prices and our best estimate of long-term development in commodity prices, currency rates, discount rates and other relevant information. A detailed forecast is developed for a period of three to five years with projections thereafter. Hydro does not include a general growth factor to volumes for the purpose of impairment tests, however, cash flows are generally increased by expected inflation and, where market conditions are depressed, we consider whether full or partial market recovery towards previously observed volumes is justified. Estimated cash flows are discounted with a nominal risk adjusted discount rate. For further information about impairment tests, see note 20 Impairment of non-current assets.

**Business combinations**
In a business combination, consideration, assets and liabilities are recognized at estimated fair value, and any excess purchase price included in goodwill. Where Hydro had an existing ownership interest in the acquiree, that interest is also reassessed to determine its acquisition date estimated fair value, resulting in an acquisition date gain or loss. In the businesses Hydro operates, fair values of individual assets and liabilities are normally not readily observable in active markets. Estimation of fair values requires the use of valuation models for acquired assets and liabilities as well as ownership interests. Such valuations are subject to numerous assumptions and are thus uncertain. The quality of fair value estimates may impact assessment of possible impairment of assets and/or goodwill in future periods.

**Contingent assets and liabilities, uncertain assets and liabilities**
Liabilities that are uncertain in timing or amount are recognized when a liability arises from a past event and an outflow of cash or other resources is probable and can be reasonably estimated. Contingent liabilities are possible obligations where a future event will determine whether Hydro will be required to make a payment to settle the liability, or where the size of the payment cannot be determined reliably. Material contingent liabilities are disclosed unless a future payment is considered remote. Evaluation of uncertain liabilities and contingent liabilities and assets requires judgment and assumptions regarding the probability of realization and the timing and amount, or range of amounts, that may ultimately be incurred. Such estimates may vary from the ultimate outcome as a result of differing interpretations of laws and facts.

In relation to perceived non-compliance with laws and regulations, authorities, non-governmental organizations, or others may claim that Hydro is responsible for mitigating actions and compensation. The legal basis for such claims as well as cost calculation and other aspects can be difficult to assess.

*Environmental liabilities and asset retirement obligations*
Hydro's industrial and mining activities are subject to a wide range of environmental laws and regulations, including end-of-life remediation regulations. The extent of site and off-site contamination, the remediation methods and requirements that relevant environmental authorities may impose, are uncertain. The long-term use of sites, with increasing awareness of effects of contamination in society, a generally lower acceptance of contamination in communities over time, as well as changes in remediation methods and requirements, contributes to the uncertainty in assessing and measuring such obligations. Remediation and closure activities expected to be conducted far into the future are less accurately measured than near-term planned activities. Consequently, there is significant uncertainty inherent in the estimates. A discussion of Hydro's significant provisions for environmental and other liabilities is included in note 35 Provisions. Significant contingent obligations are discussed in note 36 Contingent liabilities and contingent assets.

*Taxes*
Hydro calculates income tax expense based on reported income in the different legal entities. Deferred income tax expense is calculated based on the differences between the carrying value of assets and liabilities for financial reporting purposes and their respective tax basis that are considered temporary in nature. Valuation of deferred tax assets is dependent on management's assessment of future recoverability of the deferred benefit. Expected recoverability may result from expected taxable income in the future, planned transactions or planned tax optimizing measures, all of which may be uncertain. Economic conditions may change and lead to a different conclusion regarding recoverability. Tax authorities in different jurisdictions may challenge Hydro's calculation of taxes payable from prior periods. Such processes may lead to changes to prior periods' taxable income, resulting in changes to income tax expense in the period of change, as well as interest and fines.

Indirect tax regimes are complex in many jurisdictions and cross-border. Basis for such taxes may differ from actual transaction prices. In some jurisdictions, including Brazil, significant credit amounts are generated for use against future indirect and/or income tax payments. The value of such credits depends on future generation of taxes. Economic conditions and tax regulations may change and lead to a different conclusion regarding recoverability. Tax authorities may challenge Hydro's calculation of taxes and credits from prior periods. Such processes may lead to changes to prior periods' operating or financial expenses to be recognized in the period of change.

**Financial instruments**
Certain commodity contracts are deemed to be financial instruments under IFRS 9 or to contain embedded derivatives which are required to be recognized at fair value, with subsequent changes in fair value impacting the income statement. Determining

whether contracts qualify as financial instruments at fair value involves evaluation of markets, Hydro's use of those instruments and historic or planned use of physically delivered products under such contracts. Determining whether embedded derivatives are required to be separated and accounted for at fair value involves assessing price correlations and normal market pricing mechanisms for relevant products and market places. Where no directly observable market prices exist, fair value is estimated through valuation models which rely on internal assumptions as well as observable market information such as forward curves, yield curves and interest rates. Market stability impacts the reliability of observed prices and other market information, and consequently, the extent of judgment necessary to estimate appropriate market prices for valuation purposes. Volatility also impacts the magnitude of changes in estimated fair value, which can be substantial, in particular on long-term contracts. Historically, financial and commodity markets have been highly volatile.

**Employee retirement plans**
Hydro provides both defined benefit employee retirement plans and defined contribution plans. A significant but decreasing share is defined benefit plans. Measurement of pension cost and obligations under such plans requires numerous assumptions and estimates that can have a significant impact on the recognized pension cost and obligation, such as discount rates, turnover rate and mortality, as well as future pension increases and salary levels.

# Note 6 - Significant subsidiaries and changes to the consolidated group

**Acquisition of Sapa**
On July 10, 2017, Hydro entered into a contract to acquire 50 percent of the shares in Sapa AS, which was a joint venture owned 50 percent by Hydro and 50 percent by Orkla, a listed company in Norway. Following completion of the transaction on October 2, 2017, Hydro owns 100 percent of the parent company Hydro Extruded Solutions AS. Hydro's acquisition of Sapa AS in October 2017 resulted in a significant increase in the number of subsidiaries and plants.

Hydro paid a cash consideration of NOK 11,860 million for the 50 percent shares acquired on October 2, 2017, with certain post-closing adjustments made during December 2017 resulting in an additional payment of NOK 46 million for the shares in January 2018, in total NOK 11,906 million. The pricing was based on an agreed enterprise value of NOK 27 billion for 100 percent of Sapa on a cash and debt free basis, adjusted for certain items such as level of working capital and investments made during 2017. The fair value of Hydro's previously held 50 percent interest in Sapa was measured, using significant unobservable (level 3) input, at NOK 8,906 million, resulting in a total value of Sapa's net assets of NOK 20,813 million. A remeasurement gain of NOK 2,171 million, including certain items previously recognized in Other Comprehensive Income of NOK 751 million, was recognized in Other income, net, in 2017.

Significant parts of the process of identifying the fair value of assets acquired and liabilities assumed was performed in 2017 and completed during 2018. The provisionally estimated fair value of assets and liabilities of Sapa as well as the final amounts are included in the table below. Adjustments primarily relate to completed valuation of land and some buildings. The value of deferred tax and goodwill have been updated following adjustments to valuation of other items. The changes did not result in significant changes to depreciation or amortization; the prior period has thus not been restated.

Sapa had uncertain and contingent liabilities related to historic environmental issues and an investigation by the United States Department of Justice for which Hydro is entitled to indemnity from the seller. An agreement in principle was reached with the US Department of Justice in March 2019, see note 35 Provisions. The indemnification asset recognized as of December 31, 2018 thus increased by about NOK 160 million from what was recognized as part of the acquisition.

The acquisition resulted in recognition of goodwill in the transaction amounting to NOK 3,580 million, including goodwill recognized in Sapa prior to the acquisition. Significant contributors to the goodwill are synergies in the transaction, the assembled and skilled workforce in the organization as well as the time value of deferred tax liabilities recognized at nominal amounts as required by IFRS. Goodwill is allocated to groups of CGUs benefiting from shared resources such as brands, technology and other intangible assets. These groups of CGUs are managed and reviewed on a combined basis by Business Area management. For the allocation of goodwill and impairment testing, see note 20 Impairment of non-current assets.

**Acquired assets and liabilities**

| Amounts in NOK million | 2017 estimate | Adjustments | Final |
|---|---|---|---|
| Cash and cash equivalents | 892 | - | 892 |
| Accounts receivables | 8,775 | (12) | 8,763 |
| Inventories | 6,469 | - | 6,469 |
| Other current assets | 233 | 12 | 245 |
| Total current assets | 16,369 | - | 16,369 |
| Property, plant and equipment | 14,052 | 922 | 14,974 |
| Intangible assets | 2,897 | (130) | 2,767 |
| Goodwill | 4,119 | (539) | 3,580 |
| Other non-current assets | 1,969 | (16) | 1,953 |
| Total non-current assets | 23,037 | 236 | 23,273 |
| Total assets acquired | 39,405 | 236 | 39,642 |
| Bank loans and other interest-bearing short-term debt | 3,556 | - | 3,556 |
| Other current liabilities | 10,081 | - | 10,081 |
| Total current liabilities | 13,637 | - | 13,637 |
| Long-term debt | 64 | - | 64 |
| Deferred tax liabilities | 2,486 | 287 | 2,773 |
| Other non-current liabilities | 2,365 | (51) | 2,314 |
| Total non-current liabilities | 4,915 | 236 | 5,152 |
| Net assets acquired | 20,853 | - | 20,853 |
| Non-controlling interests | 40 | - | 40 |
| Net assets acquired by Hydro | 20,813 | - | 20,813 |

The results from January to September 2017 for Sapa were reported as result from the 50 percent owned joint venture accounted for under the equity method, no results from the acquired businesses were included in Hydro's consolidated income statement as results from the Group's controlled business as of September 30, 2017.

Hydro has not made any significant acquisitions or divestments during 2018. For one acquisition of an extrusion unit in Brazil, the initial accounting for the business combination is incomplete.

**Subsidiaries with significant non-controlling interests**

The Hydro group consists of about 200 companies in about 40 countries. Most subsidiaries, including the large operating units in Norway and Germany, are 100 percent owned, directly or indirectly, by Norsk Hydro ASA. Restrictions in the ability to transfer dividend based on reported results and/or equity in the relevant subsidiaries exist in most countries where we operate. In some countries, including Brazil, there are also legal restrictions in our ability to integrate cash holdings in subsidiaries in the group's cash pool. There are non-controlling interests in some subsidiaries. The more significant ones are described below.

*Albras*

Hydro holds 51 percent of the shares in the Brazilian aluminium smelter Alumínio Brasileiro S.A. (Albras), which is part of Primary Metal. The non-controlling owner has significant influence on certain decisions in the entity, including operational and investment budgets. The non-controlling interests in Albras amounted to NOK 2,721 million as of December 31, 2018 and NOK 2,824 million as of December 31, 2017. Funds held by the entity are not available to the group through cash pool arrangements. Dividends need to be approved by the shareholders jointly. The shareholder agreement supports transfer of dividend to the extent possible under statutory regulations. The smelter produces standard ingots, which are sold to its shareholders, or the entities appointed by the shareholders, in proportion to ownership interest at a price based on prevailing aluminium prices at the London Metal Exchange and product premiums. In response to the regime for indirect taxes in Brazil, an increasing share of the production is sold to domestic customers rather than exported.

*Slovalco*

Hydro holds 55 percent of the total shares and 60 percent of the voting interest in the Slovac smelter Slovalco a.s, which is part of Primary Metal. The non-controlling owner has significant influence on certain decisions in the entity, including operational and investment budgets. The non-controlling interests in Slovalco amounted to NOK 1,182 million as of December

31, 2018 and NOK 1,036 million as of December 31, 2017. Funds held by the entity are not available to the group through cash pool arrangements. Dividends need to be approved by the shareholders jointly. The shareholder agreement supports transfer of dividend to the extent possible under statutory regulations. The smelter produces metal products, of which the majority is sold to Hydro at a price based on prevailing aluminium prices at the London Metal Exchange and product premiums.

*Alunorte*
Hydro holds about 92 percent of the shares in the Brazilian alumina refinery Alumina do Norte do Brasil S.A. (Alunorte), which is part of Bauxite & Alumina. The non-controlling owners have limited influence on the operational decisions. The non-controlling interests in Alunorte amounted to NOK 859 million as of December 31, 2018 and NOK 1,167 million as of December 31, 2017. Funds held by the entity are not available to the group through cash pool arrangements. Dividends need to be approved by the shareholders jointly. The shareholder agreement supports transfer of dividend to the extent possible under statutory regulations. The refinery produces alumina, which is sold to its shareholders in proportion to ownership interest at a price based on prevailing aluminium prices at the London Metal Exchange, with a minimum price based on production cost plus a margin, and a fixed maximum price.

The table below summarizes key figures for Albras, the only subsidiary with non-controlling interests considered material, as included in the group financial statements. Fair value adjustments from Hydro's acquisition of the subsidiary are included. Intercompany transactions and balances are included, and any internal profit and loss in inventory and fixed assets purchased from group companies are not eliminated in the numbers below.

| | Albras | |
|---|---|---|
| Amounts in NOK million | **2018** | 2017 |
| Internal revenue | **3,090** | 3,963 |
| External revenue | **4,171** | 3,839 |
| Earnings before financial items and tax | **344** | 975 |
| Net income | **200** | 635 |
| Other comprehensive income | **35** | (18) |
| Total comprehensive income | **236** | 618 |
| Net cash flows from operating activities | **942** | 786 |
| Net cash flows from investing activities | **(361)** | (420) |
| Net cash flows from financing activities | **(407)** | (381) |
| Cash and cash equivalents | **334** | 160 |
| Other current assets | **1,925** | 2,442 |
| Non-current assets | **4,383** | 5,018 |
| Current liabilities | **(637)** | (1,362) |
| Non-current liabilities | **(453)** | (497) |
| Equity attributable to Hydro | **(2,830)** | (2,937) |
| Equity attributable to non-controlling interests | **(2,721)** | (2,824) |
| Share of net income attributable to non-controlling interest | **104** | 312 |
| Dividends paid to non-controlling interests | **66** | 307 |

# Note 7 - Operating and geographic segment information

Hydro identifies its reportable segments and discloses segment information under IFRS 8 Operating Segments, which requires Hydro to identify its segments according to the organization and reporting structure used by management. Operating segments are components of a business that are evaluated regularly by the chief operating decision maker for the purpose of assessing performance and allocating resources. Hydro's chief operating decision maker is the President and CEO. Generally, financial information is required to be disclosed on the same basis that is used by the CEO.

Hydro's operating segments represent separately managed business areas with products serving different markets, or distinct elements of the business separately followed up and reported to the chief operating decision maker. Hydro's reportable segments are the six business areas Bauxite & Alumina, Primary Metal, Metal Markets, Rolled Products, Extruded Solutions, and Energy.

Bauxite & Alumina activities includes bauxite mining activities, production of alumina and related commercial activities, primarily the sale of alumina.

Primary Metal includes primary aluminium production, remelting and casting activities. The main products are comprised of extrusion ingots, foundry alloys, sheet ingot and standard ingot.

Metal Markets includes all sales activities relating to products from our primary metal plants and operational responsibility for Hydro's stand-alone remelters as well as physical and financial metal trading activities.

Rolled Products includes Hydro's rolling mills and the dedicated primary metal plant in Neuss, Germany. The main products are comprised of aluminium foil, strip, sheet, and lithographic plate for application in such sectors as packaging, automotive and transport industries, building and general engineering, as well as for offset printing plates.

Extruded Solutions delivers products within extrusion profiles, building systems and precision tubing, and is present in more than 40 countries. Hydro acquired control with the business as of October 2017, see note 6 Significant subsidiaries and changes to the consolidated group. The previous 50 percent ownership in the business as the joint venture Sapa is also reported as part of the segment now named Extruded Solutions.

Energy includes operating and commercial responsibility for Hydro's power stations in Norway, a trading and wholesale business in Brazil, and energy sourcing for Hydro's world-wide operations.

Other consist of Hydro's captive insurance company Industriforsikring, its industry parks, internal service providers, and certain other activities.

**Operating segment information**
Hydro uses two measures of segment results, Earnings before financial items and tax - EBIT and EBITDA. EBIT is consistent with the same measure for the group, considering the principles for measuring certain intersegment transactions and contracts described below. Hydro defines EBITDA as Income (loss) before tax, financial income and expense, depreciation, amortization and write-downs, including amortization and impairment of excess values in equity accounted investments. Hydro's definition of EBITDA may be different from other companies.

Because Hydro manages long-term debt and taxes on a group basis, Net income is presented only for the group as a whole.

Intersegment sales and transfers reflect arm's length prices as if sold or transferred to third parties at the time of inception of the internal contract, which may cover several years. Transfers of businesses or fixed assets within or between Hydro's segments are reported without recognizing gains or losses. Results of activities not considered part of Hydro's main operations as well as unallocated revenues, expenses, liabilities and assets are reported together with Other under the caption Other and eliminations.

The accounting policies used for segment reporting reflect those used for the group. The following exceptions apply for intersegment transactions: Internal commodity contracts may meet the definition of a financial instrument in IFRS 9 or contain embedded derivatives that are required to be reported separately and valued at fair value under IFRS 9. However, Hydro considers these contracts as sourcing of raw materials or sale of own production, and accounts for such contracts as executory contracts. Certain other internal contracts may contain lease arrangements that qualify as a finance lease. However, the segment reporting reflects the responsibility allocated by Hydro's management for those assets. Costs related to certain pension schemes covering more than one segment are allocated to the operating segments based either on the premium charged or the estimated service cost. Any difference between these charges and pension expenses measured in accordance with IFRS, as well as pension assets and liabilities are included in Other and eliminations.

The following tables include information about Hydro's operating segments.

| Amounts in NOK million | External revenue 2018 | External revenue 2017 | Internal revenue 2018 | Internal revenue 2017 | Share of the profit (loss) in equity accounted investments 2018 | Share of the profit (loss) in equity accounted investments 2017 |
|---|---|---|---|---|---|---|
| Bauxite & Alumina | **14,396** | 15,188 | **14,152** | 10,234 | **-** | - |
| Primary Metal | **7,829** | 7,578 | **31,605** | 28,888 | **722** | 745 |
| Metal Markets | **42,502** | 44,264 | **11,735** | 6,341 | **-** | - |
| Rolled Products | **26,940** | 25,538 | **15** | 178 | **-** | - |
| Extruded Solutions[1)] | **64,023** | 14,083 | **61** | 70 | **53** | 812 |
| Energy | **3,673** | 2,550 | **5,007** | 5,155 | **(35)** | (7) |
| Other and eliminations | **14** | 18 | **(62,576)** | (50,865) | **24** | (24) |
| Total | **159,377** | 109,220 | **-** | - | **765** | 1,527 |

| Amounts in NOK million | Depreciation, amortization and impairment 2018 | Depreciation, amortization and impairment 2017 | Earnings before financial items and tax (EBIT)[2)] 2018 | Earnings before financial items and tax (EBIT)[2)] 2017 | EBITDA 2018 | EBITDA 2017 |
|---|---|---|---|---|---|---|
| Bauxite & Alumina | **2,095** | 2,486 | **1,763** | 3,704 | **3,858** | 6,190 |
| Primary Metal | **2,253** | 2,026 | **2,123** | 4,729 | **4,267** | 6,747 |
| Metal Markets | **101** | 95 | **886** | 485 | **986** | 579 |
| Rolled Products | **927** | 860 | **336** | 512 | **1,263** | 1,372 |
| Extruded Solutions[1)] | **1,723** | 444 | **1,774** | 2,522 | **3,498** | 2,966 |
| Energy | **239** | 223 | **1,853** | 1,531 | **2,107** | 1,757 |
| Other and eliminations | **30** | 28 | **(214)** | (1,295) | **(183)** | (1,268) |
| Total | **7,369** | 6,162 | **8,522** | 12,189 | **15,796** | 18,344 |

| Amounts in NOK million | Non-current assets 2018 | Non-current assets 2017 | Total assets[3)] 2018 | Total assets[3)] 2017 | Investments[4)] 2018 | Investments[4)] 2017 |
|---|---|---|---|---|---|---|
| Bauxite & Alumina | **31,683** | 33,876 | **39,450** | 41,075 | **963** | 1,634 |
| Primary Metal | **31,106** | 30,740 | **44,448** | 42,863 | **2,724** | 3,537 |
| Metal Markets | **1,414** | 1,292 | **9,844** | 7,810 | **165** | 143 |
| Rolled Products | **9,233** | 9,094 | **20,057** | 19,513 | **1,047** | 997 |
| Extruded Solutions[1)] | **26,518** | 26,174 | **43,630** | 41,971 | **2,390** | 22,137 |
| Energy | **5,671** | 5,654 | **6,990** | 6,677 | **280** | 361 |
| Other and eliminations | **1,232** | 1,821 | **(2,564)** | 3,364 | **45** | 39 |
| Total | **106,858** | 108,643 | **161,855** | 163,273 | **7,614** | 28,848 |

1) The extruded solutions segment includes the business acquired as a 100 percent owned subsidiary in fourth quarter 2017. For the previous periods, the segment includes the same business reported as 50 percent owned joint venture, reported using the equity method. See note 6 Significant subsidiaries and changes to the consolidated group for further information.
2) Total segment Earnings before financial item and tax is the same as Hydro group's total Earnings before financial income and tax. Financial income and financial expenses are not allocated to the segments. There are no reconciling items between segment Earnings before financial items and tax to Hydro Earnings before financial items and tax. Therefore, a separate reconciling table is not presented.
3) Total assets exclude internal cash pool accounts and accounts receivable related to group relief.
4) Additions to property, plant and equipment (capital expenditures) plus long-term securities, intangible assets, long-term advances and investments in equity accounted investments, including amounts recognized in business combinations. In 2018, investments were reduced with certain indirect tax charges in Brazil not completely deducted and claimed at the time of investment. A review of deductibility resulted in reduction of asset costs for Bauxite & Alumina and Primary Metal of NOK 635 million and NOK 145 million, respectively.

The identification of assets, non-current assets and investments is based on location of operation. Included in non-current assets are investments in equity accounted investments; property, plant and equipment (net of accumulated depreciation) and non-current financial assets.

Operating revenues are identified by customer location.

| Amounts in NOK million | Revenue 2018 | Revenue 2017 | Non-current assets 2018 | Non-current assets 2017 | Investments[1)] 2018 | Investments[1)] 2017 |
|---|---|---|---|---|---|---|
| Norway | **4,424** | 3,094 | **22,612** | 22,412 | **2,667** | 2,722 |
| Germany | **21,428** | 15,354 | **10,875** | 11,511 | **539** | 3,171 |
| France | **8,604** | 4,102 | **2,733** | 2,690 | **230** | 2,601 |
| United Kingdom | **7,933** | 3,932 | **1,344** | 1,295 | **134** | 654 |
| Poland | **6,577** | 4,618 | **725** | 543 | **280** | 476 |
| Spain | **6,017** | 4,656 | **824** | 732 | **175** | 578 |
| Italy | **5,802** | 4,422 | **505** | 362 | **138** | 317 |
| The Netherlands | **3,666** | 2,687 | **1,377** | 1,319 | **174** | 677 |
| Austria | **3,117** | 2,324 | **397** | 298 | **129** | 291 |
| Sweden | **2,477** | 1,545 | **821** | 805 | **135** | 808 |
| Belgium | **2,200** | 1,394 | **1,531** | 1,370 | **425** | 1,188 |
| Czech Republic | **1,992** | 1,134 | **-** | - | **-** | - |
| Denmark | **1,761** | 1,933 | **830** | 900 | **10** | 900 |
| Portugal | **1,258** | 883 | **133** | 172 | **(22)** | 173 |
| Hungary | **1,159** | 1,061 | **1,110** | 1,329 | **(109)** | 1,324 |
| Slovakia | **831** | 721 | **1,519** | 1,230 | **148** | 288 |
| Other | **3,106** | 2,051 | **233** | 212 | **49** | 55 |
| Total EU | **77,927** | 52,818 | **24,958** | 24,768 | **2,435** | 13,502 |
| Switzerland | **4,840** | 5,031 | **79** | 157 | **-** | 1 |
| Turkey | **2,222** | 1,827 | **2** | 2 | **-** | 2 |
| Other Europe | **1,670** | 906 | **-** | - | **-** | - |
| Total Europe | **91,083** | 63,675 | **47,651** | 47,340 | **5,102** | 16,227 |
| USA | **31,899** | 13,225 | **9,131** | 8,885 | **665** | 8,244 |
| Canada | **3,125** | 742 | **2,107** | 2,071 | **343** | 409 |
| Brazil | **7,700** | 5,484 | **34,518** | 37,172 | **1,411** | 2,551 |
| Mexico | **2,208** | 1,023 | **242** | 222 | **8** | 195 |
| Other America | **961** | 653 | **97** | 104 | **31** | 108 |
| Japan | **3,551** | 4,277 | **3** | 2 | **-** | - |
| Singapore | **3,303** | 4,586 | **2** | 2 | **-** | 2 |
| Qatar | **2,543** | 1,957 | **11,276** | 10,930 | **-** | - |
| China | **2,266** | 2,321 | **660** | 743 | **(29)** | 714 |
| South Korea | **1,833** | 2,135 | | | | |
| India | **1,441** | 1,248 | **220** | 232 | **29** | 123 |
| Malaysia | **1,087** | 832 | | | | |
| Thailand | **894** | 838 | **-** | - | **-** | - |
| Taiwan | **881** | 986 | | | | |
| Bahrain | **401** | 441 | **243** | 240 | **-** | 220 |
| Other Asia | **2,498** | 3,218 | **47** | 44 | **2** | 11 |
| Australia and New Zealand | **821** | 767 | **661** | 656 | **52** | 45 |
| Africa | **881** | 810 | **-** | - | **-** | - |
| Total outside Europe | **68,294** | 45,544 | **59,207** | 61,303 | **2,512** | 12,621 |
| Total | **159,377** | 109,220 | **106,858** | 108,643 | **7,614** | 28,848 |

1) Additions to property, plant and equipment (capital expenditures) plus long-term securities, intangible assets, long-term advances and investments in equity accounted investments, including amounts recognized in business combinations. In 2018, investments were reduced with certain indirect tax charges in Brazil not completely deducted and claimed at the time of investment. A review of deductibility resulted in reduction of asset costs for Bauxite & Alumina and Primary Metal of NOK 635 million and NOK 145 million, respectively.

# Note 8 - Board of Directors' statement on executive management remuneration

**Board of Directors' statement on executive management remuneration**
The statement on the remuneration of the company's Chief Executive Officer (CEO) and other members of the Corporate Management Board has been prepared in accordance with the provisions of the Norwegian Public Limited Companies Act, the Norwegian Accounting Act and the Norwegian Code of Practice for Corporate Governance.

**Guidelines for executive management remuneration**
Hydro's guidelines for the remuneration of the company's CEO and other members of the Corporate Management Board reflect Hydro's global human resources policy, whereby *"Hydro shall offer its employees an overall compensation package that is competitive and in line with generally accepted industry standards in the country in question. Where appropriate this package should, in addition to the base salary, comprise a performance-based incentive, which combined, should reflect individual performance."*

**Process for determination of remuneration**
The Board of Directors has appointed a separate compensation committee. The committee currently includes the board chair, deputy chair and one employee-elected board member. The CEO normally participates in the committee's meetings unless the committee is considering issues regarding the CEO. Other representatives of senior management may attend meetings if requested to do so.

The committee functions as an advisory body to the Board of Directors and the CEO, and is primarily responsible for:
- Making recommendations to the Board of Directors based on the committee's evaluation of the principles and systems underlying the remuneration of the CEO and other members of the Corporate Management Board.
- Making recommendations to the Board of Directors based on the committee's evaluation of the overall remuneration of the CEO, including the annual basis for bonus payments and bonus payments actually made.
- Assisting the CEO by consulting on the remuneration of the other members of the Corporate Management Board.
- Advising the Board of Directors and the CEO in remuneration matters which the committee finds to be of material or principal importance for Hydro.
- Overseeing the company's process for succession planning.

The following statement regarding the remuneration of members of the Corporate Management Board will be presented for an indicative vote to the annual general meeting to be held in May 2019, with the exception on the share based Long Term Incentive, which will be presented for a binding vote. The Board of Directors proposes that the principles set forth below shall apply for 2019 and up until the annual general meeting in 2020.

**Key principles for determination of remuneration in the coming financial year**
The remuneration of members of the Corporate Management Board shall reflect at all times the responsibility of the CEO and the other members of the Corporate Management Board for the management of Hydro, taking into account the complexity and breadth of the company's operations, as well as the growth and sustainability of the company. The total remuneration will be rooted in the company's objective of being competitive, but not a remuneration leader, within the relevant labor markets, while at the same time reflecting Hydro's international focus and presence.

Hydro attaches importance to transparency and to ensuring that remuneration arrangements are developed and implemented in accordance with principles for good corporate governance.

The total remuneration of the CEO and other members of the Corporate Management Board consists of a fixed compensation, performance-based bonus, share-based long-term incentive plan, employee share plan, pension and insurance arrangements and, in certain cases, a severance pay arrangement. The Board of Directors will continue to ensure moderation in executive management remuneration.

**Fixed compensation**
The fixed compensation provided to members of the Corporate Management Board includes a base salary (which is the main element of remuneration) and benefits in kind such as a company car or car allowance, a telephone, newspapers and other similar benefits. The base salaries of individual members of the Corporate Management Board are evaluated annually in light of the complexity and responsibility of the relevant employee's role and his or her contribution, qualifications and experience, together with conditions in the labor market and general salary trends.

**Variable compensation**
The company has two plans for variable compensation for members of the Corporate Management Board: a bonus plan and a share-based long-term incentive (LTI) plan. Both plans are evaluated and determined annually by the Board of Directors. Payments under both plans are dependent on Hydro achieving positive underlying earnings before interest and tax (EBIT) for the previous financial year. Payments are not taken into account when determining the basis for pensionable salary.

*Annual bonus*
The maximum potential payment under the plan is 50 percent of annual base salary for the CEO and 40 percent of annual base salary for other members of the Corporate Management Board.

The annual bonus parameters are established on the basis of overall achievement of the following elements, where (a) and (b) are established in the annual business-planning process with the aim of having parameters that are ambitious and balanced, and objective and measurable, and which reflect the varied nature of Hydro's operations.

(a) Targets related to the company's consolidated underlying EBIT for the CEO and executive vice presidents responsible for the company's staff areas. Executive vice presidents responsible for the company's business areas will have a two-part EBIT target, where 50 percent relates to the company's consolidated, underlying EBIT and 50 percent to their respective business area's underlying EBIT.

(b) Strategic, operational, financial and organizational goals; “key performance indicators” (KPIs). Depending on the business area, these goals can include

- productivity and improvements including optimizing of production and margins
- resource allocation and availability
- cost reduction and control
- investment projects
- technology
- quality control
- environment and climate
- safety and the work environment
- corporate social responsibility
- compliance
- customer relations
- organizational development.

(c) Contributions to the company's development, as well as compliance with and promotion of Hydro's core values (The Hydro Way) and achievement of individual targets.

(d) The Board of Directors' overall, discretionary assessment of the CEO. The CEO's overall, discretionary assessment of other members of the Corporate Management Board.

The combined weighting of (a) and (b) is 60 percent, while (c) and (d) combined are weighted 40 percent.

*Long-term incentive (LTI)*
The maximum potential payment under the LTI plan is 30 percent of annual base salary (the same for the CEO and other members of the Corporate Management Board). Payment is determined on the basis of overall achievement of the following elements:

(a) Average of the past three years' return on capital employed, measured against the company's internal return target.

(b) The Company's total shareholder return (TSR) measured against a weighted average of TSR for comparable companies.

With effect from 2019, the return element in (b) has been changed from return on capital employed to TSR.

Recipients of LTI payments are required to invest the net payment amount (after tax) in Hydro shares with a lock-in period of three years. Any holder of such shares who voluntarily terminates their employment during such a three-year period must pay to the company an amount equal to the after-tax value of the relevant shares at or around the last day of employment.

The company does not offer options or other similar arrangements.

**Other share-based compensation**
The CEO and other members of the Corporate Management Board appointed on Norwegian employment terms are eligible to participate in Hydro's discounted employee share purchase plan on the same terms as all other eligible employees (as described in Note 18 Employee remuneration).

**Pensions**
*Company pension plans*
Hydro has two pension plans in Norway: defined benefit (closed to new members in 2010) and defined contribution. As of January 1, 2019, 695 employees in Norway, including the CEO and two members of the Corporate Management Board, are members of the defined benefit plan. Other employees in Norway, including seven members of the Corporate Management Board, are members of the defined contribution plan.

The defined contribution plan stipulates a contribution to the plan of amounts equal to 6 percent of salary between 0 and 7.1G (G = the Norwegian National Insurance basic amount) and 20 percent of salary between 7.1G and 12G. The defined benefit plan implies a pension right of approximately 65 percent of pensionable salary subject to full service period (minimum 30 years). A compensation plan has been established for employees who have been transferred from the defined benefit plan to the defined contribution plan and for whom a deficit in pension capital resulting from the transfer has been estimated.

Hydro Extruded Solutions AS (formerly Sapa AS) has its own defined contribution pension plan with other contribution rates. This plan covers all of this company's employees appointed on Norwegian employment terms.

*12G plan*
Hydro closed the 12G plan funded through operations for earning pension on the portion of any salary exceeding 12G effective December 31, 2016. Employees with a salary above 12G on that date, including the CEO and six other members of the Corporate Management Board, remain in the plan.

For employees with a defined contribution plan, the 12G plan stipulates that an amount equivalent to 20 percent of the portion of salary exceeding 12G is allocated as a vested (pension) right. For employees with a defined benefit plan, the 12G plan stipulates that the portion of salary exceeding 12G is included in the final salary that forms the basis for calculating pension. New employees after December 31, 2016, including new members of the Corporate Management Board (recruited internally or externally), have not been included in the 12G plan. As of January 1, 2019, the Corporate Management Board has three members who came from Sapa AS (now Hydro Extruded Solutions AS). These members earned pension on the portion of salary above 12G in Sapa, and an agreement has been entered into with each of them regarding an annual cash amount to be paid as compensation for the loss of such earnings.

Hydro Extruded Solutions AS has its own plan funded through operations for earning pension on the portion of any salary exceeding 12G.

*Early retirement plans*
The company's early retirement plans are closed to new members. Employees who were included in the plans at the time of closing, including members of the Corporate Management Board, are still covered by the plans (see below).

The CEO and two members of the Corporate Management Board have the right to retire with pension after the age of 62. In the case of the CEO, the Board may request him to retire. From the age of 62, the pension will make up 60 percent of pensionable salary. From the age of 65, the entitlement is 65 percent of pensionable salary up until the age of 67. Four other members of the Corporate Management Board have the same right to retire at the age of 65.

The pensionable salaries of the CEO and the two abovementioned members of the Corporate Management Board have been capped. Following the adjustment of the National Insurance Scheme's basic amount, they are capped as of 1 January, 2019 at NOK 7 584 498 and 4 652 660, respectively. These caps currently have no real effect as pensionable income is below these levels.

*Age limit*
The upper age limit for employment with Hydro in Norway is 70 years.

**Insurance**
The CEO and other members of the Corporate Management Board are covered by insurance arrangements applicable to Hydro employees with the rank of vice president or higher.

**Termination agreement**
*Severance pay*
In the event the CEO's employment is terminated unilaterally by Hydro, the CEO has a contractual right to severance pay for 12 months, but not beyond the age of 62.

Two members of the Corporate Management Board have a similar arrangement as the CEO, i.e. right to severance pay for 12 months, but without the limitation of 62 years. Other members of the Corporate Management Board have a right to severance pay for six months.

None of the Corporate Management Board's employment contracts give the right to severance pay if the employee has initiated the termination of employment.

*Loss of severance pay*
The CEO's severance pay is forfeited if there are grounds for summary dismissal. For other members of the Corporate Management Board, severance pay is forfeited in the event of gross breach of duty and/or other material breaches.

*Reduction of severance pay*
The CEO and five members of the Corporate Management Board will have their severance pay reduced in whole or in part by other income. The other four members of the Corporate Management Board have contracts that include clauses stating that other income will not reduce severance pay.

*Notice period*
All members of the Corporate Management Board have a six-month notice period.

*General*
The company has no specific guidelines for severance packages, but when recruiting to corporate management in recent times, it has followed a practice whereby the total of salary during the notice period and severance pay shall not exceed 12 months' salary.

**Members of the Corporate Management Board outside Norway**
For members of the Corporate Management Board outside Norway, base salary and other employment conditions are determined in accordance with Hydro's global human resources policy and local industry standards and accords generally with the remuneration principles applicable to the other members of the Corporate Management Board.

Silvio Porto resigned as head of Hydro's business area Bauxite & Alumina on March 5, 2018. He was temporarily replaced by Hydro's CFO, Eivind Kallevik, until John Thuestad took over as new head of Bauxite & Alumina on June 1, 2018. Kallevik and Thuestad are covered by the preceding sections of this statement. Thuestad also has a retention bonus related to the position in Bauxite & Alumina.

**Key principles for determining compensation during the previous financial year**
The compensation of the CEO and the other members of the Corporate Management Board for financial year 2018 was based on the guidelines presented at the annual general meeting in 2018.

In September 2018, the Board of Directors decided to adjust the CEO's base salary from NOK 6 391 000 to NOK 6 710 000 with effect from January 1, 2018, to reflect the expanded scope of the business following the acquisition of Sapa in October 2017.

Bonus and LTI payments to the Corporate Management Board for 2017 were determined and paid in 2018. Bonuses for 2018 were determined and paid in March 2019, while LTI for 2018 will first be determined and paid during the first half of 2019. All bonus and LTI payments are determined according to the principles stated above. See also Note 9 – Management remuneration.

# Note 9 - Management remuneration

Corporate management board members' salaries and other benefits, number of LTI-shares allocated, as well as Hydro share ownership as of December 31, 2018 and 2017 are presented in the table below. Amounts presented for individuals appointed to, or stepping down from, a position in the Corporate Management Board from or to another position in Hydro, includes fixed compensation for the whole year. Unless otherwise stated, Hydro did not have any loans to or guarantees made on behalf of any of the corporate management board members in 2018 and 2017.

| Name | Base salary[1), 2)] | Maximum bonus potential[1), 2)] | Salary paid[1), 3)] | Other benefits paid[1), 3)] | Compen-sation pension paid[1), 3)] | Bonus earned[1), 3)] | Long-term incentive (LTI) earned[1), 3)] | Pension benefits[1), 4)] | LTI-shares allocated[3)] | Hydro share owner-ship[5)] |
|---|---|---|---|---|---|---|---|---|---|---|
| **2018** | | | | | | | | | | |
| Svein Richard Brandtzæg | 6,710 | 3,355 | 6,807 | 267 | - | 1,707 | 593 | 5,836 | 12,207 | 244,125 |
| Eivind Kallevik[6)] | 3,506 | 1,402 | 4,369 | 270 | 48 | 729 | 310 | 888 | 6,494 | 57,472 |
| John Thuestad[7)] | 6,087 | 1,166 | 7,025 | 542 | 298 | 793 | 251 | 374 | - | 20,443 |
| Hilde Aasheim | 3,433 | 1,373 | 3,547 | 219 | - | 787 | 304 | 2,434 | 6,359 | 89,089 |
| Kjetil Ebbesberg | 3,991 | 1,561 | 4,112 | 636 | 150 | 733 | 322 | 940 | 5,826 | 54,126 |
| Egil Hogna[8)] | 5,416 | 2,166 | 9,094 | 275 | 1,084 | 1,411 | 479 | (58) | 2,508 | 42,951 |
| Arvid Moss | 3,194 | 1,278 | 3,255 | 252 | - | 912 | 283 | 2,979 | 5,917 | 153,563 |
| Anne-Lene Midseim[9)] | 2,554 | 1,022 | 2,615 | 563 | 110 | 531 | 226 | 759 | 4,731 | 26,395 |
| Inger Sethov[9)] | 2,341 | 936 | 2,419 | 566 | 146 | 487 | 207 | 725 | 4,336 | 23,963 |
| Katarina Nilsson[9) 10)] | 2,680 | 1,072 | 3,291 | 769 | 236 | 591 | 237 | 135 | 1,242 | 1,685 |
| Silvio Porto[11)] | 3,291 | 483 | 1,874 | 516 | - | 411 | - | 111 | 8,869 | - |
| **2017** | | | | | | | | | | |
| Svein Richard Brandtzæg | 6,391 | 3,196 | 6,643 | 482 | - | 2,364 | 1,248 | 3,619 | 20,351 | 231,475 |
| Eivind Kallevik | 3,400 | 1,360 | 3,287 | 276 | 47 | 1,040 | 664 | 1,624 | 8,222 | 50,535 |
| Silvio Porto[11)] | 3,645 | 5,823 | 3,722 | 1,102 | - | 4,031 | 712 | 234 | - | - |
| Hilde Aasheim | 3,329 | 1,332 | 3,439 | 218 | - | 1,017 | 650 | 2,361 | 8,833 | 82,287 |
| Kjetil Ebbesberg | 3,955 | 1,515 | 3,955 | 708 | 146 | 695 | 688 | 1,224 | 8,715 | 47,857 |
| Egil Hogna[8)] | 5,253 | 525 | 2,595 | 69 | 265 | 401 | 256 | 134 | - | 20,000 |
| Arvid Moss | 3,098 | 1,239 | 3,164 | 275 | - | 881 | 605 | 2,745 | 8,222 | 147,203 |
| Anne-Lene Midseim | 2,477 | 991 | 2,552 | 162 | 107 | 758 | 484 | 933 | 6,571 | 21,221 |
| Inger Sethov | 2,270 | 908 | 2,338 | 268 | 142 | 694 | 443 | 891 | 6,012 | 19,184 |
| Katarina Nilsson[10)] | 2,600 | 260 | 1,207 | 140 | 58 | 179 | 127 | 33 | - | - |
| Hanne Simensen[12)] | 2,477 | 743 | 2,572 | 264 | 95 | 550 | 363 | 913 | 6,571 | 19,646 |

1) Amounts in NOK thousand. Amounts paid by subsidiaries outside Norway have been translated to NOK at average rates for each year.

2) Annual base salary per December 31, or per the date of stepping down from the Corporate Management Board. Maximum bonus potential is for the year presented, and for the period as corporate management board member.

3) Salary is the amount paid to the individual during the year presented, and includes vacation pay. Other benefits is the total of all other cash and non-cash related benefits received by the individual during the year presented and includes such items as the taxable portion of inurance premiums, car and mileage allowances and electronic communication items. For most individuals, compensation pension is the amount paid to compensate for future pension shortfall estimated at the time of transition from Hydro's defined benefit pension plans to the defined contribution plan in line with an arrangement applicable to all affected employees in Norway. For John Thuestad, Egil Hogna and Katarina Nilsson, compensation pension is the amount paid to compensate for lower pension benefits in Hydro compared to those of former employer Sapa AS (now Hydro Extruded Solutions AS). Bonus is the amount earned in the year presented, including vacation pay, based on performance achieved as corporate management board member. The LTI plan benefit reflects gross (pre-tax) amounts earned in the year presented, and results in LTI shares allocated in the following year. For 2018, the LTI benefits reported represent estimates. For 2017, the LTI benefits reported have been updated with final numbers. For corporate management board members on net salary employment contracts, benefits have been converted to estimated gross (pre-tax) amounts.

4) Pension benefits include the estimated change in the value of defined pension benefits, and reflects both the effect of earning an additional year's pension benefit and the adjustment to present value of previously earned pension rights (interest element). It is calculated as the increase in the Defined Benefit Obligations (DBO) calculated with stable assumptions. Pension benefits also include contributions to defined contribution plans.

5) Hydro share ownership is the number of shares held directly by the corporate management board member and any shares held by close family members and controlled entities. Hydro share ownership is as of December 31, or per the date of stepping down from the Corporate Management Board.

6) From March 5 until June 1, 2018, Eivind Kallevik was appointed interim EVP and Head of Bauxite & Alumina busines area, for which he received an extra remuneration of NOK 750 thousand that is included in column Salary paid in the table above: During this period, Kallevik remained in his position as CFO.

7) John Thuestad became member of the Corporate Management Board as of June 1, 2018. From this date, Thuestad has a retention agreement that vests progressively over a 60-month period. Thuestad earned an estimated NOK 739 thousand under this agreement in 2018. Thuestad also had a retention agreement from 2017, as former member of Sapa's corporate management team, that vested after 6 months in April 2018. Thuestad earned NOK 873 thousand under this agreement in 2018. These amounts are included in column Salary paid in the table above.

8) Egil Hogna became member of the Corporate Management Board as of October 2, 2017. From this date, and as former member of Sapa's corporate management team, Hogna had a retention agreement that vested after 12 months. Hogna earned NOK 3,940 thousand and NOK 1,313 thousand under this agreement in 2018 and 2017, respectively. These amounts are included in column Salary paid in the table above.

9) For work regarding the Alunorte situation in Brazil, Anne-Lene Midseim, Inger Sethov and Katarina Nilsson received an extra compensation of NOK 300 thousand, NOK 300 thousand and NOK 200 thosand, respectively.These amounts are included in column Other benefits paid in the table above.

10) Katarina Nilsson became member of the Corporate Management Board as of October 2, 2017. From this date, and as former member of Sapa's corporate management team, Nilsson had a retention agreement that vested after 6 months. Nilsson earned NOK 494 thousand and NOK 546 thousand under this agreement in 2018 and 2017, respectively. These amounts are included in column Salary paid in the table above. Katarina Nilsson stepped down from the Corporate Management Board as of January 7, 2019.

11) Silvio Porto stepped down from the Corporate Management Board as of March 5, 2019, and left Hydro as of July 31, 2019. In addition to the benefits included in the table above, Porto received certain benefits at termination, including statutory benefits, amounting to NOK 1,649 thousand. Porto was not required to make any payments to Hydro for non-vested LTI shares at termination of employment. In addition to the performance related pay arrangement for all members of the Corporate Management Board, Porto had a cash-paid long-term incentive which was payable over three years with payments partly dependent on salary levels and business results in the following two years, included in bonus. The reported bonus amounts are final, and prior year estimate has been updated.

12) Hanne Simensen stepped down from the Corporate Management Board as of October 2, 2017. Under the long-term incentive for 2017 settled in 2018, Simensen received 3,548 shares.

# Note 10 - Board of Directors and Corporate Assembly

## Board of Directors' remuneration and share ownership

Total board fees and individual board member fees for 2018 and 2017, and outstanding loans and board member share ownership as of December 31, 2018 and 2017, are presented in the tables below.

**Board of Directors' fees**

| Amounts in NOK thousand | **2018** | 2017 |
|---|---|---|
| Fees and other remuneration - normal board activities | **3,521** | 3,419 |
| Fees - audit committee | **599** | 531 |
| Fees - compensation committee | **293** | 286 |
| Total fees for board services provided to Hydro during the year | **4,413** | 4,236 |

| | Board fees[1] | | Outstanding loans[1) 2)] | | Number of shares [3] | |
|---|---|---|---|---|---|---|
| Board member / observer | **2018** | 2017 | **2018** | 2017 | **2018** | 2017 |
| Dag Mejdell [4] | **780** | 740 | **-** | - | **35,000** | 35,000 |
| Irene Rummelhoff[5] | **489** | 478 | **-** | - | **5,000** | 5,000 |
| Finn Jebsen[6] | **554** | 541 | **-** | - | **53,406** | 53,406 |
| Thomas Schulz | **351** | 343 | **-** | - | **-** | - |
| Liselott Kilaas[7] | **282** | - | **-** | | **-** | |
| Marianne Wiinholt[8] | **483** | 418 | **-** | - | **-** | - |
| Arve Baade[9) 10)] | **88** | - | **-** | | **4,347** | |
| Sten Roar Martinsen[10) 11)] | **439** | 429 | **-** | - | **6,086** | 5,643 |
| Svein Kåre Sund[10) 12)] | **384** | 200 | **5** | 49 | **5,651** | 5,208 |
| Tor Egil Skulstad[10) 13)] | **-** | - | **-** | - | **443** | - |
| Liv Monica Stubholt[14] | **201** | 472 | **-** | - | **-** | - |
| Billy Fredagsvik[10) 15)] | **362** | 418 | **21** | 87 | **5,030** | 4,587 |
| Ove Ellefsen[10) 16)] | **-** | 197 | | - | | 8,972 |
| Total | **4,413** | 4,236 | **26** | 137 | **114,963** | 117,816 |

1) Amounts in NOK thousand.
2) Loans are extended to board members who are also Hydro employees under an employee benefit scheme available to all employees in Norway. Loans as of December 31, 2018 and 2017 for board members as of December 31, 2018 and 2017; otherwise loans are as of the date the individual stepped down from the Board of Directors. At the end of 2018, the loan to Svein Kåre Sund had an interest of 5.9 percent, and was repaid in January 2019. As of the date of stepping down from the Board of Directors, the loan to Billy Fredagsvik had an interest rate of 5.9 percent, and the loan was repaid by the end of 2018. All payments have been made in a timely fashion and in accordance with the agreed payment schedule. Loans have not been extended to close members of family and controlled entities.
3) Number of shares owned as of December 31, 2018 and 2017 for board members as of December 31, 2018 and 2017; otherwise it is the number of shares owned as of the date the individual stepped down from the Board of Directors. Shareholdings disclosed include shares held by close members of family and controlled entities, in addition to shares held directly by the board member.
4) Chariperson of the board and chairperson of the board compensation committee.
5) Deputy chairperson of the board and member of the board compensation committee.
6) Chairperson of the board audit committee.
7) Member of the board as of May 23, 2018. Member of the board audit committee as of June 12, 2018.
8) Member of the board audit committee as of June 7, 2017.
9) Member of the board as of October 1, 2018.
10) Employee representative on the board elected by the employees in accordance with Norwegian Company Laws. As such, these individuals are also paid regular salary, remuneration in kind and pension benefits that are not included in the table above.
11) Member of the board compensation committee.
12) Member of the board as of May 23, 2017. Member of the board audit committee as of October 23, 2018.
13) Observer on the board as of October 2, 2017.
14) Member of the board and the board audit committee until May 23, 2018.
15) Member of the board audit committe as of June 7, 2017. Member of the board and the board audit committee until September 30, 2018.
16) Member of the board and the board audit committee until May 23, 2017.

The remuneration to the Board of Directors consists of the payment of fees and travel compensation. Travel compensation is paid to members living outside Scandinavia who attend meetings in person, with an amount of NOK 10,300 (2017: NOK 10,000) per meeting. Board members do not have any incentive or share-based compensation. Hydro has not made any guarantees on behalf of any of the board members. The only board members with loans from Hydro are the employee-elected members of the board.

Fees are based on the position of the board members and board committee assignments. Annual fees for 2018 for the chairperson of the board, deputy chairperson and directors are NOK 663,000 (2017: NOK 626,000), NOK 401,000 (2017: NOK 392,000) and NOK 351,000 (2017: NOK 343,000), respectively. The chairperson of the audit committee and the chairperson of the compensation committee receive an additional NOK 203,000 (2017: NOK 198,000) and NOK 117,000 (2017: NOK 114,000) annually in fees, respectively, and audit and compensation committee members receive NOK 132,000 (2017: NOK 129,000) and NOK 88,000 (2017: NOK 86,000) annually, respectively, for their participation on these committees. No fees are paid to the board observer.

**Corporate Assembly**
Corporate Assembly members owned 34,597 shares as of December 31, 2018. Loans to employees who are members of the Corporate Assembly were extended under an employee benefit scheme that is available to all employees in Norway. Loans outstanding to Corporate Assembly members who are also Hydro employees totaled NOK 419 thousand as of December 31, 2018. The interest rates on these loans are 2.50 percent and 5.90 percent, with a repayment period between three and 12 years.

# Note 11 - Related party information

As of December 31, 2018, The Norwegian state had ownership interests of 34.6 percent of total shares outstanding (2017:34.7 percent) in Hydro through the Ministry of Trade, Industry and Fisheries. In addition, Folketrygdfondet, which manages the Government Pension Fund – Norway[15] held 6.8 percent (2017: 6.5 percent). There are no preferential voting rights associated with the shares held by the Norwegian State. Hydro has concluded that the Norwegian state's shareholding represents significant interest in Hydro, and that the State thus is a related party.

The Norwegian state has ownership interests in a substantial number of companies. The ownership interests in 75 companies are managed by the ministries and covered by public information from the Ministry of Trade, Industry and Fisheries[16]. We have not assessed which of these companies that are controlled by the State. Hydro has business transactions with a number of these companies, including purchase of power from Statkraft SF and bank services from DNB ASA. Generally, transactions are agreed independently of the possible control exercised by the State.

The public enterprise Enova, which supports new energy and climate-related technology development in Norway, decided in June 2014 to contribute up to NOK 1.56 billion to Hydro's pilot project for new electrolysis technology at Karmøy, Norway. The contribution was approved by the European Free Trade Association, EFTA, in February 2015 with the first payment in July 2015. The grant has been paid over the preparation, building and commissioning period. As of the end of 2018, a total of NOK 1.56 million was received, representing the full grant.

A significant share of Hydro's defined benefit post-employment plans is managed by the independent pension trust, Norsk Hydro Pensjonskasse. Employees managing and operating the pension trust are employees of Norsk Hydro ASA. Their salaries and other benefits are reimbursed by the pension trust on a monthly basis, in total NOK 8 million for both 2018 and 2017. Further, the pension trust is located in Hydro's head office. Office costs, including heating and administrative services and other administrative services, are charged with a total of NOK 6 million for 2018 and NOK 2 million for 2017.

The pension trust owns some of the office buildings rented by Hydro. The current rental arrangement was entered into in 2015 representing a partial continuation of a rental agreement from 2006, and priced based on market price benchmarks at the time of the agreement in 2006. Hydro has paid a rental of NOK 68 million and NOK 60 million for 2018 and 2017, respectively. The initial term of the rental contract expires in February 2022 after exercise of a one-year extension option. The contract includes an extension option for an additional five-year period. In addition, compensation related to cancellation of a previous contract was paid with NOK 83 million and NOK 81 million for 2018 and 2017, respectively. The compensation arrangement expires in 2021. The remaining provision for the compensation arrangement as of December 31, 2018 was NOK 219 million. As of the end of 2018, Hydro’s outstanding balance towards Norsk Hydros Pensjonskasse was NOK 19 million.

The members of Hydro's board of directors during 2018 and 2017 are stated in note 10 Board of Directors and Corporate Assembly, where their remuneration and share ownership is outlined. Some of the board members or their close members of family serve as board members or executive directors in other companies. In addition, some members of Hydro's corporate management board or their close members of family serve as board members in other companies. Hydro has transactions with some of those companies; however, have not identified any transactions where the relationship is known to have influenced the transaction. Liv Monica Stubholt, a Board member until May 2018, is partner in the Norwegian law firm Advokatfirmaet Selmer DA. Selmer has had assignments for Hydro resulting in fees of NOK 0.5 million in the period January to May, 2018 and NOK 2.0 million in 2017. Stubholt has not been involved in these services to Hydro. Some close family members of members of Hydro's management are employed in non-executive positions in Hydro.

[15] Shareholding is based on information from the Norwegian Central Securities Depositary (VPS) as of December 31, 2018 and 2017. Due to lending of shares, an investor’s holdings registered in its VPS account may vary.
[16] According to information on the Government web site www.regjeringen.no, state ownership.

Hydro's significant joint arrangements and transactions with those entities are described in note 32 Investments in joint arrangements and associates. Hydro has joint arrangements with a number of other companies. Generally, the relationships are limited to a combined effort within a limited area. Hydro considers the joint venture partners as competitors in other business transactions, and do not see these relationships as related party relationships.

Transactions with related parties are at arm’s length principles.

# Note 12 - Financial and commercial risk management

Hydro is exposed to market risks from fluctuations in the price of commodities bought and sold, prices of other raw materials, currency exchange rates and interest rates. Price volatility, which may be significant, can have a substantial impact on Hydro's results. Market risk exposures are evaluated based on a holistic approach in order to take advantage of offsetting positions and to manage risk on a net exposure basis. Natural hedging positions are established where possible and economically viable. Hydro uses financial derivatives to some extent to manage financial and commercial risk exposures. Hydro's main policy to manage market volatility is to keep a strong financial position. Hydro's market risk strategy is materially unchanged in 2018 compared to previous years.

**Commodity price risk exposure**
*Aluminium*
Hydro produces primary aluminium and aluminium casthouse products, both based on primary aluminium and remelted aluminium, and fabricated aluminium products. Hydro also engages in sourcing and trading activities to procure raw materials and primary aluminium for internal use and for resale to customers. These activities serve to optimize capacity utilization, reduce logistical costs and strengthen our market positions. Hydro also participates in trading activities within strict volume and risk limits.

Hydro enters into future contracts on the London Metal Exchange (LME) mainly for two purposes. The first is to achieve an average LME aluminium price on smelter production. Second, because Hydro's downstream businesses, remelting, and the sale of third-party products are based on margins above the LME price, Hydro seeks to offset the metal price exposure when entering into customer and supplier contracts with corresponding physical or derivative future contracts at fixed prices (back-to-back hedging). Hydro manages these exposures on a portfolio basis, taking LME positions based upon net exposures within given limits. Aluminium price volatility can result in significant fluctuations in earnings as the derivative positions are marked to their market value with changes to market value recognized in the income statement, while the underlying physical metal transactions normally are not marked-to-market, except for those included in trading portfolios. The majority of Hydro's LME contracts mature within one year.

Hydro's sales of primary aluminium, aluminium casthouse products and fabricated aluminium products include a premium above the LME aluminium price. The pricing of these premiums can be volatile, and is related to physical demand and supply, with regional and product-related differences. Over the later years, these premiums have been a higher share of the revenue than historic averages. There are limited possibilities for hedging future premiums, except for standard ingot premiums, for which a forward market exists. Hydro has from time to time entered into contracts for standard ingot premiums to mitigate risk in sales contracts.

In order to secure cash flow or margins for specific projects or special circumstances, Hydro might enter into futures contracts on a longer-term basis. In these cases, hedge accounting has normally been applied.

*Bauxite and alumina*
Hydro's production of alumina normally exceeds the alumina consumption in its primary aluminium production. In addition, Hydro has entered into long-term agreements to purchase alumina from third parties. In 2018 and into 2019, Hydro’s production at Alunorte is limited by the production embargo, leading to higher purchases in the spot market. The majority of purchase and sale contracts are priced with reference to the Platts alumina price index, a spot market price index.

Hydro is a producer and consumer of bauxite. Hydro's need for bauxite is secured through long-term contracts as well as by own production. The purchasing contracts have links to the LME aluminium price and to the Platts alumina price index. Hydro has a limited volume of excess bauxite from long-term sourcing contracts, which is sold under medium and short-term contracts with prices linked to the alumina price index or open price negotiations.

*Electricity*
Hydro is a large power consumer with significant power production. Hydro's consumption is mainly secured through long-term contracts with power suppliers and through Hydro's own production in Norway. Hydro's own production is influenced by hydrological conditions which can vary significantly. The net power position in Norway is balanced out in the Nordic power market. In order to manage and mitigate risks related to price and volume fluctuations, Hydro utilizes physical contracts and derivatives including future contracts, forwards and options. Hydro also participates in trading activities within strict volume and risk limits.

A significant part of Hydro's power purchase contracts is linked to aluminium prices in order to mitigate market price risk related to the sales of its aluminium products. These contract elements are separated from their host contracts and accounted for as derivatives. Further, some power contracts in Norway are priced in Euro. There is no consensus that the Euro is a commonly used currency in the relevant market, the euro price clauses are thus accounted for separately as currency forwards.

*Other raw materials*
Hydro is party to both long-term and short-term sourcing agreements for a range of raw materials and services with both fixed and variable prices. Such agreements include pitch, petroleum coke, caustic, natural gas, coal, fuel oil and freight. The number of purchasing agreements with prices linked to the price of other commodities such as aluminium is limited and the fair value exposure is considered to be immaterial.

**Foreign currency risk exposure**
The prices of Hydro's upstream products bauxite, alumina and primary aluminium, are mainly denominated in US dollars. Margins for mid- and downstream products are mainly priced in US dollars and Euro. Further, the prices of major raw materials used in Hydro's production processes, are quoted in US dollars in the international commodity markets. Hydro also incurs local costs related to the production, distribution and marketing of products in a number of different currencies, mainly Norwegian Krone, Brazilian Real, Euro and US dollar.

Hydro's primary underlying foreign currency risk is consequently linked to fluctuations in the value of the US dollar and Euro versus the currencies in which significant costs are incurred. In addition, Hydro's results and equity are influenced by value changes for the functional currencies of the individual entities and the Norwegian Krone as the Group's presentation currency.

To mitigate the impact of exchange rate fluctuations, long-term debt is mainly maintained in currencies reflecting underlying exposures and cash generation, while considering attractiveness in main financial markets. To reduce the effects of fluctuations in the US dollar and other exchange rates, Hydro also uses foreign currency swaps and forward currency contracts from time to time.

*Foreign currency risk exposure in financial instruments*
Short-term receivables and payables are often held in currencies other than the functional currency of the unit. Fluctuations between the functional currency and the currency in which the receivable or payable is denominated are reported in Financial expense. Borrowings and deposits may be denominated in other currencies than the functional currency of the unit. Fluctuations between the functional currency and the instrument's currencies, both short and long term, impact the recognized value of the debt or deposit, and are reported in Financial expense. Embedded currency derivatives in non-financial contracts, including the Euro priced electricity contracts discussed above, contains a currency exposure with changes to the fair value of the embedded derivative included in Financial expenses. Investments in equity and debt instruments of other entities are often impacted by changes in currency exchange rates. To the extent such investments are carried at fair value, the currency changes are included in the changes of fair value and reported as an integral part of such changes.

**Interest rate exposure**
Hydro is exposed to changes in interest rates, primarily as a result of financing its business operations and managing its liquidity in different currencies. Cash and other liquid resources, as well as debt, are currently mainly held in Norwegian Krone, Swedish Krone, Euro, US dollars and Brazilian real. The corresponding interest rate exposures are consequently related to Norwegian Krone, Swedish Krone, Euro, US dollar and Brazilian real short-term rates.

Financial instruments and provisions are also exposed to changes in interest rates in connection with discounting of positions to present value. See sensitivity analysis of financial instruments in note 13 Financial instruments.

**Credit risk management**
Hydro manages credit risk by setting counterparty risk limits and establishing procedures for monitoring exposures and timely settlement of customer accounts. Prepayments or guarantees are required where credit risk is outside the limits set for the relevant counterpart. Hydro is also monitoring the financial performance of key suppliers in order to reduce the risk of default on operations and key projects. Our overall credit risk exposure is reduced due to a diversified customer base representing various industries and geographic areas. Enforceable netting agreements, guarantees, and credit insurance, also contribute to a lower credit risk.

Credit risk arising from derivatives is generally limited to net exposures. Exposure limits are established for financial institutions relating to current accounts, deposits and other obligations. Credit risk related to commodity derivatives is limited by settlement through commodity exchanges such as the London Metal Exchange, Nasdaq, and banks. Current counterparty risk related to the use of derivative instruments and financial operations is considered limited.

**Liquidity risk**
Volatile commodity prices and exchange rates as well as fluctuating business volumes and inventory levels can have a substantial effect on Hydro's cash positions and borrowing requirements.

To fund cash deficits of a more permanent nature Hydro will normally raise equity, long-term bond or bank debt in available markets.

Repayments of long-term debt are disclosed in note 34 Short and long-term debt. Further, all other financial liabilities, such as trade payables, with the exception of derivatives, have a final maturity date within one year. An overview of estimated gross cash flows from derivatives accounted for as liabilities and assets is presented below. Many of these assets and liabilities are offset by cash flows from contracts not accounted for as derivatives.

Risk of significant cash payments or margin calls related to derivative instruments is limited due to strict volume limits, value-at-risk and tenor limits for relevant trading activities.

Information about derivatives and other financial instruments held, including sensitivity analysis, is presented in note 13 Financial instruments.

Expected gross cash flows from derivatives accounted for as financial liabilities and financial assets, respectively, as of end of year:

| | December 31, 2018 | | December 31, 2017 | |
|---|---|---|---|---|
| Amounts in NOK million | Liabilities | Assets | Liabilities | Assets |
| 2018 | | | (456) | 526 |
| 2019 | (314) | 580 | (47) | 47 |
| 2020 | (45) | 47 | (14) | 12 |
| 2021 | (1) | 1 | | |
| Total | (361) | 628 | (517) | 585 |

The cash flows above are to a large extent subject to enforceable netting agreements reducing Hydro's exposure substantially.

For additional information on contracts accounted for at fair value, see note 14 Derivative instruments and hedge accounting.

# Note 13 - Financial instruments

Financial instruments, and contracts accounted for as such, are in the balance sheet included in several line items and classified in categories for accounting treatment.

The below specification relates to financial statement line items containing financial instruments. Information for 2018 is classified and measured in accordance with IFRS 9, while information for 2017 is classified and measured in accordance with IAS 39. See note 3 Changes in accounting principles and new pronouncements.

Instruments included in Financial instruments at FVTPL in 2017 are in 2018 classified partly as Financial instruments at FVTPL and partly as Derivatives at FVTPL. Instruments included in the category Loans and receivables in 2017 are classified as Debt instruments at amortized cost in 2018. Instruments included in the category Other financial liabilities in 2017 are classified as Financial liabilities at amortized cost in 2018. Investments classified as Available-for-sale financial assets have been classified partly as Financial instruments at FVTPL and partly as Equity instruments at FVOCI in 2018, depending on the characteristics of the instrument.

A reconciliation of the financial instruments in Hydro is presented below:

| Amounts in NOK million | Derivatives at FVTPL[1)] | Derivatives identified as hedging instruments | Debt instruments at amortized cost | Financial instruments at FVTPL[2)] | Equity instruments at FVOCI[1)] | Financial liabilities at amortized cost | Non-financial assets and liabilities[3)] | Total |
|---|---|---|---|---|---|---|---|---|
| **2018** | | | | | | | | |
| ***Assets - current*** | | | | | | | | |
| Cash and cash equivalents | - | - | 5,995 | - | - | - | - | 5,995 |
| Short-term investments | - | - | 119 | 856 | - | - | - | 975 |
| Trade and other receivables | - | - | 17,860 | - | - | - | 2,884 | 20,743 |
| Other current financial assets | 605 | - | - | - | - | - | 196 | 801 |
| ***Assets - non-current*** | | | | | | | | |
| Investments accounted for using the equity method | - | - | 11 | - | - | - | 11,559 | 11,570 |
| Other non-current assets | 333 | 3 | 867 | 535 | 1,405 | - | 2,576 | 5,720 |
| ***Liabilities - current*** | | | | | | | | |
| Bank loans and other interest-bearing short-term debt | - | - | - | - | - | 8,543 | - | 8,543 |
| Trade and other payables | - | - | - | - | - | 12,830 | 7,551 | 20,381 |
| Other current financial liabilities | 445 | 66 | - | - | - | 5 | - | 515 |
| ***Liabilities - non-current*** | | | | | | | | |
| Long-term debt | - | - | - | - | - | 7,080 | - | 7,080 |
| Other non-current financial liabilities | 2,429 | - | - | - | - | - | - | 2,429 |

1) FVTPL is financial instruments at fair value through profit or loss. FVOCI is financial instruments at fair value through other comprehensive income.
2) Financial Instruments at Fair Value Through Profit or Loss (FVTPL) are instruments required by IFRS 9 to be at FVTPL.
3) Includes items that are excluded from the scope of IFRS 7, such as investments accounted for using the equity method, except loans to such entities.

| Amounts in NOK million | Financial instruments at fair value through profit or loss[1)] | Derivatives identified as hedging instruments | Loans and receivables | Available-for-sale financial assets[2)] | Other financial liabilities[3)] | Non-financial assets and liabilities[4)] | Total |
|---|---|---|---|---|---|---|---|
| **2017** | | | | | | | |
| ***Assets - current*** | | | | | | | |
| Cash and cash equivalents | - | - | 11,828 | - | - | - | 11,828 |
| Short-term investments | 1,053 | - | 257 | - | - | - | 1,311 |
| Trade and other receivables | - | - | 17,031 | - | - | 2,953 | 19,983 |
| Other current financial assets | 602 | - | - | - | - | 196 | 798 |
| ***Assets - non-current*** | | | | | | | |
| Investments accounted for using the equity method | - | - | 1 | - | - | 11,220 | 11,221 |
| Other non-current assets | 268 | - | 960 | 1,505 | - | 1,678 | 4,410 |
| ***Liabilities - current*** | | | | | | | |
| Bank loans and other interest-bearing short-term debt | - | - | - | - | 8,245 | - | 8,245 |
| Trade and other payables | - | - | - | - | 12,318 | 7,254 | 19,571 |
| Other current financial liabilities | 645 | 8 | - | - | 2 | - | 655 |
| ***Liabilities - non-current*** | | | | | | | |
| Long-term debt | - | - | - | - | 9,012 | - | 9,012 |
| Other non-current financial liabilities | 2,004 | 37 | - | - | - | - | 2,041 |

1) Financial Instruments at Fair Value Through Profit or Loss (FVTPL) are trading instruments required by ISA 39 to be at FVTPL.
2) Includes the investment in the independent pension trust Norsk Hydros Pensjonskasse, carried at cost.
3) Items disclosed under this category are financial liabilities at amortized cost.
4) Includes items that are excluded from the scope of IFRS 7, such as investments accounted for using the equity method, except loans to such entities.

Financial assets, classified as current and non-current, represent the maximum exposure Hydro has towards credit risk as at the reporting date.

Collateral or margin calls are required for some financial liabilities, primarily related to derivative transactions. Such collaterals for financial instruments are reported as part of Short-term investments.

Impairment of receivables are disclosed in note 26 Trade and other receivables. No other financial assets are currently impaired based on credit losses.

*Gains and losses*

Realized and unrealized gains and losses from financial instruments and contracts accounted for as financial instruments are included in several line items in the income statement. Below is a reconciliation of the effects from Hydro's financial instruments in the income statements:

| Amounts in NOK million | Derivatives at FVTPL | Derivatives identified as hedging instruments | Debt instruments at amortized cost | Financial instruments at FVTPL | Equity instruments at FVOCI | Financial liabilities at amortized cost | Non-financial assets and liabilities | Total[1] |
|---|---|---|---|---|---|---|---|---|
| **2018** | | | | | | | | |
| ***Income statement line item*** | | | | | | | | |
| Revenue | (983) | - | - | - | - | - | - | (983) |
| Raw material and energy expense | (135) | 163 | - | - | - | - | - | 28 |
| Financial income | - | - | - | (3) | - | - | - | (3) |
| Financial expense | 574 | - | - | - | - | - | - | 574 |
| ***Gain/loss in Other comprehensive income*** | | | | | | | | |
| Recognized in Other comprehensive income (before tax) | | | | | (394) | | | |
| Removed from Other components of equity and recognized in the income statement | | | | | - | | | |

1) Amounts indicates the total gains and losses to financial instruments for each specific income statement line.

| Amounts in NOK million | Financial instruments at fair value through profit or loss | Derivatives identified as hedging instruments | Loans and receivables | Available-for-sale financial assets | Other financial liabilities | Non-financial assets and liabilities | Total[1] |
|---|---|---|---|---|---|---|---|
| **2017** | | | | | | | |
| ***Income statement line item*** | | | | | | | |
| Revenue | 541 | - | - | - | - | - | 541 |
| Raw material and energy expense | 281 | 85 | - | - | - | - | 366 |
| Financial income | (44) | - | - | (115) | - | - | (158) |
| Financial expense | 811 | - | - | - | - | - | 811 |
| ***Gain/loss in Other comprehensive income*** | | | | | | | |
| Recognized in Other comprehensive income (before tax) | | | | 266 | | | |
| Removed from Other components of equity and recognized in the income statement | | | | - | | | |

1) Amounts indicates the total gains and losses to financial instruments for each specific income statement line.

Currency effects, with the exception of currency derivatives, are not included above. Negative amounts indicate a gain.

**Sensitivity analysis**

In accordance with IFRS, Hydro has chosen to provide information about market risk and potential exposure to hypothetical loss from its use of derivative financial instruments and other financial instruments and derivative commodity instruments through sensitivity analysis disclosures. The sensitivity analysis depicted in the tables below reflects the hypothetical gain/loss in fair values that would occur assuming a 10 percent increase in rates or prices and no changes in the portfolio of instruments as of December 31, 2018 and December 31, 2017. Effects shown below are largely also representative of reductions in rates or prices by 10 percent but with the opposite sign convention. Only effects that would ultimately be accounted for in the income statement, or equity, as a result of a change in rates or prices, are included. All changes are before tax.

| | | Gain (loss) from 10 percent increase in | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Foreign currency exchange rates | | | Commodity prices | | | |
| Amounts in NOK million | Fair value as of December 31, 2018[1] | USD | EUR | Other | Aluminium | Other | Interest-rates | Other |
| Derivative financial instruments[2] | (2,149) | - | (2,542) | - | - | - | 33 | - |
| Other financial instruments[3] | (2,399) | (537) | 303 | (191) | - | - | - | 24 |
| Derivative commodity instruments[4] | 214 | 5 | 18 | - | (298) | 81 | (3) | (1) |
| Financial instruments at FVOCI[5] | 1,343 | 256 | (6) | 1 | - | 19 | (123) | 137 |

| | | Gain (loss) from 10 percent increase in | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Foreign currency exchange rates | | | Commodity prices | | | |
| Amounts in NOK million | Fair value as of December 31, 2017[1] | USD | EUR | Other | Aluminium | Other | Interest-rates | Other |
| Derivative financial instruments[2] | (1,574) | (1) | (2,018) | (3) | - | - | 21 | - |
| Other financial instruments[3] | 2,088 | (160) | 128 | (214) | - | - | 2 | 31 |
| Derivative commodity instruments[4] | (205) | (56) | 23 | 11 | (130) | (41) | (14) | (3) |
| Financial instruments at FVOCI[5] | 924 | 282 | (5) | - | - | 33 | (122) | 95 |

1) The change in fair value due to price changes is calculated based on pricing formulas for certain derivatives, the Black-Scholes/Turnbull-Wakeman models for options and the net present value of cash flows for certain financial instruments or derivatives. Discount rates vary as appropriate for the individual instruments.

2) Includes forward currency contracts and embedded currency derivatives.

3) Includes cash and cash equivalents, investments in securities, bank loans and other interest-bearing short-term debt and long-term debt. Trade payables and trade receivables are also included.

4) Includes all contracts with commodities as underlying, both financial and physical contracts, such as LME contracts and NASDAQ Nordic Power contracts, which are accounted for at fair value.

5) Includes hedging derivatives.

The above sensitivity analysis reflects sensitivities for the instruments held at the balance sheet dates only. Related offsetting physical positions, contracts, and anticipated transactions are not reflected. The calculations do not take into consideration any adjustments for potential correlations between the risk exposure categories, such as the effect of a change in a foreign exchange rate on a commodity price.

The above discussion about Hydro's risk management policies and the estimated amounts included in the sensitivity analysis relates to the balance sheet position as of December 31. Outcomes at other dates could differ materially based on actual developments in the global markets and Hydro's positions. The methods used by Hydro to analyze risks discussed above should not be considered as projections of future events, gains or losses.

The following is an overview of fair value measurements categorized on the basis of observability of significant measurement inputs. Certain items are valued on the basis of quoted prices in active markets for identical assets or liabilities (level 1 inputs), others are valued on the basis of inputs that are derived from observable prices (level 2 inputs), while certain positions are valued on the basis of judgmental assumptions that are to a limited degree or not at all based on observable market data (level 3 inputs). The level in this fair value hierarchy within which measurements are categorized is determined on the basis of the lowest level input that is significant to the fair value measurement.

| Amounts in NOK million | **2018** | **Level 1** | **Level 2** | **Level 3** | 2017 | Level 1 | Level 2 | Level 3 |
|---|---|---|---|---|---|---|---|---|
| ***Assets*** | | | | | | | | |
| Commodity derivatives | **921** | **376** | **275** | **270** | 845 | 451 | 199 | 195 |
| Currency derivatives | **17** | **2** | **14** | **-** | 25 | 25 | - | - |
| Cash flow hedges | **3** | **-** | **-** | **3** | - | - | - | - |
| Financial assets at FVTPL | **1,391** | **253** | **603** | **535** | 1,053 | 331 | 722 | - |
| Financial assets at FVOCI | **1,405** | **-** | **-** | **1,405** | 969 | - | - | 969 |
| Total | **3,738** | **631** | **892** | **2,213** | 2,893 | 808 | 921 | 1,164 |
| ***Liabilities*** | | | | | | | | |
| Commodity derivatives | **(708)** | **(146)** | **(236)** | **(325)** | (1,049) | (419) | (157) | (473) |
| Currency derivatives | **(2,165)** | **(4)** | **(2,161)** | **-** | (1,600) | (34) | (1,566) | - |
| Cash flow hedges | **(66)** | **-** | **-** | **(66)** | (45) | - | - | (45) |
| Total | **(2,939)** | **(150)** | **(2,397)** | **(391)** | (2,694) | (453) | (1,723) | (519) |

The following is an overview in which changes in level 3 measurements are specified:

| | Commodity derivatives | | Currency derivatives | | | | |
|---|---|---|---|---|---|---|---|
| Amounts in NOK million | Assets | Liabilities | Liabilities | Cash flow hedges | Financial instruments at FVTPL | Equity instruments at FVOCI[1)] | Other |
| December 31, 2016 | 26 | (47) | - | (280) | - | 1,132 | 10 |
| Total gains (losses) | | | | | | | |
| in Income statement | 174 | (473) | - | - | - | - | - |
| in Other comprehensive income | - | - | - | 149 | - | (266) | - |
| Purchases | - | - | - | - | - | 7 | - |
| Reclassified to level 2 | - | - | - | - | - | - | (5) |
| Settlements | (1) | 51 | - | 86 | - | - | (5) |
| Currency translation difference | (4) | (3) | - | - | - | 98 | - |
| December 31, 2017 | 195 | (473) | - | (45) | - | 969 | - |
| Total gains (losses) | | | | | | | |
| in Income statement | (119) | 177 | - | - | - | - | - |
| in Other comprehensive income | - | - | - | (141) | - | 395 | - |
| Purchases | 195 | (39) | - | - | - | - | - |
| Reclassified at transition to IFRS 9 | - | - | - | - | 535 | - | - |
| Settlements | - | 16 | - | 124 | - | - | - |
| Currency translation difference | - | (5) | - | - | - | 40 | - |
| December 31, 2018 | 270 | (325) | - | (63) | 535 | 1,405 | - |
| Total gains (losses) for the period | (119) | 177 | - | (141) | - | 395 | - |
| Total gains (losses) for the period included in the income statement for assets held at the end of the reporting period | (119) | 177 | - | - | - | - | - |

1) Instruments classified as FVOCI in 2018 correspond to the category Available for sale financial assets in 2017.

Gains or losses relating to level 3 commodity derivatives appearing in the table above are included in the income statement in Raw material and energy expense. Changes in fair value for embedded derivatives are reported as gains or losses for the period. Changes in fair value for hedge instruments are reported in Other comprehensive income. Dividends received for equity instruments at fair value through other comprehensive income are included in Financial income.

Sensitivities relating to commodity derivatives are based on models utilized in the calculation of position balance as of December 31, adjusted for alternate assumptions. Effects shown below are largely also representative of increases in rates or prices by 10 percent but with the opposite sign convention. The following is an overview of such sensitivity:

| Amounts in NOK million | Gain (loss) from 10 percent decrease in USD | EUR | Aluminium | Other commodity | Interest rates |
|---|---|---|---|---|---|
| Commodity derivatives | 17 | (14) | 52 | - | 3 |
| Cash flow hedges | - | 6 | - | (19) | - |
| Equity instruments at FVOCI | (314) | - | - | - | 141 |

# Note 14 - Derivative instruments and hedge accounting

Derivative instruments, whether physically or financially settled, are accounted for under IFRS 9. All derivative instruments are accounted for at fair value with changes in the fair value recognized in the income statement, unless specific hedge criteria are met. Some of Hydro's commodity contracts are deemed to be derivatives under IFRS. For further explanation on the principles for which physical commodity contracts that are accounted for as derivatives, and which are considered own use, see note 2 Significant accounting policies.

**Embedded derivatives**
Some contracts contain pricing links that affect cash flows in a manner different than the underlying commodity or financial instrument in the contract. For accounting purposes, these embedded derivatives are in some circumstances separated from the host contract and recognized at fair value. Hydro has separated and recognized at fair value embedded derivatives related to currency, aluminium, inflation and coal links from the underlying contracts.

**Commodity derivatives**
The following types of commodity derivatives were recorded at fair value on the balance sheet as of December 31, 2018 and December 31, 2017. Contracts that are designated as hedging instruments in cash flow hedges are not included. The presentation of fair values for electricity and aluminium contracts shown in the table below includes the fair value of traditional derivative instruments such as futures, forwards and swaps, in conjunction with the physical contracts accounted for at fair value, as well as embedded derivatives.

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| *Assets* | | |
| Electricity contracts | **520** | 175 |
| Aluminium futures, forwards and options | **437** | 719 |
| Other | **95** | 164 |
| Netting | **(130)** | (213) |
| Total | **921** | 845 |
| *Liabilities* | | |
| Electricity contracts | **(293)** | (162) |
| Coal forwards | **(302)** | (397) |
| Aluminium futures, forwards and options | **(243)** | (704) |
| Netting | **130** | 213 |
| Total | **(708)** | (1,049) |

Embedded derivatives are classified based on the underlying in the contract feature constituting a separable embedded derivative in the table above. Where there are more than one embedded derivative in the same host contract, those embedded derivatives are offset in settlement and thus presented net on the balance sheet.

Changes in the fair value of commodity derivatives are included in operating revenues or cost of goods sold based on classification of host contract for embedded derivatives and on the purpose of the instrument for freestanding derivatives.

**Cash flow hedges**
Hydro has to a limited extent used cash flow hedge accounting for its risk management positions. Gains and losses on the hedge derivatives are recognized in Other comprehensive income, and accumulated in the hedging reserve in equity and reclassified into operating revenues or cost when the corresponding forecasted sale or consumption is recognized. In 2012 Hydro entered into a hedge arrangement for parts of the power consumption in the Rheinwerk smelter in Germany. The price differential between the German and the Nordic power market was secured through derivative contracts for 150 MW for the period 2013 to 2020.

No ineffectiveness was recognized in the income statement in 2018 or 2017.

The table below gives aggregated numbers related to the cash flow hedges for the period 2017 to 2018.

| Amounts in NOK million | 2019 | **2018** | 2017 |
|---|---|---|---|
| Expected to be reclassified to the income statement during the year (NOK million) | (65) | **(8)** | (73) |
| Reclassified to the income statement from Other components of equity (NOK million)[1] | | **(124)** | (79) |

1) Deviates from expected reclassifications due to change in market prices throughout the year. Negative amounts indicate a loss.

Liabilities of NOK 62 million and NOK 45 million were recognized as the fair value of cash flow hedging instruments for December 31, 2018 and 2017, respectively.

Hydro performs trading operations to reduce currency exposures on commodity positions. The effect of such operations is recognized as a part of Financial expense in the income statement.

For the after tax movement in Hydro's equity relating to cash-flow hedges for 2018 and 2017, please see note 38 Shareholders' equity.

**Fair Value of Derivative Instruments**
The fair value of derivative financial instruments such as currency forwards and swaps are based on quoted market prices. The fair market value of aluminium and electricity futures/forwards and option contracts is based on quoted market prices obtained from the London Metals Exchange and NASDAQ Nordic Power/EEX (European Energy Exchange) respectively. The fair value of other commodity over-the-counter contracts and swaps is based on quoted market prices, estimates obtained from brokers and other appropriate valuation techniques. Where long-term physical delivery commodity contracts are recognized at fair value in accordance with IFRS 9, such fair market values are based on quoted forward prices in the market, and assumptions of forward prices and margins where market prices are not available. Hydro takes credit-spread into consideration when valuating positions when necessary.

For further information on fair values, see note 4 Measurement of fair value. See note 13 Financial instruments for a specification of the classification of derivative positions according to a fair value hierarchy.

# Note 15 - Revenues from contracts with customers

Hydro implemented IFRS 15 Revenue from Contracts with Customers as of January 1, 2018. The standard is implemented retrospectively with the cumulative effect of initially applying IFRS 15 recognized directly to equity at implementation. The amounts presented for the year 2017 are thus not fully comparable, however, the differences are limited.

The significant judgment in applying IFRS 15 for Hydro is related to which contracts that qualify for recognition over time, versus recognition at a point in time; at delivery to customer.

Hydro's main performance obligations can be described as follows:

- sale of products, produced independent of customer orders
- sale of products, produced to customer order
- sale of products made to customer specifications and order
- sale of electricity

For products which are not made to the customer's specification, performance obligations are either the individual product, the delivery in total, or an agreed volume of products delivered in more than one delivery. Contracts covering a fixed, committed volume at fixed or determinable prices are relevant for this assessment. Delivery period for such contracts can cover a period of a few weeks, and up to one year. Some contracts cover more than one year, however, these are a declining number. Prices are usually a combination of fixed elements and market references such as the aluminium price at the London Metal Exchange or other market references, at, or prior to, delivery. Revenue related to products that are not made to the customers' specification is recognized at delivery of products to customers, which is the same time as under the previous standard used for 2017 amounts. Such contracts accounts for the majority of sales in the segments Bauxite & Alumina, Primary Metal, Metal Markets and Rolled Products, and a significant share of sales in Extruded Solutions. Some of these contracts includes an element of freight services, which is considered a separate performance obligation under IFRS 15, and related revenue is recognized over the time of journey. Payment terms for such products vary between customer segments and regions. The predominant terms vary between 30 to 120 days, and up to a 150 days.

For products made to customer specifications and orders, we have assessed whether the finished product has an alternative use to Hydro, and whether Hydro at all times has an enforceable right to payment for performance completed to date. For contracts where both of these conditions are fulfilled, revenue shall be recognized over the time from start of production of the specialized product until completion of delivery to the customer. For Hydro's products, the alternative use of customer designed products would, in most cases, be as basis for producing other products rather than for sale of the product unchanged. We have assessed whether Hydro has an enforceable right to payment for performance completed to date, including a reasonable margin, throughout the production period. The assessment is primarily related to the segment Extruded Solutions. The main assessment is related to which compensation Hydro would be entitled to in a situation where firm orders are canceled or amended by the customer. Our conclusion is that for close to all contracts we do not have enforceable right to payment as described in IFRS 15, and revenue is thus recognized at a point in time. However, as our conclusions depends both on legal assessment of a large number of contracts in many countries, and on the understanding of what constitutes an enforceable right to payment under IFRS 15, we might reach a different conclusion in the future for some contracts, or for new contracts covering similar products and customer segments entered into in the future. Also for these contracts, prices are fixed at the time of delivery. Payment terms for such products vary between customer segments and regions. The predominant terms vary between 30 to 60 days.

Hydro’s warranty terms vary by product and business segment. Generally, Hydro provides warranty that product complies with specification, and offer repair, replacement or refund of consideration paid for breaches. Such warranties are limited in time, for most products not exceeding 12 months. Individual contracts may include more extensive warranty clauses where Hydro takes responsibility also for some consequential damages, mainly related to more complex products such as certain automotive parts. Warranty liability is to some degree influenced by legal requirements, which may extend the time period for Hydro’s liability.

Sale of electricity, primarily from the Energy segment, continues to be recognized as electricity is delivered to customers through the relevant grid. Sale of energy from other segments represent excess energy purchased under contracts exceeding the operational needs, and relate to periodic maintenance stops or curtailment. During 2018, the majority of power sale from other segments than Energy is related to the 50 percent curtailment in Primary Metal’s Albras plant, amounting to NOK 1,429 million for 2018 and NOK 254 million for 2017. Revenue from sale of energy includes the revenue from sale of concession power, a legal requirement to deliver a certain part of volume produced in Norway to local authorities at a reduced price. Revenue from concession power amounted to NOK 78 million and NOK 75 million in 2018 and 2017, respectively.

Realized and unrealized changes in fair value of commodity derivatives are also presented as part of revenue. These amounts are measured at fair value as required by IFRS 9 Financial Instruments. The instruments are mainly aluminium and power contracts used for risk management purposes, and are included in Other revenue in the table below.

Hydro’s revenue divided by segment and geographic location of the customer is shown in note 7 Operating and geographic segment information. Revenue divided by product type for the main product groups sold are as follows:

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Extruded solutions | **61,367** | 13,927 |
| Rolled products | **26,538** | 25,447 |
| Standard ingots | **8,997** | 11,820 |
| Extrusion ingots | **22,030** | 22,463 |
| Other casthouse products | **17,804** | 16,752 |
| Alumina | **11,322** | 12,788 |
| Power | **5,021** | 2,731 |
| Other goods and services[1)] | **5,333** | 3,774 |
| Total revenue from contracts with customers | **158,411** | 109,702 |
| Other revenue | **965** | (482) |
| Total revenue | **159,377** | 109,220 |

1) Includes sale of bauxite and revenue from allocated freight

## Sales commitments

Hydro has entered into sales contracts with customers, mainly for alumina and finished products, either as firm commitments or as committed frame agreements where the customer decides if, and for which volume, a future sale is made. The majority of these contractual commitments are for sale of products at price terms linked to market prices at, or close to, future delivery. The commitments amount to NOK 73 billion, calculated using market prices as of the end of the year. About NOK 21 billion of this amount is expected to be delivered in 2019.

# Note 16 - Other income

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Gain on sale of property, plant and equipment | **37** | 30 |
| Net gain (loss) on sale of subsidiaries, associates and joint ventures[1)] | **(6)** | 2,177 |
| Revenue from utilities[2)] | **58** | 89 |
| Rental revenue | **45** | 42 |
| Government grants[3)] | **380** | 498 |
| Other[4)] | **259** | 110 |
| Other income, net | **772** | 2,947 |

1) Amount in 2017 is related mainly to the net remeasurement gain on the previously owned shares in Sapa.
2) Revenue from utilities includes quay structures, pipe network, tank terminal, process water and grid rental.
3) Government grants includes export grants in Brazil, CO2 compensation and investment grants related to Hydro's pilot facility on Karmøy
4) Other includes royalties and insurance compensations.

# Note 17 - Raw material and energy expense

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Raw material expense and production related cost | **105,118** | 70,050 |
| Change in inventories own production | **(2,596)** | (202) |
| Raw material and energy expense | **102,523** | 69,848 |

Raw material expense and production related cost include effect of commodity derivative instruments. See note 14 Derivative instruments and hedge accounting.

# Note 18 - Employee remuneration

**Employee share purchase plan**
Hydro has established a share purchase plan for employees in Norway. The plan payout is based on whether the share price (adjusted for dividend paid) increases with at least 12 percent or not during the performance period. Employees are eligible to receive an offer to purchase shares under this plan if they were 1) employed by Norsk Hydro ASA or a more than 90 percent owned Norwegian subsidiary, and 2) employed as of December 31 through the final acceptance date of the share purchase offer. Employees are invited to purchase shares with a rebate of 50 percent for a value of NOK 12,500 or NOK 25,000, depending on shareholder return. The share purchase is financed through a non-interest bearing loan from the company with a repayment period of 12 months.

Compensation expense related to the 2017 performance measurement period was accrued and recognized over the service period of December 31, 2017 through March 31, 2018, the final acceptance date of the offer. In 2018 and 2017 the participation rates of eligible employees in the employee share purchase plan were 88 and 92 percent, respectively. Details related to the employee share purchase plan are provided in the table below.

**Employee share purchase plan**

| Performance measurement period | 2018 | 2017 | 2016 |
|---|---|---|---|
| Total shareholder return performance target achieved | **<12%** | ≥12% | ≥12% |
| Employee rebate offered, NOK | **6,250** | 12,500 | 12,500 |

| Share purchase plan compensation | 2018 | 2017 |
|---|---|---|
| Award share price, NOK | **51.54** | 48.40 |
| Number of shares issued, per employee | **443** | 511 |
| Total number of shares issued to employees | **1,543,412** | 1,729,735 |
| Compensation expense related to the award, NOK thousand | **36,023** | 41,496 |

### Employee benefit expense

The average number of employees in Hydro for 2018 and 2017 was 35,731 and 18,422, respectively. As of year end 2018 and 2017, Hydro employed 36,236 and 34,625 people, respectively. Employees in joint operations are not included. The specification of employee benefit expenses, including employee benefits in joint operations, is given in the table below.

**Employee benefit expense**

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Salary | **18,090** | 10,434 |
| Social security costs | **2,910** | 1,660 |
| Other benefits | **1,023** | 400 |
| Pension expense (note 37) | **1,153** | 791 |
| Total | **23,176** | 13,285 |

## Note 19 - Depreciation and amortization expense

**Specification of depreciation and amortization by asset category**

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Buildings | **1,158** | 930 |
| Machinery and equipment | **5,705** | 5,004 |
| Intangible assets | **506** | 222 |
| Depreciation and amortization expense | **7,369** | 6,156 |

## Note 20 - Impairment of non-current assets

All Cash Generating Units (CGUs) or fixed assets that are not part of a CGU are reviewed for impairment indicators at each balance sheet date with the exception of goodwill and assets from recent acquisitions where the allocation of fair values is provisionally determined as of the balance sheet date. Tests for impairment have been performed for the CGUs where impairment indicators have been identified. The recoverable amount for these units have been determined estimating the Value in Use (VIU) of the asset and/or, if appropriate, its fair value less cost of disposal (FV), and comparing the highest of the two against the carrying value of the CGUs. The calculation of VIU has been based on management's best estimate, reflecting Hydro's business planning process. The discount rates are derived as the weighted average cost of capital (WACC) for a similar business in the same business environment. For Hydro's businesses the pre-tax nominal discount rate is estimated at between 6.0 and 17.5 percent (2017: 8.75-16.0 percent). The higher rates are applicable for assets within the Bauxite & Alumina and Primary Metal activities in Brazil, while the lower rates are applicable for assets within Extruded Solutions and Rolled Products in Europe. Impairment losses have been recognized where the recoverable amount is less than the carrying value.

Goodwill and intangible assets with indefinite life are required to be tested for impairment annually, in addition to any tests required when impairment indicators are determined to be present. Hydro has elected to do the annual impairment test of goodwill in the fourth quarter. The carrying amount is not recoverable if it exceeds the higher of the asset's or cash generating unit's fair value less costs to sell or the value in use. An impairment loss is recognized in the amount that the carrying value exceeds its recoverable amount. Losses are reversed in the event of a subsequent increase in the recoverable amount of an impaired asset, however, impairment of goodwill is not reversed.

There were no impairment losses recognized in 2018, and an impairment loss of NOK 5 million recognized in 2017.

Goodwill is allocated to CGUs or groups of CGUs as shown in the following table:

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Extrusion North America (Extruded Solutions) | **2,442** | - |
| Extrusion Europe (Extruded Solutions) | **778** | - |
| Building Systems (Extrusion Solutions) | **504** | - |
| Precision Tubing (Extrusion Solutions) | **145** | - |
| Extruded Solutions | **-** | 4,309 |
| Bauxite & Alumina Operations | **2,312** | 2,572 |
| Remelters sector (Metal Markets) | **404** | 388 |
| Total goodwill | **6,584** | 7,269 |

**Annual mandatory impairment tests**
*Extruded Solutions*
Goodwill in Extruded Solutions is allocated to four groups of CGUs reflecting the way the business is managed to serve the relevant markets. The groups of CGUs are as follows:

Extrusion North America covers production plants, marketing and product development in the US and Canada. The operation consists of 23 extrusion plants, recognized intangible assets and goodwill from Hydro's acquisition.

Extrusion Europe covers production plants, marketing and product development in Europe, mainly within the EU. The operation consists of 40 production plants, recognized intangible assets and goodwill from Hydro's acquisition.

Building Systems covers production plants, product warehouses, marketing and product development facilities, mainly in Europe, and sales and marketing offices covering a wider presence. The operation is present at 45 locations in 29 countries. The asset base consists of a limited number of production plants, several warehouses of differing size and complexity, three brands, other intangible assets and goodwill from Hydro's acquisition.

Precision Tubing covers production plants, marketing and product development on four continents. The operation consists of 19 production plants in South America, Asia, Europe and North America, recognized intangible assets and goodwill from Hydro's acquisition.

The impairment tests for all of the groups of CGUs described above are cash flow models expressed in nominal terms using forecasts for the first year based on internal business plans approved by management. Results and investment levels are kept at a reasonably stable level from that period, which is considered representative. For a newly acquired business showing negative cash flow, expected increased business volumes are included, reflecting moderate positive cash flows in the future. Margins, volumes and investments are considered highly correlated, as high margin above the metal value is achieved through production of more complex products, requiring higher cost and/or more expensive equipment. We have thus not considered development in margins, cost and volume separately. Cash flows have been projected as terminal values beyond the five-year forecast period. Key assumptions are development in annual net cash flows, comprising volume and cost development in relevant market segments, as well as the discount rate.

The main assumptions and sensitivities are shown in the tables below. Sensitivities are expressed as the changes in the parameter which would result in a recoverable amount equal to the carrying amount of the CGU. For the discount rate, the increased rate is applied for the entire period. For changes in annual nominal net cash flows, the reduced cash flow is applied to each year after the first year, 2019.

| Amounts in NOK million | Extrusion North America | Extrusion Europe | Building Systems | Precision Tubing |
|---|---|---|---|---|
| Carrying value of goodwill | 2,441 | 778 | 504 | 145 |
| Carrying value of other assets | 5,087 | 7,758 | 2,604 | 3,010 |
| Carrying value of CGU | 7,525 | 8,536 | 3,108 | 3,155 |
| Recoverable amount | 10,914 | 16,663 | 9,482 | 3,602 |
| Recoverable amount in excess of carrying value | 3,389 | 8,127 | 6,374 | 447 |
| | | | | |
| **Key assumptions:** | | | | |
| Discount rate | 9.0% | 6.0% | 6.0% | 8.5% |
| | | | | |
| **Sensitivities:** | | | | |
| Discount rate - % change | 42% | 92% | 192% | 12% |
| Discount rate - % point | 12.75% | 11.5% | 17.5% | 9.5% |
| Annual reduction in net cash flow per year after year 2019 | (17.0%) | (29.0%) | (48.0%) | (7.0%) |

*Bauxite & Alumina*
Goodwill in Bauxite & Alumina is allocated to a CGU consisting of the Alunorte alumina refinery, the main bauxite source Paragominas and certain related activities. Following regional flooding in the Barcarena region after a period of extreme rainfall in February 2018, authorities ordered several measures against Alunorte, including that the Alunorte alumina refinery is restricted to 50 percent of its capacity while authorities review the situation, over concerns that flooding led to harmful spills. The newly installed press filters were not allowed to be used. Alunorte was, at the beginning of October 2018, also prevented from using the old drum filter technology to prepare bauxite residue for deposit as the associated bauxite residue area (DRS1) was deemed unstable. At that time, Alunorte was allowed to restart commissioning of the new press filters. Residue prepared for deposit using press filter technology, which results in significantly dryer residue, has been deemed safe to deposit on DRS1. Alunorte is, however, not allowed to use the newly developed bauxite deposit area DRS2, as not all required operating licenses are in place.

Alunorte has eight press filters, which were designed to process 100 percent of Alunorte's bauxite residue. Alunorte was, prior to the embargo imposed in March 2018, in the process of commissioning the press filters and scaling down the use of drum filters. The press filters did not achieve their designed performance during this period. An additional filter is currently being installed and is expected to be in operation during the second half of 2019. The timing of a return to full production capacity at Alunorte when the embargo is lifted depends on whether, and how quickly the press filters can reach required capacity.

The recoverable amount has been determined based on a VIU calculation. The time of lifting the production embargo allowing only 50 percent of normal production is highly uncertain. The impairment test assumes two scenarios; one with the embargo lifted in the middle of 2019, and one with the embargo lifted at the end of 2019. For both scenarios, a return to full capacity is assumed to be reached over a period of two to three years, reflecting the uncertain capacity of the press filters. During the curtailment period, alumina prices at the world market have been significantly higher than in the period immediately preceding the embargo. The higher prices are assumed to be related to the production shortfall, and related undersupply of alumina in the world market. To which extent prices will remain high during 2019 and later should restart not be achieved within reasonable time, is highly uncertain. Further, how much prices will be reduced, and for how long lower prices may be expected, once the Alunorte refinery is allowed to increase its production towards normal production levels, is also highly uncertain. The prices are likely to be impacted by unrelated events in addition to the allowed production level at Alunorte. Further, other market prices and regulatory conditions, including the Brazilian indirect tax regime, are uncertain.

Recoverable amount determined as a VIU caluculation amounts to about NOK 42 billion. The value significantly exceeds the carrying value of NOK 23 billion. The calculation used cash flow forecasts in BRL based on internal plans approved by management covering a five-year period. All significant price assumptions are internally derived based on external references. Cash flows have been projected for the following 35 years based on the five-year detailed forecast period using Hydro's long-term assumptions for alumina prices and key raw material prices. The CGU is expected to remain in operation for at least the 40-year period. Improvements expected from certain planned equipment replacements are included. Further improvements are not included in the cash flow forecasts. Cash flows beyond the five-year period are inflated by the expected long-term inflation levels in Brazil and the main western economies.

The main assumptions to which the test is sensitive are shown in the table below:

| | Assumptions | |
|---|---|---|
| | 2019 | Long-term |
| Exchange rate BRL/USD | 3.95 | 4.10 |
| Alumina price real terms 2018 (USD/mt) | 457 | 355 |
| Production volume alumina (million mt) | 3.6 | 6.3 |
| Discount rate nominal, pre-tax | 17.5% | 17.5% |

Significant cash flows are denominated in US dollars. These are translated to BRL at a rate of 3.95 for 2019 with an increase to a nominal rate of 4.10 in 2025, equal to a real exchange rate of 3.52. For future periods the exchange rate is projected with a rate development reflecting the inflation difference of 2.5 percentage points between international inflation and the higher expected Brazil specific inflation.

If one of the key parameters were changed with no changes to the other assumptions, the estimated recoverable amount for the CGU would equal the carrying amount with the following long-term real 2018 assumptions over the entire 40-year period:

| | % change | Value |
|---|---|---|
| Exchange rate BRL/USD | (21%) | 2.80 |
| Alumina price (USD/mt) | (13%) | 311 |
| Discount rate (% point) | 51% | 26.5% |

For Metal Markets the impairment test on goodwill has been based on approved business plan for the next year, managements best estimate of cash flows for the following four years and extrapolated to a 15 years cash flow estimate, providing a VIU exceeding the carrying value.

Hydro also has indefinite life intangible assets of NOK 138 million related to the Vigeland power plant in Norway. This CGU is tested for impairment using a FV approach based on observed transaction values for power production assets in the Nordic region. The recoverable amount, estimated as a post-tax fair value, exceeds the carrying amount significantly.

**Impairment tests based on indications of loss in value**
The CGU in Bauxite & Alumina was also tested for impairment as of the end of the second quarter and at the end of the third quarter following the embargo at Alunorte, which was deemed an impairment indicator at those times. The tests at the end of both interim periods, concluded that the CGU was not impaired.

The Albras smelter, also located in Barcarena, Brazil, was tested for impairment twice during 2018; at the end of the first quarter when the decision to curtail 50 percent of the production due to lack of alumina following from the embargo at Alunorte, and again at the end of the third quarter when it became evident that the curtailment period would be longer than initially assumed. At both times, we concluded that the plant was not impaired.

At the end of 2018 we identified an impairment indicator for the Slovakian primary aluminium plant Slovalco. The recoverable amount was determined as VIU based on Hydro's internal assumptions for aluminium prices, raw material prices including energy, currency exchange rates and timing of cash flows. Contract prices are used for raw materials and energy for periods covered by specific contracts with external suppliers. For periods where such consumption is not yet contracted, or where internal supply of such items as alumina is expected, estimated market prices are used. VIU for Slovalco, which had a carrying value of PPE of about NOK 1.1 billion, exceeded carrying amount by about 33 percent. No impairment write-down was thus recognized.

In 2017 we identified an impairment indicator for the primary aluminium plant at Husnes, Norway. The recoverable amount was determined as the VIU. Hydro has decided to upgrade and restart the closed line, which was assumed in the test. The recoverable amount exceeded the carrying amount of about NOK 0.4 billion significantly.

In addition certain assets were written down as impaired due to physical damage or obsolescence in 2017.

See note 5 Critical accounting judgment and key sources of estimation uncertainty for additional information about impairment testing. Impairment assessment for investments in associates, joint ventures and other financial assets are discussed in the specific notes.

# Note 21 - Research and development

Total expensed research and development cost was NOK 594 million in 2018 and NOK 500 million in 2017. Research and development activities are aiming at making production of aluminium more efficient including further improving the operational and environmental performance of Hydro's electrolysis technology. A significant proportion of the research and development means are also used for further developing the production processes and products within casting and alloy technology as well as extruded solutions, rolled products and alumina.

To the extent development costs are directly contributing to the construction of a fixed asset, the development costs are capitalized as part of the asset provided all criteria for capitalizing the cost are met. Costs incurred during the preliminary project stage, as well as maintenance costs, are expensed as incurred. The capitalized development costs were NOK 21 million in 2018 and NOK 24 million in 2017.

# Note 22 - Operating leases

Future minimum lease payments due under non-cancellable operating leases are as follows:

| Amounts in NOK million | Less than 1 year | 1-5 years | Thereafter | Total |
|---|---|---|---|---|
| Operating lease obligation 2018 | 693 | 1,546 | 645 | 2,884 |
| Operating lease obligation 2017 | 771 | 1,283 | 284 | 2,338 |

Operating lease expense for office space, machinery and equipment amounts to NOK 657 million for 2018 and NOK 311 million for 2017.

# Note 23 - Finance income and expense

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Interest income (amortized cost) | **250** | 322 |
| Dividends received and net gain (loss) on securities | **6** | 159 |
| Finance income | **255** | 481 |
| Interest expense (amortized cost) | **(699)** | (378) |
| Capitalized interest | **1** | 76 |
| Net foreign exchange gain (loss) | **(1,303)** | (875) |
| Accretion | **(260)** | (368) |
| Other | **(53)** | (51) |
| Finance expense | **(2,315)** | (1,596) |
| Finance income (expense), net | **(2,060)** | (1,114) |

Accretion represent the period's interest component for pension obligations, asset retirement obligations and other liabilities measured as present value of future expected payments.

# Note 24 - Income taxes

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| ***Income before tax*** | | |
| Norway | **4,327** | 6,954 |
| Other countries | **2,135** | 4,121 |
| Total | **6,462** | 11,075 |
| ***Current taxes*** | | |
| Norway | **1,770** | 1,715 |
| Other countries | **954** | 860 |
| Current income tax expense | **2,724** | 2,575 |
| ***Deferred taxes*** | | |
| Norway | **272** | (315) |
| Other countries | **(857)** | (369) |
| Deferred tax expense (benefit) | **(585)** | (685) |
| Total income tax expense (benefit) | **2,139** | 1,891 |

**Components of deferred taxes**

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Origination and reversal of temporary differences | **(409)** | (311) |
| Change in deferred tax asset from tax loss carryforwards | **115** | 269 |
| Effect of tax rate changes | **(11)** | (171) |
| Net change in unrecognized deferred tax assets | **(492)** | (207) |
| Tax (expense) benefit allocated to Other comprehensive income | **211** | (265) |
| Deferred tax expense (benefit) | **(585)** | (685) |

**Reconciliation of tax expense to Norwegian nominal statutory tax rate**

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Expected income taxes at statutory tax rate[1)] | **1,486** | 2,658 |
| Hydro-electric power surtax[2)] | **943** | 708 |
| Equity accounted investments | **(170)** | (372) |
| Foreign tax rate differences | **(417)** | (142) |
| Favorable decisions in tax disputes[3)] | **-** | (108) |
| Tax free income | **(44)** | (601) |
| Deferred tax asset not recognized and expired tax loss carryforwards | **2** | (144) |
| Withholding tax and capital taxes | **108** | 43 |
| Other tax benefits and deductions with no tax benefits, net[4), 5)] | **231** | (151) |
| Income tax expense (benefit) | **2,139** | 1,891 |

1) Norwegian nominal statutory tax rate is 23 percent. It is changed to 22 percent from 2019.
2) A surtax of 35.7 percent is applied to taxable income, with certain adjustments, for Norwegian hydro-electric power plants. The surtax comes in addition to the normal corporate taxation. The surtax rate is changed to 37 percent from 2019.
3) The Norwegian Tax Appeal Board ruled in favor of Hydro in tax disputes in 2017. This was related to losses incurred in 2009-2011 on refinancing of subsidiaries that were denied deduction for tax purposes.
4) A substantial part of the provision related to the Alunorte agreements with the Government of Parà and Ministèrio Pùblico Federal made on September 5, 2018 (the TAC and TC agreements), is considered not deductible for tax purposes. The tax effect is included in the line Other tax benefits and deductions with no tax benefits, net.
5) A US tax reform was enacted in 2017 and resulted in significant changes to existing tax law in several areas, including a reduction in federal corporate tax rate from 35 percent in 2017 to 21 percent in 2018. The reduced tax rate resulted in a decrease in the deferred tax liability and hence a positive effect on the income tax expense in 2017. The effect is included in the line Other tax benefits and deductions with no tax benefits, net.

**Tax effects of temporary differences and tax loss carryforwards giving rise to deferred tax assets and liabilities**

| Amounts in NOK million | **Assets 2018** | **Liabilities 2018** | Assets 2017 | Liabilities 2017 |
|---|---|---|---|---|
| Inventory valuation | **442** | **(639)** | 375 | (558) |
| Accrued expenses | **1,549** | **(311)** | 1,477 | (278) |
| Property, plant and equipment | **10,076** | **(16,042)** | 10,097 | (15,936) |
| Intangible assets | **1,549** | **(2,314)** | 1,538 | (2,368) |
| Pensions | **2,761** | **(1,088)** | 2,747 | (1,274) |
| Derivatives | **639** | **(209)** | 536 | (145) |
| Other | **517** | **(980)** | 162 | (724) |
| Tax loss carryforwards | **5,230** | | 5,187 | |
| Subtotal | **22,763** | **(21,583)** | 22,120 | (21,282) |
| Of which not recognized as tax asset | **(2,553)** | | (2,743) | |
| Gross deferred tax assets (liabilities) | **20,210** | **(21,583)** | 19,377 | (21,282) |
| Net deferred tax assets (liabilities) | | **(1,373)** | | (1,905) |

| **Reconciliation to balance sheets** | **2018** | 2017 |
|---|---|---|
| Deferred tax assets | **1,664** | 1,617 |
| Deferred tax liabilities | **3,037** | 3,522 |
| Net deferred tax assets (liabilities) | **(1,373)** | (1,905) |

Recognition of net deferred tax asset is based on expected taxable income in the future.

At the end of 2018, Hydro had tax loss carryforwards of NOK 16,936 million, mainly in Brazil, Spain, Australia, Italy and Belgium. Of the total, NOK 15,101 million is without expiration. The majority of the tax loss carryforwards with an expiry date expire after 2023. Tax assets are recognized for about 54 percent of the tax losses.

# Note 25 - Short-term investments

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Equity securities | **253** | 315 |
| Debt securities | **603** | 738 |
| Other | **119** | 257 |
| Total short-term investments | **975** | 1,311 |

# Note 26 - Trade and other receivables

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Trade receivables | **17,144** | 16,591 |
| VAT and other sales taxes | **1,578** | 2,008 |
| Other receivables | **2,170** | 1,438 |
| Allowance for credit losses | **(149)** | (54) |
| Trade and other receivables | **20,743** | 19,983 |

Of total trade receivables at year end 2018, about ten percent were past due, with the majority within 30 days. Extruded Solutions has a higher share of overdue receivables than the average of the other business areas.

# Note 27 - Inventories

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Spare parts and raw materials | **6,086** | 5,990 |
| Work in progress | **5,710** | 5,060 |
| Alumina | **2,977** | 1,189 |
| Aluminium casthouse products | **7,394** | 4,393 |
| Fabricated products | **4,316** | 4,080 |
| Inventories | **26,483** | 20,711 |

Raw materials includes purchased raw materials such as bauxite, caustic soda, oil, coal and other input factors used in the production; however, excluding alumina and aluminium intended for use in Hydro's production of other products. All amounts are net of any write-downs.

# Note 28 - Other non-current assets

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Securities at fair value through other comprehensive income | **1,405** | 969 |
| Securities at fair value through profit or loss | **536** | 537 |
| Employee loans | **107** | 100 |
| Derivative instruments | **336** | 268 |
| Income taxes, VAT and other sales taxes | **2,576** | 1,678 |
| Other receivables | **759** | 857 |
| Other non-current assets | **5,720** | 4,410 |

# Note 29 - Property, plant and equipment

| Amounts in NOK million | Land and buildings | Machinery and equipment | Plant under construction | Total |
|---|---|---|---|---|
| ***Cost*** | | | | |
| December 31, 2016 | 25,572 | 83,592 | 6,844 | 116,009 |
| Additions | 523 | 2,602 | 4,212 | 7,338 |
| Acquisitions through business combinations | 3,936 | 9,102 | 1,014 | 14,052 |
| Disposals | (222) | (1,881) | (57) | (2,162) |
| Transfers[1)] | 4,036 | 3,531 | (7,567) | - |
| Foreign currency translation effect | (77) | (462) | (82) | (621) |
| December 31, 2017 | 33,769 | 96,484 | 4,363 | 134,616 |
| Effect of change in accounting principle | (17) | (70) | | (87) |
| | | | | |
| Additions | (11) | 2,422 | 4,614 | 7,025 |
| Acquisitions through business combinations | 1,167 | (208) | - | 959 |
| Disposals | (126) | (1,813) | (56) | (1,995) |
| Transfers | 683 | 3,229 | (3,912) | - |
| Foreign currency translation effect | (827) | (2,355) | (125) | (3,307) |
| December 31, 2018 | 34,638 | 97,689 | 4,885 | 137,212 |
| | | | | |
| ***Accumulated depreciation and impairment*** | | | | |
| December 31, 2016 | (11,103) | (45,873) | (298) | (57,275) |
| Depreciation for the year | (930) | (5,004) | - | (5,934) |
| Impairment losses | (2) | (3) | - | (5) |
| Disposals | 128 | 1,696 | - | 1,824 |
| Transfers[1)] | (719) | 719 | - | - |
| Foreign currency translation effect | (3) | (221) | 18 | (206) |
| December 31, 2017 | (12,629) | (48,686) | (280) | (61,596) |
| | | | | |
| Depreciation for the year | (1,158) | (5,705) | - | (6,862) |
| Disposals | 104 | 1,612 | - | 1,716 |
| Transfers | (31) | 31 | - | - |
| Foreign currency translation effect | 209 | 592 | 28 | 830 |
| December 31, 2018 | (13,505) | (52,155) | (252) | (65,912) |
| | | | | |
| ***Carrying value*** | | | | |
| December 31, 2017 | 21,122 | 47,728 | 4,083 | 72,933 |
| December 31, 2018 | 21,133 | 45,533 | 4,633 | 71,299 |

1) Transfers includes reclassification of certain industrial structures following renewed assessment.

The table above includes assets held under finance lease arrangements by a total of NOK 621 million, which are mainly included in Machinery and equipment.

# Note 30 - Intangible assets

| Amounts in NOK million | Intangible assets under development | Mineral and waterfall rights | Software | Technology | Acquired sourcing contracts | Other intangibles assets | Total |
|---|---|---|---|---|---|---|---|
| ***Cost*** | | | | | | | |
| December 31, 2016 | 289 | 1,019 | 1,041 | 352 | 1,220 | 649 | 4,570 |
| Additions | 65 | - | 84 | - | - | 17 | 167 |
| Acquisitions through business combinations | 2 | - | 250 | 1,441 | - | 1,204 | 2,897 |
| Disposals | - | - | (88) | - | - | (30) | (118) |
| Transfers | (95) | - | 94 | - | - | - | - |
| Foreign currency translation effect | 1 | (54) | 38 | 63 | (75) | 87 | 60 |
| December 31, 2017 | 263 | 965 | 1,420 | 1,856 | 1,146 | 1,927 | 7,576 |
| Additions | 158 | - | 36 | 2 | - | 57 | 252 |
| Acquisitions through business combinations | - | - | (4) | (19) | - | (95) | (118) |
| Disposals | - | - | (6) | - | - | (19) | (25) |
| Transfers | (274) | - | 44 | 237 | - | (6) | - |
| Foreign currency translation effect | 2 | (84) | (17) | 9 | (116) | 30 | (175) |
| December 31, 2018 | 148 | 881 | 1,472 | 2,084 | 1,030 | 1,895 | 7,510 |
| ***Accumulated amortization and impairment*** | | | | | | | |
| December 31, 2016 | - | - | (815) | (141) | (491) | (448) | (1,895) |
| Amortization for the year[1)] | - | - | (132) | (52) | (73) | (38) | (295) |
| Disposals | - | - | 87 | - | - | 5 | 93 |
| Foreign currency translation effect | - | - | (30) | (6) | 33 | (32) | (35) |
| December 31, 2017 | - | - | (890) | (199) | (531) | (514) | (2,133) |
| Amortization for the year[1)] | - | - | (208) | (186) | (63) | (112) | (569) |
| Disposals | - | - | 2 | (3) | - | 6 | 5 |
| Foreign currency translation effect | - | - | 7 | (6) | 54 | (10) | 45 |
| December 31, 2018 | - | - | (1,089) | (394) | (540) | (629) | (2,652) |
| ***Carrying value*** | | | | | | | |
| December 31, 2017 | 263 | 965 | 530 | 1,657 | 615 | 1,413 | 5,443 |
| December 31, 2018 | 148 | 881 | 383 | 1,691 | 490 | 1,265 | 4,858 |

1) Amortization of a sourcing contract is reported as Raw material and energy expense in the income statement.

Mineral rights are not depreciated until extraction of the resources starts. Acquired waterfall rights have indefinite life and are thus not depreciated.

# Note 31 - Goodwill

| Amounts in NOK million | Extruded Solutions | Bauxite & Alumina | Metal Markets | Total |
|---|---|---|---|---|
| ***Cost*** | | | | |
| December 31, 2016 | - | 2,740 | 396 | 3,135 |
| Acquisitions through business combinations | 4,119 | - | - | 4,119 |
| Foreign currency translation effect | 190 | (168) | (8) | 14 |
| December 31, 2017 | 4,309 | 2,572 | 388 | 7,269 |
| | | | | |
| Adjusted goodwill from business combination | (539) | - | - | (539) |
| Foreign currency translation effect | 99 | (261) | 16 | (145) |
| December 31, 2018 | 3,869 | 2,312 | 404 | 6,584 |

See note 20 Impairment of non-current assets for information about the annual impairment testing of goodwill.

See note 6 Significant subsidiaries and changes to the consolidated group for information about acquired goodwill.

# Note 32 - Investments in joint arrangements and associates

Hydro is engaged in various arrangements on a joint basis with other companies. In assessing whether joint control exists for these arrangements we evaluate the legal framework and contracts governing the arrangement combined with an assessment of which decisions that significantly influence the return from the arrangement. Arrangements owned on a 50/50 basis and/or governed by unanimous decisions constitute the majority of our joint arrangements.

Most of our joint arrangements are joint production facilities supplying metal and other products for Hydro's value chain. Hydro assesses whether joint arrangements are joint operations where Hydro has a direct interest in the assets and direct liability to settle obligations, directly or indirectly, or a joint venture where we have an interest in the net assets of the joint arrangement. In this assessment we evaluate the contracts governing the arrangement and the legal framework for the type of entity in which the arrangement is operated. Hydro is engaged in both joint arrangements that are considered joint ventures, and arrangements that are concluded to be joint operations.

**Joint operations**
Of our joint operations, two are classified as joint operations based on the legal form of the operations. These are Tomago, an aluminium smelter in Australia, and Skafså ANS, a power producer in Norway. Another two arrangements are classified as joint operations based on the contractual arrangements whereby all output is sold to the shareholders in proportion to their ownership interest at a cost based price formula. The major or sole sources of cash inflows for the joint arrangements are the owners, who are legally obliged to cover production costs. These are Aluminium Norf GmbH (Alunorf), a large rolling mill in Germany, and Aluminium & Chemie Rotterdam B.V., Aluchemie, an anode producer in the Netherlands.

**Joint ventures**
The following joint ventures are considered material for Hydro:

*Qatar Aluminium Ltd. (Qatalum)* is a primary aluminium smelter with a dedicated power plant located in Qatar. Qatalum has an annual production capacity of about 600,000 mt of liquid metal. Qatalum is owned by Hydro and Qatar Aluminium Manufacturing Company Q.P.S.C. (50 percent each). During 2018, Qatar Petroleum, which previously held 50 percent of the shares in Qatalum, transferred its shares to the newly established Qatar Aluminium Manufacturing Company, which was listed on the Qatar Stock Exchange, but which Qatar Petroleum retains a controlling interest in. Qatalum was at the outset granted a ten-year income tax holiday, expiring in 2020. A tax reform came into effect from 2010, which introduced a generally applicable corporate income tax rate of 10 percent. A tax rate of 35 percent applies to entities with oil and gas operations or where the activities are carried out under an agreement with the government or entities owned by the government, unless such agreement specifies another tax rate. According to the Qatalum joint venture agreement, the generally applicable tax rate will apply after 2020. It is Hydro's position that the generally applicable income tax rate, currently at 10 percent, shall apply to Qatalum after the expiry of the tax holiday.

Hydro is committed to sell fixed quantities of alumina and purchase all products from Qatalum at market prices. Purchases of metal from Qatalum amounted to NOK 11,980 million in 2018 and NOK 11,363 million in 2017. Related payables amounted to NOK 1,052 million in 2018 and NOK 1,051 million at the end of 2017. Sales from Hydro to Qatalum amounted to NOK 2,761 million in 2018 and NOK 2,222 million in 2017, primarily alumina. Related receivables amounted to NOK 3 million and NOK 128 million at the end of the periods. Qatalum is part of Primary Metal.

*Sapa AS*, a world leader in aluminium solutions delivering products within extrusions, building systems and precision tubing, was established in September 2013 as a joint venture between Hydro and Orkla ASA, a listed company in Norway. On October 2, 2017, Hydro acquired the additional 50 percent owned by Orkla ASA. Following completion of the transaction, Hydro owns 100 percent of the parent company Sapa AS, which has been renamed Hydro Extruded Solutions AS. All activities in the former Sapa group have been included in Hydro as business area Extruded Solutions. For further information about the transaction, please see note 6 Significant subsidiaries and changes to the consolidated group.

Hydro issued certain guarantees towards Sapa as part of establishing the company, primarily related to tax exposure. A provision of about NOK 100 million was recognized for these guarantees during the time of joint venture. Hydro sold metal products to Sapa at market prices. Sales from Hydro to Sapa amounted to NOK 3,916 million in the period up until completion of the acquisition, from January 1, 2017 to October 2, 2017.

The table below summarizes key figures for these joint ventures for 2018 and 2017. The figures are on the same basis as used for inclusion in the group financial statements. Fair value adjustments from Hydro's contribution of assets and businesses to the joint ventures are included. Intercompany transactions and balances are included, and internal profit and loss in inventory and fixed assets purchased from group companies are not eliminated in the numbers below. All amounts are for the joint ventures on 100 percent basis. The 2017 income and expense amounts for Sapa are for the joint venture period January 1, 2017 to October 2, 2017. All balance sheet amounts are at the end of the years 2018 and 2017.

| | Qatalum | | Sapa | |
|---|---|---|---|---|
| | Year/year ended | | Period as JV | |
| Amounts in NOK million | **2018** | 2017 | **2018** | 2017 |
| Revenue | **12,309** | 11,645 | **-** | 43,616 |
| Depreciation, amortization and impairment | **2,139** | 2,301 | **-** | 974 |
| Earnings before financial items and tax | **1,929** | 1,963 | **-** | 2,240 |
| Financial income (expense), net[1)] | **(484)** | (472) | **-** | (107) |
| Income tax expense | - | - | **-** | (533) |
| Net income (loss) | **1,445** | 1,491 | **-** | 1,600 |
| Other comprehensive income | **151** | 194 | **-** | (168) |
| Total comprehensive income | **1,596** | 1,685 | **-** | 1,432 |
| Cash and cash equivalents | **2,543** | 3,133 | **-** | - |
| Other current assets | **4,625** | 4,168 | **-** | - |
| Non-current assets | **30,675** | 30,940 | **-** | - |
| Current financial liabilities | **2,094** | 1,854 | **-** | - |
| Non-current financial liabilities | **11,537** | 12,931 | **-** | - |
| Other liabilities | **1,789** | 1,426 | **-** | - |
| Net assets | **22,423** | 22,031 | **-** | - |
| Hydro's share of net assets | **11,211** | 11,015 | **-** | - |
| Accumulated elimination of internal gain in inventory | **64** | (85) | **-** | - |
| Carrying value of Hydro's equity investment | **11,276** | 10,930 | **-** | - |
| Total investment | **11,276** | 10,930 | **-** | - |

1) Financial income (expense), net includes interest expense for Qatalum with NOK 492 million and NOK 467 million for 2018 and 2017, respectively. Interest expense for Sapa is included with NOK 87 million for the period January 1, 2017 to October 2, 2017.

As part of the acquisition of Sapa, Hydro acquired an ownership interest in Technal Middle East W.L.L, a joint venture owned 50 percent each by Hydro and Bahrain Aluminium Extrusion Company B.S.C

Hydro also holds interests in certain associates accounted for using the equity method. In November 2017, Hydro purchased 26 percent of Corvus Energy Inc., a Canadian company producing battery solutions for ships. The following table provides a summary of changes in carrying value for Hydro's joint ventures and associates.

| Amounts in NOK million | Qatalum | Sapa | Other JVs | Associates | Total |
|---|---|---|---|---|---|
| December 31, 2016 | 11,421 | 8,374 | - | 12 | 19,807 |
| Hydro's share of net income (loss) | 746 | 800 | 13 | (4) | 1,554 |
| Hydro's share of other comprehensive income | 97 | (84) | | | 13 |
| Dividends and other payments received by Hydro | (747) | (1,500) | | | (2,247) |
| Companies acquired/(sold), net | | | 227 | 39 | 266 |
| Amortization | | | | (3) | (3) |
| Changes elimination of internal gain in inventory | (46) | 25 | | | (21) |
| Derecognized at acquisition of control | | (7,615) | | | (7,615) |
| Foreign currency translation and other | (541) | | | 8 | (533) |
| December 31, 2017 | 10,930 | - | 240 | 52 | 11,221 |
| Hydro's share of net income (loss) | 723 | | 54 | (19) | 758 |
| Hydro's share of other comprehensive income | 75 | | (3) | | 72 |
| Dividends and other payments received by Hydro | (1,173) | | (46) | | (1,219) |
| Companies acquired/(sold), net | | | | 25 | 25 |
| Amortization | | | (2) | (15) | (17) |
| Loans | | | 10 | | 10 |
| Changes elimination of internal gain in inventory | 150 | | | | 150 |
| Foreign currency translation and other | 571 | | | (1) | 570 |
| December 31, 2018 | 11,276 | - | 252 | 42 | 11,570 |

# Note 33 - Trade and other payables

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Accounts payable | **16,361** | 15,195 |
| Payroll and value added taxes | **2,901** | 2,976 |
| Accrued liabilities and other payables | **1,120** | 1,400 |
| Trade and other payables | **20,381** | 19,571 |

# Note 34 - Short and long-term debt

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Bank loans and overdraft facilities | **5,455** | 7,595 |
| Other interest-bearing short-term debt | **275** | 276 |
| Current portion of long-term debt | **2,813** | 373 |
| Bank loans and other interest-bearing short-term debt | **8,543** | 8,245 |

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| USD | **1,458** | 860 |
| SEK | **2,915** | 3,007 |
| NOK | **4,497** | 4,497 |
| Other | **29** | 38 |
| Total unsecured loans | **8,900** | 8,402 |
| Finance lease obligations | **993** | 983 |
| Outstanding debt | **9,893** | 9,385 |
| Less: Current portion | **(2,813)** | (373) |
| Total long-term debt | **7,080** | 9,012 |

Long-term debt includes six bonds in NOK and SEK, all listed on the Oslo Stock Exchange. Market values of the bonds is close to par value.

**Repayments of long-term debt including interest**

| Amounts in NOK million | Unsecured loans | Other | Interest | Total |
|---|---|---|---|---|
| 2019 | 2,773 | 40 | 293 | 3,106 |
| 2020 | 1,282 | 39 | 196 | 1,517 |
| 2021 | 870 | 40 | 172 | 1,081 |
| 2022 | 2,972 | 44 | 136 | 3,151 |
| 2023 | 1 | 45 | 82 | 127 |
| Thereafter | 1,003 | 785 | 368 | 2,156 |
| Total | 8,900 | 993 | 1,246 | 11,139 |

**Reconciliation of liabilities arising from financing activities**

| Amounts in NOK million | Long-term debt | Bank loans and other interest-bearing short-term debt | Total liabilities from financing activities |
|---|---|---|---|
| December 31, 2016 | 3,397 | 3,283 | 6,679 |
| Cash flows | 5,934 | 935 | 6,869 |
| Non-cash changes: | | | |
| Net change in current balance | (410) | 410 | - |
| Business combinations | 64 | 3,556 | 3,620 |
| Amortizations | 9 | - | 9 |
| Foreign currency effects | 18 | 61 | 79 |
| December 31, 2017 | 9,012 | 8,245 | 17,257 |
| | | | |
| Cash flows | 815 | (2,676) | (1,861) |
| Non-cash changes: | | | |
| Net change in current balance | (2,771) | 2,771 | - |
| Amortizations | 6 | - | 6 |
| Foreign currency effects | 18 | 204 | 221 |
| December 31, 2018 | 7,080 | 8,543 | 15,623 |

# Note 35 - Provisions

| | **2018** | | | 2017 | | |
|---|---|---|---|---|---|---|
| Amounts in NOK million | **Short-term** | **Long-term** | **Total** | Short-term | Long-term | Total |
| Environmental clean-up and asset retirement obligations (ARO) | **563** | **3,737** | **4,299** | 384 | 4,201 | 4,585 |
| Employee benefits | **1,151** | **762** | **1,913** | 1,048 | 714 | 1,762 |
| Indirect taxes | **202** | **393** | **595** | 246 | 200 | 446 |
| Onerous contracts | **113** | **107** | **220** | 118 | 208 | 326 |
| Other | **1,253** | **589** | **1,841** | 500 | 505 | 1,005 |
| Total provisions | **3,281** | **5,588** | **8,868** | 2,296 | 5,828 | 8,124 |

The following table includes a specification of changes to provisions for the year ending December 31, 2018 and the expected timing of cash outflows relating to the provisions.

| Amounts in NOK million | Environmental clean-up and ARO | Employee benefits | Indirect taxes | Contracts | Other | Total |
|---|---|---|---|---|---|---|
| ***Specification of change in provisions*** | | | | | | |
| December 31, 2017 | 4,585 | 1,762 | 446 | 326 | 1,005 | 8,124 |
| Business combinations | (18) | 3 | - | - | 8 | (7) |
| Additions | 454 | 1,333 | 304 | 58 | 1,330 | 3,479 |
| Used during the year | (258) | (1,122) | (143) | (173) | (353) | (2,049) |
| Reversal of unused provisions | (37) | (77) | - | - | (178) | (292) |
| Accretion expense and effect of change in discount rate | (220) | 8 | - | 9 | 1 | (202) |
| Foreign currency translation | (206) | 5 | (12) | 1 | 28 | (184) |
| December 31, 2018 | 4,299 | 1,913 | 595 | 220 | 1,841 | 8,868 |
| | | | | | | |
| Timing of cash outflows | | | | | | |
| 2019 | 563 | 1,151 | 202 | 113 | 1,253 | 3,281 |
| 2020-2023 | 1,583 | 405 | 300 | 107 | 457 | 2,852 |
| Thereafter | 2,154 | 357 | 93 | - | 131 | 2,735 |
| | 4,299 | 1,913 | 595 | 220 | 1,841 | 8,868 |

Provisions for environmental clean-up and asset retirement obligations relate to production facilities currently in operation and facilities that are closed. The obligations relate to such actions as restoration or rehabilitation of industrial or mining sites, disposal of contaminated material and related activities. Hydro has provided for demolition of buildings and installations only where there is a legal or contractual obligation, or a specific decision to demolish, which is the case for few sites. The provision represents the present value of expected outflows at the times of expected payments. There is significant uncertainty both in the timing and amount of these remediation actions, as they are linked to future business decisions as well as decisions and approval by authorities in the jurisdictions we operate. Provisions are based on the current legal framework.

The most significant provisions relate to the following sites and issues. For Bauxite and Alumina's mine in Brazil we have obligations to remediate the tailing areas and mining sites, including reforestation of the area and monitoring and maintenance of the site after initial remediation. For Bauxite and Alumina's alumina refinery in Brazil we have obligations to remediate bauxite residue deposits, including monitoring the contamination levels and other aspects after initial remediation. For Primary Metal's closed Kurri Kurri smelter site in Australia we have obligations to remediate certain contaminated areas at the site as well as securing appropriate deposit of spent pot lining and certain other waste material, which is currently ongoing. The plan for remediation is not yet approved by the authorities. Hydro also has obligations for remediation of contamination on site and in related areas related to historic industrial activities in Germany and Norway, reported in Other and eliminations. The more significant of these sites are the sites in Schwandorf and Hannover in Germany. For many of these provisions, there are no standard remediation methods available and cost is therefore uncertain. The provision also includes remediation of spent pot lining in all active smelters, site clearance for certain leased land as well as certain liabilities related to Norwegian power plant concessions to be reverted to the Norwegian Government.

Provisions for employee benefits relate to expected short-term performance bonus payments and short and long-term provisions for expected bonus payments that are based on the number of years of service, primarily for our European operations. Such bonuses are expected to be paid in periods between 10 to 50 years of service, or upon termination of employment.

Indirect taxes include taxes not related to taxable income, such as value added taxes, duties and property taxes. Provision for indirect taxes includes a charge related to a customs case in Germany and provisions for indirect taxes in Brazil.

Contracts comprise onerous contracts, and include compensation for exit of a rental contract for premises.

Other includes insurance provisions related to insurance contracts issued by Hydro's captive insurance company, Industriforsikring AS, to external parties including associates and joint arrangements, provisions for legal and other disputes, and certain liabilities related to representation and warranty provisions related to sale of businesses.

Sapa Profiles Inc. (SPI), a Portland, Oregon based subsidiary of Hydro Extruded Solutions AS (formerly Sapa AS) is under investigation by the United States Department of Justice (DOJ) Civil and Criminal Divisions regarding certain aluminum extrusions that SPI manufactured from 1996 to 2015, including extrusions that were delivered to a supplier to NASA. In early March 2019, the parties reached an agreement in principle, requiring Hydro to pay an amount of around NOK 400 million. Hydro has provided for this amount and the estimated legal costs as of the end of 2018. There may be adjustments to the amount as the detailed agreement matures, and related costs are determined. As part of the share purchase agreement for Sapa, the parties have agreed that Orkla ASA shall indemnify Hydro for 50 percent of any liability in relation to this case.

Further, Hydro has entered into two agreements with authorities in Pará, Brazil, in relation to the operations of the alumina refinery, Alunorte. The contracts include a technical Term of Adjusted Conduct (TAC) and a social Term of Commitment (TC). The TAC regulates certain technical studies and improvements, audits, fines and payments for food cards to families living in the hydrographic area of the Murucupi River. The TC addresses additional efforts and investments related to the social development of communities in Barcarena. The combined investments, costs and fines are estimated at about BRL 360 million, around NOK 750 million, of which about NOK 65 million relates to fines now paid. About NOK 600 million has been expensed in 2018. The remainder is primarily related to improvement of certain monitoring and water treatment equipment at the plant, expected to be capitalized. In addition, Hydro has committed to provide support to local societies close to the plant. Such measures are expensed as incurred.

# Note 36 - Contingent liabilities and contingent assets

Hydro is involved in or threatened with various legal and tax matters arising in the ordinary course of business. See note 5 Critical accounting judgment and key sources of estimation uncertainty for a discussion of how such items are assessed and measured. Where Hydro considers there is a current obligation based on a past event, and payment or remediation actions is probable, a provision is established, see note 35 Provisions. Where Hydro considers an obligation to be possible, i.e. not probable yet not remote, it is disclosed as a contingent liability.

Hydro is involved in a significant number of tax cases related to various types of taxes. Hydro’s widespread business operations expose us to several tax regimes and their interaction. We see that tax authorities challenge transfer prices to an increasing degree. Although Hydro currently has no significant transfer price disputes with tax authorities, our long value chain with a large number of internal transactions and business operations covering multiple tax jurisdictions expose us to such disputes, both related to prior and future transactions. Hydro’s businesses in Brazil have a large portfolio of cases disputed by tax authorities, of which the majority relates to indirect taxes. This includes cases in the administrative and legal dispute systems with various background and risk of loss. In total known cases amount to about NOK 5.1 billion, of which about NOK 3.5 billion is considered possible. About half of those amounts are covered by tax indemnifications from acquisition. The final outcome of these cases is not expected until several years into the future, and is highly uncertain. Additional cases may be raised by tax authorities based on tax declarations for periods not yet assessed, or when interpretation of tax regulations change. Hydro has provided for individual tax cases where the risk of loss is considered above 50 percent. Provisions for indirect taxes are included in provisions disclosed in Note 35 Provisions, while provisions for income tax expenses are included in Taxes payable.

Hydro has environmental liabilities related to several sites and issues. Where remediation is acknowledged as Hydro's responsibility or a legal obligation is deemed to exist, a provision for the best estimate of costs to be incurred is established and disclosed in note 35 Provisions. For many of our industrial sites, in particular sites where operation is expected to continue indefinitely, remediation costs are difficult to assess. The precise need for remediation actions, their timing and cost has not yet been planned, and is thus uncertain. For some sites, the exact level of pollution may also be uncertain as ground and water are not sampled where no indication of contamination is identified. Obligations for historic contamination of sites and surrounding areas in addition to areas provided for may be identified and deemed Hydro's responsibility, whether related to currently owned or used sites, or sites we previously have owned and/or used. The cost of remediation of any additional contamination deemed Hydro's responsibility is uncertain.

Authorities and non-governmental organizations have filed several lawsuits related to the Alunorte incident, claiming a combination of mitigating actions and financial compensation. The argumentation, cost calculation and legal basis for these claims is highly uncertain. Further claims may still be received. Given the limited information about claimed physical and moral damages to be compensated, and the extent and cost of mitigating actions claimed, or the extent or content of other potential claims and lawsuits, it is not possible at this time to provide a range of possible outcomes or a reliable estimate of potential future exposure for Hydro. It is further not possible to estimate the timing of when such claims may be determined or when any payments may arise.

Hydro is also exposed to increased product warranty and product liability responsibilities, both as result of contractual commitments and caused by liability under background law. Product warranty and product liability may impose significant costs depending amongst other things on the application of the product sold.

Hydro is exposed to legal cases based on contractual or other basis, including related to contract delivery or purchase obligations or warranties and representations given in relation to sale of businesses. Where a payment is probable, a provision for the likely amount is recognized.

# Note 37 - Employee retirement plans

Hydro provides post-employment benefits covering a substantial portion of employees. Plans and benefit levels vary between companies and countries. In recent years, there has been a shift from traditional final salary defined benefit plans to defined contribution and contribution-oriented plans. Many defined benefit plans have been closed for new entrants, and in some defined benefit plans, large groups of employees have converted to defined contribution arrangements. Still, a number of employees continues to earn benefits under defined benefit plans, but many of these plans are heavily impacted by deferred members and pensioners.

| | **2018** | | | | 2017 | | | |
|---|---|---|---|---|---|---|---|---|
| Amounts in NOK million | **Norway** | **Germany** | **Other** | **Total** | Norway | Germany | Other | Total |
| **Pension expense** | | | | | | | | |
| Defined benefit plans | **133** | **194** | **87** | **414** | 132 | 186 | 29 | 347 |
| Defined contribution plans | **175** | **-** | **292** | **467** | 153 | - | 100 | 253 |
| Multiemployer plans | **55** | **-** | **2** | **57** | 48 | - | 2 | 50 |
| Termination benefits and other | **63** | **11** | **62** | **136** | 44 | 3 | 41 | 87 |
| Social security cost | **53** | **-** | **26** | **78** | 49 | - | 4 | 53 |
| Pension expense | **478** | **205** | **470** | **1,153** | 425 | 189 | 177 | 791 |
| Interest expense (income) | **(20)** | **146** | **12** | **138** | (2) | 136 | 18 | 152 |
| Remeasurement (gain) loss in other comprehensive income | **1,065** | **(76)** | **(63)** | **925** | (763) | (167) | (56) | (986) |

| | **2018** | | | | 2017 | | | |
|---|---|---|---|---|---|---|---|---|
| Amounts in NOK million | **Norway** | **Germany** | **Other** | **Total** | Norway | Germany | Other | Total |
| **Recognized defined benefit asset and liability** | | | | | | | | |
| Defined benefit obligation major plans | **(12,904)** | **(9,240)** | **(5,165)** | **(27,310)** | (12,247) | (9,173) | (5,512) | (26,932) |
| Plan assets | **12,899** | **-** | **4,950** | **17,849** | 13,189 | - | 5,343 | 18,532 |
| Reimbursement rights | **310** | **-** | **-** | **310** | 303 | - | - | 303 |
| Liability other plans | **(29)** | **(134)** | **(528)** | **(691)** | (21) | (127) | (532) | (681) |
| Social security cost | **(598)** | **-** | **(45)** | **(644)** | (552) | - | (40) | (591) |
| Net defined benefit liability | **(322)** | **(9,375)** | **(789)** | **(10,486)** | 673 | (9,300) | (741) | (9,368) |
| Recognized prepaid pension | **4,523** | **45** | **594** | **5,162** | 5,143 | 47 | 559 | 5,750 |
| Recognized pension liability | **(4,845)** | **(9,420)** | **(1,383)** | **(15,648)** | (4,471) | (9,348) | (1,300) | (15,118) |
| Net amount recognized | **(322)** | **(9,375)** | **(789)** | **(10,486)** | 673 | (9,300) | (741) | (9,368) |

Other plans include some minor plans in various entities and countries. These plans may be funded or unfunded. None of these plans are considered material, neither individually nor combined.

| Amounts in NOK million | 2018 Norway | 2018 Germany | 2018 Other | 2018 Total | 2017 Norway | 2017 Germany | 2017 Other | 2017 Total |
|---|---|---|---|---|---|---|---|---|
| **Change in defined benefit obligation (DBO)** | | | | | | | | |
| Opening Balance | **(12,247)** | **(9,173)** | **(5,512)** | **(26,932)** | (12,495) | (8,327) | (102) | (20,924) |
| Current service cost | **(128)** | **(194)** | **(29)** | **(351)** | (127) | (186) | (8) | (321) |
| Past service cost and curtailment gain (loss) | **-** | **-** | **(42)** | **(42)** | - | - | (19) | (19) |
| Interest expense | **(287)** | **(145)** | **(144)** | **(575)** | (305) | (135) | (42) | (482) |
| Actuarial gain (loss) demographic assumptions | **-** | **(73)** | **57** | **(17)** | - | - | - | - |
| Actuarial gain (loss) economic assumptions | **(588)** | **249** | **280** | **(59)** | (164) | 103 | (165) | (227) |
| Experience gain (loss) | **(200)** | **(93)** | **13** | **(280)** | (44) | 68 | 16 | 41 |
| Benefit payments | **590** | **281** | **219** | **1,090** | 618 | 266 | 56 | 940 |
| Termination benefits | **(44)** | **-** | **-** | **(44)** | (46) | - | - | (46) |
| Settlements | **-** | **-** | **36** | **36** | 340 | - | 147 | 487 |
| Business combinations | **-** | **-** | **-** | **-** | (29) | (220) | (5,184) | (5,433) |
| Divestments | **-** | **-** | **-** | **-** | 4 | - | - | 4 |
| Foreign currency translation | **-** | **(92)** | **(43)** | **(135)** | - | (741) | (211) | (952) |
| Closing Balance | **(12,904)** | **(9,240)** | **(5,165)** | **(27,310)** | (12,247) | (9,173) | (5,512) | (26,932) |

| Amounts in NOK million | 2018 Norway | 2018 Germany | 2018 Other | 2018 Total | 2017 Norway | 2017 Germany | 2017 Other | 2017 Total |
|---|---|---|---|---|---|---|---|---|
| **Change in pension plan assets** | | | | | | | | |
| Opening Balance | **13,189** | **-** | **5,343** | **18,532** | 12,624 | - | 102 | 12,726 |
| Interest income | **313** | **-** | **147** | **460** | 312 | - | 41 | 353 |
| Return on plan assets above (below) interest income | **(265)** | **-** | **(352)** | **(617)** | 971 | - | 169 | 1,140 |
| Company contributions | **93** | **-** | **9** | **102** | 92 | - | 3 | 94 |
| Benefit payments | **(432)** | **-** | **(201)** | **(632)** | (469) | - | (51) | (520) |
| Settlements | **-** | **-** | **(40)** | **(40)** | (340) | - | (147) | (487) |
| Business combinations | **-** | **-** | **-** | **-** | - | - | 5,015 | 5,015 |
| Foreign currency translation | **-** | **-** | **43** | **43** | - | - | 211 | 211 |
| Closing Balance | **12,899** | **-** | **4,950** | **17,849** | 13,189 | - | 5,343 | 18,532 |

| Amounts in NOK million | 2018 Norway | 2018 Germany | 2018 Other | 2018 Total | 2017 Norway | 2017 Germany | 2017 Other | 2017 Total |
|---|---|---|---|---|---|---|---|---|
| **Analysis of the defined benefit obligation (DBO)** | | | | | | | | |
| Active members | **(3,487)** | **(4,643)** | **(613)** | **(8,744)** | (3,462) | (4,622) | (631) | (8,716) |
| Deferred members | **(794)** | **(722)** | **(1,889)** | **(3,405)** | (706) | (731) | (2,181) | (3,618) |
| Pensioners | **(8,623)** | **(3,874)** | **(2,664)** | **(15,161)** | (8,079) | (3,819) | (2,700) | (14,598) |
| Defined benefit obligation | **(12,904)** | **(9,240)** | **(5,165)** | **(27,310)** | (12,247) | (9,173) | (5,512) | (26,932) |
| Weighted average duration (years) | **13.0** | **18.4** | | | 13.1 | 18.5 | | |

Contributions to funded pension plans, benefit payments from unfunded pension plans, and social security tax imposed on such contributions and payments amounted to a cash outflow of about NOK 1,200 million for 2018 and about NOK 950 million for 2017. Hydro's cash impact is expected to be at the same level in the coming year.

Hydro's main pension plans are offered in Norway and Germany. The plans are described below:

**Norway**

Hydro has closed the main defined benefit plans for new members, and the majority of employees are now covered by defined contribution plans that are based on salaries up to a maximum level subject to tax deduction. For additional salaries, employees earn retirement benefits in unfunded contribution based plans. The remaining employees are covered by defined benefit plans that offer benefits based on final salary level and the number of years in service, and include benefits for dependents. Contributions to the plans providing benefits based on salaries up to a maximum level are subject to tax deduction. The plans are funded; all vested benefits are required by law to be funded for such plans. Benefits based on salaries above this level are covered by unfunded plans. The main funded plans are managed by Norsk Hydros Pensjonskasse, a separate, regulated legal entity. Hydro's pension plans complement the public pension schemes in Norway. Plans providing benefits for salary levels above the tax deductible level have been closed for new members from January 1, 2017.

Effective January 1, 2017, Hydro increased contributions to defined contribution plans for most affected employees in Norway.

Hydro participates in a supplementary pension plan that entitles the majority of its Norwegian employees life-long benefits in addition to other pension benefits. The benefits are financed through a pooled arrangement by private sector employers (avtalefestet pensjon, AFP) where also the Norwegian state contributes. The plan is a defined benefit plan with limited funding and where plan assets are not segregated. The information required to calculate the share of the plan and account for the plan as a defined benefit plan is not available from the plan administrator. Hydro therefore accounts for the plan as if it were a defined contribution plan. The annual contributions have increased since inception and are expected to increase further. The employer contributions are included in Multiemployer plans.

Significant actuarial assumptions for the main Norwegian defined benefit plans include:

| Assumptions | **Benefit obligation 2018** | **Benefit expense 2018** | Benefit obligation 2017 | Benefit expense 2017 |
|---|---|---|---|---|
| Discount rate | **2.50%** | **2.40%** | 2.40% | 2.50% |
| Expected salary increase | **2.50%** | **2.25%** | 2.25% | 2.25% |
| Expected pension increase | **1.50%** | **1.00%** | 1.00% | 1.00% |
| Mortality basis | **K2013** | **K2013** | K2013 | K2013 |

The discount rate is based on the yield on covered bonds (debt securities backed by cash flows from mortgages) issued in Norway. The market for covered bonds has developed in size and liquidity, and we deem this market to be sufficiently deep to serve as reference for the discount rate for our post-employment benefit plans in Norway.

The sensitivities shown in the table below have been calculated for the main Norwegian plans illustrating the effects of changing one assumption while keeping the other assumptions unchanged. Possible correlation between assumptions is not reflected in the calculations.

| Sensitivities decrease (increase) benefit obligation year end<br>Amounts in NOK million, except percent | 2018 | 2018 |
|---|---|---|
| Discount rate increase 0.5% point | 6.2% | 799 |
| Salary increase 0.5% point | (1.0%) | (132) |
| Pension increase 0.5% point | (6.2%) | (796) |
| One year longer life all members | (4.5%) | (580) |

The plan assets in the funded plans provided through Norsk Hydros Pensjonskasse were invested as follows at the end of 2018 and 2017:

| Amounts in NOK million, except percent | **2018** | **2018** | 2017 | 2017 |
|---|---|---|---|---|
| Cash and cash equivalents | **2.6%** | **329** | 3.0% | 393 |
| Equity instruments Norway | **20.5%** | **2,589** | 21.4% | 2,767 |
| Equity instruments other countries | **18.9%** | **2,395** | 19.1% | 2,463 |
| Debt instruments | **33.4%** | **4,220** | 32.1% | 4,144 |
| Investment funds | **5.6%** | **705** | 6.0% | 779 |
| Real estate | **19.0%** | **2,405** | 18.4% | 2,379 |
| Total | **100.0%** | **12,644** | 100.0% | 12,927 |

Real estate consists of office buildings in the Oslo area. A share of the buildings are leased and occupied by Hydro. Investment funds are primarily private equity funds investing in unlisted companies across various industries in Europe, the US and Asia, and infrastructure funds investing in the UK, continental Europe and the US. Equity instruments are held through liquid funds invested in listed companies in Norway and globally. Debt instruments are mainly bond issues with maturities up to 10 years and investment grade rating.

### Germany

In Germany, the majority of plan members are covered by defined benefit plans that offer benefits based on final salary level and the number of years in service. The main plans are unfunded. Hydro's main plans are closed for new entrants, and all new employees are now offered benefits under new defined contribution-oriented plans. These plans are unfunded and treated as defined benefit plans for financial reporting purposes.

Significant actuarial assumptions for the main German plans include:

| Weighted-average assumptions | **Benefit obligation 2018** | **Benefit expense 2018** | Benefit obligation 2017 | Benefit expense 2017 |
|---|---|---|---|---|
| Discount rate | **1.8%** | **1.6%** | 1.6% | 1.6% |
| Expected salary increase | **2.4%** | **2.4%** | 2.4% | 2.4% |
| Expected pension increase | **1.5%** | **1.5%** | 1.5% | 1.5% |
| Mortality basis | **RT 2018 G** | **RT 2005 G** | RT 2005 G | RT 2005 G |

The sensitivities shown in the table below have been calculated for the main German plans illustrating the effects of changing one assumption while keeping the other assumptions unchanged. Possible correlation between assumptions is not reflected in the calculations.

Sensitivities decrease (increase) benefit obligation year end

| Amounts in NOK million, except percent | 2018 | 2018 |
|---|---|---|
| Discount rate increase 0.5% point | 8.4% | 778 |
| Salary increase 0.5% point | (2.7%) | (247) |
| Pension increase 0.5% point | (6.8%) | (625) |
| One year longer life all members | (4.5%) | (414) |

### Other

Other includes Hydro's post-employment benefits outside Norway and Germany. Following the acquisition of the Sapa Group, October 2, 2017, Extruded Solutions' post-employment benefit plans outside Norway and Germany are included here. Most employees affected are covered by defined contribution plans. Defined benefit plans relate largely to the UK and the US, where the majority of the benefit obligation is financed and administered through independent pension trusts. Pension expense for 2018 includes a past service cost of NOK 40 million related to a judgment by the High Court of England and Wales requiring all employers who offered guaranteed minimum pensions in the period 1990 to 1997 to perform gender equalization, increasing the estimated liability for such benefits.

# Note 38 - Shareholders' equity

### Share capital

| Number of shares | Ordinary shares issued | Treasury shares | Ordinary shares outstanding |
|---|---|---|---|
| December 31, 2016 | 2,068,998,276 | (26,104,160) | 2,042,894,116 |
| Treasury shares issued to employees | | 1,803,232 | 1,803,232 |
| December 31, 2017 | 2,068,998,276 | (24,300,928) | 2,044,697,348 |
| Treasury shares issued to employees | | 1,605,449 | 1,605,449 |
| December 31, 2018 | 2,068,998,276 | (22,695,479) | 2,046,302,797 |

The share capital of Norsk Hydro ASA as of December 31, 2018 and 2017 was NOK 2,271,760,107 consisting of 2,068,998,276 ordinary shares at a par value of NOK 1.098 per share. All shares have equal rights and are freely transferable.

### Treasury shares

The treasury shares may, pursuant to the decision of the General Meeting at the time these shares were acquired, be used as consideration in connection with commercial transactions or share schemes for the employees and representatives of the Corporate Assembly and the Board of Directors.

The treasury shares amount per December 31, 2018 of NOK 756 million was comprised of NOK 25 million share capital and NOK 731 million retained earnings.

### Change in Other components of equity

The table below specifies the changes in Other components of equity for 2018 and 2017.

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| **Items that will not be reclassified to income statement:** | | |
| ***Remeasurement postemployment benefits*** | | |
| January 1 | **773** | 22 |
| Remeasurement postemployment benefits during the year | **(925)** | 986 |
| Reclassified to retained earnings on divestment of subsidiaries | **-** | (14) |
| Deferred tax offset | **208** | (221) |
| December 31 | **55** | 773 |
| ***Remeasurement postemployment benefits equity accounted investments*** | | |
| January 1 | **-** | (11) |
| Remeasurement postemployment benefits during the year | **-** | (2) |
| Reclassified to retained earnings on divestment of equity accounted investments | **-** | 13 |
| December 31 | **-** | - |
| ***Unrealized gain (loss) on assets measured at FVTOCI*** | | |
| January 1 | **(239)** | 16 |
| Period unrealized loss on available-for-sale securities | **394** | (266) |
| Tax expense | **-** | 11 |
| December 31 | **155** | (239) |
| **Items that will be reclassified to income statement:** | | |
| ***Currency translation differences*** | | |
| January 1 | **(1,864)** | (467) |
| Currency translation differences during the year | **(2,031)** | (1,394) |
| Reclassified to Net income on liquidation of foreign operation | **-** | 8 |
| December 31 | **(3,895)** | (1,854) |
| Effect of change in Accounting Principle | | (10) |
| December 31 restated | | (1,864) |
| ***Cash flow hedges - See note 14 Derivative instruments and hedge accounting*** | | |
| January 1 | **(35)** | (158) |
| Period gain recognized in Other comprehensive income | **(141)** | 149 |
| Reclassification of hedging gain (loss) to Net income | **124** | 79 |
| Tax expense | **3** | (55) |
| December 31 | **(49)** | 15 |
| Effect of change in Accounting Principle | | (50) |
| December 31 restated | | (35) |
| ***Other components of equity in equity accounted investments*** | | |
| January 1 | **33** | 769 |
| Period gain (loss) recognized in Other comprehensive income | **72** | 15 |
| Reclassified to Net income on divestment of equity accounted investments | **-** | (751) |
| December 31 | **105** | 33 |
| Total other components of equity attributable to Hydro shareholders as of December 31 | **(1,936)** | 20 |
| Total other components of equity attributable to non-controlling interests as of December 31 | **(1,692)** | (1,352) |

**Earnings per share**
Basic and diluted earnings per share is computed using Net income attributable to Hydro shareholders and the weighted average number of outstanding shares in each year. There are no significant diluting elements. The weighted average number of outstanding shares used for calculating basic and diluted earnings per share was 2,045,796,971 for 2018 and 2,044,105,404 for 2017.

Hydro's outstanding founder certificates and subscription certificates entitle the holders to participate in any share capital increase, provided that the capital increase is not made in order to allot shares to third parties as compensation for their transfer of assets to Hydro. These certificates represent dilutive elements for the earnings per share computation.

# Note 39 - Capital management

Hydro's capital management policy is to maximize value creation over time, while maintaining a strong financial position and an investment grade credit rating. During 2018 net cash provided by operating activities was close to net cash used in investing activities.

**Credit rating**
To secure access to capital markets at attractive terms and remain financially solid, Hydro aims to maintain an investment grade credit rating from the leading agencies, Standard & Poor's (current rating BBB) and Moody's (current rating Baa2), both with stable outlook. Hydro targets, over the business cycle, a ratio of Funds from operations to Adjusted net cash (debt) of at least 40 percent, and an Adjusted net cash (debt) to Equity ratio below 55 percent.

**Liquidity management and funding**
Hydro manages its liquidity and funding requirements centrally to cover group operating requirements and long-term capital needs. Hydro operates cash pools in several currencies where all wholly-owned subsidiaries participate, to the extent permitted by country legislation. Such cash pool arrangements facilitate netting of cash positions within the group, thereby reducing the requirement for external financing, and centralizing management of aggregated positions to the parent company. The activities in former Sapa (now Extruded Solutions) have been fully integrated in Hydro’s treasury and cash management setup. At the end of 2018, NOK 3.0 billion of Hydro's cash position of NOK 6.0 billion was outside such group arrangements, mainly in Brazil.

Hydro has an ambition to access national and international capital markets as primary sources for external long-term funding.

Hydro has a syndicated USD 1,700 million revolving credit facility maturing in November 2020. The facility was undrawn per year-end 2018.

**Funding of subsidiaries, associates and jointly controlled entities**
Normally the parent company, Norsk Hydro ASA, incurs debt and extends loans or equity to wholly-owned subsidiaries to fund capital requirements. Hydro's policy is to finance part-owned subsidiaries and investments in associates and joint arrangements according to its ownership share, on equal terms with the other owners. All financing is executed on an arm's length basis. Project financing is used for certain funding requirements mainly to mitigate risk while also considering partnership and other relevant factors.

**Shareholder return**
Long-term return to shareholders should reflect the value created by Hydro, and consists of dividends and share price development. Hydro aims to provide its shareholders with a competitive return compared with alternative investments in similar companies. Our ambition is in the long term to pay out, on average, 40 percent of net income as ordinary dividend over the cycle to our shareholders. The dividend policy has a floor of NOK 1.25 per share. Dividends for a particular year are based on expected future earnings and cash flow, future investment opportunities, the outlook for world markets and Hydro's current financial position. Share buybacks or extraordinary dividends may be used to supplement ordinary dividends during periods of strong financial results after considering the status of the business cycle and capital requirements for future growth.

**Hydro's capital management measures**
Hydro's management uses the Adjusted net cash (debt) to Equity ratio to assess the group's financial solidity and ability to absorb volatility in the markets. Net cash (debt) is defined as Hydro's cash and cash equivalents plus short-term investments, less short- and long-term interest-bearing debt. Adjusted net cash (debt) is adjusted for net cash (debt) positions regarded as unavailable for servicing debt, and includes pension liabilities and other obligations which are considered debt-like in nature. The calculation of Adjusted net cash (debt) will change when IFRS 16 Leases is implemented as of January 1, 2019. The adjustment for operating lease commitments, net of expected income tax benefit, will no longer be relevant, as the recognized lease liability will be included in Net cash (debt).

The ability to generate cash compared to financial liabilities is another important measure of risk exposure and financial solidity. Hydro's management uses Funds from operations and the ratio Funds from operations to Adjusted net cash (debt) as capital management measures. Funds from operations reflects the cash generation from Hydro's wholly and partly owned operating assets before changes in net operating capital, including the contribution from equity accounted investments, and after current tax expense.

Both financial ratio calculations include adjustments for the indebtedness of Hydro's equity accounted investments. Though Hydro has no financial obligations towards the lenders of its equity accounted investments, the adjustments are considered relevant as the debt and cash flow level in these entities affect Hydro's overall cash generation and financial risk profile.

Adjusted net cash (debt), Equity, Funds from operations and the above mentioned financial ratios are presented in the following table.

**Adjusted net cash (debt) including net debt equity accounted investments (EAI)**

| Amounts in NOK million, except ratio | **2018** | 2017 |
|---|---|---|
| Cash and cash equivalents | **5,995** | 11,828 |
| Short-term investments | **975** | 1,311 |
| Bank loans and other interest-bearing short-term debt | **(8,543)** | (8,245) |
| Long-term debt | **(7,080)** | (9,012) |
| Net cash (debt) | **(8,653)** | (4,118) |
| Cash and cash equivalents and short-term investments in captive insurance company[1)] | **(876)** | (1,076) |
| Net pension obligation at fair value, net of expected income tax benefit[2)] | **(8,813)** | (7,895) |
| Operating lease commitments, net of expected income tax benefit[3)] | **(1,708)** | (1,585) |
| Short- and long-term provisions net of expected income tax benefit, and other liabilites[4)] | **(3,077)** | (3,295) |
| Adjusted net cash (debt) | **(23,127)** | (17,968) |
| Net debt in EAI[5)] | **(5,584)** | (5,798) |
| Adjusted net cash (debt) including EAI | **(28,711)** | (23,767) |

**Adjusted net cash (debt) including EAI / Equity**

| | | |
|---|---|---|
| Total equity | **(90,769)** | (92,209) |
| Adjusted net cash (debt) including EAI / Equity | **0.32** | 0.26 |

1) Cash and cash equivalents and short-term investments in Hydro's captive insurance company Industriforsikring AS are assumed to not be available to service or repay future Hydro debt, and are therefore excluded from the measure Adjusted net cash (debt).
2) The expected income tax benefit related to the net pension liability is NOK 1,673 million and NOK 1,474 million, respectively, for 2018 and 2017.
3) Operating lease commitments are discounted using a rate of 2.69 percent and 1.14 percent for 2018 and 2017, respectively. The discount rate used for 2018 includes an estimated Hydro credit spread of 1.05 percent. The expected tax benefit on operating lease commitment is estimated at 30 percent. The adjustment for operating lease commitments, net of expected income tax benefit, will no longer be relevant when IFRS 16 Leases is implemented from January 1, 2019, as the recognized lease liability will be included in Net cash (debt).
4) Consists of Hydro's short and long-term provisions related to asset retirement obligations, net of an expected tax benefit estimated at 30 percent, and other non-current financial liabilities.
5) Net debt in equity accounted investments is defined as the total of Hydro's relative ownership percentage of each equity accounted investment's short and long-term interest-bearing debt less their cash positions, reduced by total outstanding loans from Hydro to the equity accounted investment. Net debt per individual equity accounted investment is limited to a floor of zero. The adjustments are related to Qatalum.

**Funds from operations / Adjusted net cash (debt) including EAI**

| Amounts in NOK million, except ratio | **2018** | 2017 |
|---|---|---|
| Net income (loss) | **4,323** | 9,184 |
| Depreciation, amortization and impairment | **7,369** | 6,162 |
| Deferred taxes | **(585)** | (685) |
| Loss (gain) on sale of non-current assets | **188** | (2,046) |
| Transaction related effects (Sapa)[1)] | **-** | 707 |
| Net foreign exchange (gain) loss | **1,303** | 875 |
| Capitalized interest | **(1)** | (75) |
| Commodity derivatives | **(415)** | 322 |
| Hydro's share of depreciation, amortization and impairment in EAI | **1,070** | 1,638 |
| Funds from operations | **13,252** | 16,081 |
| | | |
| Funds from operations / Adjusted net cash (debt) including EAI | **0.46** | 0.68 |

1) Reversal of inventory revaluation in Sapa.

# Note 40 - Dividends

Hydro's Board of Directors normally proposes a dividend per share in connection with the fourth quarter results that are published in February each year. The Annual General Meeting considers this proposal, normally in May, and the approved dividend is then paid to the shareholders. Dividends are paid once each calendar year; generally occurring in May. For non-Norwegian shareholders, Norwegian withholding tax will be deducted at source in accordance with the applicable Norwegian tax regulations. For additional information related to Hydro's dividend and shareholder policy see note 39 Capital management.

For fiscal year 2018 the Board of Directors has proposed a dividend of NOK 1.25 per share to be paid in May 2019. The Annual General Meeting, scheduled to be held May 7, 2019, will consider this dividend proposal. If approved, this would be a total dividend of approximately NOK 2,558 million. In accordance with IFRS, the fiscal year 2018 proposed dividend is not recognized as a liability in the 2018 financial statements.

Dividends declared and paid in 2018 and 2017 for the prior fiscal year, respectively, are as follows:

| | **Paid in 2018 for fiscal year 2017** | Paid in 2017 for fiscal year 2016 |
|---|---|---|
| Dividend per share paid, NOK | **1.75** | 1.25 |
| Total dividends paid, NOK million | **3,581** | 2,556 |
| | | |
| Date proposed | **February 15, 2018** | **February 8, 2017** |
| Date approved | **May 7, 2018** | **May 3, 2017** |
| Dividend payment date | **May 18, 2018** | **May 12, 2017** |

Dividends to non-controlling shareholders in Hydro's subsidiaries are reported as dividends in Consolidated statements of changes in equity.

# Note 41 - Contractual commitments and commitments for future investments

| Amounts in NOK million | 2019 | Investments thereafter | Total |
|---|---|---|---|
| Contract commitments for investments in property, plant and equipment | 2,765 | 169 | 2,934 |
| Additional authorized future investments in property, plant and equipment | 2,618 | 794 | 3,412 |
| Contract commitments for other future investments | 13 | - | 13 |
| Total | 5,396 | 963 | 6,359 |

Additional authorized future investments include projects formally approved for development by the Board of Directors or management. General investment budgets are excluded from these amounts.

Hydro has long-term contractual commitments for the purchase of aluminium, raw materials, electricity, and transportation in addition to long-term sales commitments. The future non-cancellable fixed and determinable obligations under these commitments as of December 31, 2018 are shown in the table below:

| Amounts in NOK million | Bauxite, alumina and aluminium | Energy related | Other |
|---|---|---|---|
| 2019 | 15,346 | 12,653 | 5,125 |
| 2020 | 5,449 | 13,000 | 2,716 |
| 2021 | 4,617 | 10,905 | 1,522 |
| 2022 | 4,745 | 6,449 | 1,056 |
| 2023 | 4,625 | 6,726 | 715 |
| Thereafter | 15,814 | 47,471 | 8,412 |
| Total | 50,597 | 97,204 | 19,547 |

Amounts relating to contracts which are entirely or partly linked to market prices such as LME are based on the spot price at the balance sheet date.

Long-term sales commitments mainly relate to alumina, aluminium and electricity. The amounts include commitments for the delivery of electricity from power stations that will revert to the Norwegian Government. The volume from these power stations is 547 GWh in 2019 and 11.6 TWh in total. Commitments relating to concession power from stations that are not subject to reversion have an annual volume of 258 GWh.

Hydro also has contractual commitments for the sales and purchase of products from part-owned entities, see note 32 Investments in joint arrangement and associates. These commitments are excluded from the table above. Furthermore, Hydro has additional long-term purchase and sales commitments which include variable elements that are not included in the table above.

# Note 42 - Cash flow information

**Cash disbursements and receipts included in cash from operations**

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Income taxes paid | **3,231** | 2,180 |
| Interest paid | **653** | 362 |
| Interest received | **250** | 322 |
| Dividends received from available-for-sale investments | **-** | 112 |

In 2018 and 2017, non-cash investing activities for asset retirement costs amounted to NOK 59 million and NOK 118 million, respectively.

# Note 43 - Auditor's remuneration

KPMG is the Group auditor of Norsk Hydro ASA. EY was the appointed group auditor for Sapa prior to the transaction on October 2, 2017, and continued as auditor for the former Sapa units now constituting business area Extruded Solutions. The business area Extruded Solutions has changed auditor to KPMG during 2018. The following table shows fees to the appointed auditors for 2018 and 2017. For 2017, the table includes fees to KPMG for the period January 1 to December 31, and fees to EY for the period October 2 to December 31. For all categories the reported fee is the recognized expense for the year.

| Amounts in NOK million | Audit [1] | Audit related [2] | Other services[3] | Tax related | Total |
|---|---|---|---|---|---|
| **2018** | | | | | |
| Norway | 14 | - | 11 | - | 25 |
| Outside Norway | 36 | - | - | 3 | 39 |
| Sum | 51 | 1 | 11 | 3 | 66 |
| **2017** | | | | | |
| Norway | 15 | 1 | 6 | - | 23 |
| Outside Norway | 24 | 1 | 2 | - | 27 |
| Total | 39 | 2 | 8 | - | 50 |

1) Audit fees of NOK 51 million (2017: NOK 39 million) consist of fees to KPMG of NOK 36 million (2017: NOK 28 million), and fees to EY of NOK 15 million (2017: NOK 11 million).

2) Audit related fees of NOK 2 million in 2017 was fees to KPMG.

3) Other services mainly include KPMG's review of viability performance and EY services related to tax and immigration services for expatriated employees. Fees for other services of NOK 11 million consist of fees to KPMG of NOK 3 million, and fees to EY of NOK 9 million.

# Financial statements Norsk Hydro ASA

## Income statements

| Amounts in NOK million | Notes | **2018** | 2017 |
|---|---|---|---|
| Revenue | | **232** | 317 |
| Gain (loss) on sale of subsidiaries, net | 7 | **(3)** | 41 |
| Total operating income | | **229** | 357 |
| | | | |
| Employee benefit expense | 2, 3 | **603** | 535 |
| Depreciation and impairment | 4 | **21** | 18 |
| Other | | **251** | 278 |
| Total operating expenses | | **875** | 831 |
| | | | |
| Operating loss | | **(647)** | (474) |
| | | | |
| Financial income, net | 5 | **1,938** | (17) |
| Income before tax | | **1,292** | (491) |
| | | | |
| Income taxes | 6 | **(276)** | 307 |
| | | | |
| Net income | | **1,015** | (183) |
| | | | |
| ***Appropriation of net income and equity transfers*** | | | |
| Dividend proposed | | **2,558** | 3,578 |
| Retained earnings | | **(1,543)** | (3,762) |
| Total appropriation | | **1,015** | (183) |

# Balance sheets

| Amounts in NOK million, December 31 | Notes | 2018 | 2017 |
|---|---|---|---|
| ***Assets*** | | | |
| Property, plant and equipment and intangible assets | 4 | **226** | 214 |
| Shares in subsidiaries | 7 | **57,052** | 57,052 |
| Receivables from subsidiaries | 8, 10 | **13,908** | 11,598 |
| Prepaid pension, investments and other non-current assets | 2, 9 | **4,733** | 4,943 |
| Total financial non-current assets | | **75,692** | 73,592 |
| Receivables from subsidiaries | | **9,465** | 10,142 |
| Prepaid expenses and other current assets | 10 | **62** | 40 |
| Cash and cash equivalents | | **2,984** | 7,889 |
| Total current assets | | **12,512** | 18,072 |
| Total assets | | **88,430** | 91,878 |
| ***Equity and liabilities*** | | | |
| ***Paid-in capital*** | | | |
| Share capital | 13 | **2,272** | 2,272 |
| Treasury shares | 13 | **(25)** | (27) |
| Paid-in premium | 13 | **28,987** | 28,987 |
| Other paid-in capital | 13 | **139** | 110 |
| ***Retained earnings*** | | | |
| Retained earnings | 13 | **28,622** | 30,521 |
| Treasury shares | 13 | **(731)** | (783) |
| Equity | 13 | **59,265** | 61,080 |
| Long-term provisions | 2, 9 | **3,373** | 3,219 |
| Long-term debt | 12 | **5,232** | 8,056 |
| Payables to subsidiaries | | **-** | 49 |
| Other long-term liabilities | | **5,232** | 8,105 |
| Bank loans and other interest-bearing short-term debt | | **3,043** | 3,616 |
| Dividends payable | | **2,558** | 3,578 |
| Payables to subsidiaries | | **14,379** | 11,774 |
| Other current liabilities | | **580** | 506 |
| Total current liabilities | | **20,560** | 19,473 |
| Total equity and liabilities | | **88,430** | 91,878 |

# Statements of cash flows

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Net income | **1,015** | (183) |
| Depreciation and impairment | **21** | 18 |
| Net foreign exchange (gain) loss | **(453)** | 819 |
| Changes in receivables and payables, and other items | **(794)** | 3,883 |
| Net cash provided by (used in) operating activities | **(211)** | 4,537 |
| Purchases of short-term investments | **-** | (5,094) |
| Proceeds from sales of short-term investments | **-** | 8,402 |
| Net purchases of other investments | **(46)** | (602) |
| Net cash provided by (used in) investing activities | **(46)** | 2,706 |
| Dividends paid | **(3,581)** | (2,556) |
| Proceeds from shares issued | **44** | 37 |
| Other financing activities, net | **(1,103)** | (2,405) |
| Net cash used in financing activities | **(4,640)** | (4,924) |
| Foreign currency effects on cash | **(8)** | 128 |
| Net increase (decrease) in cash and cash equivalents | **(4,905)** | 2,447 |
| Cash and cash equivalents at beginning of year | **7,889** | 5,442 |
| Cash and cash equivalents at end of year | **2,984** | 7,889 |

# Notes to the financial statements Norsk Hydro ASA

## Note 1 - Summary of significant accounting policies

The financial statements of Norsk Hydro ASA are prepared in accordance with the Norwegian accounting act and accounting principles generally accepted in Norway (N GAAP). Financial statement preparation requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses as well as disclosures of contingencies. Actual results may differ from estimates. Interest rates used for calculating net present values are rounded to the nearest 10 basis points for post employment benefits, to the nearest 25 basis points for other non-financial assets and liabilities. As a result of rounding adjustments, the figures in one or more columns included in the financial statements may not add up to the total of that column.

**Shares in subsidiaries, associates and jointly controlled entities**
Shares in subsidiaries, associates and jointly controlled entities are presented according to the cost method. Group relief received is included in dividends from subsidiaries. Dividend from subsidiaries is recognized in the year for which it is proposed by the subsidiary to the extent Norsk Hydro ASA can control the decision of the subsidiary through its share holdings. Shares in subsidiaries, associates and jointly controlled entities are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may exceed the fair value of the investment. An impairment loss is reversed if the impairment situation is deemed to no longer exist.

**Employee retirement plans**
Norsk Hydro ASA has adopted the alternative treatment allowed in NRS 6 whereby employee retirement plans are measured as required by IAS 19, see note 2 Significant accounting policies to the consolidated financial statements for additional information.

**Foreign currency**
The functional currency of the company is the Norwegian krone, NOK. Realized and unrealized currency gains or losses on transactions denominated in other currencies than NOK, as well as currency gains or losses on assets and liabilities denominated in a currency other than NOK, are included in Financial income, net. This is in accordance with NRS' preliminary standard on transactions and accounts in foreign currency.

**Cash and cash equivalents**
Cash and cash equivalents include cash, bank deposits and all other monetary instruments with a maturity of less than three months at the date of purchase.

**Short-term investments**
Short-term investments include bank deposits and all other monetary instruments with a maturity between three and twelve months at the date of purchase and current listed equity and debt securities held for trading and valued at fair value. The resulting unrealized holding gains and losses are included in Financial income, net. Investment income is recognized when earned.

**Property, plant and equipment**
Property, plant and equipment is carried at historical cost less accumulated depreciation and impairment losses. According to NRS' preliminary standard regarding impairment of non-current assets such assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. The impairment of long-lived assets is recognized when the recoverable amount determined as the higher of fair value less cost to sell or value in use of the asset or group of assets is less than the carrying value. The amount of the impairment is the difference between the carrying value and the recoverable amount. An impairment loss is reversed if the impairment situation is deemed to no longer exist.

**Intangible assets**
Intangible assets acquired individually or as a group are recognized at fair value when acquired, in accordance with NRS' preliminary standard on intangible assets. Intangible assets are amortized on a straight-line basis over their useful life and tested for impairment whenever indications of impairment are present.

Norsk Hydro ASA accounts for $CO_2$ emission allowances at cost as an intangible asset. The emission rights are not amortized, impairment testing is done on an annual basis. Sale of $CO_2$ emission rights is recognized at the time of sale at the transaction price.

**Leased assets**
Leases are assessed under NRS 14 Leasing. Lease arrangements that transfer the majority of risks and control to Hydro are considered financial lease, and recognized as asset and liability. Payments under other leases and rental arrangements are expensed over the lease term.

**Derivative instruments**
Forward currency contracts and currency options are recognized in the financial statements and measured at fair value at each balance sheet date with the resulting unrealized gain or loss recorded in Financial income, net.

**Provisions**
Provisions are recognized when Norsk Hydro ASA has a present obligation (legal or constructive) as a result of a past event, it is probable (more likely than not) that Norsk Hydro ASA will be required to settle the obligation, and a reliable estimate can be made of the amount, taking into account the risks and uncertainties. The provision is measured at the present value of the cash flows estimated to settle the obligation. Uncertain outcomes are measured as the expected value of reasonably possible outcomes.

**Contingencies and guarantees**
Norsk Hydro ASA recognizes a liability for the fair value of obligations it has undertaken in issuing guarantees. Contingencies are recognized in the financial statements when probable of occurrence and reliably estimable.

**Share-based compensation**
Norsk Hydro ASA accounts for share-based payment in accordance with NRS 15A Share-Based Payment. NRS 15A requires share-based payments to be accounted for as required by IFRS 2 Share-based Payment. See note 2 Significant accounting policies to the consolidated financial statements for additional information.

**Risk management**
For information about risk management in Norsk Hydro ASA see note 12 Financial and commercial risk management to the consolidated financial statements.

**Income taxes**
Deferred income tax expense is calculated using the liability method in accordance with NRS' preliminary standard on Income Taxes. Under the liability method, deferred tax assets and liabilities are measured based on the differences between the carrying values of assets and liabilities for financial reporting and their tax basis which are considered temporary in nature. Deferred income tax related to remeasurements of pension obligations are recognized directly in equity. The tax effect of equity transactions, such as group contribution given, is recognized as a part of the equity transaction and do not affect the income tax expense. Other changes in deferred income tax asset and liability balances during the year represent the deferred income tax expense. Changes resulting from amendments and revisions in tax laws and tax rates are recognized when the new tax laws or rates are enacted.

## Note 2 - Employee retirement plans

Norsk Hydro ASA has closed the main defined benefit plans for new members, and the majority of employees are now covered by a defined contribution plan that is based on salaries up to a maximum level subject to tax deduction. For additional salaries, employees earn retirement benefits in an unfunded contribution based plan. The remaining employees are covered by defined benefit plans that offer benefits based on final salary level and the number of years in service, and include benefits for dependents. The plan providing benefits based on salaries up to a maximum level is funded; all vested benefits are required by law to be funded for such plans. Benefits based on salaries above this level are covered by unfunded plans. The main funded plan is managed by Norsk Hydros Pensjonskasse, a separate, regulated legal entity. Hydro's pension plans supplement the public pension schemes in Norway. The plans comply with legal requirements for pension plans in Norway. Plans providing benefits for salary levels above the tax deductible level have been closed for new members from January 1, 2017.

Norsk Hydro ASA participates in a pension plan that entitles the majority of its employees life-long benefits in addition to other pension benefits. The benefits are financed through a pooled arrangement by private sector employers (avtalefestet pensjon, AFP) where also the Norwegian state contributes. The plan is a defined benefit plan with limited funding and where plan assets are not segregated. The information required to calculate the share of the plan and account for the plan as a defined benefit plan is not available from the plan administrator. Hydro therefore accounts for the plan as if it were a defined contribution plan. The annual contributions have increased since inception and are expected to increase further. The employer contributions are included in Multiemployer plans.

**Pension cost**

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Defined benefit plans | **37** | 36 |
| Defined contribution plans | **20** | 17 |
| Multiemployer plans | **4** | 3 |
| Termination benefits and other | **6** | 8 |
| Social security cost | **8** | 9 |
| Pension expense | **75** | 75 |
| | | |
| Interest expense (income) | **(43)** | (32) |
| Remeasurement (gain) loss directly to equity | **445** | (458) |

**Recognized defined benefit assets and liability**

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Defined benefit obligation major plans | **(5,306)** | (5,103) |
| Plan assets | **6,699** | 6,832 |
| Reimbursement rights | **310** | 303 |
| Liability other plans | **(3)** | (2) |
| Social security cost | **(330)** | (309) |
| Net defined benefit asset | **1,371** | 1,722 |
| | | |
| Recognized prepaid pension | **4,046** | 4,221 |
| Recognized pension liability | **(2,675)** | (2,499) |
| Net amount recognized | **1,371** | 1,722 |

**Change in defined benefit obligation (DBO)**

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Opening Balance | **(5,103)** | (5,205) |
| Current service cost | **(36)** | (35) |
| Interest expense | **(119)** | (127) |
| Actuarial gain (loss) economic assumptions | **(231)** | (61) |
| Experience gain (loss) | **(108)** | (40) |
| Benefit payments | **296** | 307 |
| Terminations benefits | **(6)** | (6) |
| Settlements | **-** | 65 |
| Closing Balance | **(5,306)** | (5,103) |

**Change in pension plan assets**

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Opening Balance | **6,832** | 6,369 |
| Interest income | **162** | 158 |
| Return on plan assets above (below) interest income | **(105)** | 563 |
| Contributions to plans | **5** | 20 |
| Benefit payments | **(196)** | (211) |
| Settlements | **-** | (67) |
| Closing Balance | **6,699** | 6,832 |

**Analysis of the defined benefit obligation (DBO)**

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Active members | **(1,115)** | (1,119) |
| Deferred members | **(468)** | (426) |
| Pensioners | **(3,722)** | (3,557) |
| Defined benefit obligation | **(5,306)** | (5,103) |

| Assumptions | Benefit obligation 2018 | Benefit expense 2018 | Benefit obligation 2017 | Benefit expense 2017 |
|---|---|---|---|---|
| Discount rate | **2.50%** | **2.40%** | 2.40% | 2.50% |
| Expected salary increase | **2.50%** | **2.25%** | 2.25% | 2.25% |
| Expected pension increase | **1.50%** | **1.00%** | 1.00% | 1.00% |
| Mortality basis | **K2013** | **K2013** | K2013 | K2013 |

See note 37 Employee retirement plans in notes to the consolidated financial statements for information about sensitivities.

# Note 3 - Management remuneration, employee costs and auditor fees

See note 9 Management remuneration in the notes to the consolidated financial statements for information and details related to the Corporate Management Board remuneration. Costs for some corporate management board members employed by subsidiaries are charged to Norsk Hydro ASA for services rendered as members of the Corporate Management Board.

See note 10 Board of Directors and Corporate Assembly in the notes to the consolidated financial statements for information and details related to the Board of Directors' remuneration.

See note 18 Employee remuneration in the notes to the consolidated financial statements for information on the employee share purchase plan.

Partners and employees of Hydro's appointed auditors, KPMG, own no shares in Norsk Hydro ASA or any of its subsidiaries. Audit fees were NOK 8 million in both 2018 and 2017. Audit related fees were NOK 1 million in 2017. Fees for other services were NOK 2 million in 2018 and NOK 1 million in 2017.

The average number of employees in Norsk Hydro ASA was 282 in 2018 as compared to 272 in 2017. As of year end 2018 and 2017, Norsk Hydro ASA employed 286 and 277 employees, respectively.

Total loans given by Norsk Hydro ASA to Norwegian employees as of December 31, 2018 were NOK 97 million. Loans to employees consist of NOK 49 million secured loans (home and car loans) with the remainder unsecured. The unsecured loan balance as of December 31, 2018 related to the employee share purchase plan was NOK 13 million.

Payroll related expenses are presented in the table below.

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| ***Employee benefit expense:*** | | |
| Salaries | **467** | 402 |
| Social security costs | **59** | 60 |
| Other benefits | **3** | 1 |
| Pension expense (note 2) | **73** | 75 |
| Internal invoicing of payroll related costs | **-** | (3) |
| Total | **603** | 535 |

# Note 4 - Property, plant and equipment and intangible assets

Operating lease expense amounted to NOK 83 million in 2018 and NOK 72 million in 2017. The company has the following future operating lease commitments under non-cancellable leases: 2019: NOK 72 million, 2020: NOK 72 million, 2021: NOK 72 million, 2022: NOK 12 million.

| Amounts in NOK million | Property, plant and equipment | Intangible assets | Total |
|---|---|---|---|
| Cost December 31, 2017 | 344 | 65 | 409 |
| Additions at cost | 33 | - | 33 |
| Disposals at cost | (1) | - | (1) |
| Accumulated depreciation and impairment December 31, 2018 | (185) | (31) | (215) |
| Carrying value December 31, 2018 | 191 | 35 | 226 |
| Depreciation and impairment in 2018 | (9) | (12) | (21) |

Intangible assets mainly consist of software.

# Note 5 - Finance income and expense

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Dividends from subsidiaries | **1,218** | 588 |
| Interest from group companies | **475** | 362 |
| Other interest income | **47** | 73 |
| Interest paid to group companies | **(102)** | (106) |
| Other interest expense | **(213)** | (151) |
| Net foreign exchange gain (loss) | **453** | (819) |
| Other, net | **61** | 36 |
| Financial income (expense), net | **1,938** | (17) |

# Note 6 - Income taxes

The tax effect of temporary differences resulting in deferred tax assets (liabilities) are:

| | Temporary differences | |
|---|---|---|
| | Tax effect | |
| Amounts in NOK million | **2018** | 2017 |
| Short-term items | **6** | 6 |
| Long-term receivables from subsidiaries | **(158)** | - |
| Pensions[1)] | **(302)** | (396) |
| Long-term debt | **49** | - |
| Other long-term items | **11** | 25 |
| Tax loss carryforwards | **-** | - |
| Deferred tax assets (liabilities) | **(394)** | (365) |

1) Includes NOK 92 million and NOK (111) million of tax benefit (expense) allocated to equity in 2018 and 2017 respectively.

In accordance with the preliminary accounting standard for tax, taxable temporary differences and deductible temporary differences, which reverse or may reverse in the same period, are netted.

**Reconciliation of tax expense**

| Amounts in NOK million | 2018 | 2017 |
|---|---|---|
| Income (loss) before taxes | **1,292** | (491) |
| Expected income taxes at statutory tax rate | **297** | (118) |
| Dividend exclusion | **(30)** | (44) |
| Effect of tax rate change | **(16)** | (18) |
| Favorable decisions in tax disputes | **-** | (108) |
| Permanent differences and other, net | **25** | (20) |
| Income taxes | **276** | (307) |
| | | |
| ***Components of income taxes*** | | |
| Current income taxes | **156** | (131) |
| Change in deferred taxes | **121** | (176) |
| Income taxes | **276** | (307) |

See note 24 Income taxes in the consolidated financial statements for further information.

Taxes payable were NOK 164 million per December 31, 2018 and NOK 63 million per December 31, 2017.

# Note 7 - Shares in subsidiaries

The following shares in subsidiaries are directly owned by Norsk Hydro ASA.

| Company name | Country | Location | Percentage of shares owned by Norsk Hydro ASA | Book value (NOK million) |
|---|---|---|---|---|
| Hydro Aluminium AS | Norway | Oslo | 100.00 | 51,293 |
| Hydro Energi AS | Norway | Oslo | 100.00 | 5,643 |
| Hydro Aluminium Deutschland GmbH[1)] | Germany | Grevenbroich | 25.04 | 92 |
| Industriforsikring AS | Norway | Oslo | 100.00 | 20 |
| Hydro Kapitalforvaltning AS | Norway | Oslo | 100.00 | 4 |
| Total | | | | 57,052 |

1) The company is owned 74.96 percent by Hydro Aluminium AS, and 25.04 percent by Norsk Hydro ASA.

Percentage of shares owned equals percentage of voting shares owned. Several of the above-mentioned companies also own shares in other companies.

In addition to the directly owned subsidiaries listed above, Norsk Hydro ASA has the following subsidiaries with significant operational activities. Sales offices, companies mainly serving as holding companies, and dormant companies, as well as companies holding smaller operational activities are not included in the list below. A full list of subsidiaries is available in Hydro's country by country reporting and at www.hydro.com. The companies are listed by the business area in which the majority of their activities are managed.

| Company name | Country | Ownership |
|---|---|---|
| ***Bauxite & Alumina*** | | |
| ALUNORTE - Alumina do Norte do Brasil S.A. | Brazil | 92.13% |
| Mineração Paragominas SA | Brazil | 100.00% |
| ***Rolled Products*** | | |
| Hydro Aluminium Rolled Products GmbH | Germany | 100.00% |
| Hydro Aluminium Rolled Products AS | Norway | 100.00% |
| ***Primary Metal*** | | |
| Hydro Aluminium Australia Pty Limited | Australia | 100.00% |
| ALBRAS - Alumínio Brasileiro SA | Brazil | 51.00% |
| Sør-Norge Aluminium AS | Norway | 100.00% |
| Slovalco a.s. | Slovakia | 55.30% |
| ***Metal Markets*** | | |
| Extrusion Services S.a.r.l | France | 100.00% |
| Hydro Aluminium Gieβerei Rackwitz GmbH | Germany | 100.00% |
| Hydro Aluminium Clervaux S.A. | Luxembourg | 100.00% |
| Hydro Aluminium Iberia S.A.U | Spain | 100.00% |
| Hydro Aluminium Deeside Ltd. | United Kingdom | 100.00% |
| Hydro Aluminium Metals USA, LLC | United States | 100.00% |
| ***Extruded Solutions*** | | |
| Hydro Extrusion Nenzing GmbH | Austria | 100.00% |
| Hydro Extrusion Lichtervelde NV | Belgium | 100.00% |
| Hydro Building Systems Belgium NV | Belgium | 100.00% |
| Hydro Precision Tubing Lichtervelde NV | Belgium | 100.00% |
| Hydro Extrusion Raeren SA | Belgium | 100.00% |
| Hydro Extrusion Brasil S.A. | Brazil | 100.00% |
| Hydro Extrusion Ltda | Brazil | 100.00% |
| Hydro Extrusion Canada Inc. | Canada | 100.00% |
| Hydro Precision Tubing (Suzhou) Co. Ltd. | China | 100.00% |
| Hydro Extrusion Denmark A/S | Denmark | 100.00% |
| Hydro Precision Tubing Tønder A/S | Denmark | 100.00% |
| Hydro Building Systems France SARL | France | 100.00% |
| Hydro BuildEx S.a.r.l. | France | 100.00% |
| Hydro Extrusion Lucé/Chateauroux SAS | France | 100.00% |
| Hydro Extrusion Puget SAS | France | 100.00% |
| Hydro Extrusion Albi SAS | France | 100.00% |
| Hydro Extrusion Offenburg GmbH | Germany | 100.00% |
| Hydro Extrusion Deutschland GmbH | Germany | 100.00% |
| Hydro Building Systems Germany GmbH | Germany | 100.00% |
| Hydro Extrusion Hungary Kft | Hungary | 100.00% |
| Sapa Extrusion India Pvt. Ltd. | India | 100.00% |
| Hydro Extrusion Italy Srl | Italy | 100.00% |
| Hydro Building Systems Italy S.p.a. | Italy | 100.00% |
| Hydro Extrusion Hoogezand B.V. | Netherlands | 100.00% |
| Hydro Extrusion Drunen B.V. | Netherlands | 100.00% |
| Hydro Extrusion Poland Sp. z.o.o | Poland | 100.00% |
| Hydro Extrusion Slovakia a.s. | Slovakia | 100.00% |
| Hydro Building Systems Spain S.L.U. | Spain | 100.00% |
| Hydro Extrusion Spain S.A.U. | Spain | 100.00% |
| Hydro Extrusion Sweden AB | Sweden | 100.00% |
| Hydro Extrusion UK Ltd. | United Kingdom | 100.00% |
| Hydro Components UK Ltd. | United Kingdom | 100.00% |
| Hydro Building Systems UK Ltd | United Kingdom | 100.00% |
| Hydro Extrusion USA LLC | United States | 100.00% |
| Hydro Extrusion Delhi LLC | United States | 100.00% |
| Hydro Extrusion North America LLC | United States | 100.00% |
| Hydro Extruder LLC | United States | 100.00% |
| Hydro Extrusion Portland Inc | United States | 100.00% |
| Hydro Precision Tubing USA LLC | United States | 100.00% |
| ***Energy*** | | |
| Røldal Suldal Kraft as | Norway | 91.26% |

Net loss in 2018 and net gain in 2017 on sale of subsidiaries refers to sale of Herøya Nett AS.

# Note 8 - Related party information

See note 11 Related party information in the notes to the consolidated financial statements for identification of related parties and primary relationships with those parties.

Norsk Hydro ASA operates the cash pooling arrangements in Hydro. Further, Norsk Hydro ASA extends loans to subsidiaries, associates and jointly controlled entities at terms and conditions reflecting prevailing market conditions for corresponding services, allowing for a margin to cover administration and risk. See note 5 Financial income and expense for information on interest paid to and received from group companies.

Norsk Hydro ASA allocates costs for corporate staff services and shared services to subsidiaries. The total amount allocated was NOK 122 million in 2018 and NOK 96 million in 2017. Receivables related to such costs amounted to NOK 122 million and NOK 93 million per December 31, 2018 and 2017, respectively.

For information on transactions with employees and management, see note 3 Management remuneration, employee costs and auditor fees and note 9 Management remuneration in the notes to the consolidated financial statements. For information on transactions with Board of Directors and Corporate Assembly see note 10 Board of Directors and Corporate Assembly in the notes to the consolidated financial statements. See note 11 for information on guarantees provided on behalf of subsidiaries and jointly controlled entities.

# Note 9 - Specification of balance sheet items

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Securities | **535** | 535 |
| Prepaid pension | **4,046** | 4,221 |
| Investments in associates | **-** | 48 |
| Other non-current assets | **152** | 138 |
| Total prepaid pension, investments and other non-current assets | **4,733** | 4,943 |
| | | |
| Pension liability | **2,675** | 2,499 |
| Deferred tax liabilities | **394** | 365 |
| Other long-term provisions | **304** | 356 |
| Total long-term provisions | **3,373** | 3,219 |

Other long-term provisions include an onerous contract of office space, see note 11 Related party information in the notes to the consolidated financial statements.

# Note 10 - Financial instruments

Norsk Hydro ASA offers currency derivatives to subsidiaries using such instruments for risk management. Contracts are recognized at estimated market value, determined by calculating the contractual cash flows using currency rates at the balance sheet date and discounting those cash flows to a present value. At the end of 2018 and 2017, the value of currency forward contracts outstanding with subsidiaries were as follows:

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Currency forward contracts, short-term | **10** | 5 |
| Currency forward contracts, long-term | **91** | 8 |
| Financial income, net | **100** | 13 |

The contracts represent exposure mainly in Euro. In addition, there are some contracts with exposure to US dollars, British pounds, Swiss franc, Danish krone, Swedish krone, Japanese yen and Turkish lira, representing lower amounts. The contracts mature no later than 2023.

## Note 11 - Guarantees

Norsk Hydro ASA provides guarantees arising in the ordinary course of business including stand-by letters of credit, performance bonds and various payment or financial guarantees. All commercial guarantees are on behalf of subsidiaries.

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| Guarantees related to jointly controlled entities | **348** | 22 |
| Commercial guarantees | **3,585** | 3,449 |
| Total guarantees not recognized | **3,934** | 3,471 |

## Note 12 - Long-term debt

| Amounts in NOK million | **2018** | 2017 |
|---|---|---|
| USD | **588** | 833 |
| SEK | **2,915** | 3,007 |
| NOK | **4,497** | 4,497 |
| Total unsecured loans | **8,000** | 8,337 |
| Less: Current portion | **(2,768)** | (281) |
| Total long-term debt | **5,232** | 8,056 |

As of December 31, 2018, long-term debt that falls due after 2023 amounted to NOK 999 million. See note 34 Short and long-term debt in notes to the consolidated financial statements for further information.

## Note 13 - Number of shares outstanding, shareholders and equity reconciliation

The share capital of Norsk Hydro ASA as of December 31, 2018 was NOK 2,271,760,107 consisting of 2,068,998,276 ordinary shares at NOK 1.098 per share. As of December 31, 2018, Norsk Hydro ASA had purchased 22,695,479 treasury shares at a cost of NOK 756 million. See Consolidated statements of changes in equity and note 38 Shareholders' equity for additional information.

The table shows shareholders holding one percent or more of the total 2,046,302,797 shares outstanding as of December 31, 2018, according to information in the Norwegian securities' registry system (Verdipapirsentralen).

| Name | Number of shares |
|---|---|
| The Ministry of Trade, Industry and Fisheries of Norway | 708,865,253 |
| Folketrygdfondet | 139,282,717 |
| State Street Bank and Trust Comp[1)] | 82,340,647 |
| Clearstream Banking S.A.[1)] | 51,247,405 |
| Banque Pictet & Cie SA[1)] | 33,616,323 |
| HSBC Bank PLC [1)] | 31,517,490 |
| JPMorgan Chase Bank, N.A., London[1)] | 30,910,699 |
| Vanguard International Growth FD | 30,534,386 |
| Verdipapirfondet Dnb Norge (IV) | 26,281,231 |
| State Street Bank and Trust Comp[1)] | 25,308,950 |
| Euroclear Bank S.A./N.V.[1)] | 21,654,422 |

1) Nominee accounts.

**Changes in equity**

| Amounts in NOK million | Paid-in capital | Retained earnings | Total equity |
|---|---|---|---|
| December 31, 2017 | 31,342 | 29,738 | 61,080 |
| Net income | | 1,015 | 1,015 |
| Remeasurement postemployment benefits | | (353) | (353) |
| Dividend paid in 2018 not accrued[1)] | | (3) | (3) |
| Dividend proposed | | (2,558) | (2,558) |
| Treasury shares | 31 | 52 | 83 |
| December 31, 2018 | 31,373 | 27,891 | 59,265 |

1) Owners of shares sold from treasury shares in April 2018 received dividends for those shares in May 2018. However, this was not accrued in 2017.

# Responsibility statement

We confirm to the best of our knowledge that the consolidated financial statements for 2018 have been prepared in accordance with IFRS as adopted by the European Union, as well as additional information requirements in accordance with the Norwegian Accounting Act, that the financial statements for the parent company for 2018 have been prepared in accordance with the Norwegian Accounting Act and generally accepted accounting practice in Norway, and that the information presented in the financial statements gives a true and fair view of the assets, liabilities, financial position and result of Norsk Hydro ASA and the Hydro Group for the period. We also confirm to the best of our knowledge that the Board of Directors' Report includes a true and fair review of the development, performance and financial position of Norsk Hydro ASA and the Hydro Group, together with a description of the principal risks and uncertainties that they face, and that the country by country report for 2018 has been prepared in accordance with the Norwegian Accounting Act §3-3d and the Norwegian Security Trading Act §5-5a.

Oslo, March 12, 2019

Dag Mejdell
Chair

Irene Rummelhoff
Deputy chair

Arve Baade
Board member

Finn Jebsen
Board member

Liselott Kilaas
Board member

Sten Roar Martinsen
Board member

Thomas Schulz
Board member

Svein Kåre Sund
Board member

Marianne Wiinholt
Board member

Svein Richard Brandtzæg
President and CEO

# Independent auditor's report

To the Annual Shareholders' Meeting of Norsk Hydro ASA

## Report on the Audit of the Financial Statements

**Opinion**
We have audited the financial statements of Norsk Hydro ASA. The financial statements comprise:

- The financial statements of the parent company Norsk Hydro ASA (the "Company"), which comprise the balance sheet as at 31 December 2018, and the income statement, and cash flow statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and
- The consolidated financial statements of Norsk Hydro ASA and its subsidiaries (the "Group"), which comprise the balance sheet as at 31 December 2018, and income statement, statement of comprehensive income, statement of changes in equity, cash flow for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion:

- The financial statements are prepared in accordance with the law and regulations.
- The accompanying financial statements give a true and fair view of the financial position of the Company as at 31 December 2018, and its financial performance and its cash flows for the year then ended in accordance with the Norwegian Accounting Act and accounting standards and practices generally accepted in Norway ("NGAAP").
- The accompanying consolidated financial statements give a true and fair view of the financial position of the Group as at 31 December 2018, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the EU ("IFRS").

**Basis for Opinion**
We conducted our audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company and the Group as required by laws and regulations, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

**Key Audit Matters**
Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

**Environmental clean-up cost and asset retirement obligations**
Refer to Note 5 Critical accounting judgement and key sources of estimation uncertainty, Note 35 Provisions and Note 36 Contingent liabilities and contingent assets

**The key audit matter**

The Group is involved in operations such as bauxite mining, alumina refining, primary aluminium production and extrusion activities.

There is an inherent risk that these operations may generate significant obligations related to site restoration, reforestation and other remediation work. Such potential obligations are dependent on the jurisdictions in which the company operates and changes in the relevant political and legislative environments.

Management decisions to expand, curtail or terminate operations in specific locations can impact obligations as described above.

Estimating and calculating these obligations requires significant management judgement. The risk of inaccurate estimates is increased due to the uncertainty of scope and timing of such obligations and the limited amount of historical data available.

The Group has recognized environmental clean-up provisions and asset retirement obligations of NOK 4,299 million as explained in note 35 and disclosed information pertaining to contingent liabilities in note 36.

**How the matter was addressed in our audit**

Our audit procedures in this area included:

- Performing retrospective reviews of the accuracy of management's estimates in terms of timing, cash outflows and other assumptions where historical data is available
- Assessing the estimated cost and timing of activities applied in the calculations by comparing management forecasts with prior year estimates
- Comparing management's assumptions to relevant market data to test the reasonableness of discount rates, inflation rates, foreign exchange rates and other key assumptions used in the calculations
- Assessing the accounting treatment for compliance with IFRS and consistency of application, in particular related to the extent to which obligations are capitalized or expensed and the amortization period for capitalized assets
- Testing the mathematical accuracy of the models used to calculate provisions and asset retirement obligations
- Assessing the adequacy of the disclosures pertaining to estimation uncertainty, provisions, contingent liabilities and subsequent events.

## Impairment of goodwill, intangible and non-current assets

Refer to Note 5 Critical accounting judgment and key sources of estimation uncertainty, Note 20 Impairment of non-current assets, Note 29 Property, plant and equipment, Note 30 Intangible assets and Note 31 Goodwill.

**The key audit matter**

The Group's operations are sensitive to certain commodity prices and other factors, including aluminum and alumina prices, energy prices, inflation rates, relevant foreign exchange rates and production volumes which impact key assumptions in cash flow forecasts and can give rise to impairment indicators.

The economic environment and volatility of long-term assumptions indicate that impairment could be a risk related to specific assets and cash generating units and can also impact the assessment of impairment of goodwill. In 2018, following the curtailment of operations in Brazil, management's estimates related to the timing of the return to full capacity is a key assumption impacting the impairment testing of goodwill and certain assets in Brazil.

Management exercise judgement related to expected timing of future cash flows and key assumptions related to commodity and other prices, growth rates, foreign exchange rates, discount rates and production volumes.

As at 31 December 2018, the Group has goodwill of NOK 6,584 million, Property, plant and equipment of NOK 71,299 million and intangible assets of NOK 4,858 million. No impairment has been recognised during 2018.

**How the matter was addressed in our audit**

Our audit procedures in this area included:

- Assessing management's process and results for identification and classification of CGU's and assessing whether they were appropriate and in accordance with relevant accounting standards
- Evaluating management's assessment of impairment indicators
- Performing retrospective reviews of the accuracy of management's estimates in terms of timing of cash outflows and other assumptions such as long-term pricing where historical data is available
- Evaluating and challenging the forecasted cash flows including timing of future cash flows applied in the models with reference to historical accuracy and approved business plans
- Testing the sensitivity of movements in key assumptions
- Evaluating, with assistance from our valuation specialists, key assumptions such as aluminium and alumina prices, inflation rates, energy and fuel prices, relevant foreign exchange rates and discount rates by reference to external sources and relevant benchmarks
- Testing the mathematical accuracy of the models used to calculate value in use
- Assessing the adequacy of the disclosures related to impairment

### Tax assets and liabilities

Refer to Note 5 Critical accounting judgement and key sources of estimation uncertainty, Note 24 Income Tax, Note 26 Trade and other receivables, Note 28 Other non-current assets and Note 36 Contingent liabilities and contingent assets.

| The key audit matter | How the matter was addressed in our audit |
| --- | --- |
| The Group's global operations create exposures to different tax regimes with complex legislation. The Group has recognized significant tax assets related to tax credits and losses carried forward and has exposure to tax claims in several jurisdictions.<br><br>The volume of tax credits is significant and the assessment of recoverability is dependent on interpretation of laws and regulations which may be subject to change over time.<br><br>Recoverability of deferred tax assets related to losses carried forward are assessed based on estimates of future taxable profits and are judgmental in nature.<br><br>Tax provisions and contingent liabilities are recognized and disclosed based on management's assessment of the probability of a future cash outflow and also the ability to reliably estimate the amount of any obligation. Due to the complexity of the various tax regimes in which the Group operates, there is significant judgement involved in these assessments.<br><br>As of 31 December 2018, the Group has recognized an asset of NOK 4,154 million in current and non-current Income taxes, VAT and other sales taxes and recognized deferred tax assets of NOK 1,664 million including deferred tax assets related to losses carried forward and taxes payable of NOK 2,266 million. | Our audit procedures in this area included:<br>• Assessing the eligibility of tax credits recognized as assets and the recoverability of these amounts<br>• Assessing the judgment applied to the recognition of deferred tax assets and the reversal or recoverability of these within the many tax jurisdictions<br>• Assessing the process for identification of uncertain tax positions and management's assessment of the probable outcome<br>• Using our knowledge of local jurisdictions and involvement of our local tax specialists where deemed relevant to obtain an overview of the local requirements relevant to management's judgements and conclusions for significant estimates<br>• Reading available correspondence with relevant tax authorities to identify potential tax contingencies and for the basis of accounting entries and disclosures<br>• Challenging management as to which cases and exposures are significant and the level of corresponding disclosures to be included in the Annual report |

### Other information

Management is responsible for the other information. The other information comprises the information included in the Annual Report, with the exception of the financial statements and the Independent auditor's report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

### Responsibilities of the Board of Directors and the President and CEO ("Management") for the Financial Statements

The Board of Directors and the President and CEO ("Management") are responsible for the preparation in accordance with law and regulations, including fair presentation of the financial statements of the Company in accordance with NGAAP, and for the preparation and fair presentation of the financial statements of the Group in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company’s and the Group’s ability to continue as a going concern, disclosing, as applicable, matters related to going concern. The financial statements of the Company use the going concern basis of accounting insofar as it is not likely that the enterprise will cease operations. The financial statements of the Group use the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

### Auditor’s Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor’s report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error. We design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's or the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company and the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company and the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

## Report on Other Legal and Regulatory Requirements

**Opinion on the Board of Directors' report**
Based on our audit of the financial statements as described above, it is our opinion that the information presented in the Board of Directors' report and in the statements on Corporate Governance and Corporate Social Responsibility concerning the financial statements, the going concern assumption, is consistent with the financial statements and complies with the law and regulations.

**Opinion on Registration and Documentation**
Based on our audit of the financial statements as described above, and control procedures we have considered necessary in accordance with the International Standard on Assurance Engagements (ISAE) 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*, it is our opinion that management has fulfilled its duty to produce a proper and clearly set out registration and documentation of the Company's accounting information in accordance with the law and bookkeeping standards and practices generally accepted in Norway.

Oslo, 12 March 2019
KPMG AS

Lars Inge Pettersen
State Authorised Public Accountant

Note: This translation from Norwegian has been prepared for information purposes only.

# Statement of the Corporate Assembly to the Annual general meeting of Norsk Hydro ASA

The Board of Directors' proposal for the financial statements for the financial year 2018 and the Auditors' report have been submitted to the corporate assembly.

The Corporate Assembly recommends that the directors' proposal regarding the financial statements for 2018 for the parent company, Norsk Hydro ASA, and for Norsk Hydro ASA and its subsidiaries be approved by the annual general meeting, and that the net income for 2018 of Norsk Hydro ASA be appropriated as recommended by the directors.

Oslo, March 12, 2019

Terje Venold

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