

Annual Report

2018

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# Key figures

(Amounts in MNOK)	2018	2017	2016	2015*	2014*	
<b>Performance</b>						
Operating revenue	5 164	3 592	2 710	2 511	2 863	
EBITDA <sup>1</sup>	4 036	2 575	1 752	1 621	2 018	
Operating profit	3 669	2 236	1 444	1 347	1 745	
Profit before tax	3 364	1 987	1 248	1 116	1 491	
Net profit or loss for the year	1223	1 038	505	533	713	
<b>STATEMENT OF FINANCIAL POSITION</b>						
Equity	12 954	12 364	7 163	5 911	6 063	
Capital employed <sup>2</sup>	27 760	27 285	16 321	14 061	13 986	
Net interest-bearing debt <sup>3</sup>	9 653	10 663	8 217	7 268	6 924	
<b>CASH FLOW</b>						
Net cash flow from operating activities	2 473	1 592	1 322	689	694	
Dividends paid to owner & minority shareholders	663	610	685	740	750	
Investments	684	549	335	297	236	
<b>INVESTMENT PERFORMANCE - FINANCIAL STRENGTH</b>						
EBITDA margin <sup>4</sup>	%	78	72	65	65	70
ROCE (return on capital employed)	%	13	10	9	10	12
ROE (return on equity)	%	10	11	7	9	12
Equity ratio	%	38	41	37	38	38
FFO / Net interest-bearing debt <sup>7</sup>	%	25	15	12		
Debt / EBITDA <sup>8</sup>		2,4	4,1	4,7	4,5	3,4
<b>OTHER KEY FIGURES</b>						
Power production	TWh	14,3	12,2	11,2	10,7	10,6
Market price power <sup>11</sup>	NOK/kWh	41,6	26,8	23,5	17,6	22,7
Achieved power price	NOK/kWh	39,6	28,1	25,4	23,6	27,1
Achieved power price / Market price	%	95	105	108	134	119
Influenceable costs per kWh <sup>9</sup>	NOK/kWh	3,7	4,0	3,7	3,7	3,6
Operating cost per kWh <sup>10</sup>	NOK/kWh	10,6	11,1	11,4	10,9	11,0
Number of employees		185	197	172	177	174



## 1 223

Net profit or loss for the year (MNOK)



## 14,3

Power production (TWh)



## 39,6

Achieved power price (NOK/kWh)

\* Key figures for 2014-2015 are based on consolidated accounts compliant with Norwegian Generally Accepted Accounting Principles (NGAAP).

### DEFINITIONS

- <sup>1</sup> EBITDA = Operating profit + depreciation
- <sup>2</sup> Capital employed = Equity + Net interest-bearing liabilities + Net tax positions
- <sup>3</sup> Net interest-bearing liabilities = Interest-bearing liabilities - short-term investments and bank deposits
- <sup>4</sup> EBITDA margin = EBITDA/Operating revenues
- <sup>5</sup> ROCE = Operating profit/capital employed (mean of opening balance and closing balance)
- <sup>6</sup> ROE = Net profit or loss for the year/Equity (mean of opening balance and closing balance)
- <sup>7</sup> FFO = EBITDA - interest paid and tax paid
- <sup>8</sup> Debt/EBITDA = Closing balance net interest-bearing liabilities/EBITDA
- <sup>9</sup> Influenceable costs per kWh = personnel expenses and other operating expenses/the year's power production
- <sup>10</sup> Operating expenses per kWh = Operating expenses, incl. depreciation/the year's power production
- <sup>11</sup> Market price for power = weighted hourly spot price for price areas Oslo (NO1) and Bergen (NO5)



# E-CO Energi Holding AS - Directors' Report 2018

(2017 figures in parentheses)

E-CO Energi profited from high power prices in 2018, efficient operations and a high degree of availability on the power plants. This resulted in a record-high net profit for the year of NOK 1 223 million. On 20 June 2018, the Oslo City Council voted to combine the ownership of E-CO Energi Holding AS and Hafslund AS under a joint board and administration, thus forming Norway's largest integrated energy group, Hafslund E-CO. Following this, E-CO Energi Holding AS is a wholly-owned subsidiary of Hafslund E-CO AS.

## BUSINESS ACTIVITIES - STRATEGY

E-CO Energi owns, wholly or partially, 50 power plants spread across southern Norway. They have an annual mean production of just over 14 TWh (roughly 13 TWh, excluding the minority interests' share of the power production) and a production capacity of about 3350 MW. The largest production facilities are located in Hallingdal, Aurland and the lower part of Glomma. In addition, E-CO Energi has significant interests in power plants in Hedmark County and Oppland County. The Group's main activities relate to the planning and implementation of the upgrading, operation and maintenance of the power plants, as well as securing optimal utilization of the reservoirs to maximise the value of the power production.

The main objective of E-CO Energi's strategy is to be Norway's foremost producer of renewable energy. To achieve this the availability and cost-levels at the power plants must be optimized in combination with a goal of zero injuries. Areas of focus besides availability and cost efficiency are digitalisation, competency and growth. The Group aspires to be a prime mover for consolidation, especially in the business areas where E-CO Energi is represented as an owner today. Consequently, E-CO Energi's ambition is to increase its current production capacity.

## PERFORMANCE, INVESTMENTS, CASH FLOW AND CAPITAL STRUCTURE

### PROFIT OR LOSS 2018

E-CO Energi achieved an operating profit of NOK 3 669 million in 2018, an improvement of NOK 1 433 million from 2017. The increase must generally be seen in the light of higher power prices and the full-year effect of the acquisition of Hafslund Produksjon.

The power price obtained in 2018 was 0.396 NOK/kWh (0.281 NOK/kWh), an increase of 0.115 NOK/

kWh from 2017. E-CO Energi has managed to take advantage of the significant price increase in 2018, even though realised losses on hedging transactions brought the power price achieved down compared with the spot price. The weighted hourly spot price for the price areas Oslo (NO1) and Bergen (NO5), where E-CO Energi has its production, was 0.416 NOK/kWh (0.268 NOK/kWh) in 2018. A higher achieved power price compared with last year increased the operating profit with NOK 1 428 million compared to 2017. E-CO Energi produced a total of 14.3 TWh of power in 2018, an increase of 2.1 TWh from 2017. 1.6 TWh of this increase in production is due to the full-year effect of the acquisition of Hafslund Produksjon, which took place in August 2017. Efficient operations and allocation of resources resulted in high availability at the power plants and there were no events resulting in significant operational interruptions during the year. Higher power production increased the operating profit with NOK 577 million compared to 2017.

Operating expenses for 2018 amounted to NOK 1 512 million, an increase of NOK 154 million from 2017. Higher costs must generally be seen in the light of the full-year effect of the acquisition of Hafslund Produksjon in August 2017, along with higher transmission expenses.

The operating profit includes an unrealized loss of NOK -376 million (+NOK 57 million) on financial power and currency contracts. The underlying operating profit (operating profit less unrealized loss from power and currency contracts) was NOK 4 045 million in 2018, an improvement of NOK 1 866 million or 86 percent from 2017.

Net financial expenses amounted to NOK -305 million (NOK -249 million) in 2018. The increase in financial expenses must be seen in light of the full-year effect of the funding of the acquisition of Hafslund Produksjon in August 2017. Taxes of



# 5 164

Operating revenue  
(MNOK)



**2 473**  
Cash flow from  
operating activities  
(MNOK)

NOK 2 141 million (NOK 949 million) in 2018 translate to an effective tax rate of 64 per cent (48 per cent) on income before tax of NOK 3 364 million (NOK 1 987 million). Realised and unrealised losses on power and currency contracts increased the effective tax rate by 6 percentage points as they are not deductible as losses when resource rent tax is calculated. Tax expenses include resource rent tax of NOK 1 346 million (NOK 655 million).

The net profit or loss for the year was NOK 1 223 million (NOK 1 038 million) in 2018. The net profit for the year, excluding the unrealised profit or loss on power and currency contracts, amounted to NOK 1 512 million, an increase of NOK 517 million or 52 per cent from 2017.

### INVESTMENTS

E-CO Energi invested (including capitalized borrowing costs) a total of NOK 684 million (NOK 549 million) in 2018, of which NOK 464 million refers to the construction of new power plants. The Rosten Power Plant was completed in 2018. E-CO Energi was involved in the development of a further four power plants in 2018. Collectively, these five investments will provide nearly 1.0 TWh of additional renewable energy each year:

- The Rosten Power Plant was commissioned in Q2 2018 and will generate roughly 200 GWh in new renewable energy annually. The total investment amounted to NOK 871 million, and E-CO Energi owns a 72 per cent share.
- Vamma 12 is a new power station built in connection with the existing Vamma Power Plant. With an absorption capacity of 500 m<sup>3</sup>/s and installed output of 128 MW, Vamma 12 will generate 1 TWh per year increasing annual production by 230 GWh. Vamma 12 will take over large parts of the production from other generators at the Vamma Power Plant, which will then continue as flood generators. The project is progressing as planned and is scheduled to go live in spring 2019. Accumulated investments at the end of 2018 added up to NOK 868 million and E-CO Energi has a share of 90 per cent through its ownership of Hafslund Produksjon Holding AS.
- The construction of the Nedre Otta power plant, which is operated by Nedre Otta DA, will add approximately 315 GWh of renewable energy each year. It is scheduled to go live in 2020. Accumulated investments amounted to NOK 863 million at the end of 2018, and E-CO Energi owns a 27 per cent share.
- In June 2018, the boards of E-CO Energi and the other owners of Opplandskraft DA decided to build the Tolga Power Plant, which represents an

investment of NOK 900 million. The power plant will provide roughly 205 GWh of additional renewable energy each year and is scheduled for completion in the latter half of 2021. Accumulated investments totalled NOK 175 million at the end of 2018. E-CO Energi has a 50 per cent share in the project.

- In November 2018, it was decided to build the Mork power plant in Municipality of Lærdal, which will have an installed output of 9.9 MW and will produce roughly 44 GWh of additional renewable energy each year. The construction began in February 2019 and it is scheduled to go live in Q4 2020. E-CO Energi's share is 67 per cent through its stake in Mork Kraftverk AS.

### CASH FLOW, FUNDING AND CAPITAL STRUCTURE

E-CO Energi had a net cash flow from operating activities of NOK 2 473 million (NOK 1 592 million) in 2018. This is NOK 1 563 million less than earnings before interest, taxes, depreciation and amortisation (EBITDA) and includes the payment of tax and interest totalling NOK 1 594 million.

The net cash flow from investing activities was NOK -653 million (NOK -4 603 million) and when including the payment of dividends of NOK 663 million (NOK 610 million) in 2018, the net cash flow resulted in a reduction in net interest-bearing liabilities of NOK 1 157 million.

At the end of 2018, net interest-bearing debt amounted to NOK 9 653 million (NOK 10 663 million). E-CO Energi has a robust financial structure with long-term committed drawdown facilities. At the end of 2018, E-CO Energi had undrawn overdraft facilities of NOK 1 500 million, and no financial covenants on its loan agreements. Of total interest-bearing debt (excluding subordinated loan) of NOK 10 181 million, NOK 533 million matures in 2019. The subordinated loan from the municipality of Oslo was NOK 2 347 million at 31 Dec. 2018 and will mature in 2037. E-CO Energi's loan portfolio has a balanced composition of loans with a maturity profile ranging from 1 to 15 years, an average maturity of 9 years and an average fixed interest-rate, including interest rate swaps, of 3.8 years. All loan agreements involve clauses regarding negative pledges and the equal ranking of creditors. There is also an ownership clause where lenders can demand the loans repaid should the municipality of Oslo's share in the parent company Hafslund E-CO AS be reduced so that its indirect share of E-CO Energi Holding AS is less than 50.1 per cent.

E-CO Energi's total assets amounted to NOK 33 737 million (NOK 30 458 million) at the end of 2018. E-CO Energi has a sound financial position with equity of NOK 12 954 million, which is equivalent to an equity ratio of 38 per cent (41 per cent) at the end of 2018.

## THE POWER MARKET IN 2018

### TRENDS IN POWER PRICE DRIVERS

Coal and gas prices, CO<sub>2</sub> trading permit prices, exchange capacity with the continent, the electricity certificate scheme and higher power consumption are the main factors driving Nordic power prices.

At year-end 2018, coal prices were roughly USD 86 per metric tonne, which is about on par with the prices at the beginning of the year. Gas prices in Europe increased from about EUR 19.5 per MWh to EUR 22.5 per MWh. The prices of European emission allowances on CO<sub>2</sub> increased significantly through 2018, from roughly EUR 8 per metric tonne early in the year to about EUR 24 per metric tonne in December. This is primarily ascribable to initiatives in the EU. Price increases on coal, gas and CO<sub>2</sub> contributed to raising the prices of Norwegian-produced renewable hydropower from 2017 to 2018.

The upgrading of several transmission connections helped reduce the price difference between the achieved area prices and the Nordic system price (estimated reference sample for the Nordic power market) in 2018. The trend is expected to continue in the future due to additional exchange capacity. Additional transmission capacity is also important for ensuring a reliable power supply in the Nordic countries.

2018 has been a turbulent year for the electricity certificate market. A high quota obligation, coupled with record-low availability of el-certificates has contributed to a substantial rise in the price of el-certificates for contracts up to and including March 2020. The development of el-certificate-entitled projects is nonetheless moving forward at a rapid pace and appears to be well on the way to achieving the goal of 46.4 TWh in new production by 2030. The Norwegian Water Resources and Energy Directorate (NVE) and the Swedish Energy Agency recommend introducing a closing date in 2030 for the Swedish power certificate market. A construction surplus and low el-certificate prices from 2021 is therefore likely.

### TRENDS IN AREA PRICES, THE NORDIC SYSTEM PRICE AND FORWARD PRICES

E-CO Energi's production is divided about 50/50 between the NO5 price area (West Norway) and the NO1 price area (East Norway). The average spot price for the NO5 price area was 0.414 NOK/kWh in 2018. This represents an increase of 0.145 NOK/kWh from 2017 which is the highest annual price since 2010. The average price in NO1 was 0.419 NOK/kWh in 2018, an increase of 0.149 NOK/kWh from the year before. The lowest monthly price was seen in January with 0.313 and 0.312 NOK/kWh in NO1 and NO5, respectively. There

was little precipitation during the summer, and when the snow melted, there was a pronounced drop in the inflows in Norway and Sweden alike. At the same time, prices were high on the continent owing to rising thermal prices, little wind and a low discharge of water in the rivers. This caused price increases, not least in the Nordic countries, before there was a substantial increase in precipitation during the autumn. As mentioned above, the price gaps narrowed between the achieved area prices obtained and the Nordic system price (estimated reference price for the Nordic power market) in 2018 after the upgrading of several transmission connections. The Nordic system price was 0.422 NOK/kWh in 2018 (0.274 NOK/kWh).

The rise in the prices of quotas and commodities also reflects higher forward prices for Nordic power, where the futures market has picked up considerably in 2018. The annual contract price for delivery in 2019 increased by 0.21 NOK/kWh in 2018 to 0.47 NOK/kWh at year end. The annual contracts for 2020 and 2021 ended at 0.385 NOK/kWh and 0.347 NOK/kWh at the end of 2018, up 0.126 NOK/kWh and 0.082 kWh, respectively, in 2018.

### HEDGING

E-CO Energi has an active hedging strategy and performs ongoing analyses to take positions in the power market. E-CO Energi uses financial hedging contracts to reduce the risk connected to price and production uncertainty. The hedged production volume varies in line with the expectations for the development of the markets and the production volume. E-CO Energi mainly uses Nasdaq as a trading platform for hedging power prices. The liquidity of the Nasdaq platform has gradually declined in recent years, meaning that the Group must constantly assess which other parties and trading platforms are the most attractive for future power price hedging.

### DEVELOPMENT IN CONSUMPTION AND POWER PRODUCTION

Norwegian power consumption was record-high in 2018, with 136 TWh (134 TWh). The increase was driven by manufacturing growth, higher consumption in the oil and gas industry, increased electrification, as well as increased affluence and population growth. Aggregate power production was 146 TWh in 2018 (149 TWh).

The useable inflow into Norwegian hydropower plants was 132 TWh in 2018, which was lower than the 2017 level, but close to the normal annual level of 135 TWh. Inflow was record low through the summer while there were record high levels during certain weeks in the autumn. By taking advantage of flexible reservoir capacity, hydropower production reached 139 TWh in 2018 (143 TWh).



*2018 has been a turbulent year for the electricity certificate market. A high quota obligation, coupled with record-low availability of el-certificates has contributed to a substantial rise in the price of el-certificates for contracts up to and including March 2020.*



**1 512**  
Operating costs  
(MNOK)

Norwegian wind power production increased further in 2018 and new production capacity equivalent to 2.2 TWh of mean annual production was brought in motion during the year. By 2021, a further 9 TWh of wind power is expected to be produced in Norway. To date, this trend has largely been driven by the el-certificate scheme. More availability of unregulated renewable energy will mean greater fluctuations in access to power meaning that the Group can capitalise on its competitive edge by being active in the balance power markets with its regulatable pumped storage power.

#### CORPORATE SOCIAL RESPONSIBILITY

E-CO Energi is responsible for the consequences of the Group's activities regarding the outdoor environment, working conditions, human rights and other social conditions. Corporate social responsibility has a high strategic priority, and the responsibility permeates the entire value chain and all its activities. As part of the Hafslund E-CO Group, E-CO Energi constantly strives to promote the Group's values in respect of co-workers, suppliers and partners.

#### MATERIALITY ANALYSIS AND THE OUTDOOR ENVIRONMENT

To distinguish central aspects of corporate social responsibility from other important areas, a materiality analysis has been carried out. The analysis focuses on what is considered material for E-CO Energi and correspondingly for the Group's stakeholders. The analysis sheds light on both risks and opportunities and has identified four fields that are decisive for strategic goal achievement:

- i) reliable producer of energy,
- ii) ethical business conduct,
- iii) environmental impact (including climatic change and the outdoor environment),
- iv) responsible supplier chain.

#### I) RELIABLE PRODUCER OF ENERGY

E-CO Energi owns, develops and operates hydropower installations, and the enterprise helps safeguard jobs, ensuring the society's supply of clean energy as well as increasing value creation. In this way, E-CO Energi creates value at local, regional and national level, and helps lower GHG emissions, which has a favourable impact both locally and globally. Society expects that the power supply works at all times. With its pumped storage power plants, E-CO Energi also ensures renewable energy production in periods with little precipitation. In this way the Group promotes the efficient exploitation of hydropower resources, as well as the balance and the quality of the power system.

#### II) ETHICAL BUSINESS CONDUCT

E-CO Energi's ethical guidelines govern the Group's work within ethics and anti-corruption. The Group aspires to be an attractive place of employment and to have a working environment based on loyalty and trust. All employees shall act with respect and integrity for their colleagues, business associates, customers and others with whom they have contact with when at work. The guidelines demand that employees and Board members avoid situations that could raise conflicts between personal and/or financial interests and the interests of the enterprise. E-CO Energi has guidelines for whistleblowing through a separate reporting channel and there are separate ethical guidelines that apply to suppliers which are included in supplier contracts.

#### III) ENVIRONMENTAL IMPACT

As a power producer, E-CO Energi mainly impacts the environment in three areas: climate change, electrification and the outdoor environment. With its renewable energy production, E-CO Energi is an important contributor to achieving environmental goals by countering undesirable climate change and promoting the electrification of society. However, the enterprise's activities have an impact on the outdoor environment, both visually and as a result of changes in the discharge of water and water temperature in regulated rivers and watercourses. The Group aspires to ensure that its footprint on nature is as small as possible.

#### - CLIMATE CHANGE

In the UN's Sustainable Development goals, goal 13 states that one must «Take urgent action to combat climate change and its impacts.» One of the proposed measures is to invest far more in renewable energy. E-CO Energi's societal responsibilities include creating long-term value through renewable energy. Continuous efforts are invested in improvements and new projects in order to further replace fossil energy sources with non-polluting power. In 2018, a new hydropower plant went live (Rosten). Three power plants are under construction (Vamma, Nedre Otta and Tolga), and a decision has been made to build a further (Mork). E-CO Energi performs ongoing replacements and upgrades in the power plants, resulting in increased power production from the same water resources. The Group is the co-owner of an international cable project that is currently having its license application evaluated (North Connect). Additional exchange capacity will make it possible to export increasingly more renewable energy, while supplying output and system services to countries that need them to be able to enhance their own renewable power production at the expense of fossil energy sources.

#### - THE OUTDOOR ENVIRONMENT

Hydropower is a clean, renewable energy source that can help reduce greenhouse gas emissions.

However, the construction, operation and maintenance of hydropower installations impacts the natural environment. The effects are generally local and associated with physical encroachments through changes in water flows and water temperature. In connection with construction projects, dam revisions and re-investments in production facilities the Group strives to ensure that its environmental footprint is as small as possible using techniques that represent best practice. In case of flooding huge volumes of water can be held back in E-CO Energi's reservoirs in regulated watercourses. This reduces flood peaks and can help avert damaging floods and damage to the environment and to properties.

Several dam reconstruction sites need rocks to patch the dams. E-CO Energi was the first company to convert a stone quarry into a pond or an extension of a pond. In 2018, work was completed on Store Vargevatn. As the summer passed, the stone quarry filled with water. Upon final inspection, the Norwegian Water Resources and Energy Directorate (NVE) announced that they were very pleased with the result of the work carried out. Work on a new stone quarry (a breach pond) has been started at Strandevatn. There were no discrepancies from the concessionary terms in 2018. There were reports of four incidents related to the outdoor environment. The most serious incident deals with sediment transport in the Flåmselva River in connection with dam reconstruction at the Leinafoss Power Plant. The incident is under investigation to identify the scope and the adverse effects, if any, it has had on the watercourse further downstream. The lessons learned from this survey will be included in the planning of future reconstruction projects.

E-CO Energi's influence on the outdoor environment from other operations generally comes from the operation of its own buildings, its own transportation and procured services including public services and construction activities. The Group aims to increase the percentage of electrical vehicles in its own fleet. All new vehicles are to be rechargeable providing they comply with requirements for functionality and safety.

Reference is made to the Sustainability Report for E-CO Energi.

#### IV) RESPONSIBLE SUPPLIER CHAIN

E-CO Energi has implemented «the Oslo Model», a designated term for a series of seriousness provisions included in contractual terms for the purchase of goods and services as well as for building and construction-work. The Oslo City Council has asked all limited liability companies owned by the municipality to introduce the Oslo Model for their business activities in 2018.

All suppliers of goods and services must meet a number of well-specified requirements. Contractors and their subcontractors must run their businesses in accordance with nationally and internationally recognised principles and guidelines (related to human and workers' rights, anti-corruption, health, safety and the environment). E-CO Energi performs its procurement with professional diligence.

In 2018, as part of the Hafslund E-CO Group, E-CO Energi introduced seriousness requirements to counter industrial crime and social dumping in the building and construction industry. The requirements will ensure sufficient working conditions for employees and temporary hires, limit the number of upstream members in the supplier value chain and increase the number of apprentices and skilled workers. The requirements have been well received in the supplier market. Follow-ups are conducted to ensure that suppliers are compliant with the requirements.

E-CO Energi belongs to UNCE (formerly Sellicha), a qualification scheme for the energy industry that performs HSEQ audits (health, safety, the environment and quality) and project audits on behalf of the member companies. The audits are compliant with ISO 19011. Contractors are required to be registered in UNCE to qualify for providing goods and services to the Group.

#### HSE - PERSONNEL

##### PERSONNEL AND ORGANISATION

E-CO had 185 employees at the end of 2018, including four apprentices. E-CO Energi strives to attract talents and develop co-workers in the best possible manner. Organisational development, employee surveys and initiatives to create visibility locally and to support different cultural, humanitarian and sporting activities all contribute to a reputation as an attractive employer. Competitive wages, employee skill-development programs, continuous improvement and focus on HSE and leadership are amongst factors strengthening this reputation.

##### EQUALITY - DISCRIMINATION

Routines have been established for hiring, promotions, salary and remuneration packages and competence improvement-measures to ensure that the Group does not discriminate based on gender or on other grounds. E-CO Energi aspires to increase the percentage of women it employs, but announcements of job vacancies often have few or no female applicants. However, for certain positions the number of female applicants is significantly larger and women will be given priority providing they have the desired qualifications. This initiative also includes making the women in our organisation more visible, both internally and externally. At the



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*E-CO Energi's goal is to keep overall sickness absence below 3.5 per cent. In 2018, sickness absence was 2.2 per cent. Training for management on handling sickness absence as well as dedicated initiatives on an individual level are part of the systematic work in place to counter sickness absence.*

end of 2018, there were 32 female co-workers with regular employment, accounting for 17 per cent of our workforce. Among management, women account for 23 per cent.

#### LOST-TIME INJURIES (LTIs)

Health, safety and the environment have high priority and E-CO Energi aims to have no injuries to its own employees or to contractors' employees. Systematic efforts are made to reduce the number of injuries, where the reporting of undesirable incidents and the close follow-up of serious events and near accidents is an important part of the systematic HSE work.

A total of 0 LTIs and 0 injuries without lost time were registered among the Group's own employees and 2 LTIs and 2 injuries without lost time among contractors who worked at E-CO Energi's business activities in 2018. This corresponds to a total injury frequency of 3.5 LTIs per million working hours (H1 value) and a total injury frequency (number of injuries with and without absenteeism per million working hours, H2 value) of 6.9.

#### SICKNESS ABSENCE

E-CO Energi's goal is to keep overall sickness absence below 3.5 per cent. In 2018, sickness absence was 2.2 per cent. Training for management on handling sickness absence as well as dedicated initiatives on an individual level are part of the systematic work in place to counter sickness absence. Both professional and social events for all employees help build our culture and sustain a good working environment over time. An active Group sports team contributes further to team spirit and well-being.

#### EMPOWERING PEOPLE

E-CO Energi aspires to build a leading group of specialists by developing today's co-workers and attracting the necessary new expertise. Employees' expertise is one of the Group's most important success factors and a prerequisite for continuous value creation. The Group facilitates human resource development and works systematically to develop leadership and employee skills.

#### CONTACT WITH THE AUTHORITIES AND FRAMEWORK CONDITIONS

For E-CO Energi to be able to create long-term value and contribute to the achievement of a renewable, fully electrical society it is decisive that central decision-makers receive necessary input about the effects of the framework conditions adopted by the authorities. That way the Group can contribute to better political and regulatory decisions.

#### THE NEED FOR STABLE FRAMEWORK CONDITIONS

Ambitious targets have been set for reducing greenhouse gas emissions both locally in Oslo and at national and international level. Hydropower plays a vital role in Norway as future increasing

needs for renewable, regulatable and profitable power must be satisfied. Hydropower is regulatable and can help offset variations in power production from other sources, e.g. wind and solar power. E-CO Energi is of the opinion that the authorities must pave the way for an increase in the consumption of electricity. For renewable energy to have climate value it must reach consumers both inside and outside the Nordic market and replace fossil fuel sources. For businesses exposed to competition, market-based, technology-neutral and predictable tools must be further developed so that climate targets can be reached as cost-efficiently as possible.

#### CONSEQUENCES OF RESOURCE RENT TAXATION

In 2019, the Norwegian parliament adopted a government budget based on increasing the resource rent tax for hydropower production. The marginal tax rate increased from 58.7 to 59 per cent. No change was adopted in the part of the capital base that is exempted from taxation, which is currently significantly lower than the interest rate that power producers pay for funding operations. The result of today's resource rent tax entails that socioeconomically profitable projects are being postponed or completely dropped. In 2018, the Government appointed an expert committee to undertake a comprehensive assessment of the taxation of power plants. According to the plan the committee is scheduled to submit its proposal in October 2019.

In E-CO Energi's view, there is a significant gap between political ambitions when it comes to how Norwegian renewable energy is part of the solution in its environmental policy and the tax-related framework conditions.

#### RISK MANAGEMENT

The activities of E-CO Energi are exposed to risk in several areas. The most central are of a market-related, financial, regulatory and political, operational and reputation-related nature. Risk management is an integral part of business activities and is aimed at ensuring the achievement of strategic and operational goals. The objective of risk management is to select the right level of risk based on a business activity's propensity and willingness to accept risk, along with its expertise, financial strength and development plans. Guidelines and parameters have been established to manage risk and risk is assessed by E-CO Energi's Board of Directors, as well as by the Audit Committee and the Board of the parent company.

#### MARKET RISK

As a power producer E-CO Energi is vulnerable to movements in market prices and volume uncertainty where the amount of risk is a result of active market participation. Clear parameters have been established for price risk. Within these

parameters parts of future hydropower production are hedged against price uncertainty. Moreover, the Group is conscious of how it positions itself in the power market.

The hedging ratio can vary and is determined by an overall assessment of market prices factors and the prospects of factors that affect power production. A hedging strategy is pursued where, taking resource rent taxation into account, the aim is that higher spot prices for power should have a neutral or a positive impact on the expected cash flow after tax. The currency market is used to control foreign currency risk that arises through hedging. For operational risk management goals related to power price risk E-CO Energi uses Value at Risk (VaR) among other things. VaR describes the maximum loss that can be expected on a power portfolio during a given period of time for a given confidence interval. Exposure is followed up by the risk management-functions at E-CO Energi, as well as by the risk management-function in the parent company, Hafslund E-CO AS.

#### RISK RELATED TO INTEREST AND CURRENCY

E-CO Energi is also exposed to changes in interest levels on the Group's liabilities. At the end of 2018, the interest-rate duration was 3.8 years which is within the established parameters. The majority of the Group's income is earned from the sale of power production in EUR which is then exchanged to NOK on an ongoing basis. The enterprise's expenses are generally incurred in NOK. E-CO Energi can sign loan contracts and other agreements in foreign currency when appropriate. All foreign currency loans are hedged to NOK.

#### CREDIT AND COUNTERPARTY RISK

Credit and counterparty risk are the risks of losses ascribable to the other party of a contract/customers not fulfilling their obligations to E-CO Energi. The Group incurs credit and counterparty risk on financial and physical energy trading and in connection with funding activities. The majority of today's hydropower production is sold on the spot market. When signing longer physical and financial contracts, counterparty risk is dealt with, not least through the use of clearing, guarantees and settlement mechanisms. Exposure is monitored closely and counterparties are evaluated on an ongoing basis. The ability to deal with counterparty risk related to transactions that deal with interest rates and currencies is restricted by defining a lower limit for approving the other party's credit rating as well as by spreading exposure among several different counterparties. Historically, there have been limited losses on receivables.

#### LIQUIDITY RISK

Liquidity risk is the risk that E-CO Energi will not be able to service its financial obligations as they fall due. The Group is exposed to liquidity risk

when there is a lack of correspondence between the cash flow from operating activities and financial liabilities. The cash flow varies depending on market prices, seasonal fluctuations and investment levels.

The Group's strategy for dealing with liquidity risk is to have sufficient cash on hand and short-term deposits at all times so that it can pay financial liabilities when due, also in the case of extraordinary events, in order to avoid risking unacceptable losses or damaging the Group's reputation. Undrawn lines of credit at the end of 2018 added up to NOK 1 500 million, in addition to liquid reserves in the form of bank deposits and money market funds of NOK 2 432 million.

#### REGULATORY AND POLITICAL RISK

E-CO Energi engages in activities that require concessions and that are under the regulations handed of the Norwegian Water Resources and Energy Directorate (NVE) as well as other authorities. This means the Group risks being subject to changes in framework conditions in a number of fields. Regulatory and legislative amendments can potentially have a substantial influence on future financial performance and the risk of this is therefore monitored closely through continuous work with framework conditions.

Hydropower production is subject to concessionary terms regarding requirements to water flow and water levels, as well as regulations for the safety of dams and waterways. Amendments in regulatory terms could potentially place limits on production. The terms of three of the watercourse regulations in which E-CO Energi participates are currently undergoing audits: the Hemsil regulation, the Hols regulation and the Uste and Hallingdal watercourse. The term audit is a process handled by the authorities where the objective is to evaluate environmental measures in the watercourse regulation areas. For example, this could involve a change in or the introduction of requirements for minimum water flow, environmental measures, biotope measures to improve fish habitats or initiatives to limit autotrophic growth. E-CO Energi has established a healthy working relationship with the host municipalities regarding the term audits. As a result of the term audit for the Uste and Hallingdal watercourse, we have agreed upon a set of collective environmental measures for the future with the host municipality in Hallingdal. NVE makes recommendations about new terms for watercourse regulations and the Ministry of Petroleum and Energy makes the final decisions on new terms for the next 30 years.

The competitiveness of flexible hydropower is also dependent on the market regulation of the physical and financial power markets.



*E-CO Energi is of the opinion that the authorities must pave the way for an increase in the consumption of electricity. For renewable energy to have climate value it must reach consumers both inside and outside the Nordic market and replace fossil fuel sources.*



*The combination of Hafslund AS and E-CO Energi Holding AS has brought to light differences in internal control procedures between the business areas. These differences will be analyzed and harmonized in 2019.*

#### OPERATIONAL RISK

E-CO Energi is vulnerable to operational risk. This risk is greatest for ongoing operating activities and project implementation. The responsibility for daily risk management rests with the operations and maintenance department. Operational risk is handled on an ongoing basis by monitoring the facilities, systematic maintenance, detailed procedures for activities, controls and through emergency contingency plans. By using artificial intelligence, machine learning and data from sensors our ambition is to take even better operational maintenance-related and investment decisions.

Insurance contracts have been signed, not least in relation to potential damage to our own production facilities and other property. Liability insurance contracts have been signed including dam liability insurance that covers damage to third parties or to the property of third parties. E-CO Energi also has insurance related to lost power production in case of interruptions.

The risk related to reliability of supply plays a key role and cyber security is an area of focus that is monitored closely at the same times as the digitalisation of the power system. The Group participates in KraftCERT, a group of specialists in the power industry that helps members by providing advice and incident management in response to ICT events that pose a threat to security. E-CO Energi has not experienced targeted attacks in 2018 and no other attacks have entailed any form of compromise.

E-CO Energi has standards for health, safety and the environment in the implementation of major and minor developments and projects. Risk assessments shall be carried out for project implementation. The consideration for our employees and our suppliers' security shall be given priority and will be followed up throughout project implementation. The Group has introduced systems for registering and reporting circumstances worthy of criticism, undesirable incidents and injuries. An analysis of this is conducted on an ongoing basis with a view to assessing risk and planning initiatives if needed.

#### INTERNAL CONTROL

Internal control is a key aspect of risk management and ongoing efforts are invested for improvement and strengthening this aspect. E-CO Energi has an in-house function to follow up on risk, internal control and compliance with legislation and regulations. Relevant independent experts are hired when necessary to carry out internal controls and internal audits.

Great attention is paid to financial reporting routines and there are clear roles, responsibilities and assignments for carrying out the accounting

procedures in the Group. Procedures and routines have been established for reporting, including verification and documentation. Controls are specifically tailored to target areas in the accounts where there is thought to be the highest possibility for error. E-CO Energi has satisfactory systems and expertise to carry out correct and effective financial reporting routines.

The enterprise is subject to legislation, regulations, regulatory requirements and in-house guidelines. Continuous efforts are invested in dealing with the risk of non-compliance with legislation and regulations. The work is carried out in the line with support from specialists. In-house awareness programmes are used to improve knowledge and ensure compliance within areas of focus such as data protection, which is thought of as especially important. E-CO Energi is to be a responsible part in all aspects of its operations and it maintains focus on ensuring compliance by identifying risks and implementing risk reduction measures.

The combination of Hafslund AS and E-CO Energi Holding AS has brought to light differences in internal control procedures between the business areas. These differences will be analyzed and harmonized in 2019.

#### CORPORATE GOVERNANCE

E-CO Energi Holding AS is wholly-owned by Hafslund E-CO AS which, in turn, is wholly-owned by the municipality of Oslo. The Board of the parent company Hafslund E-CO has adopted principles of corporate governance based on the requirement included in the «Norwegian Code of Practice – Corporate Governance» of 17 October 2018 («the NUES recommendation») and the municipality of Oslo's principles for good corporate governance in limited liability companies. The principles shall support owners' performance targets and contribute to long-term added value as well as ensuring the confidence of owners and other stakeholders in the Board, management and the Group.

#### THE WORK OF THE BOARD OF DIRECTORS

Prior to the merger of E-CO Energi Holding AS and Hafslund AS the Board of Directors of E-CO Energi Holding AS consisted of Anne Carine Tanum, Mari Thjømøe, Helge Skudal, Bård Vegar Solhjell and Gabriel Smith as well as two employee Board representatives, Arvid Amundsen and Ola Tore Eggen. This Board held three ordinary Board meetings and one extraordinary in 2018.

At an extraordinary general assembly on 4 July 2018 Finn Bjørn Ruyter, Johan Christian Hovland and Lise Heien Langaard were elected as board members. Håkon Mørch Korvald and Gunnar Ola Braaten were installed as board representatives on the same date. This board held three board meetings.

At an extraordinary general assembly on 4 September 2018 Finn Bjørn Ruyter (Chair of the Board), Martin S. Lundby and Toril Benum were elected board members. This board, which also included employee representatives Gunnar Ola Braaten and Håkon Mørch Korvald, held one ordinary board meeting and 3 board meetings by the circulation of documents in 2018.

#### ALLOCATION OF THE PROFIT/LOSS

E-CO Energi Holding AS had a net profit of NOK 1 290 million in 2018. The board will propose to the annual general meeting on 8 April 2019, the following distribution of E-CO Energi Holding AS' net profit for the year:

Net profit for the year in E-CO Energi Holding AS' Income Statement	MNOK 1 290
Distribution:	
Provision for dividends to Hafslund E-CO AS	MNOK 723
Provision for Group contribution to Hafslund E-CO AS	MNOK 239
Transferred to other equity	MNOK 328

#### GOING CONCERN ASSUMPTION

In compliance with the Norwegian Accounting Act the board confirms that the financial statements have been submitted on the basis of the going concern assumption and that this assumption is present.

#### OUTLOOK

The power price trend and production volume impact the earnings of E-CO Energi directly as income is a function of the actual price obtained and produced volume.

Favourable market prices contributed to good results in 2018 and high forward prices for Nordic power substantiates expectations of a strong performance also in 2019. The annual power

supply contract for 2019 was 0.47 NOK/kWh at the end of 2018 which was 0.21 NOK/kWh higher than on 1 January. However, power is a commodity that is subject to price fluctuations. A change in power prices during the year of 0.10 NOK/kWh will, given full spot price exposure and ordinary production, be capable of changing operating earnings by NOK 1 300 million. To hedge the cash flow and exploit the market prospects E-CO Energi is active on the power market and uses partial hedging for the sale of produced energy.

In addition to continuous focus on cost efficiency, E-CO Energi aspires to be one of the leading hydropower groups in the adoption of digital tools. One example of this is the development of a digital twin for one of the power plants started in 2018. The work is expected to be completed in 2019 with the goal of improving uptime and reducing operating and maintenance costs for the power plant.

The Boards of Directors of Eidsiva Energi and Hafslund E-CO have agreed upon a draft agreement for a merger of the companies as well as on principles for the conversion ratio. The negotiated draft of the agreement complies with the letter of intent between the parties from November 2018, and will be presented to the companies' owners for a decision in Q2 2019. If the owners of both companies accept the merger, and it meets the approval of the authorities, the transaction is expected to be conducted in Q3 2019. For the E-CO Energi Group a transaction will mean that Eidsiva Vannkraft will be transferred to the subsidiary E-CO Energi AS on a debt-free basis, making it part of a jointly-owned production company where Hafslund E-CO (through E-CO Energi Holding AS) will be the majority shareholder with 57,7 per cent and Eidsiva Energi AS (which Hafslund E-CO owns 50 per cent) will own 42,8 per cent. E-CO Energi Holding AS' ownership of Hafslund Produksjon Holding is excluded from the transaction.

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*Favourable market prices contributed to good results in 2018 and high forward prices for Nordic power substantiates expectations of a strong performance also in 2019.*

Oslo, 14 March 2019

The Board of Directors of E-CO Energi Holding AS



Finn Bjørn Ruyter  
Chair of the Board



Martin Sleire Lundby



Gunnar O. Braaten



Håkon Mørch Korvald



Toril Benum



Alf Inge Berget  
President and CEO



Consolidated accounts

# 2018

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## Consolidated statement of comprehensive income

1 JANUARY - 31 DECEMBER

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (Amounts in MNOK)	Note	2018	2017*
Sales revenue	2.1	5 843	3 465
Other operating revenue	2.2	(680)	127
<b>Total revenue</b>		<b>5 164</b>	<b>3 592</b>
Energy purchases and transmission expenses	2.3	(338)	(261)
Salaries and other payroll expenses	2.4	(228)	(210)
Property tax and licence fees	2.5	(279)	(269)
Other operating expenses	2.6	(300)	(279)
Profit or loss from equity-accounted investees	3.4	17	2
<b>EBITDA</b>		<b>4 036</b>	<b>2 575</b>
Depreciation and amortisation	3.1	(367)	(339)
<b>Operating profit</b>		<b>3 669</b>	<b>2 236</b>
Financial income	5.12	48	53
Financial expenses	5.12	(353)	(302)
<b>Net financial items</b>		<b>(305)</b>	<b>(249)</b>
<b>Income before tax</b>		<b>3 364</b>	<b>1 987</b>
Taxes	6.1	(2 141)	(949)
<b>Net profit or loss for the year</b>		<b>1 223</b>	<b>1 038</b>
Net profit or loss for the year attributable to holder of the parent		1 037	923
Net profit or loss for the year attributable to non-controlling interests		186	115
<b>Other comprehensive income</b>			
<i>Items that may be reclassified through the profit or loss in subsequent periods</i>			
Net changes in the value of financial instruments	5.2	14	(4)
Tax effect of changes in the value of financial instruments		(4)	1
<b>Total items that may be reclassified through the profit or loss in subsequent periods</b>		<b>10</b>	<b>(3)</b>
<i>Items that may not be reclassified through the profit or loss in subsequent periods</i>			
Unrecognised actuarial gains/losses, pensions	7.2	25	(33)
Tax effect, unrecognised actuarial gains/losses, pensions		(8)	18
<b>Total items that may not be reclassified through the profit or loss in subsequent periods</b>		<b>17</b>	<b>(15)</b>
<b>Total other comprehensive income</b>		<b>27</b>	<b>(18)</b>
<b>Total comprehensive income for the year</b>		<b>1 250</b>	<b>1 020</b>
Total comprehensive income attributable to holder of the parent		1 064	905
Total comprehensive income attributable to non-controlling interests		186	115

\* Certain comparable figures have been restated due to changes in accounting principles. See Note 1.3.

# Consolidated statement of financial position

31 DECEMBER

CONSOLIDATED STATEMENT OF FINANCIAL POSITION (Amounts in MNOK)	Note	31.12.2018	31.12.2017*
<b>Assets</b>			
<b>Non-current assets</b>			
Goodwill	8.2	2 936	2 916
Waterfall rights	3.2	12 915	12 350
Property, plant and equipment	3.1	12 588	12 294
Deferred tax assets	6.1	319	293
Equity accounted investees	3.4	137	32
Non-current derivatives	5.1	928	812
Other non-current receivables	5.1	197	218
<b>Total non-current assets</b>		<b>30 021</b>	<b>28 915</b>
<b>Current assets</b>			
Accounts receivable	5.10	233	107
Other non-interest-bearing current receivables	5.10	436	139
Current derivatives	5.1	0	54
Other financial assets	5.1	200	403
Cash and cash equivalents	5.9	2 847	840
<b>Total current assets</b>		<b>3 716</b>	<b>1 543</b>
<b>Total assets</b>		<b>33 737</b>	<b>30 458</b>
<b>Equity and liabilities</b>			
<b>Equity</b>			
Share capital	5.8	2 035	2 035
Share premium		5 571	5 571
Retained earnings		3 277	2 862
Non-controlling interests		2 072	1 896
<b>Total equity</b>		<b>12 954</b>	<b>12 364</b>
<b>Non-current liabilities</b>			
Pension liabilities	7.2	47	57
Deferred tax liabilities	6.1	3 331	3 295
Non-current derivatives	5.1	93	140
Non-current liabilities and provisions	4.1	1 294	753
Non-current interest-bearing debt	5.3	12 168	10 907
<b>Total non-current liabilities</b>		<b>16 934</b>	<b>15 152</b>
<b>Current liabilities</b>			
Tax payable	6.1	2 158	1 265
Current derivatives	5.1	350	28
Other current non-interest-bearing liabilities	4.1	719	560
Accounts payable	5.11	90	89
Current interest-bearing debt	5.3	533	1 000
<b>Total current liabilities</b>		<b>3 849</b>	<b>2 941</b>
<b>Total liabilities</b>		<b>20 783</b>	<b>18 094</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>33 737</b>	<b>30 458</b>

\* Certain comparative figures have been restated due to changes in accounting principles. See Note 1.3.

E-CO Energi Holding AS, Oslo, 14 March 2019



Finn Bjørn Ruyter  
Chair of the Board  
of Directors



Martin Sleire Lundby



Gunnar O. Braaten Håkon Mørch Korvald



Toril Benum



Alf Inge Berget  
President and CEO

## Consolidated statement of cash flows

1 JANUARY - 31 DECEMBER

### Cash flow statement

The cash flow statement has been prepared in accordance with the indirect method. Cash and cash equivalents include bank deposits, money market funds and other cash equivalents.

CASH FLOW FROM OPERATING ACTIVITIES (Amounts in MNOK)	2018	2017
<b>Profit before depreciation (EBITDA)</b>	<b>4 036</b>	<b>2 575</b>
<b>Adjustments to reconcile the EBITDA with the net cash flow</b>		
Unrealised changes in the value of derivatives	376	(57)
Changes in accounts receivable and other non-interest-bearing receivables	(364)	(111)
Change in accounts payable and other current non-interest-bearing liabilities	99	99
Other non-cash-generating income and expenses	(80)	17
<b>Cash flow from operating activities</b>	<b>4 068</b>	<b>2 523</b>
Interest paid	(296)	(262)
Taxes paid	(1 298)	(668)
<b>Net cash flow from operating activities</b>	<b>2 473</b>	<b>1 592</b>
<b>Cash flow from investing activities</b>		
Investments in property, plant and equipment	(605)	(523)
Business combinations	(31)	(4 061)
Other investing activities	(18)	(19)
<b>Cash flow from investing activities</b>	<b>(653)</b>	<b>(4 603)</b>
<b>Cash flow from financing activities</b>		
Increase in interest-bearing debt	3 100	3 871
Repayment of interest-bearing debt	(2 453)	(218)
Dividends paid and other equity transactions	(663)	(610)
<b>Cash flow from financing activities</b>	<b>(15)</b>	<b>3 043</b>
<b>Change in cash and cash equivalents</b>	<b>1 805</b>	<b>27</b>
Cash and cash equivalents, 1 Jan.	1 243	1 216
Exchange gains/(losses) cash and cash equivalents	(1)	(5)
<b>Cash and cash equivalents, 31 Dec.</b>	<b>3 047</b>	<b>1 243</b>

## Consolidated statement of changes in equity

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (Amounts in MNOK)	Share capital	Share premium	Retained earnings	Actuarial gains/ losses, pensions	Hedging reserve	Equity attributable to the owners of the parent	Non- controlling interests	Total equity
<b>Equity at 1 Jan. 2017</b>	<b>1 703</b>	<b>1 903</b>	<b>2 604</b>	<b>27</b>	<b>(64)</b>	<b>6 173</b>	<b>990</b>	<b>7 163</b>
Net profit or loss for the year			923			923	115	1 038
Other comprehensive income				(15)	(3)	(18)		(18)
<b>Total comprehensive income for the year</b>			<b>923</b>	<b>(15)</b>	<b>(3)</b>	<b>905</b>	<b>115</b>	<b>1 020</b>
Capital increase	332	3 668				4 000		4 000
Non-controlling interests upon acquisition							791	791
Dividends			(610)			(610)		(610)
<b>Equity at 31 Dec. 2017</b>	<b>2 035</b>	<b>5 571</b>	<b>2 917</b>	<b>12</b>	<b>(67)</b>	<b>10 468</b>	<b>1 896</b>	<b>12 364</b>
Net profit or loss for the year			1 037			1 037	186	1 223
Other comprehensive income				17	10	27		27
<b>Comprehensive income for the year</b>			<b>1 037</b>	<b>17</b>	<b>10</b>	<b>1 064</b>	<b>186</b>	<b>1 250</b>
Non-controlling interests upon acquisition							3	3
Dividends			(650)			(650)	(13)	(663)
<b>Equity at 31 Dec. 2018</b>	<b>2 035</b>	<b>5 571</b>	<b>3 304</b>	<b>29</b>	<b>(57)</b>	<b>10 882</b>	<b>2 072</b>	<b>12 954</b>

# Notes

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## Note 1.1 Business information

E-CO Energi Holding AS «E-CO Energi» is a private company registered in Norway. The Group consists of E-CO Energi Holding AS with subsidiaries, and it is wholly owned by Hafslund E-CO AS. The company's business address is C. J. Hambros plass 2C, NO-0164 OSLO.

E-CO Energi is one of Norway's leading energy groups. Its core activities are the ownership, operation and development of hydropower plants. The parent company's main duties are HSE, strategy development, financial affairs, accounting and information. The Group is Norway's second largest hydropower producer with a normal annual production of 14 TWh. This meets the energy needs of roughly 700 000 households.

E-CO Energi Holding's consolidated accounts for the 2018 financial year were adopted at the Board meeting held on 14 March 2019, and are available at C. J. Hambros plass 2C, NO-0164 Oslo, or at [www.e-co.no](http://www.e-co.no).

## Note 1.2 General accounting policies

### Basis of preparation of the financial statements

E-CO Energi Holding AS's consolidated financial statements for 2018 have been submitted in accordance with the International Financial Reporting Standards (IFRS), as established by the EU. The basis for measuring the consolidated accounts is historical cost, with the exception of certain assets and liabilities measured at fair value. See Note 5.5 Fair value for a more detailed explanation of these. The preparation of financial statements in accordance with IFRS requires management to exercise its judgement in applying the Group's accounting policies. The areas involving a high degree of judgement or assumptions and significant estimates are described in the relevant notes.

### Currency

The presentation currency is Norwegian kroner (NOK), which is also the parent company's and the subsidiaries' functional currency. All amounts are specified in NOK million (MNOK), unless stated otherwise. Balance sheet items in foreign currency are translated at the exchange rate on the balance sheet date. Transactions in foreign currencies are translated to NOK on the transaction date.

### Current- and non-current presentation

An asset is classified as current when it is:

- Expected to be realised during the enterprise's ordinary operating cycle
- Held primarily for sale purposes
- Expected to be realised during the 12 months after the reporting period, or
- Constitute cash or cash equivalents that are not tied-up for more than 12 months

All other assets are classified as non-current.

## Note 1.3 Changes in policies and estimates in 2018

### Classification of waterfall rights

Upon transition to IFRS in 2017, the Group chose to classify waterfall rights as property, plant and equipment. From 2018, the waterfall rights will be classified as intangible assets in compliance with Hafslund E-CO's principles. The comparative figures have been reclassified correspondingly. This entails no change other than a reclassification of waterfall rights on the balance sheet from property, plant and equipment to intangible assets.

### IFRS 15 Revenue from contracts with customers

For 2017, the realised and unrealised profit and loss from power derivatives and currency futures were presented on the line for 'Sales revenue'. In connection with the Group's transition to IFRS 15 from 1 Jan. 2018, using the full retrospective approach, only revenue from contracts with customers is presented on the line item 'Sales revenue'. Realised and unrealised profits from power derivatives and currency futures are presented on the line 'Other operating revenue'. Comparative figures have been reclassified correspondingly.

### IFRS 9 Financial instruments

The Group made the transition to IFRS 9 as from 1 Jan. 2018, using the full retrospective approach. The transition generally affects the classification of financial instruments without having an impact on amounts. Cash flow hedges on combined interest rate and currency swap agreements are affected by the fact that the basis margin is excluded from hedging instrument and presented as a cost of hedging. The implementation of IFRS 9 has not affected comparative figures.

### Obligations related to free power and compensation to landowners

In 2018, the Group made a change in the calculation of obligations related to free power and compensation to landowners. The change mainly affects commitments for cash compensation and has its contra entry in waterfall rights and other operating expenses. For 2018, this entails an increase in non-current liabilities of MNOK 579 and an increase in waterfall rights of MNOK 547. The difference is presented on the line 'Other operating expenses'. The change does not affect comparative figures.

## Note 1.4 Changes in standards and interpretations

The Group's assessment of the effect of new standards, and changes in current standards and interpretations are specified below.

### IFRS 16 Leases

IFRS 16 Leases is effective for annual reporting periods beginning on or after 1 January 2019. E-CO Energi will implement the standard on 1 January 2019 and will use a modified retrospective transition approach, where the aggregate effect of the initial application of IFRS 16 is adjusted against retained earnings at 1 January 2019. The comparative figures do not change as a result of the transition to IFRS 16 using this method.

All right-of-use assets will be recognised at the value of the lease liability at 1 January 2019, except for certain major lease contracts, where the right-of-use asset is capitalised at the estimated value, as though IFRS 16 had always been applied.

The Group has assessed the effect of the implementation of IFRS 16 as described below. The actual effects of the implementation of the standard could change since the new accounting policies could be subject to change until the Group presents its first accounts that include time of the first application.

IFRS 16 requires that a tenant capitalises its leases. This means that as from 1 January 2019, the Group will recognise a right-of-use asset that represents the right to use an underlying asset and a liability that represents an obligation to pay rent.

IFRS 16 replaces existing standards and interpretations of leases, including IAS 17 Leases and IFRIC 4, and determines whether an arrangement contains a lease or not.

The Group will recognise new assets and liabilities for their operational leasing agreements, which apply to office premises, waterfalls and power plants. Leasing expenses in the operating profit will be replaced by depreciation on the right-of-use asset and interest expenses on the lease liability. The Group has no financial lease agreements.

Based on the information available, the Group estimates that it will recognise lease liabilities of MNOK 33 and right-of-use assets of roughly MNOK 30 at 1 January 2019. The effect on equity at 1 January 2019 will be roughly MNOK 2.3, based on these estimates.

#### *Leasing agreements where the Group is the lessor*

The Group's business activities as a lessor are limited in scope and are therefore not expected to have any significant effects on the consolidated financial statements.

### Other standards and interpretations

The Group does not expect that changes in other standards and interpretations will have any significant effect on the accounts.

## Note 1.5 Transactions and events in 2018

### Integration of Hafslund and E-CO Energi

On 20 June 2018, the Oslo City Council combined the ownership of Hafslund and E-CO Energi Holding under a new wholly-owned parent company. Hafslund E-CO AS was established on 4 July 2018 with the subsidiaries Hafslund AS and E-CO Energi Holding AS, which, together, constitute the new Group.

## Note 2.1 Sales revenues

### SIGNIFICANT ACCOUNTING POLICIES

The Group implemented IFRS 15 Revenues from Contracts with Customers on 1 January 2018 and has used the full retrospective approach for the implementation. IFRS 15 did not significantly affect the Group's method of recognising revenue. The total effect of the implementation was not significant for the Group and had no effects on equity at the time of implementation. Consolidated operating revenues consist mainly of revenue from the sale of power on the wholesale market.

### Power revenues

Power production is mainly sold on the Nord Pool Spot exchange and to Hafslund Strøm. The right to invoice agreed remuneration for the power arises once the power is produced and delivered. Income is recognised on this basis. The Group finds that the exchange (Nord Pool) is to be considered a customer as defined in IFRS 15, as the Group has an enforceable contract with Nord Pool AS. Similarly, Hafslund Strøm is defined as the customer.

Power revenues are usually presented gross on the income statement. Procurements, recognised gross as the cost of material to the extent purchases and sales are managed independently, are nominated gross on Nord Pool and fall within the scope of the Group's business-related need to buy power as a step in its ordinary operations.

### Other operating revenues

#### *Concessionary power*

The Group is obligated to supply concessionary power to municipalities and county municipalities at either the fixed price of concessionary power set by the Ministry of Petroleum and Energy or the estimated full cost. E-CO Energi has found that income from supplying concessionary power does not arise from a contract with a customer according to the definition in IFRS 15, but applies the principles in IFRS 15 by analogy and therefore also presents income from the sale of concessionary power under sales revenues.

See Note 4.2 Power obligations for further information.

## Note 2.1 Sales revenues continued

SALES REVENUE (Amounts in MNOK)	2018	2017
Power revenue	5 765	3 380
Concessionary power	78	85
<b>Total sales revenue</b>	<b>5 843</b>	<b>3 465</b>

The following table offers information about contract balances with customers:

(Amounts in MNOK)	31.12.2018	31.12.2017	01.01.2017
Receivables that are included in trade and other receivables	162	34	20

#### DELIVERY OBLIGATIONS AND PRINCIPLES FOR THE RECOGNITION OF INCOME

Delivery obligations	Revenue recognition principles
Power revenue	Based on the right to invoice (at the time of delivery)
Concessionary power	Based on the right to invoice (at the time of delivery)

The Group has no remaining delivery obligations at 31 December 2018.

## Note 2.2 Other operating revenues

### SIGNIFICANT ACCOUNTING POLICIES

#### Power and currency derivatives

E-CO Energi uses financial hedging contracts and currency futures to hedge future revenue. The Group does not apply hedge accounting for the hedging of power revenues. Realised and unrealised changes in value related to these derivatives are recognised as Other operating revenue. See also Note 5.1 Financial instruments.

#### Income from the sale of other goods and services

Income from the sale of other goods or services is recognised when the goods or services have been delivered and the risk and return have been transferred to the buyer.

OTHER OPERATING REVENUE (Amounts in MNOK)	2018	2017
Realised gains/losses on power and currency derivatives	(365)	(22)
Unrealised gains/losses on power and currency derivatives	(376)	57
Transmission income	51	51
Other operating revenue	10	41
<b>Total other operating revenue</b>	<b>(680)</b>	<b>127</b>

Other revenue mainly consists of income from the sale of services.

## Note 2.3 Energy purchases and transmission expenses

ENERGY PURCHASES AND TRANSMISSION EXPENSES (Amounts in MNOK)	2018	2017
Energy purchases	43	49
Transmission expenses	295	212
<b>Total cost of energy purchases and transmission expenses</b>	<b>338</b>	<b>261</b>

Transmission expenses mainly refer to the cost of feeding into the central grid.

## Note 2.4 Personnel expenses

PERSONNEL EXPENSES (Amounts in MNOK)	2018	2017
Salaries	184	167
Accrued social security expenses	25	22
Pension expenses	19	21
<b>Total personnel expenses</b>	<b>228</b>	<b>210</b>
Average number of full-time equivalents (FTEs) employed during the fiscal year:	184	180

Pension expenses are discussed in more detail in Note 7.2

## Note 2.5 Property tax and licence fees

### SIGNIFICANT ACCOUNTING POLICIES

#### Property tax

Property tax is classified and recognised as an operating cost in the year in which the tax is levied.

#### Licence fees

Licence fees are paid to the State and municipality annually in return for the right to exploit a waterfall. Such fees are expensed on an ongoing basis. See Note 4.1 for a more detailed description of power obligations.

PROPERTY TAX AND LICENCE FEES (Amounts in MNOK)	2018	2017
Property tax	190	185
Licence fees	89	84
<b>Total property tax and licence fees</b>	<b>279</b>	<b>269</b>

Property tax is calculated on the basis of assessed values for taxation purposes stipulated pursuant to §8 of the Act relating to Property Tax. The maximum tax rate is 0.7 per cent.

## Note 2.6 Other operating expenses

OTHER OPERATING EXPENSES (Amounts in MNOK)	2018	2017
Purchase of external services	40	34
Jointly-owned power plants	58	39
Compensation and miscellaneous fees	20	37
Insurance	24	12
Costs to own investment projects	(17)	(12)
The operation and maintenance of power plants	140	102
Other operating expenses	36	67
<b>Total other operating expenses</b>	<b>300</b>	<b>279</b>
SPECIFICATION OF AUDITING FEES (Amounts in NOK 1 000)	2018	2017
Mandatory audits	1 496	1 855
Other assurance services		336
Tax-related assistance	663	227
Other services	2 486	1 069
<b>Total auditor's fees</b>	<b>4 645</b>	<b>3 486</b>

Value-added tax (VAT) is not included in the specified auditing fee.

## Note 3.1 Property, plant and equipment

### SIGNIFICANT ACCOUNTING POLICIES

Property, plant and equipment are measured at acquisition cost, less accumulated depreciation and impairment. When assets are sold or disposed of, the capitalised value is deducted and any loss or profit is recognised.

The acquisition cost for property, plant and equipment is the purchase price, including levies/taxes and expenses directly related to making the property, plant and equipment ready for use.

Borrowing costs that can be attributed to an acquisition, structure, or the production of a qualifying asset, are added to the acquisition cost. The term 'qualifying asset' refers to an asset that requires a long period of time to be ready for its intended use or sale, e.g. a hydropower plant.

Expenses incurred once the production equipment is in use, e.g. ongoing maintenance, are recognised to the profit or loss, while other expenses (periodic maintenance) that are expected to offer future financial advantages are capitalised. The capitalised values associated with parts that have been replaced are derecognised and recognised.

Estimates for useful life of assets and the method are considered each year, and any changes are recognised as changes in accounting estimates.

'Plant under construction' is classified as a non-current asset and recognised at cost until construction or development is completed. Plant under construction is not amortised until the fixed asset is available for use and in the condition needed for the asset to function as intended.

For principles related to impairment of property, plant and equipment, see Note 3.3.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

Fixed assets are depreciated over the fixed asset's estimated useful life. The estimated useful life is estimated in the light of experience, history and discretionary opinions related to technical use and profitability, and is adjusted if expectations change. The residual value when stipulating depreciation is taken into consideration, and the assessment of residual value is also subject to estimates.

Provisions have not been made for removal contingencies, since there is no right of reversion for the Group's power plants.

	Hydropower and regulation facilities	Transmis- sion plants	Buildings	Telecom facilities	Vehicles and other equip- ment	Plant under constru- ction	Total
<b>Cost of acquisition 31 Dec. 2016</b>	12 948	302	145	38	79	640	14 152
Additions	223				4	373	600
Disposals	(5)				(1)	(75)	(81)
Procurements in connection with business combinations	3 928					534	4 461
<b>Cost of acquisition 31 Dec. 2017</b>	17 094	302	145	38	82	1 471	19 133
Additions	666		83		6	(102)	653
Disposals	(10)				(3)		(13)
Reclassification to waterfall rights (Note 3.2)		1	(27)			9	(17)
Procurements in connection with business combinations			34				34
<b>Cost of acquisition 31 Dec. 2018</b>	17 750	303	235	38	84	1 379	19 789
<b>Accumulated depreciation and impairment 31 Dec. 2016</b>	6 240	165	47	16	33		6 500
Depreciation	324	8	3	2	2		338
Disposals							
<b>Accumulated depreciation and impairment 31 Dec. 2017</b>	6 564	173	50	17	35		6 839
Depreciation	353	6	4		5		367
Disposals	(4)						(4)
<b>Accumulated depreciation and impairment 31 Dec. 2018</b>	6 912	179	53	17	40		7 202
<b>Balance sheet value at 31 Dec. 2017</b>	10 531	130	95	21	47	1 471	12 294
<b>Balance sheet value at 31 Dec. 2018</b>	10 837	125	182	21	44	1 379	12 588

## Note 3.1 Property, plant and equipment continued

USEFUL LIFE	Years	Method
Waterfall regulation and structural engineering	50-100	Linear
Machinery	25-40	Linear
Electrical equipment	15-30	Linear
Buildings	100	Linear
Telecom facilities	4-15	Linear
Vehicles and other equipment	5-15	Linear

The table above also includes stakes in facilities that are owned through joint operations. More detailed information about joint operations is provided in Note 3.4.

The E-CO Energi Group has capitalised borrowing costs of MNOK 73 on qualifying assets it at the end of 2018 (MNOK 28). The average interest rate for the Group is used to calculate the interest on capitalized borrowing costs.

For impairment testing, reference is made to Note 3.3.

## Note 3.2 Intangible assets

### SIGNIFICANT ACCOUNTING POLICIES

Intangible assets which, in the E-CO Energi Group, consist of waterfall rights and goodwill, are recognised at acquisition cost. Intangible assets with an indefinite useful economic life are non-depreciable, but are tested for impairment annually.

Certain business combinations generate technical goodwill. This arises as a result of not recognising deferred tax liabilities at fair value. The fair value of deferred tax liabilities is normally lower than the nominal value. The difference between the fair value and the nominal value results in technical goodwill. For principles related to impairment on intangible assets and goodwill, see Note 3.3 Impairment testing.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

The Group has perpetual licences (no right of reversion) meaning that acquired waterfall and land rights are not considered to be time-limited and are not amortised. The rights are classified as intangible assets when the Group is of the opinion that the acquired waterfall and land rights are not physical in the sense that they are payment for the right to exploit future precipitation and snow melting to produce power.

Amounts in MNOK	Waterfall rights	Goodwill	Total intangible assets
Balance sheet value at 1 Jan. 2017	8 820		8 820
Operating investments	30		30
Procurements in connection with business combinations	3 500	2 916	6 416
<b>Balance sheet value at 31 Jan. 2017</b>	<b>12 350</b>	<b>2 916</b>	<b>15 266</b>
Balance sheet value at 1 Jan. 2018	12 350	2 916	15 266
Procurements in connection with business combinations		20	20
Reclassification from fixed assets	17		17
Other changes	548		548
<b>Balance sheet value at 31 Jan. 2018</b>	<b>12 915</b>	<b>2 936</b>	<b>15 851</b>

Other items related to waterfall rights in 2018 amounting to MNOK 548, are associated with the change in the method for calculating the obligation for free power and compensation to landowners, see Note 1.3. The addition to goodwill of MNOK 20 in 2018 was related to the final settlement in 2018 for the shares in Hafslund Produksjon Holding, see Note 8.2.

## Note 3.3 Impairment testing

### SIGNIFICANT ACCOUNTING POLICIES

Property, plant and equipment, intangible assets and goodwill are monitored on an ongoing basis for indications of possible impairment. Cash-generating units with intangible assets with indefinite useful economic life and goodwill are tested for impairment annually. Where possible impairment is indicated, impairment tests are carried out immediately. If the impairment tests indicate that the balance sheet values are no longer justified, impairments are taken to the recoverable amounts. Impairment tests are carried out when cash flows related to the cash-generating units are identified and discounted (utility value) by using a risk-adjusted, market-related required rate of return.

In considering impairment, fixed assets are grouped at the lowest level at which it is possible to distinguish independent incoming cash flows ((cash-generating units) (CGU)).

Investments in companies recognised according to the equity method are tested for impairment when there are indicators of possible impairment. Investments are impaired if the recoverable amount, estimated as the higher of the fair value less selling costs or the utility value, is lower than the capitalised value.

At each reporting date, assessments are made for the potential reversal of earlier impairments on property, plant and equipment. Impairments of goodwill are not reversed.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

#### Cash-generating units

The Group has defined the power plant areas as the cash-generating units. This entails that power plants located in the same watercourse and operated together are considered to be one cash-generating unit. Impairment tests are carried out by calculating the present value of future cash flows from the cash-generating unit against the related balance sheet values.

#### Uncertainty associated with estimates

The Group has significant property, plant and equipment and intangible assets, including goodwill. The development of these assets is presented in Note 3.1 Property, plant and equipment and Note 3.2 Intangible assets. There is uncertainty associated with estimates related to Property, plant and equipment and Intangible assets, since both valuation and estimated useful life are based on future information that is encumbered by a high degree of uncertainty. Intangible assets are considered to represent the greatest uncertainty. The value of the intangible assets is mainly derived from separate valuations, and is generally capitalised in connection with the acquisition of business activities. Goodwill is a residual value in connection with the acquisition.

The Group's cash-generating units are tested for impairment annually. On a quarterly basis, the Group considers whether there are indications of possible impairment. Where possible impairment is indicated, impairment tests are carried out immediately.

Whether or not these are indicators that may indicate a need for impairment is a discretionary assessment. Typical indicators of impairment may, for example, be changes in market prices, agreements, negative events or other operational conditions.

The calculation of value in use is based on a number of discretionary assessments and assumptions pertaining to future cash flows, where future power prices, regulatory regimes, foreign exchange rates, sales volumes and required rates of return are the most important factors.

#### Budget and forecast assumptions

The impairment tests performed 2018 were based on the budget for 2019 and an explicit period of 10 years before the terminal value is established. Power prices in the impairment tests are taken from MarkedsKraft (an independent third party) and its low case scenario for future price trends at September 2018.

#### Discount rate

The discount rate used is based on the company's cost of capital, which is based on a weighted average required rate of return for equity and loan capital. The required return on equity is estimated using the capital asset pricing model (CAPM). The required return on equity capital is estimated based on the long-term risk-free interest rate plus a credit margin derived from the Group's marginal long-term borrowing rate. The discount rate is adjusted for the assumed debt ratio and business risk for the individual cash-generating unit. A discount rate pre-tax of 10.9 per cent (7.9 per cent) has been applied.

#### Sensitivity

The Group has performed sensitivity analyses to determine the effects of various changes in the assumptions on the recoverable amount. For example, sensitivity analyses have been conducted to determine the consequences of a 30 per cent drop in power prices during the terminal year, and an increase of 20 per cent in the discount rate. The Group shows good robustness in the sensitivity tests conducted.

The impairment tests performed in 2018 showed that the balance sheet values for property, plant and equipment, intangible assets and goodwill are justifiable. The list below shows balance sheet values at the end of 2018.

## Note 3.3 Impairment testing continued

RECOGNISED VALUES THAT ARE TESTED (Amounts in MNOK)	31.12.2018	31.12.2017
Waterfall rights	12 915	12 350
Property, plant and equipment	12 588	12 294
Goodwill	2 936	2 916
<b>Total balance sheet value</b>	<b>28 439</b>	<b>27 560</b>
Impairment		
<b>Impairment, accumulated</b>		

## Note 3.4 Joint arrangements and associates

## SIGNIFICANT ACCOUNTING POLICIES

## Joint arrangements

A joint arrangement is an arrangement where two or more parties have joint control. Joint control is present when decisions about relevant activities require unanimity between the parties that share control.

Investments in joint arrangements are classified as either joint operations or joint ventures. Joint operations are arrangements under which the parties that have joint control of the arrangement have rights to the assets and responsibility for the obligations associated with the joint arrangement. Such arrangements are recognised by the Group through its role as the operational responsible party. The Group therefore recognises its interest in the arrangement's income, expenses, assets and liabilities. All the Group's joint arrangements are considered to be joint operations, and the Group's interest coincides with the share in all cases.

## Associates

Companies in which the parent company or subsidiaries have considerable influence, i.e. usually companies in which E-CO Energi owns 20 to 50 per cent of the share capital, are classified in the consolidated accounts as associates and recognised using the equity method. The equity method initially recognises the investment at an acquisition cost, then the capitalised amount is regulated by the percentage of the profit or loss, as well as by a percentage of the comprehensive profit or loss. Any impairment of the proportionate value is presented on the same line. When the Group's share of losses in an associate exceeds the associate's capitalised value, no further losses are recognised, unless obligations have been undertaken. Such investments are tested for impairment when there are indications of possible impairment. Investments are impaired if the recoverable amount, estimated as the higher of the fair value less selling costs or the utility value, is lower than the capitalised value.

## SIGNIFICANT ESTIMATES AND ASSUMPTIONS

Determining whether an investment is a subsidiary, joint operation/venture or an associate requires the use of judgement, especially in respect of the degree of control. The Group considers the degree of control based on the facts and circumstances that apply to each individual investment.

For power companies and power plants, typical decisions about relevant activities might be related to production decisions and mechanisms related to who can draw electricity at what times. The parameters for the operation of jointly-owned power plants are often closely managed through an agreement between the owners which, depending on how strictly regulated operations are under the agreement, may be indicative of joint control. By analysing the operator agreement, the Group considers whether there is joint control associated with influencing relevant activities and value drivers, and whether or not the agreement affords enough flexibility to influence business plans and budgets.

If it is concluded that joint control exists, the Group considers whether the arrangement should be classified as a joint operation or a joint venture. To determine whether a joint arrangement is a joint operation or a joint venture, it is necessary to make a comprehensive assessment, taking into account shareholder agreements, which rights and obligations the participants have, and other underlying facts.

E-CO Energi considers a power plant organised as a separate legal unit, where there is an independent business that sells produced power on the market in its own name and where the owners share the net yield proportionately on a pro-rated basis, to be a joint venture. If there are agreements that require a distribution of total power production, total assets and obligations among the parties, E-CO Energi classifies the investment as a joint operation.

Joint arrangements	Classification	Registered office	Stake	Share of votes
The Hallingdal Watercourse Water Management Association	Joint operation	Oslo		73,5 %
The Bæгна Watercourse Water Management Association	Joint operation	Hønefoss		38,3 %
Vinstra Kraftselskap DA	Joint operation	Lillehammer	66,7 %	
Opplandskraft DA	Joint operation	Lillehammer	50,0 %	
Øvre Otta DA	Joint operation	Lillehammer	36,7 %	
Nedre Otta DA	Joint operation	Lillehammer	26,9 %	
Storbrofoss Kraftanlegg DA	Joint operation	Lillehammer	80,0 %	
Bagn Kraftverk DA	Joint operation	Porsgrunn	16,0 %	
Embretsfosskraftverkene DA	Joint operation	Drammen	50,0 %	
The Aurland plants	Joint operation	Oslo	93,0 %	
Solbergfoss Plant	Joint operation	Oslo	66,7 %	
Usta Power Plant	Joint operation	Oslo	57,1 %	
Nes Power Plant	Joint operation	Oslo	57,1 %	
Rosten Power Plant	Joint operation	Lillehammer	72,0 %	
The Uvdal Plants	Joint operation	Porsgrunn	10,0 %	
Sarp Power plant	Joint operation	Askim	50,0 %	
Associates	Classification	Registered office	Stake	
NGK Utbygging	Equity method	Oslo	25,0 %	
Glomma and Laagens Water Management Association	Equity method	Lillehammer	26,9 %	
NorthConnect	Equity method	Kristiansand	22,3 %	

At 31 Dec. 2018, the Group considers all its investments in joint arrangements to be joint operations, where the Group, as operator, recognises its interest in each asset and liability item, as well as the corresponding percentage of income and expenses in the arrangement. The Group's interest coincides with its stake.

The Group cooperates with other companies on the development and operation of power plants. The co-owners control their proportional shares of the power production, less deductions based on their obligations to supply concessionary power, etc.

Co-owners' shares of votes usually correspond to their stake, but legislation and agreements may entail requirements for unanimity on all or certain decisions. Each watercourse management association includes a number of watercourse regulations. Members' stakes depend on the individual watercourse regulations. The stated share of votes applies to the share of votes at the general meeting.

Indirect shares: Øvre Otta DA is owned by Opplandskraft DA. The specified stake is the Group's indirect stake. Bagn Kraftverk DA is owned by Storbrofoss Kraftanlegg DA. The specified stake is the Group's indirect stake.

The Group is responsible for its share of the liabilities of the joint operations.

## Note 4.1 Power obligations

### SIGNIFICANT ACCOUNTING POLICIES

#### Liabilities to the land owner

Under different agreements, the Group is obligated to pay compensation and supply free power to land owners as compensation for the inconvenience of having their waterfall used and providing space for hydropower production. The liabilities ensuing from annual compensation and free power are classified as non-current liabilities under the line item power obligations and other liabilities. The contra entry is waterfall rights, which are classified as intangible assets. The asset is not depreciated if there is no right of reversion and the asset is considered perpetual.

#### Free power – agreement on net financial settlements

Free power agreements signed with landowners, which depend on the power price and are settled financially, are recognised at fair value with subsequent measurement at fair value with changes in value through the profit or loss.

#### Cash compensation

The Group treats perpetual cash compensation with regular annual amounts as financial liabilities that are recognised at fair value with subsequent measurement at amortised cost.

#### Free power – physical consideration

E-CO Energi considers its contracts related to the physical delivery of free power to fall within the scope of the «own use» exception. The Group recognises a provision equal to the present value of the full cost.

#### Concessionary power

The Group has been awarded perpetual licences relating to the development and operation of hydropower plants and, as a result of this, the Group has annual obligations to supply concessionary power to municipalities and counties. Parts of the commitment are covered by physical deliveries, while parts have established a practice involving a financial settlement, where the Group pays the difference between the spot price and the concessionary power price to the party entitled to concessionary power. At the end of 2018, concessionary power supplied in return for financial consideration added up to a total volume of 129 GWh (129 GWh). Concessionary power is not recognised as a liability on the balance sheet.

#### Licence fees

Licence fees are not recognised as a liability on the balance sheet. Paid licence fees are expensed as they accrue.

#### Other liabilities

Other liabilities recognised at fair value with subsequent measurement at amortised cost.

OBLIGATIONS TO LANDOWNERS AND OTHER LIABILITIES (Amounts in MNOK)	31.12.2018	31.12.2017
<b>Financial obligations to landowners</b>		
Free power with a net financial settlement	131	92
Cash compensation	1 105	563
<b>Financial obligations in respect of landowners</b>	<b>1 235</b>	<b>654</b>
<b>Other financial liabilities</b>		
Other financial liabilities	40	34
<b>Other financial liabilities</b>	<b>40</b>	<b>34</b>
<b>Provisions for obligations to landowners</b>		
Free power with physical settlement	19	65
<b>Provisions for obligations to landowners</b>	<b>19</b>	<b>65</b>
<b>Obligations to landowners and other liabilities</b>	<b>1 294</b>	<b>753</b>

Other financial liabilities generally pertain to liabilities relating to the transfer of business activities, where the Group is required to cover a percentage of pension expenses for former employees in different general partnerships (DAs) in which the Group is a co-owner, in connection with the employees in the DAs being part of the transfer of business activities to Eidsiva Energi.

## Note 4.2 Leases, collateral and liability for guarantees

### SIGNIFICANT ACCOUNTING POLICIES

At 31 December 2018, the Group has future lease obligations mainly related to office buildings, leasing of cars and leases on power plants.

Leases where most of the risk and return associated with ownership of the asset have not been transferred, are classified as operational leasing agreements. All the Group's leases are operational leasing agreements. Lease payments are classified as operating costs and recognised on a straight-line basis over the term of the contract.

The Group has no financial leases.

FUTURE LEASING OBLIGATIONS – OPERATIONAL LEASING AGREEMENTS (Amounts in MNOK)	31.12.2018	31.12.2017
Less than one year	8	8
Between one and five years	11	18
More than five years	40	42
<b>Total</b>	<b>59</b>	<b>67</b>

### Collateral and liability for guarantees

E-CO Energi has no assets pledged as collateral or no guarantee liabilities.

## Note 5.1 Financial instruments

### SIGNIFICANT ACCOUNTING POLICIES

The Group implemented IFRS 9 Financial instruments on 1 January 2018 and has applied the full retrospective method for the implementation. The implementation of IFRS 9 entails that financial assets and liabilities previously categorised as 'Lending and receivables' and 'Other financial liabilities' are now classified as financial assets and liabilities measured at amortised cost - without this having any effect on carrying amounts.

Financial assets and liabilities measured at fair value in accordance with IAS39 are also measured at fair value in accordance with IFRS 9. IFRS 9 further changes the Group's accounting policy for loan loss provisions on financial assets, so that the Group uses a model based on expected credit losses. The Group expects low losses on financial assets and the implementation of IFRS 9 has had no material impact on the amounts of the Group's loan loss provisions.

See Note 5.2 for a discussion of the effect of IFRS 9 on the Group's policies for hedge accounting.

Financial instruments are recognised when the Group becomes party to contractual conditions relating to the instrument.

### Classification and measurement

Financial assets and liabilities are divided into three categories: amortised cost, fair value through other comprehensive income and fair value through profit or loss. The measurement category is determined on first-time recognition, and the classification is contingent on the entity's business model for management of its financial instruments and the nature of the cash flows for the individual financial instrument. Financial assets are not reclassified subsequent to first-time recognition, unless the Group changes its model for the management of financial assets.

### Amortised cost

Financial assets held by the Group to receive contractual cash flows are recognised at fair value and measured in subsequent periods at amortised cost. This generally refers to instruments like trade and other receivables and bank deposits.

Financial liabilities such as trade payables, bond loans, commercial papers and other loans are classified at amortised cost. The effective interest rate method is used to calculate amortised cost.

### Fair value through comprehensive income

The Group has entered into combined interest rate and currency swap agreements to convert principal payments on foreign currency loans to Norwegian kroner. The currency part of the derivative is, insofar as accounting is concerned, designated as a hedging instrument in a cash flow hedge, with the change in fair value through other comprehensive income to the extent the hedge is effective. Hedge accounting is discussed further in Note 5.2 Derivatives and hedging. For financial liabilities, changes in fair value ascribable to change in proprietary credit risk are recognised through other comprehensive income, while the remaining change in value is recognised through the profit or loss.

### Fair value through the profit and loss

Financial assets are recognised at fair value and measured at fair value with the changes in value through the profit or loss, with the exception of the cases in the two paragraphs above. Financial liabilities that are not classified at amortised cost or designated hedging instruments are recognised at fair value and measured in subsequent periods at fair value with the changes in value recognised through the profit or loss. This refers to financial liabilities held for commercial purposes and mainly applies to power derivatives.

Note 5.1 Financial instruments continued

### Impairment

The Group recognises provisions for expected credit losses on financial assets that are not classified as measured at fair value.

### Derecognition of financial instruments

A financial asset is derecognised when the rights to receive cash flows from the asset have expired, or the Group has transferred its rights to receive cash flows from the asset and the Group has either transferred all significant risks and benefits related to the instrument, or the Group has not transferred or retained all significant risks and rewards related to the instrument but has transferred control of the asset.

A financial liability is derecognised when it is redeemed, cancelled or matures. When a current financial liability is replaced by another liability to the same lender on significantly different terms, or the conditions for an existing liability are significantly changed, this is treated as a cancellation of the original liability and recognised as a new liability. The difference between the carrying amounts is recognised through the profit or loss.

### Offsetting financial instruments

Financial assets and financial liabilities are offset and the net amount is reported on the consolidated balance sheet if there is a legally binding right to offset, and there is an intention to settle net before realising the assets and liabilities.

The tables below show the Group's financial assets and financial liabilities, categorised in accordance with IFRS 9:

AMOUNTS IN MNOK	Assets and liabilities at fair value through the profit and loss	Derivatives used for hedging purposes	Assets and liabilities at amortised cost	Total
<b>31.12.2018</b>				
<b>Financial assets</b>				
Non-current receivables			197	197
Non-current derivatives		928		928
Accounts receivable			71	71
Accounts and other receivables			436	436
Cash and cash equivalents			3 047	3 047
<b>Financial assets</b>		<b>928</b>	<b>3 752</b>	<b>4 680</b>
<b>Financial liabilities</b>				
Current interest-bearing debt			533	533
Non-current interest-bearing debt			12 168	12 168
Current derivatives	350			350
Non-current derivatives	11	82		93
Additional liabilities	131		1 144	1 275
Accounts payable			90	90
Other current non-interest-bearing liabilities			719	719
<b>Financial liabilities</b>	<b>492</b>	<b>82</b>	<b>14 655</b>	<b>15 229</b>
<b>31.12.2017</b>				
<b>Financial assets</b>				
Non-current receivables			218	218
Non-current derivatives		812		812
Current derivatives	54			54
Accounts receivable			73	73
Accounts and other receivables			139	139
Cash and cash equivalents			1 243	1 243
<b>Financial assets</b>	<b>54</b>	<b>812</b>	<b>1 673</b>	<b>2 539</b>

AMOUNTS IN MNOK	Assets and liabilities at fair value through the profit and loss	Derivatives used for hedging purposes	Assets and liabilities at amortised cost	Total
<b>Financial liabilities</b>				
Current interest-bearing debt			1 000	1 000
Non-current interest-bearing debt			10 907	10 907
Current derivatives	28			28
Non-current derivatives	25	115		140
Additional liabilities	91		597	688
Accounts payable			89	89
Other current non-interest-bearing liabilities			560	560
<b>Financial liabilities</b>	<b>144</b>	<b>115</b>	<b>13 153</b>	<b>13 412</b>

## Note 5.2 Derivatives and hedging

### INTRODUCTION

The Group has derivatives related to the hedging of income from future power production, as well as interest rates swaps and hedges on foreign currency exposure in connection with interest bearing debt.

The Group has entered into financial hedging contracts for power revenue in EUR, and also uses currency futures to hedge settlements in EUR to Norwegian kroner. The Group does not apply hedge accounting for contracts for power hedging or for currency futures, meaning that unrealised changes in value are recognised through the profit or loss and presented on the line 'Other operating revenue'.

The Group has entered into two interest rate swaps where the interest terms on the bond loans in NOK have been swapped from fixed to floating interest. The interest rate swaps are used to balance interest rate exposure on the Group's loan portfolio. Interest rate swaps entered into to swap terms from fixed to floating interest rates on bond loans in NOK are designated as fair value hedges for accounting purposes.

For loans in foreign currencies, the Group's policy is to reduce foreign currency risk by converting principal payments and fixed interest payments in foreign currencies to NOK on a 1:1 ratio using combined interest rate and currency swap agreements. In the combined agreements, the interest terms are also switched from fixed to floating interest rates, so that the Group receives fixed interest payments in foreign currencies and pays floating interest rates in NOK. The swap from fixed to floating interest rates in foreign currencies is designated as a fair value hedge, while swaps from floating interest rates and principal payments in foreign currencies to NOK are designated as cash flow hedges.

For one of the loans in foreign currency the group has entered into both a combined interest rate and currency swap agreement that swaps the terms from the principal and fixed interest in foreign currency to a floating interest rate and the principal in Norwegian kroner, in addition to an interest rate swap that converts interest terms from a floating interest rate in NOK to a fixed interest rate in NOK. For accounting purposes, the combined interest rate and currency swap agreement is designated as described in the paragraph above, while the Group does not apply hedge accounting for the interest rate swap.

Derivatives are both initially and subsequently recognised at fair value in the balance sheet. The accounting of associated gains and losses depends on whether the derivatives are designated as hedging instruments and whether the hedging relationship is considered a cash flow hedge or a fair value hedge. The ineffective part of the hedge is recognised through the profit or loss in both cases, where price hedging and currency futures are presented as other revenue and the changes in value of derivatives related to the Group's financing are presented as financial expenses. Derivatives where the Group does not apply hedge accounting are measured at fair value with the changes in value through the profit or loss and are presented correspondingly. All derivatives are present on the line Derivatives on the balance sheet, divided into assets and liabilities, and non-current and current positions.

The Group implemented IFRS 9 on 1 Jan. 2018 with the full retrospective approach and, under IFRS 9, has continued the hedges from IAS 39, with the exception of the base margin being, in accordance with IFRS 9, excluded from the hedging relationship for combined interest and currency hedging. The basis margin is recognised as a cost of hedging through other comprehensive income.

### SIGNIFICANT ACCOUNTING POLICIES

#### Hedging

The criteria for entering into a hedging relationship is a consequence of the Group's risk management strategy and entails a qualitative and forward-looking approach to the assessment of the effectiveness of hedging. When a hedging arrangement is entered into, there is a formal designation and documentation of the hedging relationship, where both the underlying hedged item and the hedging instrument are selected and sources of ineffectiveness are identified. The Group only designates contracts with external parties as hedging instruments.

## Note 5.2 Derivatives and hedging continued

The Group has the following hedging relationships:

Amounts in millions	Reference	Hedged item	Currency	Nominal value	Due date	Interest rate	Line item
	A	Fixed interest loan	NOK	500	2018	5,15 %	Interest-bearing debt
	B	Fixed interest loan	USD	50	2019	5,19 %	Interest-bearing debt
	C	Fixed interest loan	NOK	500	2022	4,35 %	Interest-bearing debt
	D	Fixed interest loan	USD	75	2023	4,77 %	Interest-bearing debt
	E	Fixed interest loan	USD	25	2026	4,95 %	Interest-bearing debt
	F	Fixed interest loan	JPY	5 000	2028	1,51 %	Interest-bearing debt
	G	Fixed interest loan	JPY	5 000	2029	1,38 %	Interest-bearing debt
	H	Fixed interest loan	NOK	250	2029	4,40 %	Interest-bearing debt
	I	Fixed interest loan	USD	125	2031	3,14 %	Interest-bearing debt
	J	Fixed interest loan	EUR	30	2031	4,63 %	Interest-bearing debt

Amounts in millions	Reference	Hedging instrument	Currency	Nominal value	Due date	Interest rate	Line item
	A	Interest rate swap	NOK	500	2018	3M NIBOR + 1,035 %	Derivatives
	B	Combined interest rate and currency swap agreement	USD	(50)	2019	5,19 %	Derivatives
	B	Combined interest rate and currency swap agreement	NOK	309	2019	6M NIBOR + 0,4 %	Derivatives
	C	Interest rate swap	NOK	(500)	2022	4,35 %	Derivatives
	C	Interest rate swap	NOK	500	2022	3M NIBOR + 2,8 %	Derivatives
	D	Combined interest rate and currency swap agreement	USD	(75)	2023	4,77 %	Derivatives
	D	Combined interest rate and currency swap agreement	NOK	429	2023	3M NIBOR + 0,86%	Derivatives
	E	Combined interest rate and currency swap agreement	USD	(25)	2026	4,95 %	Derivatives
	E	Combined interest rate and currency swap agreement	NOK	143	2026	3M NIBOR + 0,86 %	Derivatives
	F	Combined interest rate and currency swap agreement	JPY	(5 000)	2028	1,51 %	Derivatives
	F	Combined interest rate and currency swap agreement	NOK	301	2028	6M NIBOR + 0,92 %	Derivatives
	G	Combined interest rate and currency swap agreement	JPY	(5 000)	2029	1,38 %	Derivatives
	G	Combined interest rate and currency swap agreement	NOK	296	2029	6M NIBOR + 0,87 %	Derivatives
	H	Interest rate swap	NOK	(250)	2029	4,40 %	Derivatives
	H	Interest rate swap	NOK	250	2029	3M NIBOR + 2,4 %	Derivatives
	I	Combined interest rate and currency swap agreement	USD	(125)	2031	3,14 %	Derivatives
	I	Combined interest rate and currency swap agreement	NOK	1 036	2031	3M NIBOR + 1,524 %	Derivatives
	J	Combined interest rate and currency swap agreement	EUR	(30)	2031	4,63 %	Derivatives
	J	Combined interest rate and currency swap agreement	NOK	237	2031	6M NIBOR + 1,1%	Derivatives

The Group's hedging instruments are presented on the accounting line item 'Derivatives', and they are recognised on the balance sheet at the following amounts:

AMOUNTS IN MNOK	Fair value of hedging instruments		Change in fair value used to measure ineffectiveness during the period
	Assets	Liabilities	
<b>31 December 2018</b>			<b>Net</b>
Combined currency and interest agreements	906	82	153
Interest rate swaps	22	0	(4)
<b>Total</b>	<b>928</b>	<b>82</b>	<b>149</b>
<b>31 December 2017</b>			<b>Net</b>
Combined currency and interest agreements	786	115	(167)
Interest rate swaps	26	0	(11)
<b>Total</b>	<b>812</b>	<b>115</b>	<b>(178)</b>

## Note 5.2 Derivatives and hedging continued

**Cash flow hedging**

Loans in foreign currency are hedged to NOK with combined interest rate and currency swap agreements, where fixed interest rates and principal payments in foreign currency are converted to floating interest rates and principal payments in NOK. Converting from fixed to floating interest rates in foreign currencies is treated as a fair value hedge. Principal payments and floating interest payments in foreign currencies are consistently hedged to NOK on a 1:1 ratio to limit the Group's foreign currency exposure.

**Foreign currency risk**

The Group has foreign currency risk on principal payments and floating interest payments in foreign currencies. Foreign currency risk is reduced upon exchanging foreign currency to Norwegian kroner through combined interest rate and currency swap agreements, mitigating variability in cash flows. Cash flows on principal payments and floating interest rates in foreign currencies are in this case designated as the underlying hedged item, and corresponding cash flows from derivatives are designated as the hedging instrument. The basis margin is excluded from the designated hedging instrument.

There is an economic relationship between the underlying hedged item and the hedging instrument since the critical terms for converting from foreign currency to NOK match. The assessment of hedging effectiveness is done on a qualitative basis.

In every reporting period, a fair value calculation is made on the foreign currency share of the derivative, where the changes in value on the effective part of the hedge are recognised against other comprehensive income up to the period in which the changes in the value of the underlying hedged item have an effect on the income statement.

The ineffective part of the hedge is expensed and presented as a financial expense. The ineffectiveness in the hedge can result from the effect on fair value of credit risk that affects the hedging instrument, but not the underlying hedged item.

The underlying hedged item and the hedging instrument impact the balance sheet and the profit and loss as follows:

MNOK	Foreign currency loans translated at the exchange rates on the balance sheet date	Recognised change in value of the underlying hedged item	Recognised change in value of the hedging instrument	Line item
31 December 2018	3 465	190	(190)	Financial expenses
31 December 2017	3 275	(102)	102	Financial expenses

Movements in the hedging reserve:

HEDGING RESERVE (Amounts in MNOK)	
At 1 Jan. 2017	(64)
Change in value over other comprehensive income 2017	(4)
Deferred tax	1
<b>At 31 Dec. 2017</b>	<b>(67)</b>
Change in value over other comprehensive income 2018	14
Deferred tax	(4)
<b>At 31 Dec. 2018</b>	<b>(57)</b>

The ineffective part of the cash flow hedge that is recognised through the profit or loss as financial expenses is insignificant for 2018 and 2017.

**Fair value hedging**

The Group's loan portfolio includes loans with fixed and floating interest rates, and the Group has applied derivatives to convert interest rates on certain loans from fixed to floating interest rates. This applies both to bond loans in NOK where an interest rate swap has been entered into, and to loans in foreign currencies where combined currency and interest swap agreements have been entered into. The purpose of swapping from fixed to floating interest rates is to balance the Group's interest rate exposure.

**Interest rate exposure**

Bond loans in NOK where interest rate swaps from fixed to floating interest rates have been entered into are designated as fair value hedges for accounting purposes. Comparable designation applies to interest rate hedging from fixed to floating interest rates in foreign currencies from combined currency and interest swap agreements. The hedged risk involves changes in value of fixed interest payments that generally ensue from changes in OIS/NIBOR interest rates. For accounting purposes, changes in the value of the hedged risk offset changes in the value of the hedge instrument in the profit or loss.

There is an economic relationship between the underlying hedged item and the hedging instrument since the critical terms for converting interest rates from fixed to floating interest rates match. The assessment of hedging effectiveness is done on a qualitative basis.

Ineffectiveness of the hedge may be due to different settlement dates for interest payments between the underlying hedged item and the hedging instrument, as well as the effect of fair value on credit risk that impacts the hedging instrument, but not the underlying hedged item.

The ineffective part of fair value hedges recognised through the profit or loss as financial expenses in 2018 and 2017 is immaterial.

## Note 5.3 Interest-bearing debt

### SIGNIFICANT ACCOUNTING POLICIES

Debt denominated in foreign currency is translated to NOK using the exchange rate on the balance sheet date. The first year's instalments of interest-bearing debt are classified as current.

INTEREST-BEARING DEBT (Amounts in millions)	Borrowing amounts in foreign currencies	Currency	Due date	31.12.2018	31.12.2017
Certificate loan on the Norwegian market	500	NOK	2018		500
Bond loan on the Norwegian market	500	NOK	2018		500
Bond loan on the Norwegian market	100	NOK	2019	100	100
Private placement on the US market	50	USD	2019	433	410
Bond loan on the Norwegian market	500	NOK	2022	500	500
Private placement on the US market	75	USD	2023	649	615
Private placement on the US market	290	NOK	2024	290	290
Private placement on the US market	25	USD	2026	216	205
The Nordic Investment Bank	2 000	NOK	2027-2030	2 000	200
Private placement on the US market	910	NOK	2027	910	910
Private placement on the Japanese market	5 000	JPY	2028	394	363
Bond loan on the Norwegian market	250	NOK	2029	250	250
Private placement on the Japanese market	5 000	JPY	2029	394	363
Private placement on the US market	723	NOK	2029	723	723
Bond loan on the Norwegian market	200	NOK	2030	200	200
Loan from Eidsiva Vannkraft AS	96	NOK	2030	96	248
Bond loan on the Norwegian market	200	NOK	2031	200	200
Private placement on the US market	125	USD	2031	1 082	1 025
Private placement on the German market	30	EUR	2031	297	295
Private placement on the US market	848	NOK	2032	848	848
Private placement on the US market	600	NOK	2033	600	600
Subordinated loan (Oslo Municipality)	2 347	NOK	2037	2 347	2 347
<b>Total Interest-bearing debt translated to NOK</b>				<b>12 528</b>	<b>11 692</b>
Carrying value of interest-bearing debt related to fair value hedges				172	215
<b>Carrying value of interest-bearing debt</b>				<b>12 700</b>	<b>11 907</b>
Of which, carrying value of current interest-bearing debt				533	1 000
Of which, carrying value of non-current interest-bearing debt				12 168	10 907

When interest rate and currency swap agreements are entered into, the loans in foreign currencies are hedged against NOK with fixed or floating interest rates in NOK. The table above shows the original value of the loan, translated at the exchange rate on the balance sheet date, before the effect of interest rate and currency swap agreements and hedging for accounting purposes, while the last line shows the value of hedging arrangements for accounting purposes that are capitalised on the loan as a result of fair value hedging. See Note 5.2 for a description of derivatives and hedging and Note 5.6 for financial risk.

## Note 5.3 Interest-bearing debt continued

AMOUNTS IN MNOK	2018	2017
<b>Changes in interest-bearing debt</b>		
Current interest-bearing debt at 1 January	1 000	219
Increase in current interest-bearing debt	1 300	2 250
Repayment of current interest-bearing debt	(2 300)	(1 969)
Transfer from non-current interest-bearing debt	533	500
<b>Current interest-bearing debt at 31 December</b>	<b>533</b>	<b>1 000</b>
<b>Non-current interest-bearing debt at 1 January</b>	<b>10 908</b>	<b>9 214</b>
Increase in non-current interest-bearing debt	1 800	3 371
Repayment of non-current interest-bearing debt	(152)	
Transfer to current interest-bearing debt	(533)	(500)
The effect of currency fluctuations	189	(104)
Effect of fair value hedges	(44)	(74)
Other changes*		(1 000)
<b>Non-current interest-bearing debt at 31 December</b>	<b>12 168</b>	<b>10 907</b>

\* In connection with the acquisition of Hafslund Produksjon Holding in 2017, NOK 1 billion of the subordinated loan to Oslo Municipality was converted to equity.

## Note 5.4 Maturity profile for financial liabilities

The table shows undiscounted cash flows for each interval and shows only payments of principal. The effect of combined interest rate and currency derivatives that swap principal payments in foreign currency to NOK is included in the table regardless of whether the derivative is a liability or an asset, so that the table shows the principal that is actually paid.

31 DEC. 2018 (Amounts in MNOK)	In the course of 12 months	1 to 3 years	Over 3 years	Total
Interest rate and currency derivatives	(124)		(590)	(714)
Non-current interest-bearing debt			11 995	11 995
Trade payables and other current liabilities	809			809
Current interest-bearing debt	533			533
<b>Total</b>	<b>1 218</b>		<b>11 405</b>	<b>12 623</b>

31 DEC. 2017 (Amounts in MNOK)	In the course of 12 months	1 to 3 years	Over 3 years	Total
Interest rate and currency derivatives		(100)	(424)	(524)
Non-current interest bearing debt		510	10 182	10 692
Trade payables and other current liabilities	649			649
Current interest-bearing debt	1 000			1 000
<b>Total</b>	<b>1 649</b>	<b>410</b>	<b>9 758</b>	<b>11 817</b>

Power obligations (landowner compensation) is estimated using a perpetual annuity based on the amount paid out in the year of calculation, meaning that the due dates are not included in the table above.

## Note 5.5 Fair value

### SIGNIFICANT ACCOUNTING POLICIES

Fair value is the price that would have been achieved by the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

*The fair value hierarchy:*

*Fair value measurements are classified according to the following levels:*

Level 1: Fair value is based on the quoted prices for identical assets or liabilities in active markets.

Level 2: Fair value is based on data inputs other than quoted prices included in Level 1, which are observable for the asset, either directly or indirectly

Level 3: The valuation is based on unobservable data inputs for the asset or liability.

The Group tries to maximise the use of observable data insofar as possible.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

Fair value is determined by discounting future cash flows when there is no quoted market price on an active market. The market interest curve is used for discounting future cash flows. The market interest curve is calculated on the basis of available swap rates. The market interest curve is derived on the basis of available swap interest rates.

For currency futures, interest and currency swap agreements, and interest rate swaps, the estimated present value is compared with valuations from the other party to the contract to determine how reasonable it is.

Financial liabilities and assets measured at fair value:

FINANCIAL ASSETS MEASURED AT FAIR VALUE (Amounts in MNOK)	Level 1	Level 2	Level 3	31.12.2018 Total fair value	31.12.2018 Carrying value
Interest rate and currency derivatives		928		928	928
<b>Total financial assets measured at fair value</b>		<b>928</b>		<b>928</b>	<b>928</b>
<b>Financial liabilities measured at fair value</b>					
Interest rate and currency derivatives		93		93	93
Power derivatives		350		350	350
Compensation to landowners and free power			131	131	131
<b>Total financial liabilities measured at fair value</b>		<b>443</b>	<b>131</b>	<b>574</b>	<b>574</b>
<b>FINANCIAL ASSETS MEASURED AT FAIR VALUE (Amounts in MNOK)</b>					
	Level 1	Level 2	Level 3	31.12.2017 Total fair value	31.12.2017 Carrying value
Interest rate and currency derivatives		812		812	812
Power derivatives		54		54	54
<b>Total financial assets measured at fair value</b>		<b>866</b>		<b>866</b>	<b>866</b>
<b>Financial liabilities assessed at fair value</b>					
Interest rate and currency derivatives		140		140	140
Power derivatives		28		28	28
Compensation to landowners and free power			91	91	91
<b>Total financial liabilities measured at fair value</b>		<b>168</b>	<b>91</b>	<b>259</b>	<b>259</b>

## Note 5.5 Fair value continued

FINANCIAL LIABILITIES MEASURED AT AMORTISED COST (Amounts in MNOK)				31.12.2018	31.12.2018
	Level 1	Level 2	Level 3	Total fair value	Carrying value
Other current non-interest-bearing liabilities			719	719	719
Accounts payable			90	90	90
Other provisions and obligations			1 163	1 163	1 163
Interest-bearing debt		12 512		12 512	12 700
<b>Total financial liabilities measured at amortised cost</b>		<b>12 512</b>	<b>1 972</b>	<b>14 484</b>	<b>14 672</b>

FINANCIAL LIABILITIES MEASURED AT AMORTISED COST (Amounts in MNOK)				31.12.2017	31.12.2017
	Level 1	Level 2	Level 3	Total fair value	Carrying value
Other current non-interest-bearing liabilities			560	560	560
Accounts payable			89	89	89
Other provisions and obligations			662	662	662
Interest-bearing debt		11 945		11 945	11 907
<b>Total financial liabilities measured at amortised cost</b>		<b>11 945</b>	<b>1 311</b>	<b>13 256</b>	<b>13 218</b>

During the reporting period, there was no change in fair value measurements that entailed transfers between Level 1 and Level 2, and there were no transfers into or out of Level 3.

## Note 5.6 Financial risk

The activities of E-CO Energi are exposed to risk in a number of areas. The most central risks are of a market-related, regulatory, financial, operational, reputation-related and political nature. Risk management is an integral part of the Group's business activities and is organised to ensure the achievement of strategic and operational goals.

Guidelines and parameters for risk management have been established in the business areas. The Group's overall risk is assessed by the Audit Committee and by the Board. The objective of risk management is to select the right level of risk based on the Group's expertise, financial strength, development plans propensity and willingness to accept risk.

### Market risk

#### Power prices

As a power producer, E-CO Energi is exposed to movements in market prices and volume uncertainty, and manages risk through market participation. Along with factors that impact production volume, trends in power prices will have a significant bearing on the results. The Group's risk management depends on optimal exploitation of water resources in the reservoirs and on entering into physical and financial contracts. Strategy, systems and reporting routines have been set up for risk management associated with power production. Exposure shall always be kept within the adopted general framework and is followed up through reporting to management and to the Board.

Parts of future hydropower production are hedged within the adopted parameters. The hedging ratio can vary and is determined against the background of an overall assessment of market prices and prospects in respect of the factors that affect power production. Moreover, the company engages in active positioning in the power market. The Group pursues a hedging strategy that takes account of resource rent taxation, where an increase in the spot price is expected to have a neutral or positive effect on the expected cash flow after tax.

Risk management includes the reporting of expected outcome for the financial result.

Instruments that can be used to hedge future power production include bilateral price hedging contracts, futures, forward contracts, EPADs (Electricity Price Area Differentials) and options. The Group achieves area prices on the sale of physical power. Using hedging instruments with other price references could make the hedge less effective, due to deviations from the area price. Where appropriate, the Group can use EPADs to hedge against price deviations.

The currency market is used to manage foreign currency risk that arises through hedging and the value of price-hedged production can wholly or partially be hedged from EUR to NOK.

## Note 5.6 Financial risk continued

Financial power contracts give the Group the following exposure and sensitivity with +/- 30% change in power prices:

FINANCIAL POWER CONTRACTS (Amounts in MNOK)	31.12.2018	+30 %	-30 %
Forward contracts	(343)	(596)	596
Options			
<b>Total financial power contracts/Total effect on profit or loss after tax</b>	<b>(343)</b>	<b>(596)</b>	<b>596</b>

**Interest rate risk**

E-CO Energi is generally vulnerable to interest rate risk through its financial activities in NOK and foreign currencies (Note 5.3). The Group's revenues and cash flow from operating activities are also to some extent sensitive to interest rate fluctuations. Some interest-bearing debt have floating interest rates, meaning the Group is impacted by interest level fluctuations. Exposure is primarily managed through the use of instruments that balance the weighting of financing with floating interest rates and financing with fixed interest rates.

Given the Group's interest rate exposure at 31 Dec. 2018, an interest rate fluctuation of +/- 0.5 percentage points will result in a change in the Group's direct borrowing costs [adjusted for tax effect] of MNOK 260 (2017: MNOK 205). A substantial percentage of the Group's debt portfolio is quoted with NIBOR as a reference interest rate. This entails that a possible future discontinuation of NIBOR will have an impact on the Group's interest rate exposure.

E-CO Energi bears limited indirect interest rate risk in currency and power derivatives. There is no observable correlation between interest rate levels and prices in the power market.

E-CO Energi has a subordinated loan from Oslo Municipality for MNOK 2 347 at 31 Dec. 2018 (2017: MNOK 2 347). For 2018, the average interest rate was 5.45 per cent (5.13 per cent). Where the net profit for the year for the Group shows a deficit after interest, the interest shall be reduced by the amount of the deficit or to 0. The reduction is final and the interest amount shall not be paid at a later date. This means that the loan does not have the same interest rate exposure as the other loans.

**Currency risk**

Loans denominated in foreign currency are hedged against NOK by entering into interest rate and currency swap agreements. Financial items denominated in foreign currency are translated at the exchange rate on the balance sheet date. Exchange losses or gains translated at the exchange rate on the balance sheet date are recognised as exchange gains or losses, unless the item is part of a hedging arrangement for accounting purposes and the hedge is effective (cf. Note 5.2). Ineffectiveness is recognised through the profit or loss. The Group has no significant receivables or investments in foreign currency.

The Nordic power markets use the Euro (EUR) as their trading and clearing currency. This means that the Group earns most of its energy revenues from physical and financial trading in EUR. The Group's expenses are mainly in NOK. The Group uses currency futures to reduce/hedge the consequences of a lack of correspondence between earnings in foreign currency and expenses in NOK. The timeline for hedging currency is limited to five years into the future. Currency hedging is undertaken for the future sale of power that is hedged by power derivatives. Spot sales of power are recognised at the exchange rate on the date of the transaction. Other foreign currency transactions are recognised in the accounts at their transaction prices. The bulk of the power production is sold on Nord Pool Spot or directly to Hafslund Strøm AS. The power is sold in EUR, which is converted to NOK on an ongoing basis.

The Group has interest rate and currency swap agreements that mitigate foreign currency exposure on foreign currency loans. Fluctuations in currency exchange rates against NOK will thereby not have any significant influence on the Group's borrowing costs.

**Credit risk**

The Group is mainly exposed to credit risk involving trade receivables and other current assets (Note 5.1), and counterparty risk when contracting financial derivatives (Note 5.2).

The Group's counterparts for physical power sales are generally Nord Pool Spot and Hafslund Strøm AS. The Group has entered into agreements that allow offset of gains against losses (ISDA agreements), with all counterparts in financial derivatives. Trade in power derivatives is generally handled through NASDAQ OMX Commodities.

Credit risk is limited through diversification and by defining a lower limit for approving counterparts' creditworthiness. Interest rate and currency derivatives are entered into only with banks that are rated at least 'investment grade'. An upper limit has also been placed on total credit exposure through investments and derivative positions in respect of the individual counterpart. Credit risk is assessed on an ongoing basis on the Group's actual engagements. Counterpart assessments are carried out when new contracts are entered into.

**Liquidity risk**

Liquidity risk is the risk that the Group will not be able to service its financial obligations as they mature. The Group is vulnerable to liquidity risk to the extent that cash flows from operations do not coincide with financial liabilities. The cash flow varies depending on market prices, seasonal fluctuations and investment levels.

Note 5.6 Financial risk continued

The Group's strategy for dealing with liquidity risk is to have sufficient cash on hand and in short-term deposits at all times so that it can pay financial liabilities on their due dates, also in the case of extraordinary events, without risking unacceptable losses or the Group's reputation.

The Group's interest-bearing debt and due dates are listed in Note 5.3. The maturity profile for other financial liabilities, including derivatives and other current liabilities, is shown in Note 5.4. Liquidity risk is minimised through analyses of anticipated receipts and disbursements and the implementation of short and long-term new loans. To minimise refinancing risk, that is, the risk of not getting to refinance a loan or cover a need for short-term liquidity on ordinary market terms, the Group has established long-term, committed credit facilities that guarantee that liquidity is available, not least at times when it may be difficult to obtain financing in the markets.

Undrawn lines of credit at 31 Dec. 2018 added up NOK 1.5 billion (2017: NOK 1.5 billion).

To reduce liquidity risk, the Group has liquidity reserves in the form of bank deposits and money market funds. Further, as extra protection against turbulent financial markets and thus the possible loss of certain sources of funding, a MNOK 100 line of credit has been set up with banks (undrawn).

## Note 5.7 Capital management

THE GROUP'S CAPITAL (Amounts in MNOK)	31.12.2018	31.12.2017
Non-current interest bearing debt	12 168	10 907
Current interest-bearing debt	533	1 000
Bank deposits	(2 847)	(840)
Money market funds	(200)	(403)
<b>Net interest-bearing debt</b>	<b>9 653</b>	<b>10 664</b>

E-CO Energi pursues a capital management strategy that ensures that the Group has financial flexibility in the short and the long term, and that the Group can maintain a high credit rating. One objective is to have a cash flow that ensures a competitive return to shareholders through a combination of dividends and growing share value, without this being at the expense of the Group's creditors.

The Group's liquidity reserves, in addition to cash and cash equivalents, consist of undrawn long-term overdraft facilities. The Group has access to diversified loan sources and generally uses bond loans, banks and international private placement markets.

The Group has long-term funding that guarantees freedom of action, also in periods during which it is difficult to secure financing in the markets. The loan portfolio has a balanced composition of loans with a maturity profile ranging from 0.5 to 14 years, an average maturity of 10 years and an average fixed-rate interest period, including derivatives, of 3.65 years. The maturity profile of the Group's interest-bearing debt and other financial liabilities is shown in Note 5.4.

At year-end 2018, the Group had undrawn credit facilities sufficient to cover the Group's refinancing needs for the next 12 months. Capital requirements in the respective subsidiaries are normally covered through in-house loans, mainly through corporate account systems, in combination with equity. The capital structure of the subsidiaries is adapted to business-related considerations, as well as to legal and tax-related considerations.

The Group strives to have a balanced and reasonable capital structure that supports a sound level of equity based on the risk and the size of the enterprise.

The Group has negative pledge clauses in loan contracts. Some of the agreements have provisions stating that there shall be no disposal of significant assets without consent, and an ownership clause stating that more than 50 per cent of the share capital in E-CO Energi Holding AS shall be owned directly or indirectly by Oslo Municipality. This means that under the terms of the agreements, creditors can call in the loans if Oslo Municipality's direct or indirect ownership in these companies is reduced to 50 per cent or less. The Group has no other financial covenants in the loan contracts.

## Note 5.8 Share capital

(Amounts in MNOK)	Number of shares	Nominal value	Carrying value
Share capital at 31 Dec. 2017 (amounts in MNOK)	2 034 866	2 035	2 035
Share capital at 31 Dec. 2018 (amounts in MNOK)	2 034 866	2 035	2 035

All shares in the company have equal voting rights and an equal right to dividends. E-CO Energi Holding AS has no treasury shares. All the shares are owned by Hafslund E-CO AS, see Note 1.5.

DIVIDENDS (Amounts in MNOK)	2018	2017
Dividend paid to Oslo Municipality	650	610

## Note 5.9 Cash and cash equivalents

### SIGNIFICANT ACCOUNTING POLICIES

Bank deposits, etc. are the company's liquid assets. Restricted assets are funds that are available to the Group otherwise only to a limited extent.

CASH AND CASH EQUIVALENTS (Amounts in MNOK)	31.12.2018	31.12.2017
Bank deposits	2 232	599
Money market funds	200	403
Withholding tax (restricted assets)	17	13
Other restricted deposits	599	228
<b>Total cash and cash equivalents</b>	<b>3 047</b>	<b>1 243</b>

### DISCUSSION OF SIGNIFICANT ITEMS

The Group's available bank deposits and cash equivalents consist mainly of bank deposits. In addition, the Group has an overdraft facility of MNOK 100 that remained undrawn at 31 December 2018.

E-CO Energi Holding AS has a group cash pooling agreement through DNB. A group cash pooling agreement implies joint liability between all participating companies. E-CO Energi Holding AS' group cash pool is the only direct outstanding accounts with the Bank, while deposits and withdrawals on the respective subsidiaries' accounts are considered intra-group balances with E-CO Energi Holding AS.

Among other restricted deposits, MNOK 489 is restricted collateral related to energy trading activities.

## Note 5.10 Accounts and other receivables

### SIGNIFICANT ACCOUNTING POLICIES

Trade receivables are recognised at agreed amounts less expected credit losses, provided the amount does not include a significant funding component. Other accrual items are recognised at fair value and measured in subsequent periods at amortised cost.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

Incorrect assessment of customers' ability to pay could mean bad debts that must be impaired through the profit or loss. The Group makes provisions for bad debts based on a model for expected credit losses.

ACCOUNTS RECEIVABLES AND OTHER RECEIVABLES (Amounts in MNOK)	31.12.2018	31.12.2017
Trade receivables	233	107
Other accrual items	337	33
Share of current assets in co-owned companies	41	47
Natural resource tax carried forward	59	59
<b>Total accounts receivable and other receivables</b>	<b>670</b>	<b>246</b>

## Note 5.11 Accounts payable and other current liabilities

### SIGNIFICANT ACCOUNTING POLICIES

Accounts payable are obligations to pay for goods or services that have been delivered by suppliers for ordinary operations. The general rule is that accounts payable and other current liabilities are classified as current if they fall due within one year or less. Accounts payable and other current liabilities are measured at fair value for first-time balance sheet recognition, then subsequently by measurement at the amortised cost.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

All forms of accruals/provisions will be encumbered by a some uncertainty associated with estimates and discretionary assessments. The provisions that constitute other current liabilities are assessed according to management's best estimate.

ACCOUNTS PAYABLE AND OTHER CURRENT LIABILITIES (Amounts in MNOK)	31.12.2018	31.12.2017
Accounts payable	90	89
Public duties payable (withholding tax, social security contribution, VAT, etc.)	338	194
Accrued interest	252	191
Other current liabilities	129	175
<b>Total accounts payables and other current liabilities</b>	<b>810</b>	<b>649</b>

## Note 5.12 Financial income and expenses

### SIGNIFICANT ACCOUNTING POLICIES

Interest income and interest expenses on loans and receivables are estimated using the effective interest rate method. Exchange gains or losses that arise from operational hedging of power sales are reported as operating income or operating expenses. The fair value adjustments of receivables and liabilities in foreign currencies are recognised as exchange gains/losses under financial income/financial expenses.

Amounts in MNOK	2018	2017
Interest income	29	9
Other financial income	8	15
Exchange gains	11	29
<b>Financial income</b>	<b>48</b>	<b>53</b>
Interest expenses	398	310
Capitalised borrowing costs	(45)	(28)
Other financial expenses/income		20
<b>Financial expenses</b>	<b>353</b>	<b>302</b>

## Note 6.1 Tax

Apart from ordinary income tax, E-CO Energi's power production activities are subject to special rules for resource rent tax. The Group is therefore also charged natural resource tax, property tax and resource rent tax.

Tax expenses consist of taxes payable and changes in deferred tax. Tax is recognised through the profit or loss, except for when it is related to items recognised against other comprehensive income or directly against equity.

Tax expenses are calculated in compliance with the tax rates, legislation and regulations that apply on the balance sheet date. Deferred tax is calculated on all temporary differences between tax-related values for accounting purposes of assets and liabilities. Deferred tax assets are capitalised to the extent it is probable that future taxable income will exist, and that the tax-reducing temporary differences can be deducted from this income.

Deferred tax is calculated on temporary differences from investments in subsidiaries and associates, except when the Group controls the date for the reversal of the temporary differences, and it is probable that they will not be reversed in the foreseeable future. Deferred tax assets and deferred tax liabilities are offset where there is a legally enforceable right to do so.

Deferred tax assets relating to tax losses carried forward and negative resource rent income are capitalised to the extent it is probable that the Group can apply this against future taxable profits.

### ORDINARY INCOME TAX

The tax expense consists of taxes payable and changes in deferred tax. Payable income tax is estimated at 23 per cent (24 per cent) for tax purposes. Deferred tax is calculated on the basis of temporary differences between assets and liabilities for tax or accounting purposes, as well as the tax loss carried forward, where a tax rate of 22 per cent (23 per cent) is applied.

In connection with deferred tax, property is recognised at nominal value and classified as fixed assets on the balance sheet. In connection with deferred tax liabilities, assets are recognised at nominal values and classified as non-current liabilities on the balance sheet. Deferred tax assets that cannot be offset against deferred tax, including assets related to losses carried forward, are capitalised if it is probable that the Group will have sufficient tax-related profits in subsequent periods to take advantage of the tax asset.

### RESOURCE RENT TAX

The resource rent tax depends on the profit and accounts for 35.7 per cent (34.3 per cent) of the net resource rent income for each power plant. Resource rent income is estimated based on each power plant's production hour-by-hour, multiplied by the spot price during the corresponding hour. The actual achieved prices are used for deliveries of concessionary power. Estimated income is reduced by actual operating expenses, tax-related depreciation and non-taxable income to arrive at net resource rent income. Non-taxable income is stipulated based on the average tax-related value of production equipment for the year in the power plant, multiplied by a standard interest rate.

Negative resource rent income that has arisen in a power plant since 2007 can be coordinated with positive resource rent income in other power plants. The negative resource rent income that arose prior to 2007 can be carried forward with interest against positive resource rent income in the same power plant only. Negative resource rent income is included as part of the grounds for calculating deferred tax/deferred tax assets in resource rent taxation along with deferred tax/tax assets related to temporary differences pertaining to production equipment in power production to the extent this can feasibly be applied.

The resource rent tax in the profit or loss consists of this year's payable resource rent tax plus the change in deferred resource rent tax. Deferred resource rent tax is calculated the same way as deferred tax on ordinary income tax, using a nominal resource rent rate of 37 per cent.

### NATURAL RESOURCE TAX

Natural resource tax is a profit-dependent tax calculated based on the individual power plant's average power production over the past seven years. The maximum tax rate is set at 0.13 NOK (0.13 NOK) per kWh. Natural resource tax can be offset against taxes payable from ordinary income tax.

Natural resource tax is classified as either a current or non-current advance payment, based on the probability of whether it will be offset within 12 months, or later. If it is likely that the natural resource tax represents a final payment, where a set-off is not likely, it should be expensed on the profit and loss.

### PROPERTY TAX

Power production operations are also subject to property tax, which is up to 0.7 per cent of the estimated assessed value. Property tax is recognised as an operating expense. See Note 2.5 Property tax and licence fees.

## Note 6.1 Tax continued

<b>TAX EXPENSES (Amounts in MNOK)</b>	<b>2018</b>	<b>2017</b>
Payable income tax	813	412
Resource rent tax payable	1 346	655
Natural resource tax	143	174
Natural resource tax offset against taxes payable	(143)	(115)
Natural resource tax carried forward		(59)
Change in deferred tax/tax asset	(19)	(104)
Too little (much) tax set aside in previous years	2	(13)
<b>Tax expenses for the year</b>	<b>2 141</b>	<b>949</b>
<b>Reconciliation of nominal tax rate against effective tax rate</b>	<b>2018</b>	<b>2017</b>
Earnings before tax	3 364	1 987
23% (24%) of earnings before tax	774	477
23% (24%) of permanent differences, dividends	1	(31)
23% (24%) of income from associates	(4)	(1)
Resource rent tax payable	1 346	655
Change in deferred tax, negative resource rent tax carried forward	(50)	(64)
Deferred resource rent tax (35.7%)	62	(80)
Change in tax rate from 23% to 22%	(5)	(6)
Change in tax rate from 35.7% to 37%	8	4
Other corrections, tax assessment	11	(6)
<b>Tax expenses for the year</b>	<b>2 141</b>	<b>949</b>
Effective tax rate	64 %	48 %
<b>Deferred tax</b>	<b>31.12.2018</b>	<b>31.12.2017</b>
<i>Ordinary income tax</i>		
Current assets	25	33
Property, plant and equipment	7 384	6 659
Current liabilities	(50)	(37)
Provision for obligations	(1 677)	(843)
Pensions	50	47
<b>Total</b>	<b>5 731</b>	<b>5 859</b>
Tax rate applied	22 %	23 %
<b>Total deferred tax (deferred tax asset)</b>	<b>1 261</b>	<b>1 314</b>
<i>Resource rent tax</i>		
Property, plant and equipment	5 410	5 199
Other temporary differences	27	22
Negative resource rent income, incl. interest	(1 382)	(1 615)
<b>Total</b>	<b>4 055</b>	<b>3 607</b>
Tax rate applied	37 %	35,7 %
<b>Total deferred tax (tax asset)</b>	<b>1 502</b>	<b>1 288</b>
<b>Total ordinary tax (tax asset) and resource rent tax</b>	<b>2 761</b>	<b>2 602</b>
<b>Deferred tax (deferred tax asset):</b>		
Deferred tax	3 331	3 295
Recognised deferred tax asset	(319)	(293)
Not-recognised deferred tax asset	(250)	(399)

## Note 7.1 Remuneration to senior executives and the Board of Directors

(Amounts in NOK 1 000)		2018	2017
REMUNERATION TO BOARD OF DIRECTORS	TITLE		
Anne Carine Tanum*	Chair of the Board (until 20 August)	237	274
Mari Thjømøe*	Member of the Board (until 20 August)	142	194
Helge Skudal*	Member of the Board (until 20 August)	142	184
Gabriel Smith	Member of the Board (until 20 August)	111	175
Bård Vegar Solhjell	Member of the Board (until 20 August)	99	46
Arvid Amundsen	Member of the Board (until 20 August)	111	154
Ola Tore Eggen	Member of the Board (until 20 August)	111	154
Finn Bjørn Ruyter	Chair of the Board (from 20 August)		
Johan Christian Hovland	Member of the Board (from 20 August to 26 September)		
Lise Marie Heien Langaard	Member of the Board (from 20 August to 26 September)		
Martin Sleire Lundby	Member of the Board (from 26 September)		
Toril Benum	Member of the Board (from 26 September)		
Gunnar Ola Braaten	Member of the Board (from 20 August)		
Håkon Mørch Korvald	Member of the Board (from 20 August)		

\* Member of the Audit Committee

(Amounts in NOK)		Salaries	Other remuneration	Bonus	Pension defined benefit plans	Pension defined deposit plans
SENIOR EXECUTIVES						
Tore Olaf Rimmereid	President and CEO (until 1 September)	2 990 623	72 248	310 000		101 560
Alf Inge Berget	Vice President, Production (until 1 September), President and CEO (from 1 September)	2 289 145	274 145	265 000	160 352	310 811
Tore Kolstad	Vice President, Energy management (until 15 September)	1 483 573	63 476	210 000	145 047	228 371
Per-Arne Torbjørnsdal	Vice President, Strategy and Communications (until 1 September)	1 994 916	150 987	230 000	170 533	
Torill Berdal	Vice President, HR (until 15 May)	569 712	76 837	150 000	105 896	44 519
Hanne Baklien	Vice President, HR and HSE (from 15 May)	972 935	4 028			185 727
Morten J. Hansen	Vice President, Financial Services (from 1 January)	1 708 979	27 743	233 251	192 740	127 185
Halvor Halvorsen	Vice President, Watercourses and Development (from 15 September)	451 972	1 802			
Johan Christian Hovland	Vice President, Power Plants (from 15 September)	601 417	2 643			119 360
Celine Setsaas	Vice President, Legal and Corporate Communications (from 15 September)	368 141	1 802			96 002
Vidar Hansen	Acting Vice President, Energy Management (from 15 September)	430 480	13 225			100 898
Egil Skøien	Vice President, Corporate Governance (from 15 September)	491 481	65 441			172 350

The amounts show bonuses for 2017, paid out in 2018.

President and CEO Alf Inge Berget has a bonus agreement with a ceiling of 25 per cent of his basic salary. The scheme is based on the achievement of defined, quantitative goals related to the company's overall value creation and individual goals related to the particular manager's sphere of responsibility. Bonuses for 2018 will be paid out in 2019.

The president and CEO has a defined benefit pension plan in the E-CO Energi Pension Fund. The other members of the management group are divided between the defined benefit scheme and the company's defined deposit plan in KLP, which entails 7/15 per cent as well as 16 per cent paid through wages and salaries for incomes in excess of 12G.

In the event of termination, the president and CEO is entitled to severance pay comparable to six months' ordinary basic wage on the date of termination. The severance pay is subject to deductions if the Leader in question receives salary from other sources. The deduction is 66% of the monthly severance pay or the other employment income, whichever is lower. When the president and CEO reaches age 62, he or she

company can request a transfer to a less demanding position with the company. The less demanding position will carry a salary of 70 per cent of the president and CEO's regular salary at the time of stepping down.

E-CO Energi's senior executives have individual bonus agreements stipulated in accordance with defined criteria and with a ceiling of 20 per cent of their basic salaries. The schemes are based on the achievement of defined, quantitative goals related to the company's overall value creation and individual goals related to the particular manager's sphere of responsibility. All bonuses for 2018 will be paid out in 2019.

## Note 7.2 Pensions

### SIGNIFICANT ACCOUNTING POLICIES

The Group has both defined benefit and defined contribution pension plans.

#### *Defined benefit pension plans*

A defined benefit plan is a pension plan that defines the pension benefit an employee will receive upon retirement, and which is funded through payments to insurance companies or pension funds. Payments are normally dependent on one or more factors such as age, number of years with the company and salary. Pension fund assets are measured at their fair value, less pension liabilities on the balance sheet. Profit or loss related to improvements, restrictions, closing or other changes in pension plans are recognised over the profit or loss when this takes place. Changes in obligations due to changes in and departures from the calculation assumptions (unrecognised actuarial gains/losses) are recognised directly through other comprehensive income.

#### *Defined contribution pension plans*

A deposit-based pension plan is a pension plan where the Group pays regular contributions into a separate legal unit. The Group has no legal or other obligation to pay further contributions if the unit does not have sufficient funding to pay all employees benefits related to earnings in the current and earlier periods. The deposits are recognised as personnel expenses when they mature.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

The calculation of pension liabilities entails the use of discretionary judgment and estimates of a number of inputs. Net pension liabilities are stipulated using actuarial estimates based on assumptions such as the discount rate, future wage growth, pension adjustments, expected yield on pension funds, and on demographic factors such as disability and mortality. The assumptions are stipulated based on observable market prices and historical development trends in the company and in society at large. Changes in the assumptions will have a significant impact on calculated pension liabilities/costs.

The discount rate is set on the basis of bond loans with pre-emptive rights.

This year's actuarial gains/losses recognised through the comprehensive profit or loss are primarily attributable to changes in the assumptions related to the yield on pension fund assets. The projected yield on pension fund assets is calculated using the discount rate. The actual yield will deviate from this.

The Group has several different defined benefit pension plans. One of the schemes covers individuals who were employed by E-CO Energi AS prior to 1 Jan. 2009. The scheme is funded through E-CO Energi Pension Fund. The scheme entitles employees to a pension on reaching the age of 67. The pension consists of 66 per cent of an employee's pay up to 12 times the basic amount under the National Insurance Scheme, based on full accrual of pension rights. The figure is 70 per cent of their salary for individuals hired prior to 31 May 2002. Full accrual takes a minimum of 30 years. In addition to a retirement pension, employees are entitled to disability pensions and survivor's benefits. Besides the funded scheme, the company has unfunded schemes, generally related to AFP and other early retirement schemes. Supplementary pensions are provided through a deposit-based scheme for those with salaries in excess of 12 times the National Insurance Scheme's basic amount.

A deposit-based plan has been set up for employees hired after 1 January 2009. The scheme gives approximately the same rights to disability pensions and survivor's benefits as the defined benefit scheme.

In connection with the acquisition of Hafslund Produksjon in 2017, E-CO Energi assumed the pension obligations of 176 individuals (active employees and pensioners) from Hafslund Produksjon and Hafslund Produksjon Holding, 172 of whom belong to a closed private service pension scheme and the remaining 4 to a closed public scheme.

The Group's pension plans satisfy the statutory requirements in the Act relating to Obligatory Service Pensions.

Pension expenses and pension liabilities are calculated by actuaries. Pension liabilities are estimated based on the following assumptions on the balance sheet date.

## Note 7.2 Pensions continued

Amounts in MNOK	31.12.2018	31.12.2017
<b>Liability recognised:</b>		
Present value of accrued pension liabilities for defined benefit plans in funded schemes	1 006	1 002
Fair value of pension fund assets	(1 086)	(1 063)
Actual net pension liabilities for defined benefit plans in funded schemes	(80)	(61)
Employer's contribution	4	
<b>Net pension liabilities on the balance sheet (incl. employer's contribution)</b>	<b>(76)</b>	<b>(61)</b>
Capitalised net pension liabilities	47	57
Capitalised net overfunded scheme	(123)	(118)
<b>Changes in the defined benefit pension scheme during the year:</b>		
Pension liability at 1 January	1 002	836
Present value of the year's pension earnings	13	12
Interest expenses	24	22
Changes in estimates	14	60
Benefits paid	(51)	(39)
Liabilities relating to the sale and acquisition of businesses	5	112
<b>Pension liability at 31 December</b>	<b>1 006</b>	<b>1 002</b>
<b>Changes in fair value of pension fund assets during the year:</b>		
Fair value of pension fund assets at 1 January	1 062	935
Interest income on pension fund assets	26	24
Changes in estimates	38	27
Total disbursements from fund	(48)	(38)
Pension fund assets upon settlement and acquisition	8	113
<b>Fair value of pension fund assets at 31 December</b>	<b>1 086</b>	<b>1 062</b>
<b>Movement in actuarial gains and losses recognised in other comprehensive income:</b>		
Cumulative amount recognised in other comprehensive income at 1 January, adjusted for deferred tax	12	27
Recognised in other comprehensive income for the period on the basis of actuarial standards before tax	25	(33)
<b>Cumulative amount recognised in other comprehensive income at 31 December</b>	<b>37</b>	<b>(6)</b>
Deferred tax related to actuarial losses recognised in other comprehensive income for the period	(8)	18
<b>Cumulative amount recognised in other comprehensive income at 31 December</b>	<b>29</b>	<b>12</b>
<b>The following financial assumptions have been made:</b>		
Discount rate	2,60 %	2,40 %
Yield	2,60 %	2,30 %
Annual salary increase	2,75 %	2,25 %
Pension base level adjustment	2,50 %	2,25 %
Regulation of ongoing pensions, public scheme	1,75 %	1,50 %

The discount rate is estimated on the basis of a complete interest curve that takes account of the pension payments falling due at different times in future. The graph is calculated on the basis of prices of OMF interest (bond loans with pre-emptive rights) on 31 August 2018, as calculated by the Norwegian Accounting Foundation. Annual wage growth is estimated on the basis of a curve based on historical observations. The salary increase amounts to an average of 2.5 percent over the service period for the population of the pension funds.

Demographic assumptions that form the basis of the calculations are based on the IR73 disability rate (restated using the intensity method) and the K2013BE mortality rate table.

## Note 7.2 Pensions continued

Amounts in MNOK	2018	2017
Pension earnings for the year	13	12
Net interest expenses	(2)	3
Accrued social security expenses	0	0
<b>Pension costs, defined benefit plans</b>	<b>11</b>	<b>15</b>
Pension costs, defined contribution plans	5	4
<b>Total pension expenses</b>	<b>16</b>	<b>19</b>

Sensitivity to the pension liabilities for changes in the weighted financial assumptions is:

Amounts in MNOK	Impact of pension liabilities		
	Change	Increase in assumption	Reduction in assumption
Discount rate	0,5 %	(7 %)	7 %
Annual salary increase	0,5 %	2 %	(1 %)
Pension base level adjustment	0,5 %	5 %	(5 %)
Expected life	1 year	5 %	(4 %)

Pension assets are invested in bonds and money-market placements issued by the Norwegian government, Norwegian municipalities, financial institutions and businesses. Bond loans in foreign currencies are hedged against currency risk. Investments are made in Norwegian and foreign shares. Estimate deviations are divided proportionally between the individual classes of assets.

Pension fund assets consist of:				
Amounts in MNOK	31.12.2018	Per cent	31.12.2017	Per cent
Equity instruments	406	37 %	457	43 %
Interest-bearing instruments	586	54 %	521	49 %
Property	95	9 %	85	8 %
<b>Fair value, pension fund assets</b>	<b>1 086</b>	<b>100 %</b>	<b>1 063</b>	<b>100 %</b>

The scheme's deposits were invested as follows in 2018:

Amounts in MNOK	Level 1	Level 2	Level 3	Total
	Listed prices	Observable prices	Non-observable prices	
Equity instruments		406		406
Interest-bearing instruments		586		586
Property			95	95
<b>Total</b>		<b>991</b>	<b>95</b>	<b>1 086</b>

The scheme's deposits were invested as follows in 2017:

Amounts in MNOK	Level 1	Level 2	Level 3	Total
	Listed prices	Observable prices	Non-observable prices	
Equity instruments		457		457
Interest-bearing instruments		521		521
Property			85	85
<b>Total</b>		<b>978</b>	<b>85</b>	<b>1 063</b>

## Note 8.1 Consolidated companies

### SIGNIFICANT ACCOUNTING POLICIES

The consolidated accounts include E-CO Energi Holding AS and its subsidiaries. The term 'subsidiaries' includes all companies in which the Group has control. The Group has control of an enterprise if the following terms are satisfied:

E-CO Energi has power over the company in which it has invested.

E-CO Energi is exposed to or has rights to a variable return on its involvement in the company in which it has invested.

E-CO Energi has an opportunity to exercise its control over the company in which it has invested to influence the return for the investors.

Normally, E-CO Energi considers that it has control when the Group has at least 50% of the voting rights in a company.

Subsidiaries are consolidated from the date on which the Group has obtained control, and are derecognised from the date on which the Group loses control.

All significant transactions and intra-Group accounts have been eliminated. The acquisition price of shares in subsidiaries is eliminated against equity in the subsidiary on the date of acquisition. Excess/negative values are attributed to their corresponding balance sheet items.

SUBSIDIARIES OWNED DIRECTLY BY E-CO ENERGI HOLDING			
Name	Registered office	Stake	Share of votes
E-CO Energi AS	Oslo	100 %	100 %
Hafslund Produksjon Holding AS	Oslo	90 %	90 %

COMPANIES CONTROLLED BY SUBSIDIARIES			
Name	Registered office	Stake	Share of votes
Mork Kraftverk AS	Oslo	67 %	67 %
Oslo Lysverker AS	Oslo	100 %	100 %
Oppland Energi AS	Lillehammer	61 %	61 %
Hafslund Produksjon AS	Askim	100 %	100 %
Sarp Kraftstasjon AS	Askim	100 %	100 %
Hallingfisk AS	Hol	68 %	68 %

## Note 8.2 Business combinations

### SIGNIFICANT ACCOUNTING POLICIES

For the accounting of business combinations, the acquisition method is applied and remuneration is measured at fair value on the transaction date, which is also the date for measuring the fair value of identifiable assets, liabilities and contingent liabilities.

A positive difference between the fair value of the remuneration for the acquisition and the fair value of identifiable assets and liabilities is recognised as goodwill. A negative difference is recognised after a new review has been conducted to ensure that the acquisition analysis does not contain errors or omissions.

If a business combination is not fully recognised at the end of the period in which the transaction is completed, the preliminary values of the relevant assets and liabilities are reported. If need be, preliminary values are adjusted on an ongoing basis during the measurement period, i.e. a maximum of 12 months, to reflect new information that would have affected the valuation, had it been known. New assets and liabilities are recognised if so required. The transaction date is defined as when risk and control are transferred, and it usually coincides with the date of implementation.

If there are non-controlling stakes in the acquired company, these will allocated their shares of identifiable assets and liabilities.

Transaction costs are recognised as they are incurred.

### SIGNIFICANT ESTIMATES AND ASSUMPTIONS

The allocation of the purchase price to assumed assets and liabilities is based on their estimated fair value on the date of the acquisition.

The assessments are made by E-CO Energi's executive management, with the help of independent evaluators if the valuations are complicated. The various assets are valued based on different models, and goodwill is what is left after such an allocation of value.

Errors in estimates and assumptions can result in an incorrect breakdown of the value of the various assets. However, the sum of the total recognised values (including goodwill) will be in line with the purchase price.

## Note 8.2 Business combinations continued

On 4 August 2017, E-CO Energi Holding AS acquired 90% of the shares in Hafslund ASA, now Hafslund Produksjon Holding AS, after businesses engaged in activities other than the production of hydropower were demerged from this company. The background for the acquisition is the Group's growth strategy, and that Hafslund's hydropower plants are a good fit with E-CO Energi's power plant portfolio.

Remuneration for E-CO Energi's share of 90 per cent of the equity was MNOK 7 149, of which MNOK 30.6 was paid in 2018. Remuneration for 100% of Hafslund Produksjon Holding AS was MNOK 7 942, where the Group's identifiable assets and liabilities amounted to MNOK 5 006. The difference, equivalent to MNOK 2 936, is recognised as goodwill.

The following purchase price allocation is final.

ASSETS (Amounts in MNOK)	Fair value upon acquisition
Waterfall rights	3 501
Property, plant and equipment	4 495
Deferred tax assets	20
Derivatives	40
Accounts and other receivables	73
Bank deposits, cash in hand, etc.	56
<b>Total assets</b>	<b>8 186</b>
LIABILITIES (Amounts in MNOK)	Fair value upon acquisition
Tax payable	89
Deferred tax liabilities	2 958
Other provisions to meet commitments	13
Accounts payables and other current liabilities	23
Other current liabilities	97
<b>Total liabilities</b>	<b>3 180</b>
<b>Total identifiable net assets at fair value</b>	<b>5 006</b>
Goodwill	2 936
<b>Total remuneration for the shares</b>	<b>7 942</b>
Of which, cash	7 942
Cash flows from the acquisition	
<b>Total remuneration (90%)</b>	<b>(7 149)</b>
Net cash from the acquired company (included in cash flows from investing activities)	56
Settlement of remuneration in shares - share issue	3 000
<b>Net cash flow from the acquisition</b>	<b>(4 093)</b>

## Note 9.1 Transactions with related parties

All subsidiaries, associates and jointly controlled arrangements as specified in Notes 8.1 and 3.4 are related parties of the Group. The Group's senior executives and board are also defined as related parties, as specified in Note 7.1. Transactions with subsidiaries are eliminated in the consolidated accounts and not disclosed in this note.

Hafslund E-CO AS owns 100 per cent of the shares in E-CO Energi Holding AS, and Hafslund E-CO AS is wholly owned by Oslo Municipality. E-CO Energi Holding AS and E-CO Energi AS purchase management services from Hafslund E-CO AS.

E-CO Energi Holding AS has a subordinated loan from Oslo Municipality that totalled MNOK 2 347 at 31 Dec. 2018. This is discussed in Note 5.3. Accrued interest on the subordinated loan from Oslo Municipality was MNOK 128 at 31 Dec. 2018.

Other transactions that have not already been mentioned are related to the ordinary purchase/sale of goods and services and are not considered significant. No provisions have been made for bad debts related to inter-Group accounts with related parties.

## Note 9.2 Disputes

### Hafslund Energy Trading

Hafslund Energy Trading LLC ("HET"), owned by Hafslund Produksjon Holding, was engaged in energy trading activities in California in the US from 1999 to 2001. During this period, there was an energy crisis, and since 2001, there has been a disagreement between HET and government authorities in California ("California Parties"), where the latter party has argued that HET must repay capital, something HET contests. The Parties have been in settlement discussions, but no solution has been reached. The Group's assessment is that there is a low probability that the Norwegian parent company will be held liable, so no provision has been recognised in the financial statements.

## Note 9.3 Subsequent events

### Events after the balance sheet date

The accounts are considered approved for publication once the Board has approved the accounts. Subsequent to that, the Annual General Meeting and regulatory authorities can refuse to approve the accounts, but not amend them. Events up until the accounts are considered approved for publication, and events that affect factors that were already known on the balance sheet date will be part of the disclosure for determining estimates for accounting purposes, meaning they are fully reflected in the accounts. Events that affect factors that were not known on the balance sheet date will be disclosed if they are significant.

The accounts are submitted based on the going concern assumption. In the Board's opinion, this assumption applied when the accounts were approved for publication.

The Boards of Directors of Eidsiva Energi and Hafslund E-CO have agreed on a draft agreement for a merger of the companies, as well as on principles for the conversion ratio. The negotiated draft of the system of agreements complies with the letter of intent between the parties from November 2018, and it will be presented to the companies' owners for a decision during Q2 2019. If the owners of both companies accept the merger and it meets with the approval of the authorities, the transactions are expected to be conducted in Q3 2019. For the E-CO Energi Group, any transaction will mean that Eidsiva Vannkraft will be transferred to the subsidiary E-CO Energi AS on a debt-free basis, making it part of a jointly-owned production company, where Hafslund E-CO (through E-CO Energi Holding AS) will be the majority shareholder and Eidsiva Energi AS (half of which will be owned by Hafslund E-CO) will be a significant co-owner, with a 42.8 per cent share. E-CO Energi Holding AS's ownership in Hafslund Produksjon Holding is not included in the transaction.

Apart from the abovementioned, no significant events have been identified after the balance sheet date.

E-CO Energi Holding AS  
Company accounts

2018

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## Income statement

1 JANUARY - 31 DECEMBER

NOTE	INCOME STATEMENT (Amounts in MNOK)	2018	2017
	<b>Revenue</b>	<b>2</b>	<b>4</b>
3	Salaries and other personnel expenses	(5)	(5)
4	Operating expenses	(6)	(8)
	<b>Operating expenses</b>	<b>(11)</b>	<b>(13)</b>
	<b>Profit/(loss)</b>	<b>(9)</b>	<b>(9)</b>
8	Income on investments in subsidiaries	1 880	1 313
5	Financial income	105	102
6	Financial expenses	(393)	(322)
	<b>Net financial items</b>	<b>1 592</b>	<b>1 093</b>
	<b>Ordinary profit or loss before taxes</b>	<b>1 583</b>	<b>1 084</b>
7	Taxes on ordinary profit/(loss)	(294)	(234)
	<b>Net profit or loss for the year</b>	<b>1 290</b>	<b>850</b>
	Transfers and allocations		
	Transferred to/from Other equity	328	200
	Dividends	723	650
	Group contribution (after tax)	239	0
	<b>Total allocations</b>	<b>1 290</b>	<b>850</b>

# Balance sheet

AT 31 DECEMBER

NOTE	ASSETS (Amounts in MNOK)	31.12. 2018	31.12. 2017
8	Investments in subsidiaries	17 325	17 294
	Loans to subsidiaries	4 715	4 710
	Other non-current receivables and investments	50	50
	<b>Total non-current assets</b>	<b>22 090</b>	<b>22 054</b>
	Accounts receivables	2	4
10	Other current receivables	1 932	1 356
11	Current investments	200	403
12	Bank deposits, cash in hand, etc.	1 605	160
	<b>Total current assets</b>	<b>3 739</b>	<b>1 923</b>
	<b>Total assets</b>	<b>25 829</b>	<b>23 977</b>

NOTE	EQUITY AND LIABILITIES (Amounts in MNOK)	31.12. 2018	31.12. 2017
	Share capital	2 035	2 035
	Share premium	5 571	5 571
	<b>Paid-in equity</b>	<b>7 606</b>	<b>7 606</b>
	Other equity	2 872	2 544
	<b>Retained earnings</b>	<b>2 872</b>	<b>2 544</b>
<b>13</b>	<b>Total equity</b>	<b>10 478</b>	<b>10 150</b>
7	Deferred tax	8	11
14	Provisions	418	418
	<b>Total provisions for liabilities</b>	<b>426</b>	<b>429</b>
15	Subordinated loan	2 347	2 347
15	Other non-current debt	8 963	9 073
	<b>Total non-current debt.</b>	<b>11 310</b>	<b>11 420</b>
15	Current interest-bearing debt	2 187	953
	Accounts payable	2	3
	Tax payable	224	226
	Public duties payable	(1)	0
	Dividends and Group contribution	1 033	650
	Other current liabilities	169	146
	<b>Total current liabilities</b>	<b>3 615</b>	<b>1 978</b>
	<b>Total liabilities</b>	<b>15 351</b>	<b>13 827</b>
	<b>Total equity and liabilities</b>	<b>25 829</b>	<b>23 977</b>

16 Assets pledged as collateral or guarantee liabilities

Oslo, 14 March 2019

The Board of Directors of E-CO Energi Holding AS



Finn Bjørn Ruyter  
Chair of the Board  
of Directors



Martin Sleire Lundby



Gunnar O. Braaten



Håkon Mørch Korvald




Alf Inge Berget  
President and CEO

## Cash flow statement

1 JANUARY - 31 DECEMBER

NOTE	CASH FLOW STATEMENT (Amounts in MNOK)	2018	2017
	<b>Cash flow from operating activities</b>		
	Profit before tax	1 583	1 084
	Change in Group contribution recognised as income and dividends from Group companies	(568)	( 613)
	Change in other receivables, creditors and accrual items	12	67
	Tax paid	(225)	( 77)
<b>A</b>	<b>Net cash flow from operating activities</b>	<b>802</b>	<b>461</b>
	<b>Cash flow from investing activities</b>		
	Investments in subsidiaries	0	(4 118)
	Changes in other investments	( 36)	( 10)
<b>B</b>	<b>Cash flow from investment activities</b>	<b>( 36)</b>	<b>(4 128)</b>
	<b>Net cash flow from financing activities</b>		
	Increase in long-term debt	0	3 371
	Repayment of long-term debt	( 200)	( 100)
	Change in short-term debt	1 125	989
	Dividends paid	( 650)	( 610)
<b>C</b>	<b>Net cash flow from financing activities</b>	<b>275</b>	<b>3 650</b>
<b>A+B+C</b>	<b>Net cash flow for the year</b>	<b>1 041</b>	<b>( 17)</b>
<b>+</b>	<b>Liquidity reserve at 1 January</b>	<b>563</b>	<b>580</b>
<b>=</b>	<b>Liquidity reserve at 31 December *</b>	<b>1 605</b>	<b>563</b>

\* Liquidity reserves consist of bank deposits and the parent company's short-term placements in money market funds.

## Note 1 Accounting policies

The accounts for 2018 are presented in accordance with the provisions of the Norwegian Accounting Act and Norwegian Generally Accepted Accounting Practices.

### In general

E-CO Energi Holding's financial statements for the 2018 fiscal year were adopted by the Board at its meeting on 14 March 2019.

E-CO Energi Holding AS is a private limited company with headquarters in Oslo. All shares are owned by Hafslund E-CO.

E-CO Energi Holding AS is the parent company in the E-CO Energi Group.

#### The recognition of income

E-CO Energi Holding's revenue consists essentially of services provided to members of the Group. They are recognised as revenue once the service has been delivered. Interest income is recognised in the accounts as it accrues.

Group contributions are recognised in the fiscal year in which they are enacted. The part of the Group contribution that represents retained earnings during the period of ownership is recognised as income on investments in subsidiaries. Group contributions that do not represent retained earnings during the period of ownership are recorded as repayment of the investment and recognised as a reduction in the value of the shares in subsidiaries.

Dividends allocated in the subsidiaries are recognised as income during the year in which the dividend is allocated. Dividends received from other companies are recognised as income during the year in which the dividends are received. Dividends that do not represent retained earnings during the period of ownership are recognised as repayment on the investment.

#### Foreign currency

Financial items in foreign currency are translated at the exchange rate on the date of balance sheet recognition. Loans denominated in foreign currency that are hedged against NOK through interest rate and currency swap agreements, are recognised at the exchange rate for the currency hedge. Exchange losses or exchange gains translated at the exchange rate on the date of balance sheet recognition are recognised as exchange gains or losses.

#### Tax

Deferred tax is calculated using the liability method for the temporary differences between the tax-related and accounting-related values of operating assets and liabilities, together with any loss carried forward. When calculating deferred tax liability, the nominal tax rate is used for income tax.

#### Non-current assets

Non-current assets, including investments in subsidiaries, are valued at cost price. Impairment is recognised in the event of a lasting value reduction. Previously recognised impairment is reversed to the extent the reason for the impairment no longer exists.

#### Current investments and receivables

Short-term investments and receivables classified as current assets are measured at cost price or fair value, whichever is lower.

For financial instruments sold on a market, the market value on the date of balance sheet recognition represents the fair value.

#### Loans

Liabilities in foreign currencies are translated at the exchange rates that apply on the date on which the accounts are closed.

Loans denominated in foreign currency that are hedged against NOK through interest rate and currency swap agreements, are recognised at the exchange rate for the currency hedge. In connection with interest rate hedging, interest instruments are recognised at an amount corresponding to the interest on the underlying loans. Unrealised losses or gains are not recognised on the balance sheet.

Any cessation of a hedging position prior to its due date is recognised as an accrued gain or loss over the remaining term of the hedge.

#### Other liabilities and debt

Other liabilities and debt are recognised on the balance sheet at their fair value.

#### Cash flow statement and cash and cash equivalents

The Group uses the indirect method for drawing up the cash flow statement. Cash and cash equivalents consist of cash reserves, bank deposits and investments in money market funds.

## Note 2 Transactions and events in 2018

On 20 June 2018, the City of Oslo voted to combine the ownership of Hafslund and E-CO Energi under a new wholly-owned parent company. Hafslund E-CO AS was established on 4 July 2018 with the subsidiaries Hafslund AS and E-CO Energi Holding AS, which, together, constitute the new Group.

## Note 3 Salaries, remuneration and pension costs

Amounts in MNOK	2018	2017
Salaries, fees, etc.	4	4
Accrued social security expenses	1	1
Pension expenses	0	0
<b>Total</b>	<b>5</b>	<b>5</b>
Average number of FTEs (Full-time equivalents)	1	1

Information regarding directors' fees and the salaries of key management personnel is given in Note 7.1 of the consolidated financial statements.

## Note 4 Other operating expenses

AUDITOR'S FEES: (Amounts in NOK 1 000, excl. VAT)	2018	2017
Mandatory audits	411	846
Other assurance services		193
Tax-related assistance	20	150
Other services		699
<b>Total</b>	<b>431</b>	<b>1 888</b>

## Note 5 Financial income

Amounts in MNOK	2018	2017
Interest income on bank deposits and securities	3	3
Interest income from Group companies	102	94
Gains on investments in unit trusts	0	5
<b>Total</b>	<b>105</b>	<b>102</b>

## Note 6 Financial expenses

Amounts in MNOK	2018	2017
Interest expenses on subordinated loan	129	119
Interest expenses on other loans	238	185
Consolidated interest expenses relating to Group accounts	15	9
Other financial expenses*	12	9
<b>Total</b>	<b>394</b>	<b>322</b>

\*Other financial expenses comprise expenses associated with new loans, fees, interest expenses, tax due, etc.

## Note 7 Tax

Amounts in MNOK	2018	2017
Payable income tax (24%/23%)	296	226
Changes in deferred tax/tax asset (23%/22%)	(2)	8
<b>Tax expenses for the year</b>	<b>294</b>	<b>234</b>
<b>RECONCILIATION OF THE COMPANY'S TAXES (Amounts in MNOK)</b>		
23% of earnings before tax	364	260
23% of the tax-exempt portion of dividends from subsidiaries*	(72)	(26)
<b>Tax expenses for the year</b>	<b>294</b>	<b>234</b>

\* 3% of the dividends recognised as income of MNOK 315 from Hafslund Produksjon Holding AS is liable for taxation.

DEFERRED TAX (DEFERRED TAX ASSET) (Amounts in MNOK)	2018	2017
Current assets	9	3
Current liabilities	33	44
<b>Total</b>	<b>42</b>	<b>48</b>
Tax rate applied*	22 %	23 %
Total deferred tax (tax asset)	9	11

## Note 8 Shares in subsidiaries

Amounts in MNOK	The company's Share capital	Stake and voting interest	Nominal value	Carrying value	Group contribution	Dividends	Total earnings
E-CO Energi AS	3 000	100 %	3 000	10 176	1 300		1 300
Hafslund Produksjon Holding AS	75	90 %	75	7 148	0	315	315
Oslo Lysverker AS*					265		265
<b>Total</b>				<b>17 325</b>	<b>1 565</b>	<b>315</b>	<b>1 880</b>

\* Oslo Lysverker AS is owned by E-CO Energi AS. See Note 8.1 of the consolidated accounts for all consolidated companies.

All subsidiaries have their registered offices in Oslo.

## Note 9 Receivables that mature in more than one year

Amounts in MNOK	2018	2017
E-CO Energi AS	4 700	4 700
Hafslund Produksjon Holding AS	15	10
<b>Total</b>	<b>4 715</b>	<b>4 710</b>

## Note 10 Other current receivables

Amounts in MNOK	2018	2017
Group contribution	1 565	1 200
Group contribution	315	113
Other intra-Group items	52	43
<b>Total</b>	<b>1 932</b>	<b>1 356</b>

## Note 11 Short-term investments

Amounts in MNOK	Cost value	Market value	Market value
Money market funds	200	200	200

Money market funds are measured at fair value.

## Note 12 Bank deposits, cash in hand, etc.

E-CO Energi has a cash pool agreement in which the subsidiaries participate. E-CO Energi Holding AS is the account holder and the subsidiaries are jointly liable for withdrawals from cash pool. The total balance in the cash pool is recorded on the parent company's balance sheet. Subsidiaries' deposits or withdrawals are recorded in the parent company's accounts as liabilities to or receivables from companies in the same Group. Other restricted assets consist of deposits in restricted accounts as collateral for energy trading.

RESTRICTED BANK DEPOSITS (Amounts in MNOK)	2018	2017
Withholding tax	1	1

## Note 13 Equity

Amounts in MNOK	Number shares	Share capital	Share premium	Other equity	Total equity
Equity 31 December 2016	1 702 642	1 703	1 903	2 343	5 949
Capital increase	332 224	332	3 668	0	4 000
Net profit or loss for the year				850	850
Provision for dividends				(650)	(650)
<b>Equity 31 December 2017</b>	<b>2 034 866</b>	<b>2 035</b>	<b>5 571</b>	<b>2 544</b>	<b>10 151</b>
Net profit/loss for the year				1 290	1 290
Provision for dividends				(723)	(723)
Provision for Group contribution				(239)	(239)
<b>Equity 31 December 2018</b>	<b>2 034 866</b>	<b>2 035</b>	<b>5 571</b>	<b>2 871</b>	<b>10 478</b>

Each share has a nominal value of NOK 1 000. Hafslund E-CO AS owns all of the shares.

## Note 14 Provisions

The liability of MNOK 418 on the parent company's balance sheet refers to deferred income recognition of the gain from the sale of shares in Oslo Lysverker to E-CO Energi.

## Note 15. Current and non-current interest-bearing debt

LENDER (Amounts in MNOK)	Currency unit	Amount (in foreign currency)	Amount (NOK)	Due date
Intra-Group debt	NOK		1 777	
Bond loan on the Norwegian market	NOK		100	2019
Private placement on the US market	USD		310	2019
Bond loan on the Norwegian market	NOK		500	2022
Private placement on the US market	USD	50	429	2023
Private placement on the US market	NOK		290	2024
Private placement on the US market	USD	75	143	2026
The Nordic Investment Bank	NOK		2 000	2027-2030
Private placement on the US market	NOK	25	910	2027
Private placement on the Japanese market	JPY		301	2028
Bond loan on the Norwegian market	NOK		250	2029
Private placement on the Japanese market	JPY	5 000	296	2029
Private placement on the US market	NOK		723	2029
Bond loan on the Norwegian market	NOK	5 000	200	2030
Bond loan on the Norwegian market	NOK		200	2031
Private placement on the US market	USD		1 036	2031
Private placement on the German market	EUR		237	2031
Private placement on the US market	NOK	125	848	2032
Private placement on the US market	NOK	30	600	2033
Subordinated loan (Oslo Municipality)	NOK		2 347	2037
<b>Total</b>			<b>13 498</b>	
<b>Current share</b>			<b>2 187</b>	
<b>Non-current share</b>			<b>11 311</b>	

Note 15. Current and non-current interest-bearing debt continued

For all loans in foreign currency, payments of principal and fixed interest payments in foreign currency are exchanged at a 1:1 ratio, with principal payments in NOK, and floating interest payments in NOK upon entering into combined interest rate and currency swap agreements. The hedging instruments have the same duration and due date as the loans and there is an economic relationship. For accounting purposes, this is treated as a fair value hedge pursuant to NRS 16.20, and the carrying value of the loan on the balance sheet is equal to the principal, that is to be paid in NOK. Similarly, both interest expenses and accrued interest are the results of the floating interest that the company pays in NOK.

Moreover, agreements for interest swaps from fixed to floating interest rates have been signed for bond loans in NOK. These are also recognised at fair value hedges pursuant to NRS 16.20. The hedging instruments have the same duration and due date as the loans and there is an economic relationship. As in the case of loans, both interest expenses and accrued interest represent the floating interest rate the company pays in NOK.

The derivatives are not recognised on the balance sheet. Unrealised loss/gains on the derivatives offset the effect of the hedged risk on the profit.

The average interest rate on the Group's loan portfolio at 31 Dec. 2018 was 2.78 per cent (31 Dec. 2017: 2.6 per cent).

At 31 Dec. 2018, the term to maturity on the Group's loan portfolio (except subordinated loans) was 3.65 years (31 Dec. 2017: 3.6 years).

E-CO Energi Holding AS has an overdraft facility of NOK 1.5 billion that will continue to apply until 2022, with an option for a one-year extension. At 31 Dec. 2018, the facility was undrawn. Current liabilities within the framework of the undrawn part of the credit facility are classified as non-current liabilities on the balance sheet at 31 Dec. 2018.

MATURITY PROFILE, DEBT PORTFOLIO 31 DEC. 2018 (Amounts in MNOK)	Balance 2018	2019	2020	2021	2022	2023	After 2023
Liabilities related to the corporate account	1 777	1 777					0
Subordinated loan (Oslo Municipality)	2 347						2 347
Bond loans	1 250	0	100			500	650
Bank loans/other long-term borrowings	8 124		310				7 814
<b>Total</b>	<b>13 498</b>	<b>1 777</b>	<b>410</b>	<b>0</b>	<b>0</b>	<b>500</b>	<b>10 811</b>

31 DEC. 2017 (Amounts in MNOK)	Balance 2017	2018	2019	2020	2021	2022	After 2022
Liabilities related to the corporate account	1 453	1 453					0
Commercial papers	500	500					0
Subordinated loan (Oslo Municipality)	2 347	2 347					2 347
Bond loans	1 750	1 750	100			500	650
Bank loans/other long-term loans	6 324	6 324	310				6 014
<b>Total</b>	<b>12 373</b>	<b>12 373</b>	<b>410</b>	<b>0</b>	<b>0</b>	<b>500</b>	<b>9 011</b>

The Group's loan agreements include a negative pledge clauses that prevents individual lenders from obtaining higher priority than others by way of liens. Further, a majority of the Group's loan agreements include an ownership clause, which entails that if Oslo Municipality's ownership interest drops to less than 50.1 per cent, the lender is entitled to call in the loans.

#### Subordinated loan

E-CO Energi had a subordinated loan from Oslo Municipality valued at MNOK 2 347 at 31 Dec. 2018 (31 Dec. 2017: MNOK 2 347).

For 2018, the interest rate was 5.45%. If the net profit for the year for the Group shows a deficit after interest has been charged, the interest is to be reduced by the amount of the deficit or to 0. The reduction is final and the interest amount shall not be paid at a later date. This means that this loan does not have the same interest rate exposure as the other loans.

The subordinated loan is irrevocable on the part of the lender until its due date on 31 Dec. 2037.

## Note 16 Pledges or guarantees

E-CO Energi Holding AS has not pledged to any collateral or guarantee liabilities.

## Note 17. Related party disclosures

The following are considered closely related party by E-CO Energi Holding AS:

- Oslo Municipality
- Subsidiaries (Note 8.1 in the consolidated accounts)
- Associates and joint ventures (Note 3.2 in the Group)
- The E-CO Energi Pension Fund
- Hafslund E-CO AS (owner)

Hafslund E-CO AS owns 100 per cent of the shares in E-CO Energi Holding AS.

Hafslund E-CO AS owns 100 per cent of the shares in E-CO Energi Holding AS, and Hafslund E-CO is owned 100 % by the Oslo Municipality. Oslo Municipality was a shareholder i Hafslund ASA until the the company fissioned out all other business than hydroelectric power production. E-CO Energi Holding AS purchased 90 per cent of the shares in the Hafslund Produksjon Holding AS (former Hafslund ASA). In 2017, parts of a subordinated loan from Oslo Municipality were converted to equity of MNOK 1 000. The outstanding loan amount at 31 Dec. 2018 is MNOK 2 347. Accrued interest on the subordinated loan from Oslo Municipality was MNOK 129 in 2018.

Transactions and inter-Group accounts with subsidiaries:

<b>PROFIT OR LOSS (Amounts in MNOK)</b>	<b>2018</b>	<b>2017</b>
Revenue	2	4
Expenses	(2)	(2)
Interest income	102	94
Interest expenses	(15)	(8)
Group contribution and dividends	1 880	1 313
<b>Total</b>	<b>1 969</b>	<b>1 399</b>
<b>BALANCE SHEET (Amounts in MNOK)</b>	<b>2018</b>	<b>2017</b>
Non-current receivables	4 715	4 710
Accounts receivable	2	4
Group contribution and dividends	1 880	1 313
Other current receivables	1 932	43
Total assets	8 529	6 069
<b>Total</b>	<b>1 969</b>	<b>1 399</b>
Corporate account	1 777	1 453
Accounts payable	2	2
<b>Total liabilities</b>	<b>1 779</b>	<b>1 455</b>

Paid-in capital in the E-CO Energy Pension Fund is recognised on E-CO Energi Holding AS's balance sheet at MNOK 50.

Apart from said transactions, other transactions related to the ordinary purchase/sale of goods and services are not considered significant. Transactions with related parties were completed at market terms on the basis of the arm's length principle.

## Note 18. Subsequent events

The Boards of Directors of Eidsiva Energi and Hafslund E-CO have agreed on a draft agreement for a merger of the companies, as well as on principles for the conversion ratio. The negotiated draft of the system of agreements complies with the letter of intent between the parties from November 2018, and it will be presented to the companies' owners for a decision during Q2 2019. If the owners of both companies accept the merger and it meets with the approval of the authorities, the transactions are expected to be conducted in Q3 2019. For the E-CO Energi Group, any transaction will mean that Eidsiva Vannkraft will be transferred to the subsidiary E-CO Energi AS on a debt-free basis, making it part of a jointly-owned production company, where Hafslund E-CO (through E-CO Energi Holding AS) will be the majority shareholder and Eidsiva Energi AS (half of which will be owned by Hafslund E-CO) will be a significant co-owner, with a 42.8 per cent share. E-CO Energi Holding AS's ownership in Hafslund Produksjon Holding is not included in the transaction.

Apart from the abovementioned, no other significant events have been identified after the balance sheet date.



To the General Meeting of E-CO Energi Holding AS

## *Independent Auditor's Report*

### *Report on the Audit of the Financial Statements*

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#### *Opinion*

We have audited the financial statements of E-CO Energi Holding AS, which comprise:

- The financial statements of the parent company E-CO Energi Holding AS (the Company), which comprise the balance sheet as at 31 December 2018, 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 E-CO Energi Holding AS and its subsidiaries (the Group), which comprise the financial position as at 31 December 2018, statement of comprehensive income, statement of changes in equity and statement of cash flows 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.
- 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.

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#### *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.

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## Independent Auditor's Report - E-CO Energi Holding AS

### *Other information*

Management is responsible for the other information. The other information comprises information in the annual report, except the financial statements and our auditor's report thereon.

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 Managing Director for the Financial Statements*

The Board of Directors and the Managing Director (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 the Norwegian Accounting Act and accounting standards and practices generally accepted in Norway, and for the preparation and fair presentation of the consolidated financial statements of the Group in accordance with International Financial Reporting Standards as adopted by the EU, 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 consolidated 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.

For further description of Auditor's Responsibilities for the Audit of the Financial Statements reference is made to <https://revisorforeningen.no/revisjonsberetninger>



Independent Auditor's Report - E-CO Energi Holding AS

### *Report on Other Legal and Regulatory Requirements*

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#### *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 concerning the financial statements, the going concern assumption and the proposed allocation of the result is consistent with the financial statements and complies with the law and regulations.

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#### *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, 14 March 2019  
**PricewaterhouseCoopers AS**

Marius Thorsrud  
State Authorised Public Accountant

*Note: This translation from Norwegian has been prepared for information purposes only.*

## Statement pursuant to §5-5 of Norway's Securities Trading Act

The directors and the president and CEO hereby declare:

- To the best of our knowledge the consolidated financial statements for 2018 are compliant with IFRS as established by the EU with requirements for additional disclosure pursuant to the Norwegian Accounting Act. Further, the financial statements for the parent company for 2018 have been submitted in accordance with the Norwegian Accounting Act and generally accepted accounting principles in Norway, and the accounting information disclosed in the financial statements give a correct impression of the enterprise's and the Group's assets, liabilities, financial position and overall performance.
- To the best of our knowledge the Director's Report for 2018 gives a correct picture of the development, profit and the position of the enterprise and the Group along with a description of the principal risks and uncertainties that the enterprises face.

Oslo, 14 March 2019

The Board of Directors of E-CO Energi Holding AS



Finn Bjørn Ruyter  
Chair of the Board



Martin Sleire Lundby



Gunnar O. Braaten



Håkon Mørch Korvald



Toril Benum



Alf Inge Berget  
President and CEO

## Words and expressions

### UNITS OF ENERGY

V	Volt	unit of measurement for voltage
A	Ampere	unit of measurement for current
W	Watt	unit of measurement for output
kW	kilowatt	1 000 W
kWh	kilowatt hour	1 000 kWh
MW	megawatt	1 000 kW
MWh	megawatt hour	1 000 kWh
GW	gigawatt	1 000 MW
GWh	gigawatt hour	1 000 MWh
TW	terawatt	1 000 GW
TWh	terawatt hour	1 000 GWh

### A UNIT SET

is a production unit for electrical energy.  
A unit set includes both a turbine and a generator.

### OUTPUT

is the energy or work performed per time unit.  
Output can be specified *inter alia* in Watts (W).

### BOTTLENECKS

arise when the transmission grid system does not have the capacity to transmit enough power. A bottleneck arises due to insufficient availability of production capacity in connection with limited import opportunities, or due to a production surplus related to limited export opportunities.

### A MULTI-YEAR RESERVOIR

is a reservoir in which filling and draw-off take place on a multi-year basis to even out annual fluctuations in inflow and runoff from adjacent catchment areas

### GENERATOR

is a rotating engine that converts mechanical energy into electrical energy.

### A YEAR-ROUND RESERVOIR

is a reservoir that has a filling and draw-off cycle of one year.

### TRANSMISSION CAPACITY

is the output a power line is allowed to transfer.

### PRICE AREAS

are created by Statnett when there is expected to be a shortage of energy in a geographically limited area or in order to deal with bottlenecks in the grid system. The number of price areas Statnett uses in Norway varies, and price areas often lead to price differences between various price areas.

### PUMPING STORAGE POWER STATIONS

are power plants that can be used either for power production or to pump water up to an intake pound for use at a later date. The filling period is the time the pumps in a pumped storage power plant run. In Norway, this is usually done in summer, but in some countries, pumps can also be run at night.

### REGULATING POWER

is used to adjust the power system so that there is a balance between consumption and production at all times. The players in the power market report prices to lower or raise production/consumption.

### A SEASONAL RESERVOIR

is a reservoir in which filling and draw-down take place on a seasonal basis, e.g. so that surplus water in the summer is retained to make up for shortfalls in the winter.

### THERMAL POWER PRODUCTION

is the production of electricity using gas and/or steam turbines. Production can be based on fossil fuels such as coal, oil or natural gas, or on different types of biofuel, e.g. waste.

### TRANSFORMER

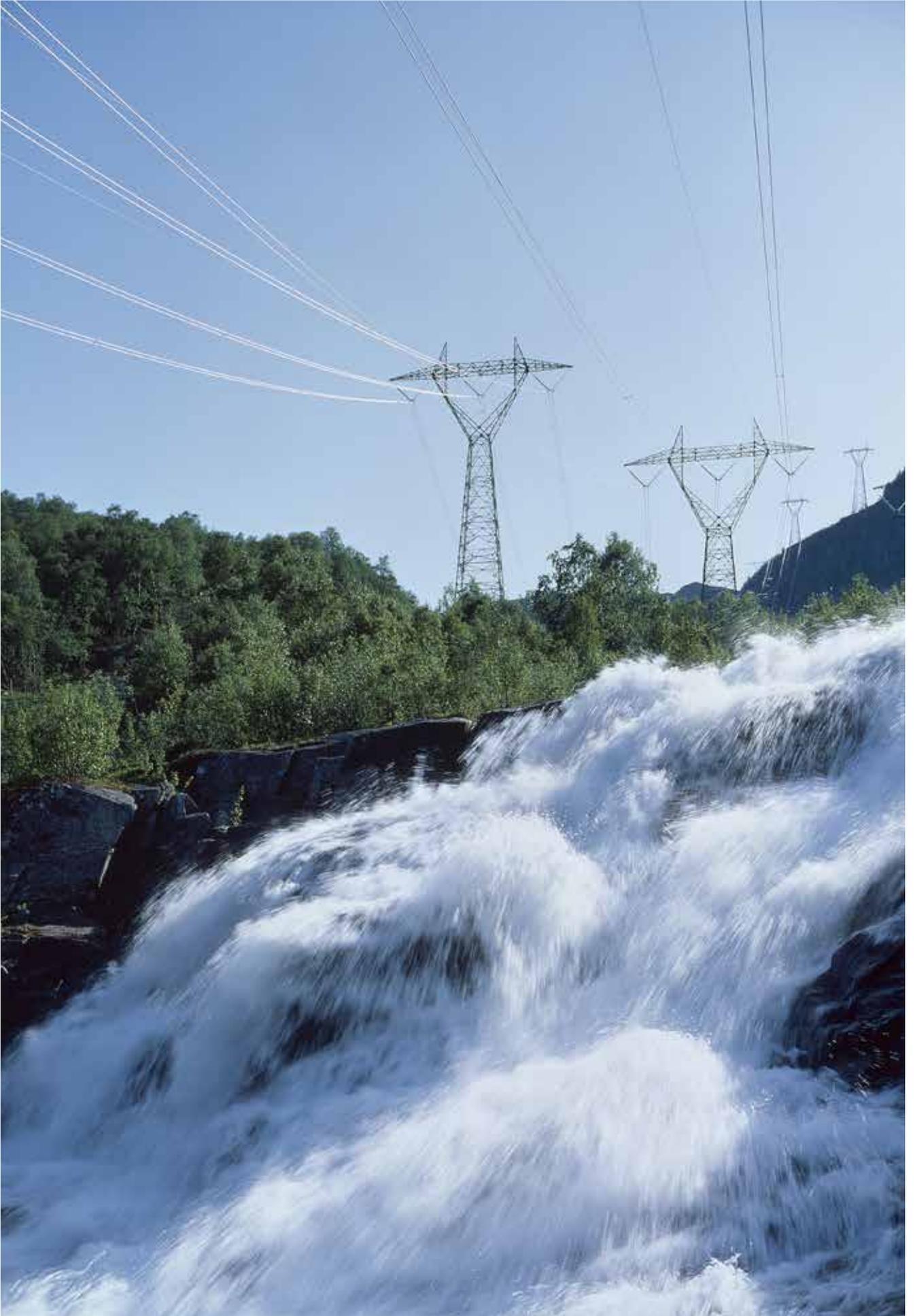
is an apparatus that transforms alternating current of one voltage into alternating current of another voltage.

### AVAILABILITY

is the designation for the percentage of the total time a generator in a power plant is available to produce electricity.

### TURBINE

is a machine in which the water in a hydropower plant and the steam or combustion gases in a thermal energy plant are fed into one or more blades fixed to an axle so that it leads to rotation that converts the energy of the water, steam or gas into mechanical energy.





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