

# 2018

## Annual Report

SUSTAINABLE  
FINNISH  
ENERGY



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# Towards the future with strong skills

I took over as the CEO of Pohjolan Voima in August 2018, when Lauri Virkkunen, who had headed Pohjolan Voima for eight years, retired. I have been greatly impressed by the highly skilled employees of Pohjolan Voima and their commitment to their jobs as well as by our extensive networks. We bring resources together with a strong focus on the future.

The energy sector is more regulated by political decision-making and regulation than many other lines of business. We expect political leaders to have the ability to see and understand the big picture instead of partial optimisation. The mitigation of climate change is an important, common issue. At the same time, it is important to take care of our electricity system's cost competitiveness and markets.

## We tightened our climate goals in celebration of our anniversary

Pohjolan Voima celebrated its 75-year journey in 2018. The main theme of our anniversary was an energy future in which the megatrends pointing the way forward for the energy sector include climate change, digitalisation and the increasingly strong role of customers.

We tightened our climate goals to mark our anniversary. We now aim to increase the share of carbon-neutral electricity production to more than 95 per cent by 2020. We are already well on our way to achieving this goal, given that the share of our carbon-neutral production last year was nearly 90 per cent.

## Agile pilot projects making use of digitalisation

In 2018, we initiated experimental, low-threshold pilot projects based on intelligence in hydropower and thermal power. The pilot projects improve our understanding of the many opportunities offered by analytics and allow us to look for novel ways by which to manage our power plant assets safely, efficiently, reliably and economically. A good example of such initiatives is our hydropower company's groundbreaking collaboration with the University of Oulu, aiming to find out which factors slow down the control of a hydropower plant and how to further develop this control.

## Strengthening our corporate culture together

In 2018, we worked especially hard to strengthen our corporate culture. In particular, we aimed to inspire, communicate, listen and engage. Together with our personnel, we defined our strategic skills, energised in a shared well-being project, piloted the practices of work independent of time and place, and strengthened the role of each of us as a communicator.

According to the 2018 personnel survey, 86 per cent of our employees consider Pohjolan Voima to be a good workplace as a whole. Our employees value Pohjolan Voima's strong atmosphere and community spirit, our competence and openness to change, as well as flexible work practices. We received a Great Place to Work® certificate, a recognition for the building of a good workplace and the creation of a corporate culture based on trust.

## Close cooperation with hydropower stakeholders

Due to the dry summer, the production of our hydropower company in 2018 was, at 1.5 TWh, slightly below a normal water year. We modernised the electricity and automation systems and overhauled the turbines and generators of the lowermost hydropower plant in the Iijoki river, Raasakka. The modernisation improves the availability of the power plant and provides a boost to load-following capacity.

In the revival of migratory fish, we relied on wide cooperation and a diverse set of means. Our hydropower company continued the Iijoen Otva waterway project vision together with the municipalities of the Iijoki area. We prepared a division agreement, referred to as the Iijoki agreement, on the implementation of the Iijoki waterway vision and action plan for 2019–2023.

In the context of the Iijoki migratory fish spearhead project, we planned the fishway of the Raasakka power plant. The Natural Resources Institute Finland designed steering booms for the downstream migration of the migratory fry of salmon and trout, meant to be installed in the summer of 2019. The project aiming to develop what is referred to as the old riverbed of Raasakka progressed. At Isohaara, along Kemijoki, we tested the Kalasydän solution in cooperation with other hydropower operators.

## Asset management and environmental permits at thermal power plants

Pohjolan Voima's combined heat and power plants produce district heat and process steam for local industry and communities, as well as electricity. We invested in solutions which improve the competitiveness, flexibility and efficiency of our plants' energy production and reduce emissions at the same time. In 2018, we carried out extensive annual maintenance at our Kymin Voima biopower plant in Kuusankoski, Kouvola, thereby ensuring the plant's good availability for years to come. A project which improves the controls of the power plant's boiler by enhancing combustion management was kicked off at our Kaukaan Voima biopower plant in Lappeenranta. We continued our preparations to meet the requirements for the best available techniques for large combustion plants and secured permits for our plants.

We continued the preparation for dismantling the coal-fired condensing power plants in Kristiinankaupunki and Tahkoluoto, Pori, and looked for opportunities to utilise the infrastructure. We sold the shares entitling us to the production capacity of the Meri-Pori coal power plant to Fortum.

## Hot tests and full-scale final disposal test at Olkiluoto

We carried out the largest modernisation work in the history of our joint venture TVO's Olkiluoto nuclear power plant and furthered the development of the safety culture. In September 2018, the government granted an operating licence for OL1 and OL2 for the next twenty years. The hot tests of the OL3 plant unit were concluded, the training of the operating personnel continued, and we received the first decisions of authorities on the operator licences. According to the schedule updated by the plant supplier in November 2018, regular electricity production of OL3 will begin in January 2020.

Posiva Oy is constructing a safe disposal facility for its owners' spent nuclear fuel on the Olkiluoto island. A full-scale in-situ system test (FISST) realised in the demonstration facilities of Posiva's disposal facility started. The test aims to prove that Posiva's safe disposal concept can be realised as planned.

## Continuous development of responsibility

Every year, we select a few points of our action programme for responsibility on which to focus. We progressed as planned in terms of the 2018 development targets concerning responsible operations in the development of safety management and the value chain's responsibility as well as in the assessment of the circular economy. Pohjolan Voima's own employees did not have any accidents leading to absence from work (LTA1); our suppliers had three. We were unsuccessful in our attempt to improve our dialogue with non-governmental organisations as planned.

## Towards the future skilfully, boldly, together

The energy sector takes care of people's basic needs: power and heat. Pohjolan Voima produces power and heat at cost price to its customers, who are simultaneously our shareholders. In this way, we contribute to ensuring the success of our customers and indirectly create jobs and well-being across Finland. All in all, we did well in this task in 2018. I am happy of the fact that our customer satisfaction is on a good level. My thanks for a successful year go to all of Pohjolan Voima's employees, customers and partners. At the same time, I also wish to thank my predecessor Lauri Virkkunen.

After our celebratory year, we continue to look to the future. The electrification of societies increases the importance of the energy sector. The industry's future does indeed look bright. Our launch pad for the future is made up of our skilled, competent, and committed personnel, solid Finnish ownership, and our strong values – skilfully, boldly, together.

### **Ilkka Tykkyläinen**

President and CEO, Pohjolan Voima Oyj

# Production year 2018

In 2018, Pohjolan Voima's electricity production was 12.0 TWh\*. Pohjolan Voima's share of all electricity produced in Finland was approximately 18%. Heat production totalled 4.4 TWh.

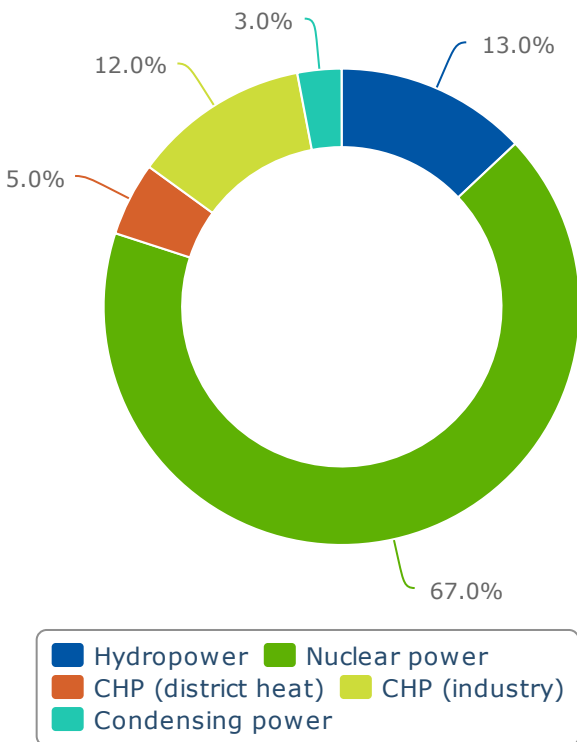
Pohjolan Voima's total electricity production capacity was 2,704 MW at the end of 2018. Its share of Finland's total electricity production capacity was about 16%. Heat production capacity was 1,472 MW. The electricity production capacity includes the capacity of PVO-Lämpövoima Oy's condensing power plants (477 MW), where production activities have ceased, and the production share of the Meri-Pori plant that was sold at the turn of the year (146 MW).

\* The electricity and heat production volumes and capacities of Pohjolan Voima are now presented in the production year review using Group figures instead of figures compliant with shares of ownership in Pohjolan Voima, which were used before. The figures for the previous years have been converted to correspond to the new presentation method.

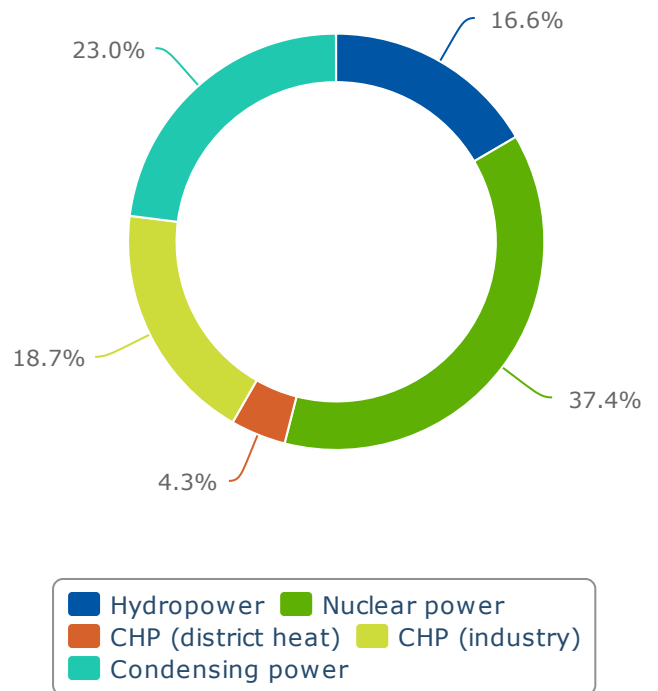
[Also see Pohjolan Voima's production capacity on 31 December 2018](#)

Electricity consumption in Finland in 2018 was 87.4 TWh. Electricity production totalled 67.5 TWh, while net imports into Finland amounted to 19.9 TWh. In 2018, electricity consumption in Finland increased by 2% year-on-year. Industrial electricity consumption increased by 2% and electricity consumption in other sectors increased by 3% year-on-year.

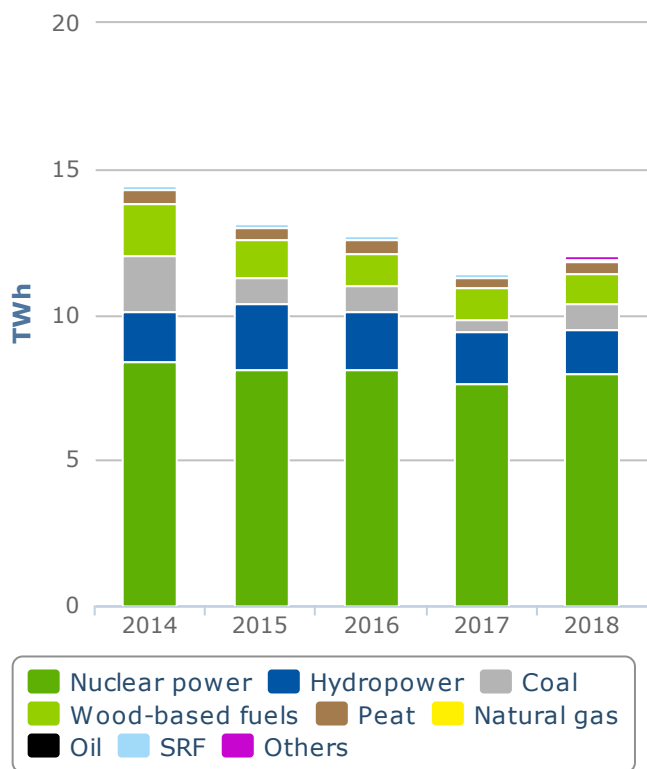
**Pohjolan Voima's electricity production in 2018, 12.0 TWh**



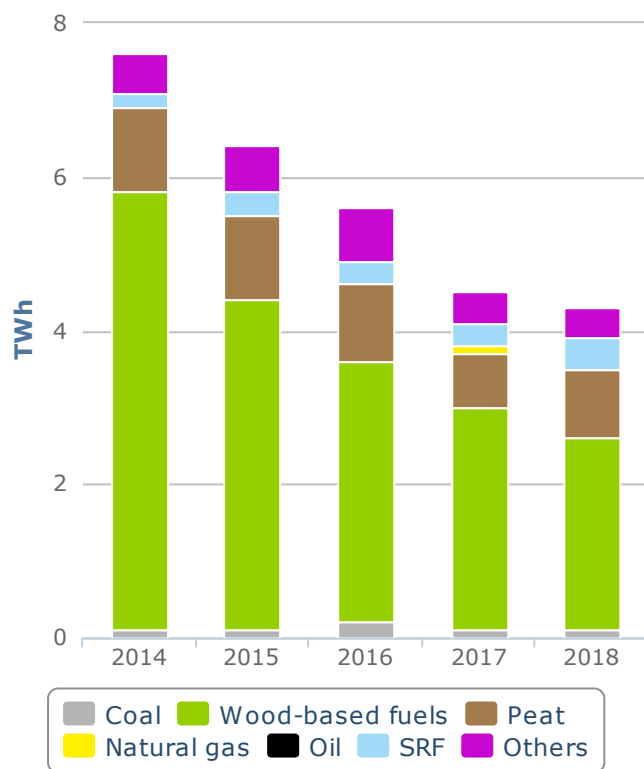
**Pohjolan Voima's electricity production capacity on 31 December 2018, 2704 MW**



**Pohjolan Voima's electricity production, by energy source in 2014 - 2018, TWh**



**Pohjolan Voima's heat production, by energy source in 2014 - 2018, TWh**

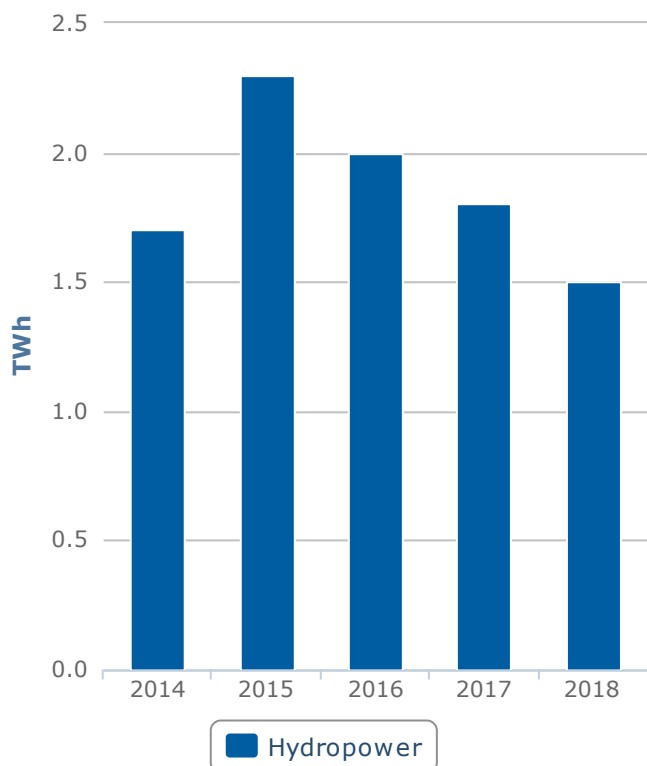


## Hydropower production

Pohjolan Voima has a total of 12 hydropower plants located along the Iijoki, Kemijoki, Kokemäenjoki and Tengeliönjoki rivers. The combined electricity generation capacity of these plants is 541 MW, of which Pohjolan Voima's share is 449 MW.

In 2018, a total of 1.5 TWh of electricity was produced using hydropower. The hydropower production volume remained slightly below the normal level due to the dry summer.

## Pohjolan Voima's hydropower production in 2014 - 2018, TWh



## Thermal power production

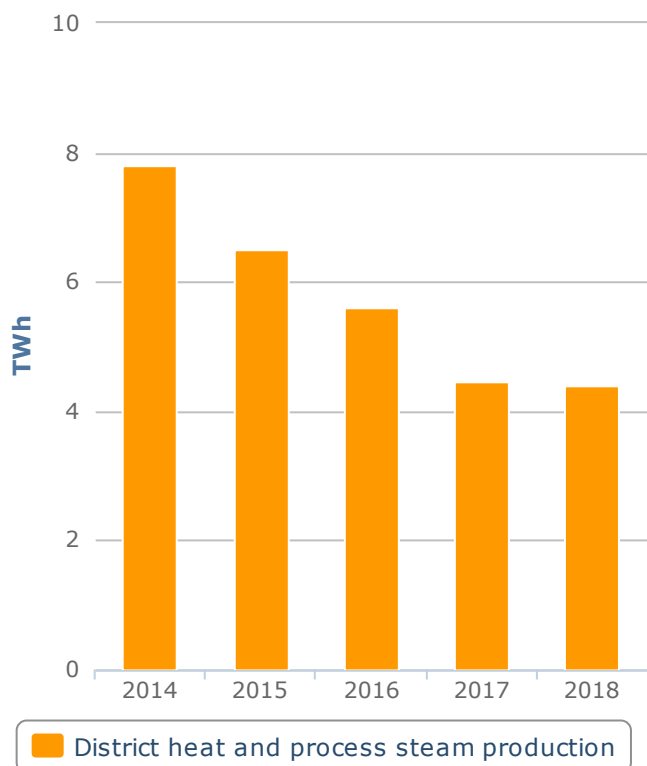
In its thermal power production, Pohjolan Voima's total capacity at the end of the year was 1,243 MW, of which 620 MW was combined heat and power production and 623 MW was condensing power production. The condensing power production capacity includes the capacity of PVO-Lämpövoima Oy's condensing power plants (477 MW), which were in production operation until the end of 2015, and the production share of the Meri-Pori plant that was sold at the end of 2018 (146 MW). Pohjolan Voima's share of the Seinäjoki power plant (63 MW) was sold in March 2018.

The combined heat and power plants produce district heat and process steam for local industry and communities, as well as electricity. In 2018, the heat output of the combined heat and power plants was 4.4 TWh and the electricity output was 2.1 TWh. The condensing power plants produced 0.4 TWh of electricity. Electricity production in the entire thermal power production segment increased from the previous year due to higher market prices.

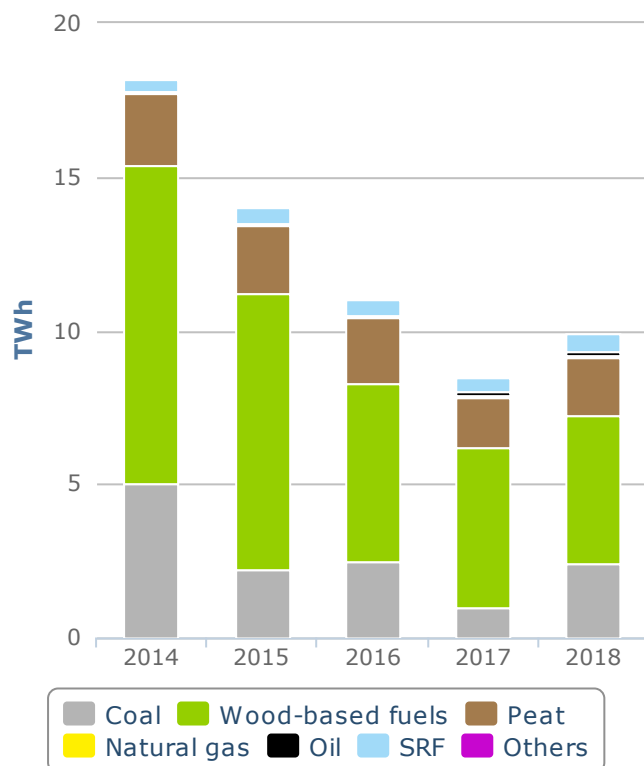
In 2018, our thermal power plants consumed 4.8 TWh of wood-based fuels, 2.4 TWh of coal, 1.9 TWh of peat and 0.6 TWh of recycled fuel (SRF, Solid Recovered Fuel). Oil and natural gas are used as startup and backup fuels.



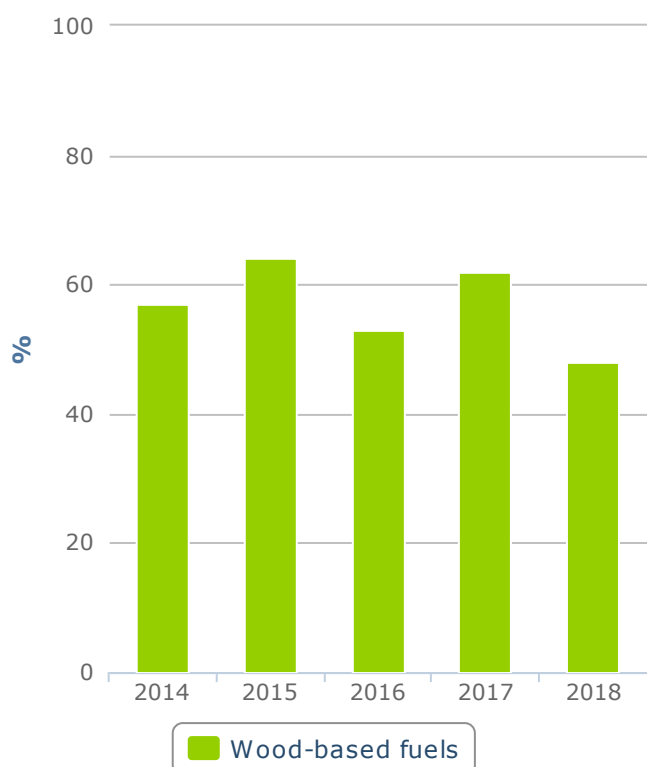
### Pohjolan Voima's district heat and process steam production in 2014 - 2018, TWh



### Pohjolan Voima's fuels in heat and electricity production in 2014 - 2018, TWh



### Share of wood-based fuels in heat and electricity production in 2014 - 2018, %



## Nuclear power production

Teollisuuden Voima Oyj (TVO), a joint venture partially owned by Pohjolan Voima, operates a nuclear power plant in Olkiluoto, Eurajoki. The combined output of the nuclear power plant's two plant units is 1,780 MW.

Overall, the production year of the Olkiluoto nuclear power plant was good. The capacity factor was lowered by unplanned production interruptions of the OL2 plant unit and major modifications and repairs carried out in connection with the annual outage of the OL1 plant unit. Due to the modifications, the rated output of the OL1 plant unit increased to 890 MW at the turn of the year (from 880 MW). Total production volume of the entire power plant last year was 14.1 TWh. Pohjolan Voima's share of the production amounted to 8.0 TWh. The average capacity factor of the plant units was 91.1%.

Read more at [www.tvo.fi](http://www.tvo.fi)

# Responsibility

Responsible operations are part of Pohjolan Voima's strategic outlook. Our values – skilfully, boldly, together – create the foundation for our corporate responsibility. For Pohjolan Voima, responsibility means the responsible management of financial, social and environmental issues.

Pohjolan Voima's cost price operating model is the foundation of the responsible operations: our extensive cooperation network ensures that the benefits from Finnish electricity and heat production can be felt all around Finland. We do our part in enabling the success of our owners, and our operations indirectly create jobs and wellbeing for the whole of Finland.

The responsible operations are guided by responsibility policies approved by the Pohjolan Voima Board of Directors. Our responsibility programme, or action programme to develop responsible corporate operations, describes the current state of factors important to Pohjolan Voima's business operations and to its stakeholders, as well as development and monitoring needs.

The responsibility programme is updated on an annual basis. The responsibility programme includes factors that have been identified as important and have been placed under monitoring. Development measures have been established for some of these factors.

[Visit our website to read more about our responsibility programme and responsible operations.](#)

## We develop selected responsibility focus areas

Each year, we select focus areas for the development of responsibility. In 2018, the focus areas were:

- Development of safety management
- Responsible value chain
- Development of NGO cooperation
- Assessment of circular economy

## We promote our safety culture

In 2018, we started a safety development project that will continue in 2019. The goal is to strengthen Pohjolan Voima's safety culture and develop the measurement and analysis of the actual safety level. Meanwhile, we will also improve processing of safety and environmental observations.

## We ensure responsible operating methods throughout the value chain

We continued with the development of responsible operating methods in the value chain. Over the course of the year, we audited two of our recycled fuel suppliers and continued to audit our peat suppliers. The employees of our hydropower partners completed our online responsibility course. We also contemplated expanding the responsibility training and audits to cover our other key suppliers.

We promoted responsible hydropower production through several voluntary cooperation projects.

[For more information, please see the Environment section.](#)

## We aimed for cooperation with NGOs

In a stakeholder survey carried out in 2017, most non-governmental organisations wished for more cooperation with us. The development of cooperation and interaction with the NGOs has been one of our responsibility focus areas since 2017. In 2018, we invited representatives of NGOs to our events for discussions with us. We were unable to improve the interaction in 2018, however.

## We assessed importance of the circular economy in Pohjolan Voima

In 2018, we investigated the significance of the circular economy in Pohjolan Voima together with all of our energy production methods and production companies. We are already engaged in many aspects of the circular economy, but have failed to tell our stakeholders about these actions to a sufficient extent.

Introduced ideas included better utilisation of excess heat, which is also an issue connected to energy efficiency, further improvement of the utilisation of a variety of by-products in cooperation with other parties and recycling of water fractions. In future, we will continue to focus on the development of these ideas and the circular economy.

We replaced “resource efficiency” with “circular economy” in the sections on these issues in our responsibility programme.

## Appropriate management and improvement of HR and environmental issues are important parts of responsible operations

As part of our responsibility efforts, we apply best practices in our environmental, energy efficiency and occupational health and safety operations, and we strive to continuously improve them.

Legislation and operating principles to be followed in Finland include principles corresponding to the ten internationally recognised human rights, labour, environment and anti-corruption principles of the UN Global Compact.

## Personnel

Our competent, capable and committed employees enable our success during the challenging reform of the energy industry. According to the 2018 personnel survey, 86% of our employees consider Pohjolan Voima to be a good workplace as a whole. The employees value Pohjolan Voima’s good atmosphere, community spirit, competence, openness to change and flexible work practices.

A little less than a half of the employees work for Pohjolan Voima Oyj and a little over a half are employed by the production companies. The personnel structure focuses on expert tasks.

## Values guide everything we do

Our corporate culture and operating methods are based on the values, which have been determined together with the employees: skilfully, boldly, together. The values guide everything we do. The “skilfully” value also covers the fact that we always work safely. At the end of 2018, we launched a safety project which aims at increasing Pohjolan Voima’s safety level and developing the measurement and analysis of the actual safety level by using the best applicable data platform.

## Together! – development of corporate culture

The Group-level corporate culture development project dubbed Together! continued throughout 2018. The top-level project included five subprojects:

- Future and strategy
- Changing work practices
- Working method reform
- All of us are communicators
- More energy from wellbeing

The project aimed at promoting our corporate culture, especially in the fields of motivation, communication, listening and participation.

We determined Pohjolan Voima's strategic capabilities as part of Together! The employees actively participated in the work by determining what the capabilities mean for the competencies of each unit.

**We continued with the development of new work practices.** Based on discussions with the employees, experiences from the flexible work pilot project, which allows employees to work regardless of the time and place, have been positive. The pilot project was started last year. We more widely introduced the flexible practices based on the discussions.

The goal of the project **All of us are communicators** was to highlight the important role of each Pohjolan Voima employee as a communicator. We supported the employees' communication competence by offering them training on communication channels and social media, as well as by providing tips on how to use the different channels in their expert work. These issues were also covered during performance reviews. In addition, we further specified the roles of our communication and discussion channels.

We strongly invested in the **comprehensive wellbeing of our employees**. All employees had the opportunity to participate in training and info sessions on physical, mental and social wellbeing.

As in the previous years, the 2018 personnel satisfaction survey included collecting feedback from the personnel and assessing our management practices. The personnel satisfaction survey response rate increased from 87 to around 90 per cent, which is an indicator of the employees' willingness to participate in the development of the company and its operations.

Meanwhile, we received a Great Place to Work® certificate, a recognition on the building of a good workplace and the creation of a corporate culture that is based on trust. The certificate is awarded to companies that achieve a Trust Index of at least 70%. We openly reviewed the results of the personnel satisfaction survey with the employees, and each unit was tasked with setting a goal that will develop Pohjolan Voima's atmosphere.

## We actively monitor development of occupational health and safety

Occupational health and safety is measured by, for example, monitoring indicators such as the number of accidents among our own employees and the employees of our partners, the accident frequency and the number of safety and environmental observations made.

In 2018, the accident frequency in work done by Pohjolan Voima's own employees and purchased services at the power plants was 4.4, which is less than half of the average accident frequency in the energy industry. Pohjolan Voima's own employees did not have any accidents leading to absence from work (LTA1). Employees of supplier companies had a total of three LTA1 accidents. Almost 700,000 person-hours were worked, of which Pohjolan Voima's own employees accounted for almost 250,000 hours. A total of 1,380 EHS (Environment, Health and Safety) observations were made.

In 2018, we arranged first aid training for the employees and purchased defibrillators for the work premises.

## Development of competence through training and discussions

In 2018, personnel development focused on shared training courses. Our internal training was strongly linked to the corporate culture development subprojects. The training courses dealt with communication, utilisation of the social media, wellbeing, self-management and the energy industry. On average, the employees were in training for four days in 2018.

We started monthly supervisors' round table discussions where the supervisors receive the latest news and have the opportunity to ask questions and point out development areas, as well as discuss the challenges of supervisory work. Personnel development is also supported by means of performance reviews and intermediate performance reviews, as well as coaching discussions. The latter are arranged as necessary. In 2018, the special themes in the performance reviews were internal communication and the communicator role of all employees.

## Key personnel figures in 2018

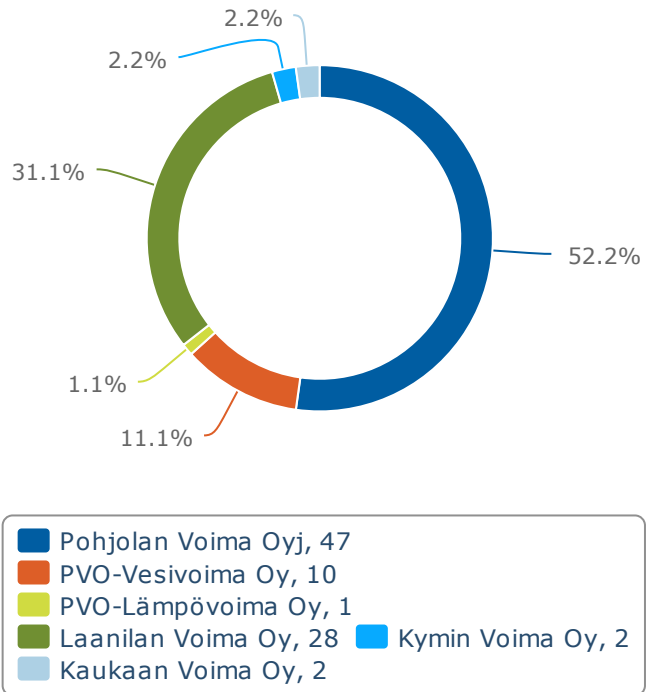
At the end of 2018, we employed 105 (in 2017: 106) people, of whom 15 (12) had a fixed-term employment relationship. The number of regular employees was reduced by two and the number of office employees increased by one from 2017. The increased number of non-permanent employees was mostly due to PVO-Lämpövoima's need to ensure high-quality implementation of the closure of the power plants.

The prevailing working time arrangement is full-time work. At the end of 2018, a total of 3.8% of the employees were part-time employees. The company employed a total of six summer employees in 2018. In 2018, average age of the permanent employees was 44 years (45 in 2017), and 25.6% (26.6%) of the employees were female. There have been no major changes in the age or gender distribution in the past few years.

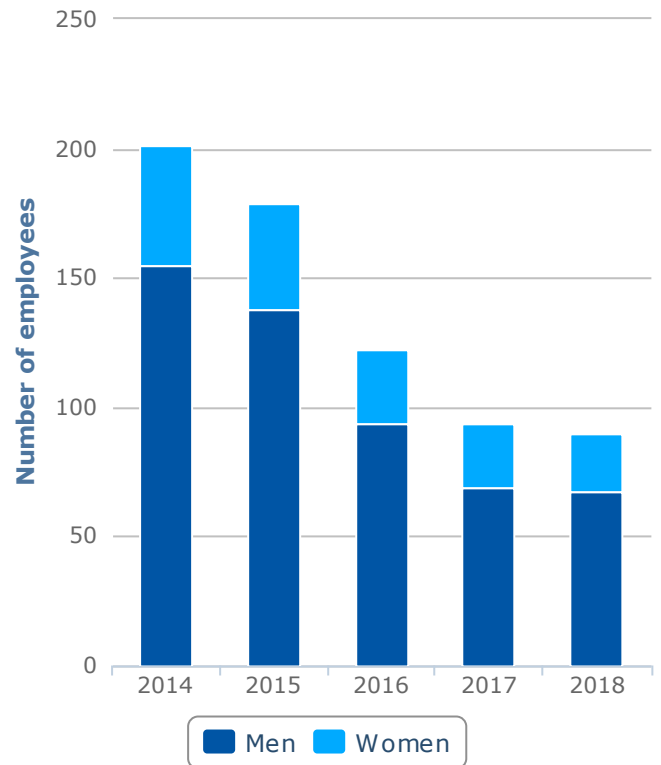
The total turnover of permanent employees in 2018 was 13.3% (8.2%). The personnel turnover was influenced by the fact that the Harjavalta functions of Pohjolan Voima's energy management business were sold to PD Power Oy on 1 January 2019, at which time the employees working in Harjavalta became employees of PD Power. Their employment with Pohjolan Voima ended on the last day of the year, which means that these employees influence the total turnover rate for the year. Most of the turnover comes from outgoing employees. Only some 10% of the turnover is due to retirement and less than 20% is due to incoming employees.

On average, employment contracts valid until further notice are fairly long, typically between 11 and 20 years.

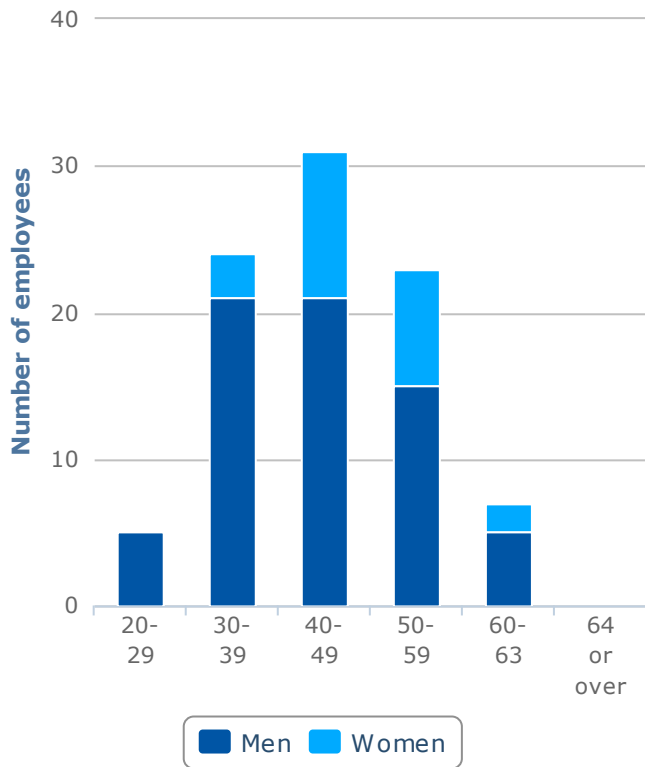
**Number of personnel by Group companies on 31 Dec 2018, in permanent employment, total 90**



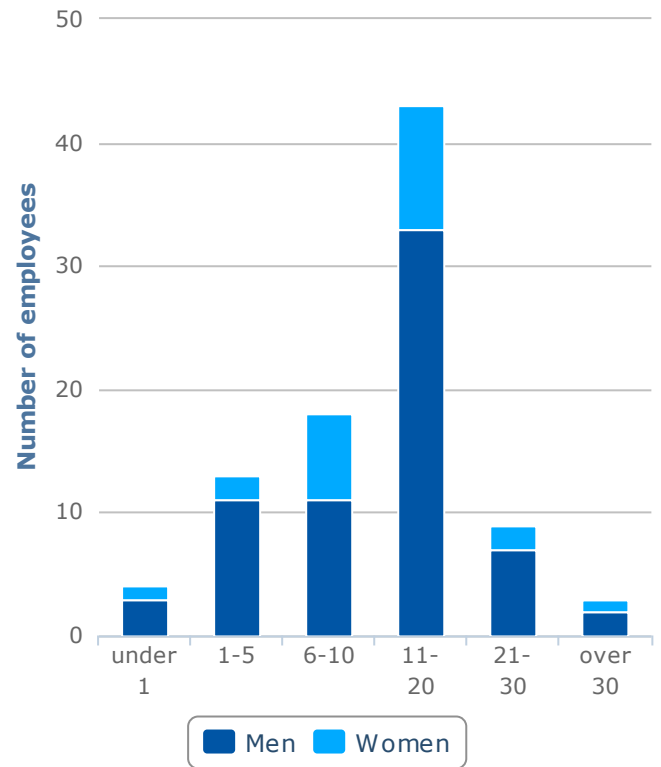
**Number of personnel on 31 Dec in 2014 - 2018, in permanent employment**



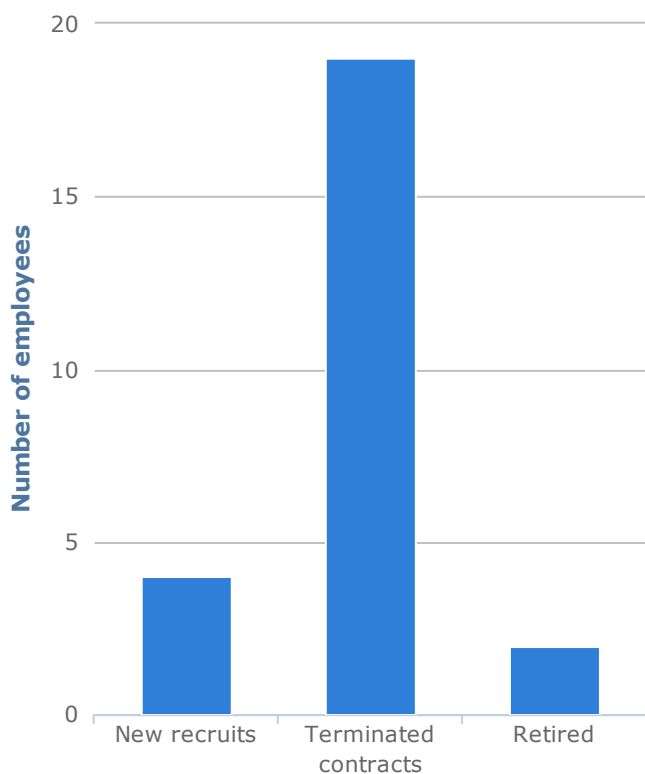
### Breakdown of personnel by age on 31 Dec 2018, in permanent employment



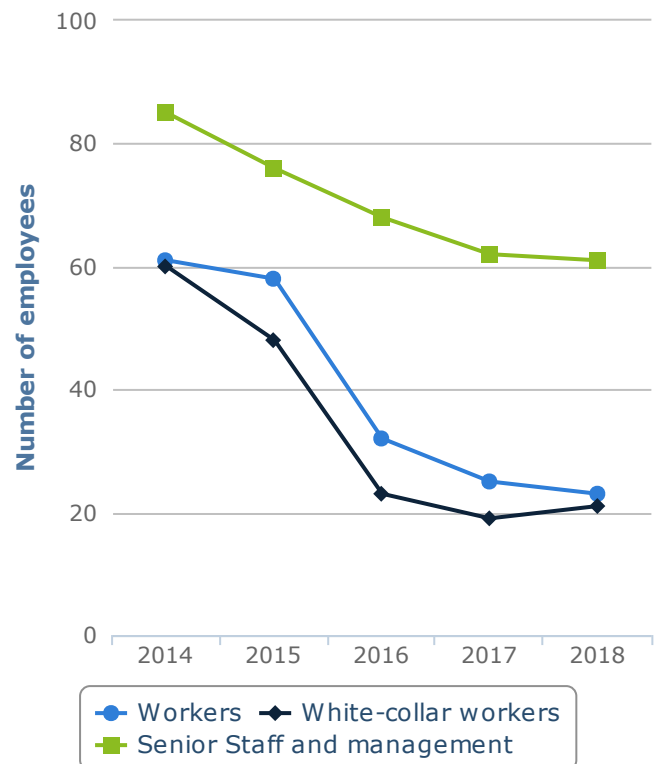
### Years of employment on 31 Dec 2018, in permanent employment



### Employee turnover in 2018, in permanent employment



### Personnel by personnel group in 2014 - 2018, in permanent employment and on fixed-term contracts





# Environment

A basic requirement for persistent, long-term energy production is maintaining a safe, healthy and diverse environment. Pohjolan Voima's work to mitigate any environmental impact from the operations is guided by the Group's [environmental and energy efficiency policy](#). We recognise and determine the environmental impact and risks resulting from our operations, natural values related to our operations and any opportunities to make our use of energy more efficient.

When preparing environmental impact assessments, we take into account the entire lifecycle of the power plant from project planning to decommissioning. We are committed to improving energy efficiency throughout our energy production modes and at all of our facilities.

Environmental management systems certified in accordance with ISO 14001 are in use in the majority of Pohjolan Voima's production companies, which helps to ensure the achievement of environmental objectives and continuous improvement of operations. In addition, all of our production companies use the energy efficiency system ETJ+ or the energy management system ISO 50001. Some of these systems are certified. Furthermore, the environmental management system of TVO (a joint venture of Pohjolan Voima) is EMAS registered. Some of the energy efficiency systems of our production companies were recertified in 2018.

## We aim at more than 95% carbon neutrality in electricity production

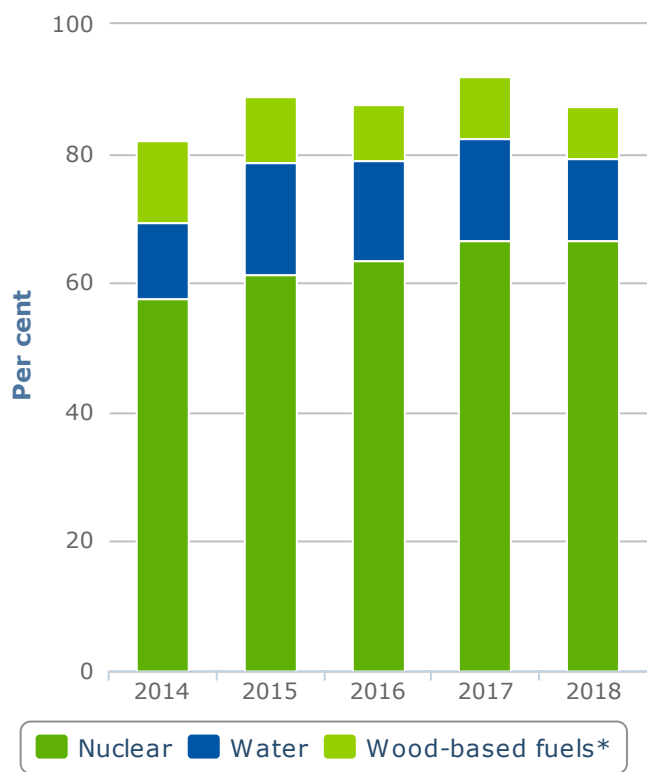
Electricity production forms in Pohjolan Voima's portfolio that are considered to be carbon-neutral are hydropower, nuclear power and electricity generated with carbon-neutral wood fuels in thermal power plants. In 2018, we increased our carbon neutrality target in the production of electricity to 95% by 2020, as we had exceeded our previous goal of 90%.

The share of our carbon neutral electricity production decreased to 87% in 2018, however, due to the lower hydropower production volume and increased use of fossil fuels. The volume of electricity produced with coal increased from the previous year. Due to the extremely rainy summer and autumn of 2017, wood-based fuels were wet and transport was difficult in the wet terrain. Hence, our combined heat and power production plants used more peat as the mixed fuel to secure energy production during the winter.

The share of carbon-neutral electricity production capacity is on the increase, however. Capacity increases increased the share of nuclear power and hydropower among our carbon-neutral energy sources, and we ceased separate electricity production with coal. Furthermore, regular electricity production of the OL3 EPR plant unit in Olkiluoto is expected to start in 2020.

## Carbon-neutral sources of Pohjolan Voima's electricity production in 2014 - 2018, per cent

\*Wood-based fuels are carbon dioxide-emission neutral.



## Long-term management of aquatic environment and cooperation to restore migratory fish stocks

Hydropower production has regional and local effects on water systems and fish stocks. In order to meet its obligation to sustain the fish stocks of the Kemijoki and Iijoki water systems and the sea area, our water company PVO-Vesivoima stocked around 2.5 million fry in 2018. Of these fry, 0.8 million were used to stock the Kemijoki sea and river area. This amounted to 17% of the total of 4.9 million fry stocked together with Kemijoki Oy.

## Did you know? Challenges with transport of river lampreys past dams into rivers

No actual transport of river lampreys past dams took place in the Iijoki river, because infectious haematopoietic necrosis (IHN) was detected in fish of the salmon family in the sea area. An agreement was made with the local water area owners and the Lapland Centre for Economic Development, Transport and the Environment that river lampreys would be transported to the old Raasakka riverbed and other waterways in the adjacent area instead. The catching of river lampreys was fairly successful, and a total of 50,000 river lampreys were transported.

In the Kemijoki river, the joint obligation of PVO-Vesivoima and Kemijoki Oy is 100,000 transported specimens. A total of 66,000 river lampreys were transported in the Kemijoki river in 2018. The exceptionally high water temperatures in the summer and early autumn slowed down the rise of river lampreys in all the rivers flowing into the Bay of Bothnia. The rise of the river lampreys took place later than normal.

The obligations are evened out between years; in good years, the number transported exceeds the obligation. Due to the continuing deficit in the Kemijoki river, PVO-Vesivoima Oy and Kemijoki Oy have increased the volume of river lamprey being caught at the Isohaara power plant. The results from new catching locations and methods have been encouraging, but the catching of river lampreys needs to be further developed. New solutions are currently being planned.

[For more information on fish stock management by the hydropower company, please visit our website.](#)

In 2018, inspections in compliance with the Dam Safety Act, to be held every five years, took place at the dams of the Haapakoski and Pahkakoski power plants and the dam of the Maunujärvi nature nutrition fish pond. A leak detected in the retaining earth dam of the Melo power plant in 2016 was repaired by grouting. The repairs should be completed by the end of 2019. The repair work has not affected the environment or power generation operations at the power plant.

## We work with partners to restore migratory fish

In cooperation with the Iijoki region municipalities, PVO-Vesivoima participated in a water system vision project called Iijoen otva. The project was launched by the Oulu Regional Council in late 2015 and concluded at the end of 2018. The EU was a co-financier.

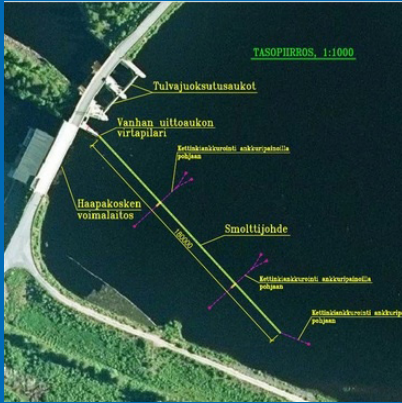
In 2018, the parties that funded the project conducted negotiations on a continuation project. The new project was named Iijoki-sopimus ("the Iijoki Pact"), and an agreement on it was signed on 8 January 2019. With the Iijoki Pact, the parties agreed on implementation of the Iijoki river vision and a related action plan for 2019–2023.

## Migratory fish spearhead project proceeds in Iijoki river

Our water company participates in a migratory fish stock project in the Iijoki river. The project was started in 2017. The action plan of the three-year project includes the following:

- Fishway for Raasakka power plant
- Downward migration solutions for smolt (young salmon and trout)
- Fry transplanting programme
- Fish transfers
- Measures to be implemented in old riverbeds of Raasakka and Maalismaa

Coordinated by the Oulu Regional Council, participants of the project include the Ministry of Agriculture and Forestry, several municipalities in the region, the Iijoki water system fishing area and Metsähallitus. The project is part of the nature policy spearhead project of the Finnish Government.



## First downward migration solution for smolt

Researchers of the Natural Resources Institute Finland completed their ground-breaking general plan on downward migration solutions for smolt in the Iijoki river in autumn 2018. It allows the guiding of young salmon and trout past power plants. The downward migration solution consists of a guiding fence in the upper basin and the actual downward migration route.

The first fence to guide smolt in Finland will be installed in early summer 2019 at our Haapakoski power plant as part of the Iijoki river migratory fish spearhead project. Researchers of the Natural Resources Institute Finland will be testing the fence for a period of two years.

In March 2017, PVO-Vesivoima and Metsähallitus filed a joint application with the Regional State Administrative Agency for Northern Finland for a water management permit to build planned fishways at Raasakka. Replies to statements and complaints regarding the application were submitted in August 2018.

The Regional State Administrative Agency did not make a decision in the matter before the end of 2018.



## Old riverbed of the Iijoki river in Raasakka is developed through cooperation

We develop the old natural riverbed at Raasakka in the Iijoki river with local partners. Extending into 2021, the project aims to improve the flow conditions and water quality, as well as to improve the state of the fish stock and promote recreational use of the area.

In summer 2018, we increased water flow to the Uiskari fishway to boost the rising of fish. Promising results have been received. Furthermore, horsetail has been removed and bathing beaches have been restored as well as a new disc golf course, ski tracks and snowmobiling routes opened.

## Joint development of regulation



We are developing regulation of the source lakes of the Iijoki river in cooperation with the municipality of Taivalkoski and the authorities. The year-round ecological flow that was already in use at the Kostonjoki river, at least two cubic metres per second, was confirmed with a cooperation agreement in 2018.

A similar cooperation agreement for the Irinjoki river was confirmed in 2017. As part of the cooperation agreement, we restored spawning beds suitable for grayling and trout at locations specified by the Centre for Economic Development, Transport and the Environment in the autumn of 2017. The success of these measures will be monitored for two years.

## We participate in restoration of migratory fish stocks in Kemijoki river

PVO-Vesivoima participates in a committee coordinated by the Regional Council of Lapland, the operation of which continued with a second term after the related agreement was updated at the end of 2017. The committee will focus on promoting the actions laid down in the action plan prepared during the first term and on updating the action plan.



## Kalasydän fishway solution tested at Isohaara

Tests carried out at Isohaara in the summer of 2018 were a major milestone in the development of the Kalasydän (“Fish Heart”) fishway solution: the tests provided information on functionality of the system under challenging conditions. The results were promising. The tests are part of cooperation on migratory fish coordinated by the Regional Council of Lapland.

The floating Kalasydän is a hydraulic fishway where the fish are lured to the system with an attractive flow and guides, and then taken past the obstacle.

[Visit our website to read more](#)

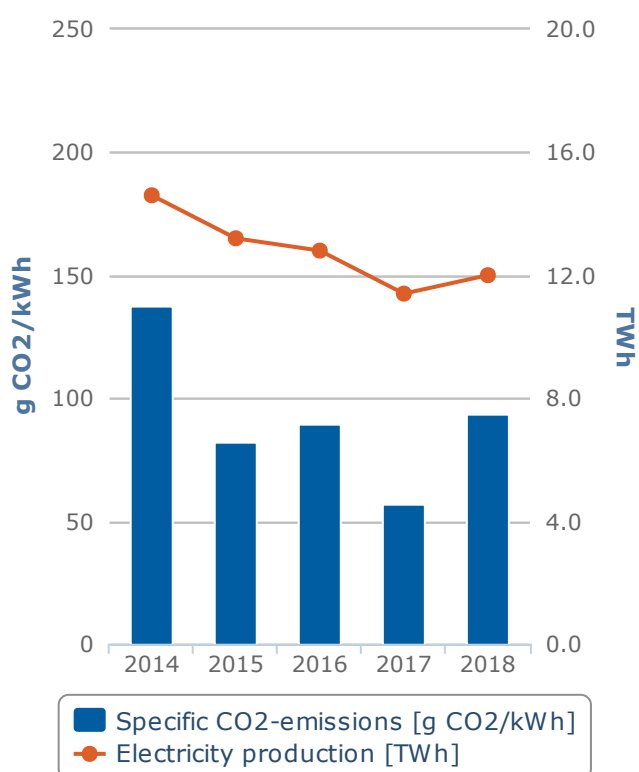
In March 2017, the Centre for Economic Development, Transport and the Environment for Lapland filed a change application with the Regional State Administrative Agency for Northern Finland concerning stocking and fish stock management obligations with regard to the Kemijoki river. In October 2017, the centre filed a similar application concerning the Iijoki river. In addition to entirely new requirements, this involves additions to current obligations. The Regional State Administrative Agency did not announce the applications during 2018.

## Emissions from thermal power production somewhat increased with increased production

Pohjolan Voima's thermal power plants use wood-based fuels, peat, coal and recycled fuels as their primary fuels, and small amounts of natural gas and oil as auxiliary startup and backup fuels. The most significant environmental impact of thermal power production concerns the atmosphere. The power plants' emissions into the air vary according to the fuels and the production volumes.

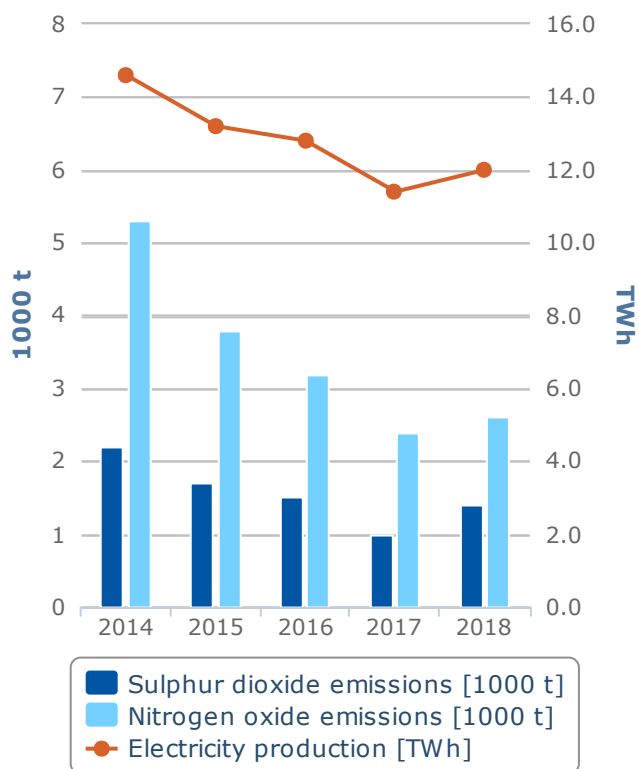
Carbon dioxide emissions from our thermal power production amounted to 1.6 million tonnes in 2018. Since 2014, the CO<sub>2</sub> emissions have decreased, mainly due to the fact that less coal is used, except in the past year. More peat was also used, because wood-based fuels were wet after the very rainy summer and autumn of 2017 and transport was difficult in the wet terrain. In 2018, specific CO<sub>2</sub> emissions were 94 g CO<sub>2</sub>/kWh.

### Pohjolan Voima's specific carbon dioxide emissions from electricity production in 2014 - 2018

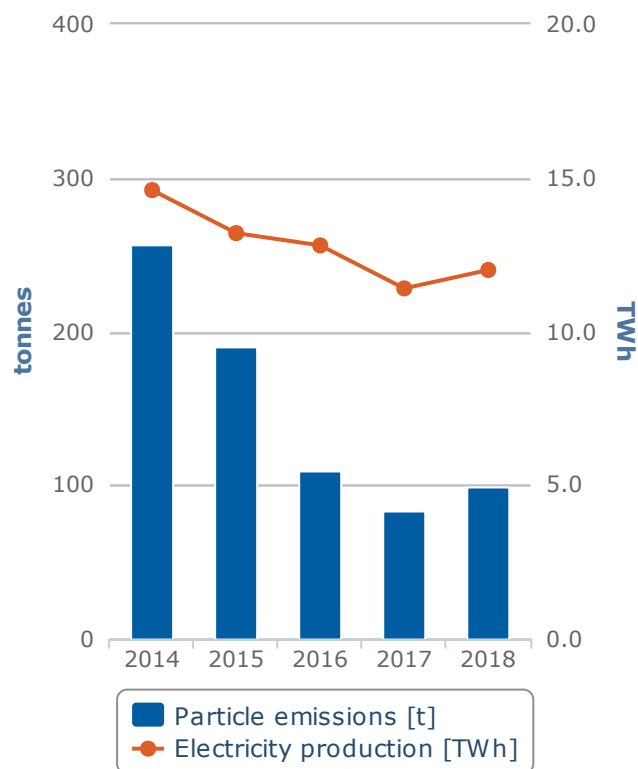


Other emissions into the air increased from the previous year due to the increased electricity and heat production volumes. Sulphur dioxide emissions amounted to 1.4 thousand tonnes, nitrogen oxide emissions to 2.6 thousand tonnes and particle emissions to 0.1 thousand tonnes.

### Acidifying emissions from Pohjolan Voima's heat and electricity production in 2014 - 2018



### Particle emissions from Pohjolan Voima's heat and electricity production in 2014 - 2018



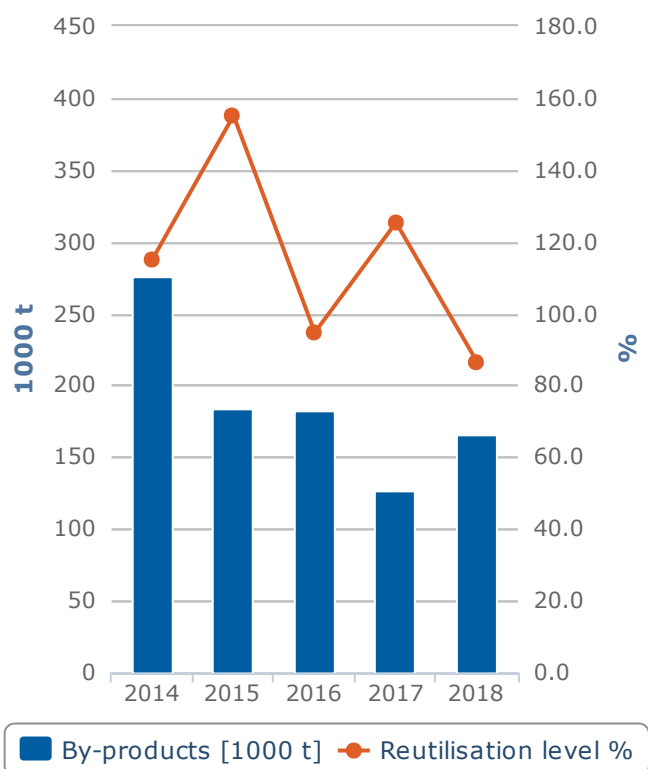
The IE Directive establishes that BAT conclusions made on the basis of the Best Available Techniques reference documents will become binding. The BAT conclusions related to the reference document on best available techniques for large combustion plants (LCP, Large Combustion Plant) were published on 17 August 2017. Power plants whose main field of activity is energy production are allowed four years to adjust their operations to the conclusions. Environmental permit review applications for these power plants were prepared in 2018. The emission limits will be stricter for future environmental permits.

### Utilisation of by-products at a good level

A total of 167 thousand tonnes of fly ash, bottom ash and gypsum were produced; fly ash and gypsum as by-products from flue gas cleaning in the context of the power plants' combustion process. 86% of our by-products were reused in earth construction, in the construction industry or as forest fertilisers in 2018. Any fly ash that is not reused at once can be put into intermediate storage and reused at a later date. Hence, the utilisation rate can sometimes be more than a hundred per cent.

Our goal is to reuse the maximum share of the by-products of thermal power production as raw materials that can replace non-renewable natural resources, such as rock and stone.

## Usage of by-products and reutilisation levels in 2014 - 2018



## Nuclear production complied with environmental permits

Operations of the Olkiluoto nuclear power plant, which is owned by TVO, a joint venture partially owned by Pohjolan Voima, complied with legislation, environmental permits, the environmental management system and the energy efficiency system.

The most major environmental impact from the Olkiluoto nuclear power plant is local warming of the sea area close to the nuclear power plant. During the reporting year, the temperature of cooling water remained within the limits specified in the environmental permit. The environmental load caused by the Olkiluoto nuclear power plant was minimal. Radioactive emissions into the air and water remained below the limits set by the authorities.

In 2018 one environmental incident occurred in Olkiluoto. In the incident oil was leaked on the soil from a construction vehicle. As result, 5 m<sup>3</sup> of contaminated soil material was cleaned in the incident area. In addition, an incident happened during the construction works of OL1 was detected. In total 250 tons of contaminated soil material was removed from the zone under supervision of a third-party operator.

Revised environmental and water permit decisions for the Olkiluoto nuclear power plant became legally valid in July 2018.

[For more information, please visit www.tvo.fi.](http://www.tvo.fi)



# Projects

We actively seek, design and implement responsible energy solutions to respond to any challenges that may arise at our power plants on the changing energy market. We manage the entire lifecycle of our power plants and will continue to systematically manage our production assets and energy supply based on customer needs. Our goal is having 95% of our electricity production carbon neutral by 2020.

Our most important investment project is the Olkiluoto 3 EPR project through our joint venture TVO. In the case of hydropower, we modernised the electricity and automation systems of our Raasakka power plant in the Iijoki river. In the case of thermal power, we invested in solutions to improve the competitiveness, flexibility and efficiency of energy production at our plants, reducing emissions at the same time.

## We reformed electricity and automation systems of Raasakka hydropower plant

We modernised the electricity and automation systems of the lowermost hydropower plant in the Iijoki river, Raasakka, in 2018. The modernisation improves the availability of the power plant and provides a boost to regulating capacity.

The reform project, which lasted from the summer until the end of the year, involved replacing systems dating back to the early 1970s with modern technology. The turbines and generators were also serviced.

The modernisation secures the power plant's production and control functions for the next 15 to 20 years. The modern systems and the more accurate information provided by them facilitate condition monitoring and the availability of spare parts. Furthermore, the new technology improves the plant's energy efficiency.

The investment is part of a systematic renovation programme of our hydropower plants. Modernisations improve the availability and add several decades to the service lives of the hydropower plants. Their ability to produce just-in-time regulating power that balances production and consumption to support the increased wind and solar power capacities is also improved, which allows the continuing adoption of an emission-free energy system.

[Read more about the Raasakka electricity and automation system renovation](#)



### Did you know what regulating power is?

Regulating power is required to even out the supply and demand of electricity. Adjustable and flexible electricity production ensures interruption-free supply of electricity and evens out price spikes.

More regulating power is needed when the share of wind or solar power, which fluctuate based on the weather conditions, clearly increases. When there is enough regulating power capacity, the production of wind and solar power can be increased without compromising the reliability of the electricity system.

Hydropower is a particularly good source of regulating power, because its production volume can be very quickly adjusted. Due to its flexibility, hydropower is an excellent partner for wind and solar power. When combined with new solutions, such as storage and flexible consumption, hydropower will ensure the functionality of the electricity system and enable transfer to an emission-free energy system.

## Extensive annual outage of our Kymin Voima power plant guarantees good availability

In the summer of 2018, scheduled maintenance, or an extensive annual outage, of a turbine took place at our biopower plant located at the UPM Kymi mill in Kuusankoski, Kouvola. The outage guarantees good availability of the plant for years to come.

The high- and low-pressure turbines were maintained, parts were replaced and the entire machinery was maintained during the maintenance outage, which lasted from the beginning of June to the end of August. The power line and transformer substations were also maintained. The last extensive annual outage of the turbine took place in 2009.



Inspections and maintenance at the correct time are an essential part of the systematic lifecycle management of a power plant.

Read more about the extensive annual outage of Kymin Voima [on our website](#).

## Advanced settings of Kaukaan Voima boiler improve energy efficiency

The settings of the boiler in the Kaukaan Voima biopower plant at the UPM Kaukas mill are being developed. The project, which started in the autumn of 2018 and will end in the spring of 2019, will boost the management of the combustion process by means of advanced boiler settings. This will reduce nitrogen oxide emissions and the need to use ammonia solution to manage the emissions. The boiler's improved efficiency and the fact that the boiler will consume less house load will make the process more energy efficient and induce savings.

## We develop lifecycle management of our power plants

We are in the process of developing the management of our power plant assets, i.e. the lifecycle management of our power plants and the production processes. This means monitoring the equipment and carrying out a variety of inspections, maintenance actions and repairs to ensure that the plants can be used safely, efficiently, reliably and cost-effectively, as well as to minimise risks.

The pilot projects also cover the new opportunities provided by digitalisation. Digitalisation and smart solutions offer plenty of new opportunities to increase flexibility, to improve efficiency, energy efficiency and availability, as well as to prolong service lives. They will also reform our competencies.

With the advanced technology, we will more easily acquire more accurate information on the operation of the power plant equipment and the actions we have taken. For the information obtained from measuring instruments to be utilised, it must be visualised and analysed.

The key issue in data analysis is expertise. It can be combined with artificial intelligence and machine learning with the help of networks. The collected and analysed data can be used as the foundation when making decisions and developing the operations.

## Agile pilot projects using digitalisation at our thermal power plants

Digitalisation has introduced a whole new culture of experimentation to heat production. Instead of equipment investments, we invest in smart solutions and low threshold experimental pilot projects at our combined heat and power plants. The pilot projects can aim at lower emissions, more flexible production, improved energy efficiency or more easily anticipated maintenance actions and repairs and thus increased availability, among other issues.

The pilot projects assist us in understanding the versatile opportunities offered by analytics. They allow us to find new tools and working methods, as well as to learn how to more effectively utilise networks.

Read more: [advanced, digitised CHP of Rauman Biovoima as a case example](#)



## Cooperation in developing turbine controllers

Ground-breaking work is being done in a project with the University of Oulu in the development of turbine regulators at the Kierikki hydropower plant. The project aims to determine factors that slow down the control of the hydropower plant and how the control system can be developed.

Launched in 2017, the project has designed a new controller and simulated its operation. The project will continue with the testing of the controller.

There is more need for fast and accurate control as the volumes of production that fluctuates based on the weather conditions, increase.

[To read more, visit our web site](#)

## Major modernisations at the Olkiluoto nuclear power plant

Some of the largest modernisation projects in the history of TVO were carried out at the Olkiluoto nuclear power plant, and the safety culture on which the operations are based was further developed. A comprehensive maintenance outage took place in Olkiluoto 1 (OL1). The most important actions during the outage included replacement of reactor coolant pumps and the related frequency converters, a reform of the reactor make-up water supply system and a modernisation of a heating system which affects residual heat removal. As a result of the modernisations, the rated output of OL1 was increased from 880 MW to 890 MW at the turn of the year.

In September 2018, the Government granted an operating licence for OL1 and OL2 for the next twenty years.

## Preparation for production operation at Olkiluoto 3 EPR unit continued

In 2018, preparations at the Olkiluoto 3 EPR plant unit for production operation continued. More training for the operating personnel has been arranged, and the first statutory decisions on operator licences were received in December. Hot tests were completed in May 2018. In the hot tests, the nuclear island and the turbine island were operated as a single system for the first time.

According to a schedule updated by the plant supplier in November 2018, regular electricity production of the OL3 EPR unit will begin in January 2020.

For more information, please visit [TVO's website](#).

## Posiva is building a disposal facility for spent nuclear fuel

Excavation work of the disposal facility for spent nuclear fuel that is being built by Posiva in Olkiluoto has proceeded according to plan. A full-scale in-situ system test (FISST) realised in the demonstration facilities of Posiva's disposal facility started in the summer of 2018. The goal with the FISST is to prove that Posiva's safe disposal concept can be realised as planned.

Posiva Oy is in charge of executing in Olkiluoto the final disposal of the spent nuclear fuel generated at its owners' power plants, TVO's Olkiluoto nuclear power plant and Fortum's Loviisa nuclear power plant.

For more information, please visit [Posiva's website](#).

# Corporate Governance Statement 2018

## 1 Corporate Governance

Pohjolan Voima Oyj and its subsidiaries form the Pohjolan Voima Group. Registered office of the Group's parent company, Pohjolan Voima Oyj, is Helsinki, Finland. Pohjolan Voima Oyj is a public limited liability company. Under its articles of association, the company acquires energy for its share-holders and engages in other related activities. The company also may own shares and assets as are required or necessary for carrying on its business.

According to the articles of association, Pohjolan Voima supplies energy to its shareholders at cost price (the Mankala principle), i.e. Pohjolan Voima delivers the energy it has produced or acquired to its shareholders in proportion to their ownership of each series of shares. Each shareholder of the series of shares in question is responsible for the annual variable and fixed costs defined in more detail in the articles of association. The parent company's administration costs are covered by charging them as part of the fixed annual costs in a manner specified in more detail in the corporate documents.

According to the articles of association, the liability of each shareholder for the annual costs is always limited to the amount corresponding to the proportion of their shareholdings in all the shares in the series in question, and the failure of any other shareholder to satisfy the responsibilities of the shareholder for costs in proportion to the shareholders shareholding shall not increase any non-defaulting shareholder's liability. The shareholders are responsible for the costs defined in Clause 4 of the articles of association.

Pohjolan Voima Oyj's General Meeting issues directives to the Board of Directors on the composition of the Boards of Directors of the subsidiaries and, if necessary, certain decisions by the subsidiaries. The parent company's Board of Directors and the Corporate Executive Team discuss the main principles of the Group's operations. The parent company participates in the management and supervision of its subsidiaries and affiliated companies through its representatives appointed to the governing bodies of these companies. The Group's subsidiaries and affiliated companies have their own governing bodies as well as some committees and corporate documents.

Pohjolan Voima's governance is based on legislation and its corporate documents. As an unlisted public limited liability company, Pohjolan Voima is under no obligation to comply with the Corporate Governance Code.

## 2 Annual General Meeting

The General Meeting is the company's highest decision-making body. The Annual General Meeting of Shareholders decides on statutory matters, elects the members of the Board of Directors, in accordance with the procedure specified in the corporate documents, confirms the fees of Board members and names an auditor. Furthermore, the annual general meeting issues binding directives to the Board of Directors regarding the elections of the ordinary and deputy members of the Boards of the subsidiaries. If necessary, the Annual General Meeting also issues binding directives to the Board on major investments of the subsidiaries and the other matters specified in the articles of association.

Any Extraordinary General Meeting decides on the matters for which the meeting has been convened at any given time.

The Annual General Meeting must be held annually by the end of June. An invitation to the annual general meeting will be sent to the shareholders at the earliest four weeks and at latest two weeks before the meeting.

Pohjolan Voima's Annual General Meeting was held on 20 March 2018. The Annual General Meeting approved the financial statements of Pohjolan Voima Oyj for 2017, discharged the members of the Board of Directors and the President and CEO from liability, as well as elected ordinary and deputy Board members for the new term.

## 3 Board of Directors

### Composition of the Board of Directors

The members of the Board of Directors are elected annually at the General Meeting of Shareholders. According to the Articles of Association, the Board consists of a minimum of five and a maximum of 13 ordinary members. Personal deputies for the Board members may be named.

The annual general meeting of 20 March 2018 elected nine [Board](#) members and their personal deputy members. The elected Board members are Tapio Korpeinen, Seppo Parvi, Jukka Hakkila, Anders Renvall, Tapani Sointu, Esa Kaikkonen, Rami Vuola, Heikki Liukas and Patrick Wackström. From 1 January to 20 March 2018, the Board consisted of Tapio Korpeinen (chair), Seppo Parvi, Jukka Hakkila, Anders Renvall, Tapani Sointu, Esa Kaikkonen, Rami Vuola, Mikko Rintamäki and Juhani Jävelä.

In its organising meeting, the Board elected Tapio Korpeinen as the chair and Seppo Parvi as the vice chair. Tiina Nyström, General Counsel, Executive Vice President, was elected as the secretary.

All of the Board members are independent of the company. The Board members do not own any shares of the company.

The procedure for the election and organisation of the Board is specified in detail in the corporate documents. The chair of the Board is named by the company's largest shareholder and the vice chair by the second largest shareholder. The President & CEO is not a member of the Board of Directors.

### Duties of the Board of Directors

The Board is responsible for the oversight and control of the company and the appropriate arrangement of the company's administration and operations. Furthermore, the Board must ensure that the company's accounting and financial controls are properly arranged. The Board discusses and approves Pohjolan Voima's Code of Conduct, as well as corporate responsibility and risk management policies.

The Board is obligated to promote interests of the company and all shareholders. The Board members do not represent the parties that proposed them as Board members.

The Board of Directors' Charter defines its main duties and operating principles in more detail.

In order to perform its duties, the Board does the following, for example:

- Appoints the President and CEO, supervises the executive management
- Decides on the Group's strategy
- Decides on the Group's financing
- Decides on the Group's budget and action plan
- Decides on remuneration system principles and approves the employment contract and other benefits of the President and CEO, unless it has authorised the Chairman of the Board or the Remuneration and Nomination Committee to make these decisions
- Appoints committee members
- Appoints members of task forces and workgroups

- Approves policies and other guidelines which create the basis for the management system and internal control, as well as set limits and guide and monitor operations of the subsidiaries
- Approves the charters of committees and workgroups
- Supervises the Group's risk management
- Compiles the Report of the Board of Directors and approves the financial statements
- Approves interim reports
- Supervises the operations of the subsidiaries
- Approves the charge for the fixed costs for each series of shares and other basis for share-holder invoicing
- Summons the general meeting
- Approves investments, acquisitions and property transactions in accordance with the corporate documents, unless the President and CEO has been authorised to make these decisions
- Resolves upon the taking of credits and the giving of guarantees or other securities

The Board compiles an annual assessment of its own performance.

The Annual General Meeting makes decisions on the remuneration of Board and Committee members, as well as on their basis. In 2018, the remuneration paid to ordinary and deputy Board members totalled EUR 475,000.

The Board of Directors convened 18 times in 2018. On average, 98 percent of the members were present at the meetings.

## **Committees of the Board of Directors**

To ensure that the issues within the responsibility of the Board of Directors are handled as efficiently as possible, the Board has appointed an Audit and Finance Committee and a Remuneration and Nomination Committee, each assisting and reporting to the Board of Directors and consisting of at least three members of the Board. The Board of Directors chooses the members of the Committees annually from among its members, appoints the chairs of the committees and approves their charters.

In addition to the Committees of the Board of Directors, the Board can name task forces or workgroups to assist the Board and senior management. The Board confirms the duties and operating principles of task forces and workgroups.

### **Remuneration and Nomination Committee**

The Remuneration and Nomination Committee deals with matters concerning nomination and remuneration in general, the remuneration systems for the Corporate Executive Team and employees, and the committee may deal with proposals to be submitted to the Annual General Meeting regarding the nomination and remuneration of the members of the Board.

After the 2018 annual general meeting, the Board nominated Tapio Korpeinen as the chair of the Remuneration and Nomination Committee and Seppo Parvi and Anders Renvall as the other members of the committee. The Remuneration and Nomination Committee convened six times in 2018. The attendance rate at the meetings was 100 percent.

### **Audit and Finance Committee**

The Audit and Finance Committee provides assistance to the in monitoring and evaluating the finance, financial reporting, control, and audit.

After the 2018 annual general meeting, the Board nominated Tapani Sointu as the chair of the Audit and Financing Committee and Rami Vuola and Jukka Hakkila as the other members of the committee. The committee convened ten times in 2018. The attendance percentage at the meetings was 97 percent.

## 4 President and CEO

The Board nominates the President and CEO. According to the Limited Liability Companies Act, the CEO is responsible for the day-to-day management in accordance with the instructions and regulations issued by the Board of Directors. The CEO is responsible for ensuring that the company's accounting is in compliance with the law and that the financial management is organised in a reliable manner. The CEO gives the Board and its members sufficient information for the performance of the Board's duties and implements the Board's decisions.

Pohjolan Voima Oyj's current President and CEO is Ilkka Tykkyläinen. Until 15 August 2018, the President and CEO was Lauri Virkkunen.

## 5 Corporate Executive Team

The Corporate Executive Team assists the President and CEO in operational management. Members of the Corporate Executive Team report directly to the President and CEO. In 2018, the [Corporate Executive Team](#) consisted of the President and CEO, Minna Laakso, Petri Hurri, Riitta Lamimaa, Tiina Nyström, Marko Nylund (until September 2018) and Pertti Pietinen.

## 6 Remuneration

The Remuneration and Nomination Committee approves the company's remuneration systems. Incentive bonuses of the Corporate Executive Team are based on a long-term remuneration system and the criteria determined in it. The incentive scheme does not include shares or any derivatives.

The members of the Board of Directors, the President and CEO or other members of the company's management do not own the company's shares.

## 7 Internal control

The Board of Directors and the management are responsible for the company's internal control system. The purpose of internal control and risk management is to ensure the efficiency and effectivity of the operations, the reliability of information, as well as compliance with the regulations and operating principles. Pohjolan Voima's governance and internal control system are based on the Articles of Association, Shareholders' Agreement as well as the Code of Conduct and other company policies, approved by the Board of Directors.

## 8 Financial control and reporting

The objective of internal control related to the financial reporting process is to ensure that the management has reliable, up-to-date information to help in decision-making and that the financial statements and interim reports are prepared in compliance with laws and regulations.

Pohjolan Voima Oyj complies with the International Financial Reporting Standards (IFRS) that have been approved for the EU.

In accordance with its approved charter, the Audit and Finance Committee is responsible for assisting the Board of Directors in monitoring the financial status of the company, the Group and its parts, in monitoring and evaluating the financial reporting system, accounting and financial management, the efficiency of internal control and risk



management system, in monitoring the internal audit and the financial audit process, and the implementation of changes in accounting practices.

Group Finance is responsible for reporting interim reports and statutory financial statements for Pohjolan Voima Oyj and its Group companies, as well as monthly reports, profit estimates and analyses. Named business controllers review the companies' financial status and prepare monthly internal company-level reports. The companies' financial reporting is regularly monitored by the Boards of the companies.

In general, shared systems are used for reporting. A service provider handles the financial administration, accounting and ledger processes in compliance with described subprocesses, agreed principles, agreed roles and responsibilities and defined controls. Development of the financial reporting processes and control systems is a continuous activity.

The separate financial statements of the parent company and other Group companies follow Finnish accounting practice. Adjustments to the income statements and balance sheets reported by individual Group companies are made in Group accounting in order to comply with the accounting policies of the Group (IFRS). Consistency is ensured by reconciliation. A quarterly report on the parent company's financial development is submitted to the Board of Directors. The consolidated IFRS financial statements are reported to the Board twice a year.

The decision-making order for expenses, investments and financial commitments is determined in the corporate documents, and approval rights are determined in stages for the different organisational levels in the policy approved by the Board. Most significant decisions are submitted separately to the Board of the individual Group company and to the Board of the parent company for approval.

## 9 Risk management

Risk management is a continuous process of analysing and managing threats and opportunities faced by the company in its efforts to achieve its goals, and to ensure the continuity of the business. The key principles of risk management are defined in the Pohjolan Voima Group Risk Management policy. Subsidiaries and Group functions are responsible for their own risk management and associated reporting. The management reporting on the comprehensive risk circumstances to the Board is linked to the strategy and long-term planning process. The Board of Directors oversees the reporting on risk exposures, risk management activities and results related to the company's strategy and operations.

## 10 Internal audit

The operating principles of Pohjolan Voima internal audit have been defined in the audit charter approved by the Board of Directors. Internal audit assists the company in achieving its objectives by providing a systematic approach to evaluate and improve governance processes, risk management and internal control. In addition, internal audit manages the reporting procedure for suspected misconduct according to a specified procedure. Internal audit reports functionally under the Audit and Finance Committee and reports summaries of its plans and findings to the Pohjolan Voima's Board of Directors.

## 11 Auditing and auditor

The principal task of statutory audit is to verify that the financial statements give correct and sufficient information on the Group's results and financial position. The Annual General Meeting annually appoints one auditor. The auditor must be an audit firm approved by the Finnish Chambers of Commerce.

In 2018, the annual general meeting elected PricewaterhouseCoopers Oy, authorised public accountants, as the Company's auditor, with Jouko Malinen, Authorised Public Accountant, acting as a principal auditor.

In 2018, the auditor (PwC) received EUR 172,000 as auditing fees, as well as EUR 14,000 for other services.

# Financial statements 2018

## Key figures (IFRS) of Pohjolan Voima Group 2018

IFRS	2018*	2017*	2016*	2015*	2014
Turnover, € million	515	455	512	573	643
Operating result, € million	-5	10	-4	-3	3
Net interest-bearing liabilities € million	754	788	881	873	920
As percentage of turnover, %	146	173	172	152	143
Equity ratio, %	39	40	40	42	41
Total assets, € million	2103	2089	2166	2296	2595
Investments, € million	5	7	11	18	19
Average number of personnel	106	119	149	199	217

\*Includes continuing and discontinued operations.

## The Report of the Board of Directors and the Financial Statements

Read more on the Report of the Board of Directors and the Financial Statements at our online-annual report. They are also available in pdf-format. You can download the entire annual report or include selected pages into a pdf-document at the [Download center](#).

The annual report including the Report of the Board of Directors and the Financial Statements are translations from the Finnish original.

### ▶ Report of the Board of Directors

#### Financial Statements 2018

- ▶ Consolidated statement of comprehensive income
  - ▶ Consolidated balance sheet
  - ▶ Consolidated statement of cash flows
  - ▶ Consolidated statement of changes in equity
  - ▶ Notes to the consolidated financial statements
  - ▶ Parent company financial statements (FAS)
- ▶ Board of Directors' dividend proposal
- ▶ Auditor's Report

# Annual Report by the Board of Directors 2018

## Operating environment

In 2018, electricity consumption in Finland was 87.4 TWh (85.5 TWh in 2017). Of this volume, 67.5 (65.0) TWh was produced in Finland, while net imports into Finland amounted to 19.9 (20.4) TWh. Imported electricity covered 22.8% (24.0%) of Finnish electricity consumption. Most of the imported electricity came from Sweden. In 2018, electricity consumption in Finland increased by 2% year-on-year. Industrial electricity consumption increased by 2% and electricity consumption in other sectors increased by 3% year-on-year.

Nord Pool Spot trade amounted to 524 (512) TWh. The annual average system price was €43.99 (€29.41) per MWh, while the annual average of the Finnish area price was €46.80 (€33.19) per MWh. The Finnish area price was, on average, 41% higher than in 2017. The increase in the price of electricity was due to the lower water levels in the Nordic countries, higher fuel prices, higher emission allowance prices and increased consumption of electricity.

The price of the EUA emission allowance experienced strong growth in 2018. The emission allowance market price increased from some €8 at the beginning of the year to approximately €25 per metric ton.

Most of the amendments of the Business Income Tax Act (laki elinkeinotulon verottamisesta, 360/1968), which were realised to implement the requirements of the EU Directive preventing aggressive international tax planning, entered into force on 1 January 2019. The Act applies to all companies regulated by the Business Income Tax Act, including energy companies operating according to the Mankala principle. The Ministry of Finance will continue to prepare an "infrastructure exception" for the Act in accordance with a statement from Parliament.

The electricity production subsidy system was reformed in 2018. An auction on 1.4 TWh of renewable electricity other than hydropower was carried out in late 2018.

The Government submitted to Parliament a proposal for an act to ban the use of coal. According to the government bill, the use of coal in energy production will end on 1 May 2029.

Curbing climate change by reducing greenhouse gas emissions and increasing the amount of carbon sinks were discussed even more after the Intergovernmental Panel on Climate Change (IPCC) published its report in the autumn of 2018. It is likely that emission targets will become stricter after the European Parliament elections and the Finnish parliamentary elections. The significance of the circular economy is also on the increase.

According to an annual survey of the attitude of Finnish citizens towards energy, conducted by Finnish Energy, people are more accepting of nuclear power and hydropower. Meanwhile, their attitude towards the use of fossil fuels and peat has become more negative. Acceptance of forest energy remains high, although some decrease on the previous year was recorded.

Processing of the different parts of the EU Clean Energy Package was nearly completed in 2018. The key issues were the target levels for renewable energy and energy efficiency, the sustainability criteria for biomass and the electricity market as a whole. The Commission has started a reform of the Water Framework Directive with a stakeholder hearing, and is expected to issue its proposal in 2020.

The production of weather-dependent wind and solar power continues to grow, which also increases the importance of flexible energy systems and adaptive production, and the risk of a shortage of power will not disappear in the near future. Discussion about the role of hydropower in the electricity production system has increased.

## Pohjolan Voima's heat and power production

In 2018, Pohjolan Voima's total electricity supply was 12.5 (11.9) TWh. The Group's own electricity production accounted for 12.0 (11.4) TWh, of which the parent company's supplies to its shareholders were 11.6 (10.9) TWh. The subsidiaries supplied 0.4 (0.5) TWh to their other shareholders. Purchases from the Nordic electricity markets were 0.5 (0.5) TWh, and sales amounted to 0.3 (0.4) TWh. Heat deliveries were 4.4 (4.5) TWh.

Nuclear power made up 63.8% (63.7%) of the electricity supply. The Olkiluoto nuclear power plant units operated by Teollisuuden Voima Oyj (TVO) generated 14.1 (13.4) TWh of electricity, of which Pohjolan Voima obtained 8.0 (7.6) TWh, in accordance with its shareholding. The joint capacity factor of the Olkiluoto plant units was 91.1% (87.2%).

Hydropower accounted for 1.5 (1.8) TWh, or 12.2% (15.0%) of the electricity supply. Hydropower production remained slightly below the normal level due to the dry summer.

Pohjolan Voima produced 0.4 (0.1) TWh of condensing power, which represented 3.3% (0.7%) of the electricity supply. A total of 2.1 (1.9) TWh of electricity was generated in combined heat and power (CHP) plants.

Electricity supply (GWh)	2014	2015	2016	2017	2018
Nuclear power	8,372	8,086	8,136	7,602	7,987
Hydropower	1,745	2,297	1,983	1,794	1,524
CHP	3,254	2,533	2,313	1,919	2,065
Condensing power	1,200	388	396	82	409
Purchases	753	790	545	533	543
Total	15,324	14,094	13,373	11,930	12,528

## Key events in 2018

On 14 December 2017, PVO-Vesivoima Oy's Board of Directors decided to reorganise the company's hydropower management services. PVO-Vesivoima Oy's power plants and flow regulation as well as production control were gradually transferred to UPM Energy Oy's Tampere control room during 2018 in such a manner that the transfer was completed by 1 January 2019.

In March 2018, TVO announced that it had signed a comprehensive settlement agreement with the companies included in the EPR plant supplier consortium of Olkiluoto 3 (OL3). The settlement agreement concerns the completion of the OL3 EPR project and related disputes. The matter is discussed in more detail under "Major legal actions pending".

According to the schedule updated by the plant supplier in November 2018, regular electricity production of OL3 will begin in January 2020. According to the plant supplier, nuclear fuel will be added to the reactor in June 2019, and the plant unit will be connected to the national grid for the first time in October 2019. According to the commissioning programme, the plant unit will produce 2–4 TWh of electricity with varying capacity during the period that will start when the unit is connected to the grid and end when regular electricity production commences.

Pohjolan Voima's joint venture Vaskiluodon Voima Oy sold its Seinäjoki power plant operations and its land property to EPV Energy Ltd in March 2018. The business transaction did not have any effect on Vaskiluodon Voima's Vaasa power plant.

In June 2018, Pohjolan Voima Oyj issued an unsecured bond of €125 million.

On 8 June 2018, Pohjolan Voima Oyj concluded a transaction with Power-Deriva Oy where Pohjolan Voima's energy management operations in Harjavalta were transferred to PD Power Oy. The deal took effect on 1 January 2019.

In June 2018, TVO and its shareholders entered into an agreement on the ownership of shares entitling to a share of Meri-Pori power plant's production capacity. As TVO's owner, Pohjolan Voima Oyj held shares that carried entitlement to a share of Meri-Pori's production capacity. Fortum acquired from TVO's other shareholders their shares providing entitlement to a share of Meri-Pori's production capacity, as a result of which the ownership was transferred on 31 December 2018, and Fortum has been entitled to use TVO's share of Meri-Pori's capacity as of the beginning of 2019. In connection with this arrangement, Pohjolan Voima received a €3.3 million return on capital and recognised a share impairment of €10.9 million, which was paid by the shareholders.

## Result from operations and financing

Pohjolan Voima operates on a cost price principle. The shareholders pay the fixed costs in accordance with their ownership share, irrespective of whether they have used their capacity or energy share, as well as variable costs according to the energy supplied. As a result of this operating principle, key financial indicators are not relevant when reviewing the company's business performance or financial status.

The targets and risks of Pohjolan Voima's financing operations have been defined in a financial policy approved by the parent company's Board of Directors. The financial risks of Pohjolan Voima's business operations are related to liquidity, market and credit risks. Financial risk management has been discussed in note 3 to the consolidated financial statements. Financial risk management.

The Group's liquidity is good. On 31 December 2018, cash and cash equivalents totalled €59 (44) million, and the Group had €300 (370) million of unused binding credit facility agreements and €90 (0) million of unused shareholder loan commitments. Of the credit facility agreements, €21 million will mature in June 2021 and €279 million in June 2022. For short-term funding, the Group had a domestic commercial paper programme of €300 (300) million, of which €215 (190) million was unused.

The Group's interest-bearing liabilities amounted to €1,222 (1,181) million on 31 December 2018. In June 2018, Pohjolan Voima Oyj issued a senior unsecured bond of €EUR 125 million. The five-year bond matures on 8 June 2023, and it carries a fixed annual interest of 1.75 per cent.

There were no liabilities involving an exchange rate risk, and the Group's loan agreements do not include any financial covenants.

At the end of the year, the Group's equity ratio was 38.8% (40.4%). The consolidated result from continuing operations was €514.1 (453.6) million. The operations of PVO-Lämpövoima Oy, the plants of which were closed down in 2015, have been reported in the Group's financial statements as discontinued operations. The Group's consolidated result for the financial period was €-29.7 (1.1) million. The financial period was mostly unprofitable due to the negative results of the associated companies.

## Investments

Total investments of the Pohjolan Voima Group, excluding financial investments and the purchase of emission allowances, amounted to €5.4 (6.6) million.

PVO-Vesivoima Oy took into production operation equipment included in the scope of an electrical and automation modernisation project at the Raasakka power plant, and repairs on a dam at the Melo power plant continued throughout the year. PVO-Vesivoima's investments totalled €2.9 million. Laanilan Voima Oy invested in, for example, a reform of the boiling surfaces of a Pyroflow boiler and the superheater of a 2019 boiler. Laanilan Voima's investments totalled €1.8 million. The Group's remaining investments were made in replacements and renovations.

Between 2004 and 2018, Pohjolan Voima Oyj has invested a total of €841.1 (780.8) million in the new OL3 nuclear power plant project that is currently under construction. The investments are based on the OL3 financing plan, according to which the equity required for the investment is accumulated along with the progress of the project.

## Research and development

Research and development expenditure totalled €0.1 million (€0 million in 2017 and €0.1 million in 2016).

## Personnel

The average number of employees working for the Group was 106 (119 in 2017 and 149 in 2016), including discontinued operations. The number of employees has decreased due to a reduction in condensing production, which has also caused the parent company of the Group to reorganise its operations. The Group's salaries and fees for the financial period, including discontinued operations, totalled €11.0 million (€12.2 million in 2017 and €13.8 million in 2016). The average age of permanent employees was 44 (44) years.

The average number of employees working for the parent company was 50 (57 in 2017 and 65 in 2016). Salaries and fees for the financial period totalled €5.2 million (€5.7 million in 2017 and €6.1 million in 2016).

## Environment

Environmental management systems certified in accordance with ISO 14001 are in use in the majority of Pohjolan Voima's production companies, which helps to ensure the achievement of environmental objectives and continuous improvement of operations. All of the production companies also use the energy efficiency system ETJ+ or ISO 50001 Energy Management System. Some of these systems are certified. Furthermore, the environmental management system of TVO (Pohjolan Voima's joint venture) is EMAS registered.

Environmental damage occurred at the Olkiluoto nuclear power plant site in 2018: oil leaked from a machine into the soil. A total of 5 m<sup>3</sup> of contaminated soil was removed from the site. Furthermore, an oil spill causing soil contamination, which had occurred at the Olkiluoto nuclear power plant site during the construction of the OL1 plant unit, was detected. Restoration supervised by a third party was carried out. A total of around 250 metric tons of contaminated soil was removed. No significant environment-related deviations took place at the other Pohjolan Voima production plants.

A leak detected in the retaining earth dam of the Melo power plant in 2016 was repaired by grouting throughout the year. The repairs should be completed by the end of 2019. The repair work has not affected the environment or the power generation operations at the power plant.

Water levels were regulated and hydropower plants operated in compliance with the permit conditions. In line with its obligations, PVO-Vesivoima stocked the Iijoki and Kemijoki waterways and the sea area with around 2.5 (2.5) million fry during the reporting period. Nearly all stocking plans were fulfilled.

In cooperation with the municipalities in the Iijoki region and other regional operators, PVO-Vesivoima participated in a waterway vision project called Iijoen otva. The project was launched by the Oulu Regional Council in late 2015 and concluded at the end of 2018. The main goals of the project included a shared vision for waterways, promotion of the restoration of migrating fish, protection of the Baltic Sea salmon population and promotion of smaller development measures that increased the river's value. PVO-Vesivoima also participated in Finland's largest project on migratory fish, which was prepared as part of the Iijoen otva project. The migratory fish project was started in 2017. The budget of the spearhead project is more than €4 million, and the Finnish Government is committed to providing €2 million of funding for the project as part of its Luontopolitiikka luottamuksella ja reiluin keinoin ("Nature policy

based on trust and fair-ness”) spearhead project. In March 2017, PVO-Vesivoima and Metsähallitus filed a joint application with the Regional State Administrative Agency for Northern Finland for a water management permit to build fishways. Replies to statements and complaints regarding the application were submitted in August 2018. The Regional State Administrative Agency did not make a decision in the matter before the end of 2018.

In March 2017, the Centre for Economic Development, Transport and the Environment for Lapland filed a change application with the Regional State Administrative Agency for Northern Finland concerning stocking and fish stock management obligations with regard to the Kemijoki river. In October 2017, the centre filed a similar application concerning the Iijoki river. In addition to new requirements, these applications involve additions to current obligations. The Regional State Administrative Agency did not announce the applications during 2018.

All the thermal power plants operated by the Group fall within the sphere of the Emissions Trading Act. Carbon dioxide emissions from the production of electricity and heat amounted to 1.6 (1.1) million metric tons. The notes to the financial statements only re-*port* CO<sub>2</sub> emissions of the subsidiaries, which amounted to 0.6 (0.5) million metric tons. These figures do not include the emissions of 0.0 (0.0) million metric tons from PVO-Lämpövoima, which is reported as a discontinued operation. Other emissions increased with the production levels. Sulphur dioxide emissions amounted to 1.4 (1.0) thousand tonnes, nitrogen oxide emissions to 2.6 (2.4) thousand tonnes and particle emissions to 0.1 (0.1) thousand tonnes.

The new limits for emissions into the air, set out in the Industrial Emissions (IE) Directive, came into effect in Finland at the beginning of 2016. Some of Pohjolan Voima’s facilities are included in the national IE Directive transition plan adopted by the European Commission on 10 March 2014. The transition plan provides some flexibility for the adoption of the stricter emission limits. The transition planning period is from 1 January 2016 to 30 June 2020.

BAT conclusions related to the reference document on best available techniques for large combustion plants (LCP-BREF) were published on 17 August 2017. Power plants the main field of activity of which is energy production will be allowed four years to adjust their operations to the conclusions. Environmental permit applications for these power plants will be prepared in 2018. The emission limits will be stricter in the case of future environmental permits.

Pohjolan Voima and its subsidiaries, associated companies and joint ventures are not aware of any environmental liabilities that have not been covered. Pohjolan Voima’s more detailed environmental information is published on the company’s website at [www.pohjolanvoima.fi](http://www.pohjolanvoima.fi). TVO provides information on the environmental issues related to nuclear power generation on its website at [www.tvo.fi](http://www.tvo.fi) and in a separate corporate social responsibility report.

## Risk management

Risk management aims to ensure realisation of the strategy and achievement of business goals, as well as safeguard continuity and disturbance-free operations. Risk management is carried out in line with the Group’s risk management policy. The Group applies a decentralised risk management model: each subsidiary’s Board of Directors and the parent company’s units are responsible for the risks related to their operations, as well as their identification and analysis. Group-level risks are reported to the parent company’s Executive Group and Board of Directors in accordance with the annual management calendar.

Risks that may compromise the achievement of the objectives are estimated, and measures for their management are defined. The significance of the risks is estimated as the sum of their likelihood of occurrence and impact.

All Pohjolan Voima companies are covered for risks of damage through measures related to maintenance, occupational health and safety, adequate training provided to the personnel and other necessary measures, as well as through insurance in line with the Group’s insurance policy.



## Key risks and uncertainty factors

The Group's most significant risks are related to the schedule and revenue generation capacity of the OL3 EPR project of the joint venture TVO. The original plan was to begin commercial electricity production of the plant unit in late April 2009, but completion of the plant unit has been delayed. According to the schedule updated by the plant supplier in November 2018, regular electricity production of the plant unit will begin in January 2020. The risk related to planned completion refers to a situation where commercial operations cannot be started as planned, which leads to additional expenses.

Several risk management actions related to the OL3 EPR project were implemented in 2018 to promote TVO's readiness for commissioning of the plant unit and operation of three nuclear power plant units. The settlement agreement that was signed in March 2018 was one of the most important risk management actions. TVO monitors closely the compliance of the conditions set in the settlement agreement and that the commissioning of the OL3 EPR plant unit is executed according to schedule provided by the plant supplier.

If the OL3 EPR project fails to reach projected output level, load factor or operating cost structure, or the output level is restricted by the main grid limits, there is a risk that the production expenses will increase in comparison to the objective. This risk has been analysed with the help of various scenarios influencing OL3's profit-yielding capacity.

As risk management measures, TVO as a licensee ensures, among other things, that the OL3 EPR plant unit has undergone extensive functional testing before nuclear test operations are launched. TVO will ensure that the experiences from the Taishan sister plant are fully utilised during nuclear commissioning of the OL3 EPR plant unit.

## Changes in Group structure

Powest Oy was registered as having dissolved through voluntary liquidation on 4 December 2018.

## Share capital and share issues

On 31 December 2018, Pohjolan Voima's share capital was €65.3 (65.3) million and the total number of shares was 32,509,113 (32,509,113).

No share issues were carried out during the financial year.

### Table: Pohjolan Voima Oyj's shareholders (general shareholding)

Shareholder	Shareholding, %, 31 December 2018	Shareholding, %, 31 December 2017
EPV Energy Ltd	5.489	5.489
Etelä-Suomen Voima Oy	1.482	1.482
Helen Ltd	0.619	0.619
Ilmarinen Mutual Pension Insurance Company	1.831	1.831
Kemira Oyj (incl. Neliapila pension fund)	5.060	5.060
Kokkolan Energia Oy	1.845	1.845
Kymppivoima Oy	5.907	5.907
Metsä Group (Metsäliitto Cooperative, Metsä Fibre, Metsä Board Oyj)	3.657	3.657
Myllykoski Oyj*	0.631	0.631
Oulun Energia Ltd	0.906	0.906

Outokumpu Oyj	0.096	0.096
Perhonjoki Ltd	2.167	2.167
Town of Pori	1.401	1.401
Rautaruukki Corporation	0.090	0.090
Stora Enso Oyj	15.608	15.608
UPM Energy Oy*	47.686	47.686
UPM Communication Papers Ltd*)	3.457	3.457
Vantaa Energy Ltd	0.229	0.229
Yara Suomi Oy (incl. pension fund)	1.840	1.840

\* The company is part of the UPM-Kymmene Group.

## Management

The Annual General Meeting of 20 March 2018 elected the following ordinary members to the Board of Directors: Tapio Korpeinen, Executive Vice President (UPM-Kymmene Corporation); Seppo Parvi, Chief Financial Officer (Stora Enso Oyj); Jukka Hakki, Group General Counsel (Kemira Oyj); Anders Renvall, Managing Director (Kymppivoima Oy); Tapani Sointu, Vice President (UPM-Kymmene Corporation); Esa Kaikkonen, CEO (Metsä Group/Metsä Tissue); Rami Vuola, President & CEO (EPV Energia Oy); Patrick Wackström, Managing Director (Porvoon Energia Oy - Borgå Energi Ab) and Heikki Liukas, Senior Advisor (Yara Suomi Oy).

At the Board meeting on 20 March 2018, Tapio Korpeinen was elected chairman of the Board and Seppo Parvi was elected deputy chairman. The Board of Directors convened 18 (15) times in 2018. The company's President and CEO was Lauri Virkkunen, MSc (Tech.), MSc (Econ.), until 15 August 2018 and Ilkka Tykkyläinen, MSc (Tech.), thereafter.

## Major legal actions pending

TVO was a party in arbitration proceedings compliant with the rules of the International Chamber of Commerce (ICC) concerning the delay to the construction of the OL3 EPR and the related expenses. The arbitration proceedings began in December 2008 at the initiative of the plant supplier.

In July 2015, TVO updated its estimated expenses and losses, which amounted to approximately €2.6 billion until December 2018, at which time regular electricity production should have begun at the Olkiluoto 3 EPR unit according to the schedule provided by the plant supplier in September 2014. The compensation demand last updated by the plant supplier in April 2017 amounts to some €3.59 billion. This sum is based on an updated analysis provided by the plant supplier regarding the events up until September 2014, and up until the end of December 2014 with regard to some claims. The sum includes past-due interest (until the end of June 2017), around €1.58 billion in payment items postponed by TVO pursuant to the plant delivery contract and some €132 million in lost profit as claimed by the plant supplier.

The court of arbitration issued three final and binding partial decisions in 2016 and 2017 on the principal matters pending. In the partial decisions, the majority of the matters were decided in favour of TVO, and the majority of the plant supplier's claims regarding these matters were rejected. The monetary claims made by the parties were not addressed in the partial decisions.

In March 2018, TVO announced that it had signed a comprehensive settlement agreement concerning the completion of the OL3 EPR project and related disputes with the plant supplier consortium companies, Areva NP, Areva GmbH and Siemens AG, as well Areva SA, the parent company of Areva companies, of which the state of France owns 100%. The agreement entered into force at the end of March 2018.

TVO has announced that, under the terms and conditions of the settlement agreement:

In order to provide and maintain adequate and competent technical and human resources for the completion of the OL3 EPR project, Areva will source the necessary additional resources from Framatome S.A.S., the majority owner of which is Electricité de France (EDF).

The supplier consortium companies undertake to ensure that the funds dedicated to the completion of the OL3 EPR project will be sufficient and will cover all applicable warranty periods, including setting up a trust mechanism funded by the Areva companies to secure financing of the expenses from the completion of the OL3 EPR project.

The turnkey principle of the OL3 EPR plant contract and the joint and several liability of the supplier consortium companies remain in full force.

The settlement agreement also noted the plant supplier's most recent schedule, according to which regular electricity production in the unit would have commenced in May 2019.

The ICC arbitration concerning the costs and losses caused by the delay of the OL3 EPR project was settled with financial compensation of €450 million to be paid to TVO in two instalments by the plant supplier consortium companies. TVO received the first instalment of €328 million when the settlement agreement entered into force in March 2018. The second instalment of €122 million is to be paid upon completion of the OL3 EPR plant unit, or on 31 December 2019 at the latest.

The parties withdrew all ongoing legal actions related to the OL3 EPR project, including the arbitration proceedings and appeals pending before the General Court of the European Union.

The supplier consortium companies would have been entitled to receive from TVO an incentive payment of a maximum of €150 million upon completion of the OL3 EPR project in compliance with the schedule laid down in the settlement agreement. The agreement stated that in the event that the supplier consortium companies failed to complete the OL3 EPR project by the end of 2019, they will pay a delay penalty to TVO, the sum of which would depend on the actual time of completion of the OL3 EPR project, but which would not exceed €400 million.

During the first quarter of 2018, TVO added a provision of €150 million for the maximum amount of the incentive payment to be paid to the supplier consortium companies if the OL3 EPR project was completed within the schedule laid down in the settlement agreement. TVO received from the plant supplier, the Areva-Siemens consortium, an updated schedule for the commissioning of the plant unit in June 2018. According to the information provided in June, regular electricity production in the OL3 EPR unit was to start in September 2019. Hence, the provision was withdrawn by €50 million during the second quarter of 2018. In November 2018, TVO received a new, updated schedule from the plant supplier, the Areva-Siemens consortium. According to this schedule, regular electricity production in the OL3 EPR unit will start in January 2020. The new schedule caused total withdrawal of the provision, €100 million, in the last quarter of the year. These settlement payments to TVO and any penalty payable to TVO due to any additional project delay have been taken into account when calculating the final total cost estimate of the OL3 EPR project. Based upon latest schedule offered by the consortium, the cost estimation of TVO and the settlement agreement, TVO estimates that overall cost of the OL3 EPR project will be approximately €5.5 billion in total.

In 1989, the predecessors of PVO-Lämpövoima, a wholly owned subsidiary of Pohjolan Voima, and Fortum Power and Heat Oy (FPH) signed a cooperation agreement that provides the parties with a permanent right to use certain power

plant structures and equipment owned by the other party. The agreement concerns the Tahkoluoto coal power plant owned by PVO-Lämpövoima and the Meri-Pori coal power plant owned by FPH. Production operations at PVO-Lämpövoima's Tahkoluoto power plant ended in 2015. For this reason, PVO-Lämpövoima terminated the cooperation agreement in March 2017. FPH contested the termination. In August 2017, based on an application filed by FPH for injunctive relief, the District Court of Helsinki ordered PVO-Lämpövoima to allow FPH to continue its use of the structures and equipment of the Tahkoluoto power plant in accordance with the cooperation agreement. In September 2017, FPH started arbitration proceedings in accordance with the arbitration rules of the Helsinki Region Chamber of Commerce concerning PVO-Lämpövoima's termination of the cooperation agreement. At the same time, FPH filed a complaint with the District Court of Helsinki with regard to Pohjolan Voima, demanding that the permanent rights of use should also be valid in relation to Pohjolan Voima. PVO-Lämpövoima and Pohjolan Voima have refuted all the claims presented by FPH.

On 8 June 2018, PVO-Lämpövoima, Pohjolan Voima and FPH signed an agreement by which the parties agree upon the cancellation of all pending processes and legal proceedings, as well as the transfer of the assets jointly used by PVO-Lämpövoima's Tahkoluoto power plant and FPH's Meri-Pori power plant under the cooperation agreement to FPH and the sale of a land area owned by PVO-Lämpövoima to FPH.

## Events after the end of the financial period

On 20 February 2019, Pohjolan Voima announced having made a decision to demolish the condensing power plants at Tahkoluoto in Pori and in Kristiinankaupunki. The market-based production operation of the plants, owned by PVO-Lämpövoima Oy, a subsidiary of Pohjolan Voima, was ceased due to unprofitability in June 2015, after which various possible new uses for the plants were investigated. Preparations for the final demolition began in 2017. The actual demolition work is expected to start in the spring of 2019.

On 25 February 2019 Radiation and Nuclear Safety Authority (STUK) gave its statement on operating licence application of Olkiluoto 3 EPR plant unit. STUK does not see any obstacles to grant the permission as applied until the end of 2038. STUK has reviewed according to the Nuclear Energy Act OL3 EPR plant units' safety, and also operation of the TVO Group as entity, such as resources, know-how and nuclear waste management. The Finnish Government makes the decision on the operating licence.

## Outlook

The production of electricity and heat are expected to be similar to the previous year, except for the fact that Pohjolan Voima no longer owns shares providing entitlement to the production capacity of the Meri-Pori power plant.

TVO will continue with the implementation of the Olkiluoto 3 EPR nuclear power plant unit and the preparations for production operation. Commissioning of the OL3 EPR unit will continue in cooperation with the plant supplier in compliance with the plant supplier's commissioning programme. The goal is to be able to add fuel to the reactor in compliance with the plant supplier's schedule in June 2019 and to connect the plant unit to the national grid for the first time in October 2019. According to the statement given by the Radiation and Nuclear Safety Authority (STUK) on 25 February 2019 TVO has met the prerequisites for receiving Finnish Government decision regarding the operating licence for the OL3 EPR unit. TVO has estimated that OL3 will produce 2–4 TWh of electricity with varying capacity once it has been connected to the grid but is not yet in commercial operation.

The plan is to transfer to the construction phase of Posiva Oy's project on the final disposal of nuclear fuel in 2019.

## Proposal of the Board of Directors regarding the distribution of profit

On 31 December 2018, the parent company's distributable funds totalled €320,626,223.50, of which net profit for the financial period amounted to €-6,056,957.29. The Board of Directors proposes to the Annual General Meeting that the loss for the financial year be transferred to the retained earnings account and that no dividend be distributed.

# Consolidated statement of comprehensive income

1 000 €	Note	1.1. - 31.12.2018	1.1. - 31.12.2017
<b>Continuing operations</b>			
<b>Sales</b>	7	<b>514 096</b>	<b>453 603</b>
Other operating income	8	2 968	21 968
Materials and services	9	-402 536	-352 573
Personnel expenses	10	-9 959	-10 511
Depreciation, amortisation and impairment	11	-39 048	-39 484
Other operating expenses	12,13	-53 437	-52 016
Share of (loss)/profit of associates and joint ventures	14	-19 535	-9 424
<b>Operating profit or loss</b>		<b>-7 451</b>	<b>11 563</b>
Finance income	15	2 728	4 329
Finance costs	15	-27 637	-14 063
<b>Finance costs - net</b>		<b>-24 909</b>	<b>-9 734</b>
<b>Profit before income tax</b>		<b>-32 360</b>	<b>1 829</b>
Income tax expense	16	0	838
<b>Profit for the year from continuing operations</b>		<b>-32 360</b>	<b>2 667</b>
<b>Discontinued operations</b>			
<b>Profit/loss from discontinued operations</b>		<b>2 611</b>	<b>-1 570</b>
<b>Profit for the year</b>		<b>-29 749</b>	<b>1 097</b>
<b>Other comprehensive income:</b>			
Items, that may be reclassified later to profit or loss			
Share of other comprehensive income of associates			-8
Changes in the fair value of available-for-sale financial assets	19	0	-8
Cash flow hedging	19	4 166	-5 369
Other comprehensive income for the year		4 166	-5 377
<b>Total comprehensive income for the year</b>		<b>-25 583</b>	<b>-4 280</b>
<b>Profit attributable to:</b>			
Owners of the parent		-29 098	-10 392
Non-controlling interest		-651	11 489
		-29 749	1 097
<b>Total comprehensive income attributable to:</b>			
Owners of the parent		-24 932	-15 769
Non-controlling interest		-651	11 489
		-25 583	-4 280

# Consolidated balance sheet

1 000 €	Note	31.12.2018	31.12.2017
<b>ASSETS</b>			
<b>Non-current assets</b>			
Intangible assets	17	284 173	283 364
Property, plant and equipment	18	497 440	531 077
Investments in associated companies and joint ventures	19	714 625	744 184
Other financial assets	20	486	505
Loans and other receivables	21	446 034	385 962
<b>Non-current assets total</b>		<b>1 942 758</b>	<b>1 945 092</b>
<b>Current assets</b>			
Inventories	23	12 038	5 190
Trade and other receivables	21	84 399	86 452
Cash and cash equivalents	22	59 598	43 857
<b>Current assets total</b>		<b>156 035</b>	<b>135 499</b>
Assets held for sale	24	4 653	8 845
<b>Total assets</b>		<b>2 103 446</b>	<b>2 089 436</b>
<b>Equity</b>			
<b>Equity attributable to owners of the parent</b>	25		
Share capital		65 293	65 293
Share premium		216 822	216 822
Reserve for invested non-restricted equity		326 683	328 869
Revaluation reserve		1 700	-2 466
Retained earnings		165 879	192 792
<b>Total</b>		<b>776 377</b>	<b>801 310</b>
<b>Non-controlling interests</b>		<b>40 515</b>	<b>42 197</b>
<b>Total equity</b>		<b>816 892</b>	<b>843 507</b>
<b>LIABILITIES</b>			
<b>Non-current liabilities</b>			
Provisions	26	3 345	4 491
Deferred tax liabilities	27	0	0
Borrowings	28	1 107 672	1 040 611
Other non-current liabilities	28,30	6 293	2 993
<b>Non-current liabilities total</b>		<b>1 117 310</b>	<b>1 048 095</b>
<b>Current liabilities</b>			
Borrowings	28	114 533	140 126
Trade and other payables	29	54 711	57 708
<b>Current liabilities total</b>		<b>169 244</b>	<b>197 834</b>
Liabilities related to assets held for sale	24	0	0
<b>Total liabilities</b>		<b>1 286 554</b>	<b>1 245 929</b>
<b>Total equity and liabilities</b>		<b>2 103 446</b>	<b>2 089 436</b>

# CONSOLIDATED STATEMENT OF CASH FLOWS

1 000 €	Note	2018	2017
<b>Cash flows from operating activities</b>			
Profit for the year		-32 360	2 667
Adjustments to the profit for the year	6	83 058	42 563
Change in net working capital	6	-8 949	-447
Interest paid and other financial expenses		-12 651	-14 768
Interest received		2 584	2 278
Income tax paid		-4	36
<b>Net cash generated from operating activities</b>		<b>31 678</b>	<b>32 329</b>
<b>Cash flows from investing activities</b>			
Proceeds from sales of shares in participating interests	19	2	0
Purchases of intangible assets and property, plant and equipment (PPE)	17,18	-5 538	-6 458
Proceeds from sales of intangible assets and PPE	17,18	265	6 738
Proceeds from sales of available-for-sale financial assets	17,18	15	0
Proceeds from sale of subsidiaries	5	0	16 685
Equity refunds received		3 310	0
Loan repayments	21	0	2 264
Loans granted	21	-60 232	-60 231
Dividends received		7	8
<b>Net cash used in investing activities</b>		<b>-62 171</b>	<b>-40 994</b>
<b>Cash flows from financing activities</b>			
Proceeds from issuance of ordinary shares	25	0	49 305
Acquisition of own shares	24,25	0	-296
Proceeds from borrowings	28,24	125 000	510 000
Repayments of borrowings	28,24	-44 854	-538 493
Repayment of finance leases	28,24	-13 791	-13 649
Proceeds (+) or repayments (-) of current liabilities	21,22	-24 889	-27
Dividends paid		-311	-15 304
<b>Net cash used in financing activities</b>		<b>41 155</b>	<b>-8 464</b>
<b>Net (decrease)/increase in cash and cash equivalents</b>		<b>10 662</b>	<b>-17 129</b>
<b>Cash and cash equivalents at beginning of year</b>			
		<b>33 885</b>	<b>52 866</b>
Change in cash and cash equivalents		10 662	-17 129
Cash and cash equivalents of subsidiaries sold		0	-1 852
<b>Cash and cash equivalents at end of year, continuing operations</b>		<b>44 547</b>	<b>33 885</b>
<b>Cash and cash equivalents, discontinued operations</b>		<b>15 051</b>	<b>9 972</b>
<b>Cash and cash equivalents at end of year</b>	22	<b>59 598</b>	<b>43 857</b>



## Consolidated statement of changes in equity

1 000 €	Note	Share capital	Share issue	Share premium	Fair value reserve	Reserve for invested non-restricted equity	Retained earnings	Equity attributable to owners of the parent	Equity attributable to non-controlling interest	Total equity
<b>Balance at 1.1.2017</b>		<b>64 108</b>	<b>49 305</b>	<b>220 292</b>	<b>2 910</b>	<b>286 190</b>	<b>198 039</b>	<b>820 844</b>	<b>41 035</b>	<b>861 879</b>
Comprehensive income										
Profit or loss							-10 392	-10 392	11 489	1 097
Other comprehensive income:										
Cash flow hedges					-5 368			-5 368		-5 368
Changes in the fair value of available-for-sale financial assets					-8			-8		-8
<b>Total comprehensive income for the year</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>-5 376</b>	<b>0</b>	<b>-10 392</b>	<b>-15 768</b>	<b>11 489</b>	<b>-4 279</b>
<b>Transactions with owners</b>										
Proceeds from shares issued	25	1 481	-49 305			47 824		0		0
Transfer to retained earnings	25					-5 145	5 145	0		0
Non-controlling interest of a liquidated and sold group companies								0	4 977	4 977
Adjustment relating to former business combinations of a company dissolved				-3 470				-3 470		-3 470
Acquisition and annulment of own shares		-296						-296		-296
<b>Transactions with owners total</b>		<b>1 185</b>	<b>-49 305</b>	<b>-3 470</b>	<b>0</b>	<b>42 679</b>	<b>5 145</b>	<b>-3 766</b>	<b>4 977</b>	<b>1 211</b>
Dividends to non-controlling interest								0	-15 304	-15 304
<b>Balance at 31.12.2017</b>		<b>65 293</b>	<b>0</b>	<b>216 822</b>	<b>-2 466</b>	<b>328 869</b>	<b>192 792</b>	<b>801 310</b>	<b>42 197</b>	<b>843 507</b>
<b>Balance at 1.1.2018</b>		<b>65 293</b>	<b>0</b>	<b>216 822</b>	<b>-2 466</b>	<b>328 869</b>	<b>192 792</b>	<b>801 310</b>	<b>42 197</b>	<b>843 507</b>
<b>Comprehensive income</b>										
Profit or loss							-29 098	-29 098	-651	-29 749
Other comprehensive income:										
Cash flow hedges					4 166			4 166		4 166
<b>Total comprehensive income for the year</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>4 166</b>	<b>0</b>	<b>-29 098</b>	<b>-24 932</b>	<b>-651</b>	<b>-25 583</b>
<b>Transactions with owners</b>										
Transfer to retained earnings	25					-2 186	2 186	0		0
Non-controlling interest of a liquidated and sold group companies								0	-720	-720
<b>Transactions with owners total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-2 186</b>	<b>2 186</b>	<b>0</b>	<b>-720</b>	<b>-720</b>
Dividends to non-controlling interest								0	-311	-311
<b>Balance at 31.12.2018</b>		<b>65 293</b>	<b>0</b>	<b>216 822</b>	<b>1 700</b>	<b>326 683</b>	<b>165 879</b>	<b>776 377</b>	<b>40 515</b>	<b>816 892</b>

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# Notes to the consolidated financial statements

## 1 Notes to the financial statements

### General information

Pohjolan Voima Oyj (PVO) is a Finnish public limited liability company with domicile in Helsinki, Finland. Pohjolan Voima Oyj and its subsidiaries form together the Pohjolan Voima Group.

Pohjolan Voima Group is a privately owned energy group. The production capacity of the Group consists of 26 power plants in 18 different locations. Energy is generated by hydropower, nuclear power and thermal power.

Copies of the consolidated financial statements can be obtained from [www.pohjolanvoima.fi](http://www.pohjolanvoima.fi) or from PVO's head offices, Töölönkatu 4, 00100 Helsinki, Finland.

These consolidated financial statements were approved for issue by PVO's Board of Directors on 28 February 2019, however, according to Finnish Limited Liability Companies Act the shareholders can edit or reject these financial statements at the annual general meeting.

### Basis of preparation

The consolidated financial statements of Pohjola Voima Group have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union. The IAS and IFRS standards as well as and IFRIC and SIC Interpretations valid as at 31 December 2018 have been used in preparation of the financial statements. The consolidated financial statements also comply with the Finnish Accounting Act and Limited Liability Companies Act.

All amounts in the consolidated financial statements are presented in thousands of Euros.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Group's accounting principles. The areas involving higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in section "critical judgements in applying the entity's accounting policies and critical estimations and assumptions".

### Cost-price principle

According to the Articles of Association of PVO, the Group supplies electricity and heat at cost price to the shareholders which means that it delivers the electricity it has produces or procured to its shareholders in proportion to their shareholdings in each series. The operating model of PVO is also called the "Mankala principle". The name is derived from a ruling issued by the Supreme Administrative Court in the 1960s, constituting a precedent. In this ruling, the shareholders of a company called Oy Mankala Ab were found not to have received taxable income when Mankala generated and supplied them with electricity at a price lower than the market price and the shareholders covered the company's costs on the basis of its Articles of Association.

Each of the shareholders of each series bears their share of the variable and fixed annual costs as specified in the company's legal documents. Parent company administrative costs are covered by a fixed yearly fee as defined by the company's legal documents.

In accordance with PVO's Articles of Association, each shareholder's share of the liability for the annual costs will always be limited to the amount corresponding to the proportion of its shareholding to all shares belonging to the

same series, and another shareholder's failure will not increase the shareholder's liability based on shareholding. The shareholders are liable for costs specified in the Articles of Association paragraph 4.

## **Consolidation**

### **Subsidiaries**

The consolidated financial statements include Pohjolan Voima Oyj and all its subsidiaries. Subsidiaries are those entities over which the Group has control. The Group has control over an entity if it has power over the entity; it is exposed or has rights to variable returns from its involvement with the entity and has the ability to use its power to affect the amount of its returns from the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

The Group uses the acquisition method of accounting to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair value of the assets transferred, the liabilities incurred and the equity interests issued by the Group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. On an acquisition-by-acquisition basis, the Group recognises any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets. The excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the Group's share of the identifiable net assets acquired, is recorded as goodwill. If this is less than the fair value of the subsidiary acquired in the case of a bargain purchase, the difference is recognised directly in the statement of comprehensive income.

Inter-company transactions, balances, distributions of profit and unrealised gains on transactions between Group companies are eliminated. Unrealised losses are also eliminated unless they relate to an impairment.

### **Associated companies and joint arrangements**

Associates are all entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. Joint arrangements are either joint operations or joint ventures. A joint venture is a contractual joint arrangement whereby the Group together with one or more parties has undertaken an economic activity that is subject to joint control and whereby The Group with other parties has rights to the net assets of the joint arrangement.

Investments in associates and joint ventures are accounted for using the equity method of accounting and are initially recognised at cost. The Group's share of its associates' and joint ventures' post-acquisition profits or losses is recognised in the statement of comprehensive income, and its share of post-acquisition movements in other comprehensive income is recognised in other comprehensive income. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. The Group's investment in associates and joint ventures includes goodwill identified at acquisition, net of any accumulated impairment losses. When the Group's share of losses in an associate or joint venture equals or exceeds its interest in the associate or joint venture, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate or joint venture. Unrealised gains on transactions between the Group and its associates or joint ventures are eliminated to the extent of the Group's interest in the associates or joint ventures. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset

transferred. Accounting policies of associates and joint ventures have been changed where necessary to ensure consistency with the policies adopted by the Group.

### **Non-controlling interests**

The profit or loss for the period attributable to owners of the parent and non-controlling interest is disclosed in the statement of comprehensive income. Non-controlling interests are identified separately from the equity of the owners of the parent company in the statement of changes in equity.

The Group treats transactions with non-controlling interests as transactions with equity owners of the Group. For purchases from non-controlling interests, the difference between any consideration paid and the relevant share acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to non-controlling interests are also recorded in equity.

When the Group ceases to have control or significant influence, any retained interest in the entity is remeasured to its fair value, with the change in carrying amount recognised in profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognised in other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets or liabilities. This means that any amounts previously recognised in other comprehensive income are recognized as part of the gain or loss on sale.

### **Foreign currency translation**

The functional and presentation currency of the parent company and all of the subsidiaries, associates and joint ventures is the euro. Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Assets and liabilities denominated in foreign currencies are translated at the closing rate at the date of that balance sheet.

Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the statement of comprehensive income, except when deferred in other comprehensive income as qualifying cash flow hedges and qualifying net investment hedges. Foreign exchange gains and losses relating to operations are included on the relevant line items above operating income. Foreign exchange gains and losses that relate to borrowings and cash and cash equivalents are presented in the statement of comprehensive income within 'finance income or cost'. Translation differences on non-monetary financial assets and liabilities held at cost are translated using the exchange rates prevailing at the dates of the transactions. There are no non-monetary financial assets or liabilities held at fair value denominated in foreign currencies.

### **Revenue recognition**

The Group's energy operations are based on cost price. Sales of expert services relating to energy operations are not based on cost price. Revenues are based on the consideration received for delivered energy or provided services. All revenues are presented net of value-added taxes. Revenues are recognised, as follows:

#### **Energy revenues and other revenues**

Revenue on sales of energy is divided into variable and fixed charge. Revenue on sales of energy concerning variable charge is recognised at the time of delivery. Revenue is recognised based on the delivered quantities. Both the variable and fixed charge is invoiced and recognized in turnover monthly and are paid retrospectively on the 24th of next month. Service revenue mainly consists of administration and operating service revenues. Revenue for services is

recognised in the financial period when services have been rendered and when the control of the service transfers to a customer.

## **Other income**

Revenue from activities outside the normal operations is reported in Other income. This includes recurring items such as rental income and non-recurring items such as gains on sale of property, plant and equipment. Rental income is recognised on a straight-line basis over the period of the lease agreement. The gain on sale of property, plant and equipment is recognised when the significant risks and rewards of ownership have been transferred to the buyer.

## **Research and development costs**

Research and development costs are expensed as incurred and included in other operating expenses, except when the development costs are expected to generate probable future economic benefits. In this case the costs are recorded as intangible assets and amortised over their useful lives. There are no development costs currently in the consolidated financial statements that fulfil the criteria for recognition as an intangible asset.

## **Interest income and dividends**

Interest income is recognised using the effective interest method. Dividends are recorded when the right to receive payment is established.

## **Borrowing costs**

Borrowing costs are recognised as an expense in the period in which they are incurred, unless they are directly attributable to construction of a power plant, in which case they are capitalized as a part of the cost of the asset.

## **Income taxes**

PVO delivers electricity and heating to its shareholders at cost price. The shareholders are delivered a proportionate share of the energy generated or procured by PVO according to their proportionate ownership in the various series of shares. Based on the cost-based pricing the Group does not pay any taxes on its energy related operations, therefore the Group does not recognise any deferred tax assets or liabilities on these operations.

Income taxes and deferred taxes are recognised, on the other hand, on the services provided by the Group.

The tax expense for the period comprises current tax, relating to the current period and any adjustments made to taxes for the previous financial period, and deferred taxes. The current income tax charge is calculated on the basis of the tax laws enacted. The taxes for the current period are adjusted if necessary by the taxes related to the previous period.

Deferred income tax is recognised, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. Deferred tax liabilities are not recognised if they arise from the initial recognition of goodwill or from the undistributed profits of the subsidiaries if it is not probable that the temporary difference will reverse in the foreseeable future. The most significant temporary differences for the Group arise from the depreciation of property, plant and equipment, losses carried forward and the fair valuation of assets at acquisition.

Deferred income tax is determined using tax rates (and laws) that have been enacted by the balance sheet date. Deferred income tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

## Intangible assets

Intangible assets are carried at historical cost, less government grants received, accumulated amortisation and impairment. Historical cost includes all costs directly attributable to the acquisition of the intangible asset. Intangible assets with a finite useful life are amortised using the straight-line method over the following estimated useful lives:

Computer software	3-10 years
Other intangible assets	5-10 years

No amortisation is recorded for goodwill and other intangible assets with infinite useful lives, instead these assets are tested annually for impairment. Intangible assets having infinite useful lives are water rights that have an infinite useful life based on the Water Act and certain utilisation rights for transmission roads and land based on the Act on the Redemption of Immoveable Property and Special Rights.

## Emission allowances

Carbon dioxide (CO<sub>2</sub>) emission allowances are included in the intangible assets. Emission allowances are recognised at cost, whether received free of charge or acquired from a third party. Emission allowances received free of charge are, in other words, recorded at zero. A short-term liability is recognised to cover the obligation to return emission allowances. To the extent that Group already holds allowances to meet the obligation the liability is measured at the carrying amount of those allowances. Any shortfall of allowances held over the obligation is valued at the current market value of allowances. Emission right and the related liability are derecognised when they are returned to cover the obligation or when they are sold. Emission allowances are not amortised. The cost of the provision is recognised in the statement of comprehensive income within materials and services. Gains from sales of emission rights are presented in Other income.

## Property, plant and equipment

Property, plant and equipment is stated at historical cost less government grants received, less accumulated depreciation and any accumulated impairment. Historical cost includes expenditure that is directly attributable to the acquisition of the assets. Borrowing costs directly attributable to the acquisition or construction of assets that necessarily take a substantial amount of time to get ready for their intended use are capitalised as part of the cost of the related asset. Additionally, the cost of an item of property, plant and equipment includes the discounted estimated cost of its dismantlement, removal or restoration.

Land and water areas are not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost or revalued amounts to their residual values over their estimated useful lives. The costs for dismantling a power plant are depreciated over the estimated useful life of the specific power plant.

Depreciation is calculated using the straight-line method based on the estimated useful lives, as follows:

Hydropower plant buildings, structures and machinery	40-80 years
Co-generation (electricity and heating) power plant buildings, structures and machinery	4-35 years
Transmission network	10-45 years
Other buildings and structures	10-25 years
Other machinery and equipment	3-20 years
Other tangible assets	3-40 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate to reflect the changes in estimated future economic benefits associated with the assets.

If the asset consists of different components, which have different estimated useful lives, each component is recognised as a separate asset. Replaced components are capitalized and any possible remaining carrying value of the replaced component is derecognised. In other cases, subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the asset will flow to the Group and the cost of the item can be measured reliably.

Annual repairs and maintenance are charged to the statement of comprehensive income during the financial period in which they are incurred. Power plant modernization and improvements are recognised in the asset's carrying amount or recognised as a separate asset, as appropriate.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within other operating income or other operating expenses in the statement of comprehensive income.

Depreciation on assets classified as held for sale, according to IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations", is ceased.

## Government Grants

Grants from the government, are recognised at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions. Government grants relating to the purchase of property, plant and equipment are deducted from the acquisition cost of the asset and are recognised as income by reducing the depreciation charge of the asset they relate to. Government grants relating to costs are deferred and recognised in the statement of comprehensive income over the period necessary to match them with the costs that they are intended to compensate. These grants are presented in other operating income.

## Inventories

Inventories are stated at cost. Cost is determined using the first-in, first-out (FIFO) method. The cost of inventory comprises raw materials and other direct costs. Inventories are always stated at cost as the energy generation operations are conducted based on cost price and therefore the cost of inventory is always equal to its' net realizable value.



## Leases

### Leases, Group as lessee

#### Finance leasing

Property, plant and equipment leases in which a significant portion of the risks and rewards of ownership are transferred by the lessor to the Group are classified as finance leases. Finance leases are capitalised at the lease's commencement at the lower of the fair value of the leased property and the present value of the minimum lease payments. The property, plant and equipment acquired under finance leases are depreciated over the shorter of the useful life of the asset and the lease term. The corresponding rental obligations, net of finance charges, are included in other current and non-current liabilities. Each lease payment is allocated between the liability and finance charges. The interest element of the finance cost is charged to the statement of comprehensive income over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

If a sale and leaseback transaction results in a finance lease, any excess of sales proceeds over the carrying amount shall not be immediately recognised as income by a seller-lessee. Instead, it shall be deferred and amortised over the lease term. If the leaseback is an operating lease, and the lease payments and the sale price are at fair value, there has in effect been a normal sale transaction and any profit or loss is recognised immediately.

#### Operating leases

Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases are charged to the statement of comprehensive income on a straight-line basis over the period of the lease.

Rental income from operating lease contracts, where the Group acts as the lessor, are recorded in other operating income on a straight-line basis over the period of the lease.

### Impairment of non-financial assets

The individual assets' carrying values are reviewed at each closing date to determine whether there is any indication of impairment. If there is an indication of impairment the asset is tested for impairment. Goodwill, assets that have an indefinite useful life and intangible assets in progress are not subject to amortisation and are tested annually for impairment regardless of there is indication of impairment or not. Impairment for assets excluding goodwill is assessed at the cash-generating unit (CGU) level, which is the smallest identifiable Group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or Groups of assets. Goodwill is tested for impairment at the level at which it is monitored by management which may be an individual CGU or Groups of CGUs but is not tested at a level higher than an operating segment.

An asset's recoverable amount is the higher of a cash-generating unit's fair value less costs to sell and its value in use. Value in use is the estimated discounted future cash flows expected to be provided by the asset or Group of assets. The discount rates used are pre-tax and reflect current market assessments of the time value of money and specific risks relating to the relevant asset or Group of assets.

Where the carrying value of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. Impairment is recognised immediately in the statement of comprehensive income. Impairment arising from a goodwill impairment test is allocated first to goodwill and any excess thereafter rateably over the other assets in the CGU. Assets other than goodwill that suffered an impairment charge are reviewed for possible reversal of the impairment if the estimates used in the calculation of the recoverable amount have

changed. A reversal of an impairment loss shall not exceed the carrying amount (net of amortisation or depreciation) that would have been determined had no impairment loss been recognised for the asset in prior years. Impairment losses on goodwill are never reversed.

## **Financial assets and financial liabilities**

Purchases and sales of financial assets and liabilities are recognised on the trade-date at fair value. Financial assets are derecognised when the rights to receive cash flows from the investments have expired or have been transferred and the Group has transferred substantially all risks and rewards of ownership.

The Group classifies its financial assets in the following categories according to IFRS 9: assets measured at fair value through profit or loss, at fair value through other comprehensive income and at amortized cost. The classification is determined at initial recognition based on the objective of the Group's business model. The Group does not currently have any financial assets measured at fair value through other comprehensive income.

## **Financial assets at fair value through profit or loss**

Financial assets at fair value through profit or loss are financial assets held for trading or initially designated in this category. Derivatives are categorised as held for trading unless they are designated as hedges. All derivatives held by the Group are classified as financial assets at fair value through profit or loss, as hedge accounting is not applied by the Group. Derivatives in this category are classified as current assets if expected to be settled within 12 months; otherwise, they are classified as non-current. When the derivatives have a negative value they are classified as financial liabilities held for trading. Liabilities in this category are classified as current liabilities if expected to be settled within 12 months; otherwise, they are classified as non-current. Gains or losses arising from changes in the fair value of the 'financial assets at fair value through profit or loss' category are presented in the statement of comprehensive income in the period in which they arise.

## **Amortized cost**

Amortized cost included non-current loan and other receivable as well as current trade and other receivables. Loans and receivables are subsequently carried at amortised cost using the effective interest method and included in current assets and non-current assets; in the latter for maturities greater than 12 months after the end of the reporting period. Trade receivables are recorded at cost which corresponds to their fair value. Loans granted, which have a maturity date, are measured at amortised cost using the effective interest method.

## **Cash and cash equivalents**

Cash and cash equivalents includes cash in hand, deposits held at call with banks and other short-term highly liquid investments with original maturities of three months or less.

## **Impairment of financial assets**

According to the new impairment model, the impairment of financial assets must be determined using a model based on expected credit losses. From the Group's perspective, the new impairment model applies to trade receivables and the earlier recognition of their credit losses. The Group's credit position has not changed between the standards.

According to the IFRS 9 standard, the Group applies a simplified provision matrix to recognize the credit risks in trade receivables on the basis of which a deductible item is recognized for all trade receivables based on the expected credit losses over the entire period of validity. The Group's annual credit losses have been very minor and the

expected credit losses according to the new model do not have a significant impact. Regarding financial instruments measured at amortized cost the Group performs active monitoring and recognizes impairment in profit or loss in accordance with the criteria.

The Group estimates on each closing date whether objective evidence exists of the impairment of an individual financial asset or a group thereof. If the fair value of the financial assets has fallen substantially below their acquisition cost on the closing date, this is considered as evidence of impairment of the financial assets. Evidence of impairment may include, for example, the counterparty's substantial financial difficulties, failure to pay interest or instalments, probability of bankruptcy or other financial reorganization, or observable information indicating determinable reduction of the estimated deferred cash flows, such as changes in the delay of payments and the counterparty's deteriorated financial situation correlating with the failure to pay.

The Group has shareholder loan receivables from Teollisuuden Voima Oyj, a joint venture of the Group. The Group has assessed the impairment risk regarding the loans on the basis of the loan agreements and considered that the impairment risk does not exist.

## Financial liabilities

Financial liabilities are classified into the following categories in accordance with the IFRS 9 standard: liabilities measured at fair value through profit or loss, at fair value through other comprehensive income as at amortized cost.

Financial liabilities are recognised initially at fair value, net of transaction costs incurred. Financial liabilities are subsequently carried at amortised cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognised in the statement of comprehensive income over the period of the borrowings using the effective interest method.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some of or all the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent there is no evidence that it is probable that some of or all the facility will be drawn down, the fee is capitalised as a pre-payment for liquidity services and amortised over the period of the facility to which it relates.

Derivative instruments are recognised as financial liabilities at fair value through profit or loss. These are recognised similarly as financial assets at fair value through profit or loss. They are included in non-current liabilities unless the liability is settled within 12 months of the end of the reporting period.

## Derivative instruments

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value. The method of recognising the resulting gain or loss depends on whether the derivative is hedge accounted as determined in IFRS 9. Group has not applied for hedge accounting in 2018 and 2017 and has recognized the gains and losses resulted from fair value measurement through income statement in finance income or cost.

Teollisuuden Voima Oyj (TVO), a joint venture of the Group, is consolidated using the equity method, see Associates companies and joint arrangements under the Notes to the Financial statements. TVO uses derivative instruments to hedge the foreign currency exchange rate risk in fuel purchases as well as the foreign currency risk and interest rate risk in borrowings denominated in foreign currencies. Items covered by hedge accounting in accordance with the IFRS 9 standard include instruments used for hedging against the currency risk of uranium supply contracts of TVO (forwards exchange contracts, currency swaps) and some of the interest rate swaps used for hedging against the fluctuation of interest cash flows in the loan agreements of TVO. TVO shall document both at the beginning of and

after the hedging its estimate of whether the derivative financial instruments used for hedging transactions are efficient. Derivative financial instruments included in hedge accounting are divided into non-current and current assets and liabilities based on the maturity of the hedged instrument. TVO applies both cash flow and fair value hedge accounting.

With the adoption of the IFRS 9-standard the assessment of hedge effectiveness is based on future orientation. The ineffectiveness of TVO's hedging relationship is expected to continue being very minor. IFRS 9 defines three hedge effectiveness requirements for the application of hedge accounting. The first requirement requires a financial connection between the hedged item and hedging instrument. It must be expectable that the changes in the value of the hedging instrument and hedged item are opposite due to the instrument or risk used as the shared basis. Secondly, the standard requires that changes in value due to the financial relationship are not dominated by the impact of credit risk. Thirdly, the hedging rate of the hedging relationship must equal the hedging rate resulting from the amount of the hedging instrument that the organization actually uses for hedging that amount of the hedged item. IFRS 9 requires the same hedging rate that is actually used in risk management. The changes have no significant impact for TVO.

Other companies in the Group have derivative instruments that do not fulfil the hedge accounting criteria according to IFRS. Examples of these instruments are some interest rate swap agreements which have been used to exchange floating rate borrowings into fixed rate borrowings and foreign currency forward contracts hedging the foreign currency risk in fuel purchases. Derivatives are recorded at fair value in the assets or liabilities. Changes in the fair values of foreign currency forwards and interest rate derivative instruments are recorded through profit and loss within finance income and costs. Derivatives are classified as current or non-current assets or liabilities depending on their maturity date.

## **Employee benefits**

Pensions for the personnel in the Group have been arranged through an external pension insurance company. The Finnish (TyEL) pension system, as well as, the voluntary pension insurances are recognised as defined contribution plans. A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. Payments made to the defined contribution plans are recognised as expenses in the period in which they were incurred. Defined benefit plans are plans that are not defined contribution plans. The Group does not have any defined contribution plans.

## **Provisions and contingent liabilities**

Provisions for environmental restoration, asset retirement obligations and legal claims are recognised when: the Group has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation; and the amount has been reliably estimated.

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation using a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to passage of time is recognised as interest expense. Where some or all the expenditure required to settle a provision is expected to be reimbursed by another party, the reimbursement is recognised when, and only when, it is virtually certain that reimbursement will be received. Provisions are not recognised for operating costs.

A contingent liability is disclosed when there is a possible obligation that arises from external events and whose existence is only confirmed by one or more doubtful future events or when there is an obligation that is not recognised as a liability or provision because it is not probable that an outflow of resources will be required or the amount of the obligation cannot be reliably estimated. Contingent liabilities are disclosed in the notes to the financial statements.

## **Environmental provisions**

Environmental provisions are recognised, based on current interpretation of environmental laws and regulations, when it is probable that a present obligation has arisen and the amount of such liability can be reliably estimated. Environmental expenditures resulting from the remediation of an existing condition caused by past operations, and which do contribute to current or future revenues, are expensed as incurred.

## **Accrued expenses related to the handling of ashes**

Group companies may have, in temporary storage, ashes generated from the power plant operations, which are subject to waste tax. These ashes may have an alternative utilisation, an alternative utilisation is being sought or there is no alternative utilisation which will result in the ashes being transported to a waste disposal site. Financial statements include an accrued expense, representing the best estimate for the costs of the handling of the ashes held in temporary storage at the end of the reporting period.

## **Asset retirement obligations**

An asset retirement obligation is recognised either when there is a contractual or a legal obligation and the obligation amount and timing can be reliably estimated. The asset retirement obligation is recognised as part of the cost of an item of property and plant when the asset is put in service or when contamination occurs. The costs are depreciated over the remainder of the asset's useful life.

## **Assets and liabilities relating to nuclear waste management**

The treatment of the nuclear waste management liability has a material effect on the profit and loss of Teollisuuden Voima Oyj (TVO). The nuclear waste management liability based on the Nuclear Energy Act is covered by a contribution to the Finnish State Nuclear Waste Management Fund. The liability covers all the future expenditure for the handling of the existing nuclear waste, including the decommissioning of the nuclear power plants, the disposal of the spent fuel and a risk marginal. The amount of payments is determined by assuming that the decommissioning would start at the beginning of the year following the assessment year. The research relating to the disposal, as well as the actual disposal of TVO's spent fuel, are carried out by Posiva Oy, which charges from TVO the costs arising from these activities including the acquisition cost of property, plant and equipment.

In the consolidated financial statements of TVO the share of the funds in the Finnish State Nuclear Waste Management Fund, is presented as part of non-current assets according to IFRIC 5. The nuclear waste management liability is presented in provisions, within non-current liabilities. The fair value of the nuclear waste management liability is calculated by discounting the cash flows based on the planned estimated future activity and the estimated expenditure relating to it taking into account actions already taken.

The initial present value of the provision for decommissioning of the nuclear power plant is included in the capitalized investment cost of the power plant. The initial present value is adjusted according to subsequent planned future changes. The amount recognized relating to decommissioning of the plant is depreciated over the estimated useful life of the power plant.

The provisions for spent nuclear fuel covers the future disposal cost of fuel used by the end of each reporting period. The costs for the disposal of the spent nuclear fuel is recognised during the operating time of the plant based on fuel usage. The impact of any changes to the plan will be recognized immediately in the income statement based on fuel used by the end of reporting period.

The timing factor of money when discounting the nuclear waste management liability is recognised by recording the interest expense in the statement of comprehensive income.

## **Share Capital**

PVO has 14 different series of shares. Each series of shares entitle their owner to the energy generated by a specific subsidiary, associate or joint venture. Each shareholder is entitled to the proportionate share of the energy according to their proportionate ownership of a specific series of shares.

Proceeds received at the inception of the Company and subsequent issue of share capital have been recorded in the share capital, share premium account and after 1 September 2006 also in the reserve for invested non-restricted equity.

## **Earnings per share**

Earnings per share are not presented as the Group operates at cost price. The ordinary shares of Pohjolan Voima Oyj are not traded in a public market.

## **Equity loans to shareholders**

Equity loans to shareholders are classified as equity instruments and recognized initially at fair value including transaction costs. The equity loans do not have a maturity date, and the debtor can repay the loan at will in one or several tranches. The debtor's Board of Directors has discretion over the coupon interest payments for the loan. Unpaid interest does not accumulate to the subsequent periods. The equity loan is unsecured and is subordinate to all other forms of debt instruments but senior to the company's other equity instruments.

The interest for the equity loans is recognized as a liability only after entity has decided to pay the interest. The relating interest expense is recognized on a cash basis directly in retained earnings and not through the consolidated income statement.

## **Assets held for sale and discontinued operations**

Assets are classified as assets held for sale and stated at the lower of carrying amount and fair value less costs to sell, if their carrying amount is recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. Assets are not depreciated.

A discontinued operation is a component of an entity that either has been disposed of or is classified as held for sale and:

1. Represents either a separate major line of business or a geographical area of operations
2. Is a part of a single co-ordinated plans to dispose of a separate major line of business or geographical area of operations, or
3. Is a subsidiary acquired exclusively with a view to resale and the disposal involves loss of control.

Profit of discontinued operations is presented as a single amount on the face of the statement of comprehensive income. Assets held for sale, disposal groups, any cumulative income or expense recognized in the other comprehensive income relating to a non-current asset classified as held for sale as well liabilities relating to disposal groups are presented separately in the face of the consolidated balance sheet.

## Segment reporting

The Group applies segment reporting in the 2018 financial statements. The Group has four reportable segments: hydro power, thermal power, nuclear power and other operations. The chief operation decision maker is the Board of Directors.

## Implementation of interpretations and amendments to New and revised IFRS standards

In preparing these financial statements, the group has followed the same accounting policies as in the annual financial statements for 2017 except for the following amendments to existing standards which have been applied for from 1 January 2018 on.

- IFRS 9 Financial instruments - replaced IAS 39 and brought changes to classification and measurement of financial assets, their impairment assessment and hedge accounting.

The adoption of IFRS 9 from 1 January 2018 resulted in changes in classification of financial assets but did not result in any adjustments in the financial statements.

IFRS 9 includes three categories to which financial assets are classified based on the Group's business model and contractual terms of the cash flow: assets measured at amortized cost, at fair value through profit and loss and at fair value through other comprehensive income items. The standard replaced the former classification of IAS 39: held-to-maturity, loans and receivables and available-for-sale financial assets. Group's financial assets have been classified according to the Group's business model to assets at amortized cost and to assets at fair value through profit and loss.

On the date of initial application, 1 January 2018, the following changes were made:

<b>Balance sheet item</b>	IAS 39 Measurement Category	<b>IFRS 9 Measurement Category</b>	<b>IFRS 9 Carrying Amount</b>	IAS 39 Carrying Amount
<b>Non-current financial assets</b>				
Other financial assets	Available-for-sale financial assets	Fair value through profit and loss	505	505
Loans and other receivables	Loans and other receivables	Amortized cost	385 962	385 962

<b>Current financial assets</b>				
Trade and other receivables	Loans and other receivables	Amortized costs	86 452	86 452
<b>Non-current liabilities</b>				
Borrowings	Financial liabilities measured at amortized costs	Amortized cost	845 206	845 206
Other non-current liabilities	Financial liabilities measured at amortized costs	Amortized cost	195 405	195 405
Derivative financial instruments	Derivative financial instruments at fair value through profit and loss	Fair value through profit and loss	2 993	2 993
<b>Current liabilities</b>				
Borrowings	Financial liabilities measured at amortized costs	Amortized cost	119 375	119 375
Other non-current liabilities	Financial liabilities measured at amortized costs	Amortized cost	20 751	20 751
Derivative financial instruments	Derivative financial instruments at fair value through profit and loss	Fair value through profit and loss	8	8
Trade payables	Financial liabilities measured at amortized costs	Amortized cost	11 576	11 576
Other current liabilities	Financial liabilities measured at amortized costs	Amortized cost	46 124	46 124

Impairment of financial assets is based on expected credit loss method. The Group applies simplified provision matrix in recognizing the credit losses of accounts receivable as annual credit losses have been limited and there is no material financing component included in the accounts receivable. Thus expected credit losses do not have material impact.



There was no impact on the Group's accounting for financial liabilities as the new requirements only affect the accounting for financial liabilities that are designated at fair value through profit or loss and the Group does not have any such liabilities.

The new hedge accounting rules align hedge accounting more closely with common risk management practices. The Group does not implement hedge accounting.

- IFRS 15 Revenue from contracts with customers - replaced IAS 18 which covers contracts for goods and services and IAS 11 which covers construction contracts. The standard is based on the principle that revenue is recognised when control of a good or service transfers to a customer - so the notion of control replaced the existing notion of risks and rewards.

A new five-step process must be applied before revenue can be recognised:

- identify contracts with customers
- identify the separate performance obligation
- determine the transaction price of the contract
- allocate the transaction price to each of the separate performance obligations, and
- recognise the revenue as each performance obligation is satisfied.

The implementation of the standard did not have material impact in revenue recognition. Turnover of the Group mainly consists of energy revenue, which is still recognized monthly based on delivery (see Cost-price principle).

The Group will adopt the following standards, interpretations and amendments to existing standards and interpretations in its 2019 financial statements or later. Based on initial assessment, Group estimates that these have no impact on the consolidated financial statements, unless separately below stated.

- IFRS 16 Leases - almost all leases will be recognized on the balance sheet as the distinction between operating and financing leases is removed. Under the new standard, an asset (the right to use the leased item) and a financial liability to pay rentals are recognized. The only exceptions are short-term and low-value leases.

The Group has reviewed all of the Group's leasing arrangements in light of the new lease accounting rules in IFRS 16.

The standard will affect primarily the accounting for the group's operating leases. As at the reporting date, the group has non-cancellable operating lease commitments of 2,3 million euros, see note 33. Less than 10% of these relate to payments for short-term and low value leases which will be recognised on a straight-line basis as an expense in profit or loss.

For the remaining lease commitments the Group expects to recognize right-of-use assets of approximately 10,6 million euros and lease liabilities of 10,6 million euros. The net profit after tax will decrease by approximately 0,1 million euros. Operating cash flows will increase and financing cash flows decrease by approximately 1 million euros as repayment of the principal portion of the lease liabilities will be classified as cash flows from financing activities.

The Group's activities as a lessor are not material and hence the Group does not expect any significant impact on the financial statements. However, some additional disclosures will be required from next year.

The standard will be applied for financial years commencing on or after 1 January 2019. The Group intends to apply the simplified transition approach and will not restate comparative amounts for the year prior first adoption. Right-of-use assets will be measured at the amount of the lease liability on adoption.

- IAS 19\* (amendment) Employee Benefits – plan amendment, curtailment or settlement
- IFRS 17\* Insurance Contracts
- IFRIC 23 Uncertainty over income tax treatments\*
- IFRS 9 (amendment)\* - prepayment features with negative compensation
- IAS 28 (amendment)\* - long-term interests in associates and joint ventures to which the equity method is not applied
- Annual improvements to IFRS 2015-2017\*
- IFRS 3\* Business combination (amendment) – definition of a business
- IAS 1\* Presentation of financial statements (amendment) and IAS 8 Accounting policies – definition of material

\* Standard, interpretation or amendment is not yet endorsed by EU

## 2 Critical judgements in applying the entity's accounting policies and critical estimations and assumptions

The Group management makes judgements in the preparation of the financial statements relating to the selection and application of the accounting principles. These decisions relate specifically to those areas where the effective IFRS-standards allow alternative methods of recording, valuation or presentation.

The estimates and assumptions made by management in the preparation of the consolidated financial statements are based on the best knowledge at hand at year end. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Actual results and the detailed background information are followed by management together with the business units using both internal and external sources of information. Changes to the estimates and assumptions are recognised in the financial period in which changes occur and all the future financial periods.

### Legal obligations

Management judgement is required to estimate timing and valuation of the legal obligations. A provision is recorded when: the Group has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation; and the amount has been reliably estimated. Due to inherent uncertain nature of litigation, the actual losses may differ significantly from the originally estimated provision.

The Group has not recorded any provisions on litigations. The Group did not have any ongoing or expectable litigation that would have required judgement on provision recording.

### Impairment testing

Impairment testing is carried out annually for goodwill and for intangible assets with indefinite useful lives. Impairment testing for other assets is performed when there is an indication that the asset might be impaired. The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations are based on estimated future cash flows received from the use of the asset or the sale of the asset.

Pohjolan Voima operations are based on the cost-price method ('Mankala principle'). According to the company's legal documents the shareholders of the Company are invoiced a price for the energy received which covers fixed and variable expenses of the operations. When testing if the assets are impaired based on the value-in-use, the discounted cash flows, correspond, except for a few exceptions, to the recoverable amount and therefore usually there is no impairment recorded.

### Environmental provision

Operations of the Group are regulated by a number of laws and regulations. The Group is in compliance with all existing environmental regulations. The Group has recorded, for the industry customary, provisions for environment protection expenses to cover its legal obligations.

Environmental provisions are based on management's best estimate of landscaping costs. Environmental provisions consist of Asset Retirement Obligations of landfills which relate to ash storage in thermal power business. The Group recognizes a provision on estimated landscaping costs. The cost estimate is annually reviewed.

### 3 FINANCIAL RISK MANAGEMENT

The financial risk management in Pohjolan Voima Group is carried out centrally by the parent company treasury department under policies approved by the Board of Directors. The Group's activities expose it to a variety of financial risks: liquidity risk, market risk and credit risk.

The objective of the financing function is to ensure the existence of sufficient funds for operative decision making and to promote the low cost of electricity through its decisions.

Derivatives are entered into only for hedging purposes. Pohjolan Voima does not apply hedge accounting under IFRS.

#### **Liquidity and refinancing risks**

Liquidity and refinancing risks relate to the impact on the company's profit and loss and cash flows, if the company is unable to secure sufficient funding for its operations. In addition to sufficient liquid funds and committed credit facilities Pohjolan Voima Group seeks to reduce refinancing risk by diversifying the maturity of its loans as well as sources for its funding.

In accordance with Pohjolan Voima Group's financing policy, the maturity of long-term debt and refinancing is agreed so that a maximum of 25% of the outstanding debt will fall due within the next 12 months. This principle is not applied on the loans granted by the State Nuclear Waste Management Fund.

Liquidity risk is significantly reduced by the fact that Pohjolan Voima Group invoices shareholders in accordance with the Articles of Association, the monthly fixed and variable costs.

Free liquidity is invested prudently and productively in instruments with a duration of up to 12 months. The objective is to diversify investments and these are chosen so that a secondary market liquidity is also ensured in adverse conditions and so that most of the investments can be realized at a low cost.

Pohjolan Voima Group mainly uses the domestic commercial paper programs amounting to 300 million Euros in order to ensure short-term financing. As at 31 December 2018 85 million Euros out of the commercial paper program was in use (31 December 2017 110 million Euros).

In addition to liquid assets Pohjolan Voima Group's liquidity is secured by 300 million Euros revolving credit facility as well as by shareholder loan commitments of 90 million Euros. 21 million of the revolving credit facility will mature in June 2021 and the facility in total in June 2022. The loan facility was fully undrawn as at 31 December 2018 (as well as per 31 December 2017). The shareholder loan commitments were also undrawn as at 31 December 2018.

Pohjolan Voima Group's financial arrangements do not include any covenants.

The following table presents a maturity analysis on loan agreements. The figures are cash based and interest flows are based on the interest rates prevailing at the closing date. Differences between the balance sheet items and the debt amounts below arise from the transaction costs that have been accrued according to the effective interest method in the balance sheet. Transaction costs for loan arrangements are not included in the cash flows as these have been paid at the time of the signing of the agreements.

### Undiscounted cash flows of financial liabilities

2018 1 000 €	2019	2020	2021	2022	2023-	Total	Balance sheet
Loans from financial institutions *	-5 800	-212 050	800	800	-5 634	-614 086	-614 086
Finance costs **	-6 377	-6 204	-4 801	-626	-40	-18 048	
Bonds					-125 000	-125 000	-125 000
Finance costs	-2 188	-2 191	-2 184	-2 188	-2 188	-10 937	
Loan from the State Nuclear Waste Management Fund (TVO) ***					-195 859	-195 859	-195 859
Finance costs	-2 286	-2 272	-2 272	-2 272	-2 272	-11 374	
				-35			
Finance lease liabilities	-23 840	-89 957	-7 280	454	-45 835	-202 365	-202 365
Finance costs	-620	-503	-408	-369	-976	-2 877	
Commercial papers	-84 892					-84 892	-84 892
Finance costs	-111					-111	
Interest rate derivatives	-1 713	-2 247	-2 238	-2 128	-3 731	-12 057	-6 304
			-301	-150			
<b>Total</b>	<b>-127 828</b>	<b>-315 424</b>	<b>984</b>	<b>837</b>	<b>-381 535</b>	<b>-1 277 608</b>	

\* Repayments to be made in 2019 are included in current liabilities.

\*\* In addition to interest expenses, finance costs also include a commitment fee.

\*\*\* The loan from the State Nuclear Waste Management Fund does not have an actual date of maturity, and therefore it is presented as a loan with a loan term of over 5 years. According to the section 52 of the Nuclear Energy Act Teollisuuden Voima Oyj is entitled to borrow from State Nuclear Waste Management Fund against securing guarantees the amount which can not be larger than 75 per cent of the latest confirmed TVO's share in the Fund. TVO has borrowed this amount from the Fund and has granted a loan with the corresponding amount to Pohjolan Voima. The loan is annually renewed. Pohjolan Voima has issued a bank guarantee to the Fund as security. Pohjolan Voima has received a committed bank guarantee facility of 196 million Euros which matures in 30 April 2019.

### Undiscounted cash flows of financial liabilities

2017 1 000 €	2018	2019	2020	2021	2022-	Total	Balance sheet
Loans from financial institutions *	-6 881	-31 881	131	881	-12 027	-655 801	-655 801
Finance costs **	-6 761	-6 867	-6 414	-3 176	-386	-23 604	
Loan from the State Nuclear Waste Management Fund (TVO) ***					-196 285	-196 285	-196 285
Finance costs	-2 802	-2 277	-2 277	-2 277	-2 277	-11 910	
			-87				
Finance lease liabilities	-20 751	-56 066	222	-4 523	-47 594	-216 156	-216 156
Finance costs	-700	-573	-464	-378	-1 306	-3 421	
Commercial papers	-109 782					-109 782	-109 782
Finance costs	-218					-218	
Pension liabilities	-2 712					-2 712	-2 712
Finance costs	-31					-31	
Interest rate derivatives	-1 249	-1 602	-2 137	-2 127	-5 492	-12 607	-3 001
			-436	-279			
<b>Total</b>	<b>-151 887</b>	<b>-99 266</b>	<b>645</b>	<b>362</b>	<b>-265 367</b>	<b>-1 232 527</b>	

\* Repayments to be made in 2018 are included in current liabilities.

\*\* In addition to interest expenses, finance costs also include a commitment fee.

\*\*\* The loan from the State Nuclear Waste Management Fund does not have an actual date of maturity, and therefore it is presented as a loan with a loan term of over 5 years. According to the section 52 of the Nuclear Energy Act Teollisuuden Voima Oyj is entitled to borrow from State Nuclear Waste Management Fund against securing guarantees the amount which can not be larger than 75 per cent of the latest confirmed TVO's share in the Fund. TVO has borrowed this amount from the Fund and has granted a loan with the corresponding amount to Pohjolan Voima. The loan is annually renewed. Pohjolan Voima has issued a bank guarantee to the Fund as security. Pohjolan Voima has received a committed bank guarantee facility of 196 million Euros which matures in 30 April 2019.

## Market risk

### Interest Rate Risk

Changes in interest rates and margins on the interest-bearing receivables and liabilities create an interest rate risk. The objective of the interest rate risk management in Pohjolan Voima, is to protect the Group against the increase of interest expenses caused by the increase in the reference interest rates. In accordance with the financing policy of the Group, the interest rate risk is monitored by means of duration of the loan portfolio for each series of shares. The duration of the loan portfolios of the parent company and subsidiaries are set at the level where the electricity price sensitivity to changes in interest rates is on an acceptable level considering the individual risk-bearing capacity of each series of shares. Interest derivatives are used in the management of the duration.

Variable rate borrowings amounted to 90% (2017: 100%) of the Group's total borrowings. Interest rate swaps currently in place cover approximately 24% (2017: 23%) of the variable loan principal outstanding. The fixed interest rates of the interest rate swaps range between 0,16% and 1,39% (2017: 0,16% and 1,39%).

As per 31 December 2018 the increase or decrease of one percentage point in the interest rate would affect the result of the year by approximately +10.8/-15.1 (31 December 2017: +11.2/-16.7) million Euros. The impact includes in addition to the change of interest expense and income the change in the fair value of interest hedging instruments. The simulation calculates the effect of one percentage point change for all liabilities with variable interest rates as well as for interest income and expenses of receivables from the next interest fixing date until the end of the financial year. The financing structure is assumed to be unchanged and the short-term loans maturing during the financial year are assumed to be prolonged until the end of the year by using the new interest rate.

### Currency Risk

Both short-term and long-term loans are mainly denominated in euros. Other than the euro-denominated borrowings are hedged latest at the time when the loan is drawn. All Pohjolan Voima Group's loans were euro-denominated in 2018 and 2017.

### Credit risk

Credit or counterparty risk is arise from the possibility that a customer or a financial counterparty does not fulfil its commitments. Commercial trade receivables, investments and receivables based on derivative financial instruments expose the company to credit risk. When counterparty banks are selected, only banks with high credit ratings qualify. Derivative financial agreements are entered into only with leading banks and financial institutions. All counterparties are monitored for their payment behaviour and credit worthiness. Pohjolan Voima recognised impairment of 56.7 thousand euros (2017: 0.5 thousand euros) on trade receivables during the reporting period. Pohjolan Voima sells electricity and heat to its shareholders. Pohjolan Voima operates based on cost price according to its Articles of Association (Mankala principle), which decreases the credit risk related to the trade receivables significantly. There are no significant trade receivables past due in the Group.

Pohjolan Voima supplies electricity and heat only to its shareholders who according to the Articles of Association are obliged to pay variable and fixed costs of the energy delivered. Accounts receivable relating to energy delivery has not faced any credit losses in the past and no impairment is expected. Other accounts receivable are immaterial and credit losses on them extraordinary. Loan receivables are shareholder loan granted to Teollisuuden Voima Oyj, the joint venture and on the basis of the assessment made by the Group do not carry any impairment risk.

## Capital risk management

Capital is defined as the equity attributable to the owners of the parent company consisting of share capital, share premium, reserve for invested non-restricted equity, revaluation reserve, retained earnings and equity loans, as well as the equity attributable to the non-controlling interest. There are no external capital requirements it needs to adhere to.

Sufficient equity based financing in the Group enables use of diversified financing types from different sources.

There is a moderate variation of the equity to assets ratio of the Group depending on the investment cycles. Shareholders of each series of shares according to their proportionate ownership are responsible for the equity share of the investments.

Pohjolan Voima follows the equity on assets ratio, which is presented below.

	2018	2017
Equity on assets ratio (%) (IFRS, Group) *	39	40

\* Equity on assets ratio% = 100 x  $\frac{\text{Shareholders' equity}}{\text{Balance sheet total}}$

## 4 SEGMENT INFORMATION

The Group has four reportable segments: hydropower, thermal power, nuclear power and other operations. The electricity of the hydropower segment is produced at eight hydro power plants owned by PVO-Vesivoima Oy. In addition, the shareholdings in Torniolaakson Voima Oy, Länsi-Suomen Voima Oy and Voimalohi Oy belong to the hydropower segment.

The electricity and heat of the thermal power segment is produced at the power plants of Hämeenkyrön Voima Oy, Kaukaan Voima Oy, Kymin Voima Oy, Laanilan Voima Oy, Porin Prosessivoima Oy and Rauman Biovoima Oy. In addition, the shareholdings in joint venture Vaskiluodon Voima Oy and associate Oy Alholmens Kraft Ab belong to the thermal power segment. Tahkoluodon Polttoöljy Oy is a dormant company.

The nuclear power segment includes the share in the joint venture Teollisuuden Voima Oyj which produces electricity at two nuclear power plant units, Olkiluoto 1 and Olkiluoto 2. Nuclear power plant unit Olkiluoto 3 is under construction.

The other operations cover the group functions of the parent company Pohjolan Voima Oyj, the service companies PVO Power Management Oy, PVO Power Services Oy and the dormant company Rouhialan Voimansiirto Oy. The operations of PVO-Lämpövoima Oy are presented as discontinued operations.

The Group discloses sales, depreciation, amortisation and impairment, finance income and costs, the profit or loss for the year, and assets and liabilities by business segments, which the chief operation decision maker follows. Group's liabilities are allocated to segments based on the usage of segment's assets in order to allocate financial costs to various production types. The group company that has withdrawn the liability bears the legal responsibility on the liabilities.

2018

Income statement	Hydropower	Thermal power	Nuclear power	Other	Total	Discontinued operations
Sales, external	6 225	86 897	182 810	238 168	514 101	634
Sales, inter-segment	16 884	123 938		32 506	173 326	4
Elimination					-173 331	
<b>Sales total</b>	<b>23 109</b>	<b>210 835</b>	<b>182 810</b>	<b>270 674</b>	<b>514 096</b>	<b>638</b>
<b>Depreciation, amortisation and impairment</b>	<b>-4 567</b>	<b>-34 229</b>		<b>-251</b>	<b>-39 048</b>	<b>363</b>
<b>Share of (loss)/profit of associates and joint ventures</b>	<b>-22</b>	<b>-4 294</b>	<b>-15 218</b>		<b>-19 535</b>	
<b>Operating profit or loss</b>	<b>-1 947</b>	<b>-3 246</b>	<b>-15 218</b>	<b>12 960</b>	<b>-7 451</b>	<b>2 520</b>
<b>Finance income and costs</b>	<b>-1 326</b>	<b>-12 951</b>	<b>-7 163</b>	<b>-3 469</b>	<b>-24 909</b>	<b>91</b>
<b>Profit/loss for the year from continuing and discontinued operations</b>	<b>-3 272</b>	<b>-16 197</b>	<b>-22 381</b>	<b>9 490</b>	<b>-32 360</b>	<b>2 611</b>
<b>Assets</b>						
<b>Non-current assets</b>	<b>435 070</b>	<b>409 594</b>	<b>1 060 422</b>	<b>37 671</b>	<b>1 942 758</b>	
<b>Current assets</b>						
<b>Current assets</b>	<b>6 080</b>	<b>82 639</b>	<b>0</b>	<b>84 982</b>	<b>173 701</b>	
Elimination					-17 666	
<b>Current assets total</b>					<b>156 035</b>	
Assets held for sale		4 653			4 653	
<b>Total assets</b>	<b>441 150</b>	<b>496 886</b>	<b>1 060 422</b>	<b>122 654</b>	<b>2 103 446</b>	
<b>Liabilities</b>						
<b>Non-current liabilities</b>						
Non-current liabilities	137 000	243 157	723 222	7 638	1 111 017	
Other non-current liabilities					6 293	
<b>Non-current liabilities total</b>					<b>1 117 310</b>	
<b>Current liabilities</b>						
Current liabilities	4 668	64 584	0	117 658	186 910	
Elimination					-17 666	
<b>Current liabilities total</b>					<b>169 244</b>	
<b>Total liabilities</b>	<b>141 668</b>	<b>307 741</b>	<b>723 222</b>	<b>125 296</b>	<b>1 286 553</b>	

2017

<b>Income statement</b>	<b>Hydropower</b>	<b>Thermal power</b>	<b>Nuclear power</b>	<b>Other</b>	<b>Total</b>	<b>Discontinued operations</b>
Sales, external	5 894	49 305	177 194	221 228	453 620	940
Sales, inter-segment	23 448	120 895		20 580	164 923	17
Elimination					-164 940	
<b>Sales total</b>	<b>29 342</b>	<b>170 200</b>	<b>177 194</b>	<b>241 807</b>	<b>453 603</b>	<b>956</b>
<b>Depreciation, amortisation and impairment</b>	<b>-4 533</b>	<b>-34 421</b>		<b>-530</b>	<b>-39 484</b>	<b>363</b>
<b>Share of (loss)/profit of associates and joint ventures</b>	<b>58</b>	<b>255</b>	<b>-9 737</b>		<b>-9 424</b>	
<b>Operating profit or loss</b>	<b>4 651</b>	<b>476</b>	<b>-9 737</b>	<b>16 173</b>	<b>11 563</b>	<b>-1 581</b>
<b>Finance income and costs</b>	<b>-1 700</b>	<b>-2 288</b>	<b>-6 748</b>	<b>1 002</b>	<b>-9 734</b>	<b>11</b>
<b>Income tax expense</b>				<b>838</b>	<b>838</b>	
<b>Profit for the year from continuing and discontinued operations</b>	<b>2 951</b>	<b>-1 812</b>	<b>-16 485</b>	<b>18 013</b>	<b>2 667</b>	<b>-1 570</b>
<b>Assets</b>						
<b>Non-current assets</b>	<b>436 856</b>	<b>444 776</b>	<b>1 025 433</b>	<b>38 027</b>	<b>1 945 092</b>	
<b>Current assets</b>						
<b>Current assets</b>	<b>9 989</b>	<b>75 566</b>		<b>68 667</b>	<b>154 222</b>	
Elimination					-18 723	
<b>Current assets total</b>					<b>135 499</b>	
Assets held for sale		8 845			8 845	
<b>Total assets</b>	<b>446 845</b>	<b>529 187</b>	<b>1 025 433</b>	<b>106 694</b>	<b>2 089 436</b>	
<b>Liabilities</b>						
<b>Non-current liabilities</b>						
Non-current liabilities	139 400	254 417	648 417	2 868	1 045 102	
Other non-current liabilities					2 993	
<b>Non-current liabilities total</b>					<b>1 048 095</b>	
<b>Current liabilities</b>						
Current liabilities	4 689	63 143		148 725	216 557	
Elimination					-18 723	
<b>Current liabilities total</b>					<b>197 834</b>	
<b>Total liabilities</b>	<b>144 089</b>	<b>317 560</b>	<b>648 417</b>	<b>151 593</b>	<b>1 245 929</b>	



## 5 SOLD NON-CURRENT ASSETS AND BUSINESS COMBINATIONS

### Sold non-current assets

The shares of PVO-Alueverkko Oy, owned by the group company Powest Oy, were sold and the title to the shares was passed 31 January 2017.

Assets and liabilities of sold companies	2018	2017
Intangible assets	0	192
Property, plant and equipment	0	4 339
Non-current receivables	0	0
Inventories	0	0
Trade and other receivables	0	651
Cash and cash equivalents	0	1 852
Total assets	0	7 035
Non-controlling interests	0	0
Provisions	0	0
Borrowings	0	0
Trade and other payables	0	1 028
Total liabilities	0	1 028
Net assets sold	0	6 007
Gain on disposal	0	10 597
Total consideration	0	16 604
Cash consideration received	0	16 604
Cash and equivalents disposed of	0	-1 852
Cash inflow arising from disposal	0	14 752

### Business combinations

There were no business combinations in 2018 or in 2017.

## 6 NOTES TO THE STATEMENT OF CASH FLOWS

Adjustments to profit or loss for the year (1 000 €)	2018	2017
Depreciation and amortisation	39 048	39 484
Increase/decrease in fair value of derivatives	3 368	-1 913
Income taxes	0	-838
Gains (+) or losses (-) from disposal of non-current assets	-434	-15 241
Finance costs - net	21 541	11 647
Share of (loss)/profit of associates and joint ventures	19 535	9 424
Total	83 058	42 563

Change in net working capital	2018	2017
Increase (-) or decrease (+) in non-interest-bearing receivables	731	6 912
Increase (-) or decrease (+) in inventories	-6 848	3 107
Increase (+) or decrease (-) in current non-interest-bearing liabilities	-2 823	-11 068
Change in provisions	-9	602
Total	-8 949	-447

## 7 SALES

1 000 €	2018	2017
Sales of electricity produced	339 355	293 484
Sales of heat produced	138 304	132 635
Sales of purchased electricity	28 230	19 482
Other sales	8 208	8 002
Total	514 096	453 603

Electricity delivered to shareholders (GWh)	2018	2017
Electricity produced	11 985	11 397
Heat produced	3 958	3 960
Purchased electricity	532	533

PVO's electricity purchases are determined by the electricity required by the shareholders. In 2018, Pohjolan Voima Group's total electricity purchases from continuing operations were 12.5 (11.9) TWh. The Group's electricity generation accounted for 12.0 (11.4) TWh, of which the parent company delivered to its shareholders 11.6 (10.9)

TWh. Subsidiaries supplied 0.4 (0.5) TWh to other owners. Purchases from continuing operations from the Nordic electricity market, were 0.5 (0.5) TWh and sales were 0.3 (0.4) TWh. Heat deliveries were 4.4 (4.5) TWh.

Other sales consist primarily of sales of emission allowances as well as network and management services.

## 8 OTHER OPERATING INCOME

1 000 €	2018	2017
Rental income	532	596
Gain on sale of property, plant and equipment as well as subsidiaries and joint ventures	438	17 431
Government grants	6	3
Electricity production subsidies	1 720	1 994
Other income	272	1 944
<b>Total</b>	<b>2 968</b>	<b>21 968</b>

## 9 MATERIALS AND SERVICES

1 000 €	2018	2017
Fuels	97 094	89 528
Change in inventories	-6 020	2 790
Materials and services	2 297	1 944
Emissions allowances - carbon dioxide	2 362	762
Energy purchased; Nordic electricity market	31 355	21 166
Energy purchased; Associates and Joint ventures	267 125	226 123
Energy purchased; other	1 869	4 252
External services	6 453	6 007
<b>Total</b>	<b>402 536</b>	<b>352 573</b>

Purchases of fuel consist of peat and bio fuel purchases, which are used for electricity and heat production.

Energy purchases from associates and joint ventures include purchases according to the ownership share in Teollisuuden Voima Oyj, Oy Alholmens Kraft Ab and Vaskiluodon Voima Oy.

## 10 PERSONNEL EXPENSES

### Personnel-related expenses

1 000 €	2018	2017
Wages and salaries		
Board members and CEO	1 977	1 475
Other wages and salaries	6 244	7 287
Pension expenses - defined contribution	1 511	1 492
Other personnel expenses	227	257
<b>Total</b>	<b>9 959</b>	<b>10 511</b>

### Average number of personnel

	2018	2017
Salaried employees	80	88
Wage-earners	26	31
<b>Total</b>	<b>106</b>	<b>119</b>

Above average number of personnel includes personnel of discontinued operations in total 12 in 2018 (2017: 18).

Out of this salaried employees amount to 11 (2017: 12) and wage-earners 1 (2017: 6).

## 11 DEPRECIATION, AMORTISATION AND IMPAIRMENT

1 000 €	2018	2017
<b>Amortisation of intangible assets</b>		
Intangible rights	42	33
Other intangible assets	775	1 137
Total	817	1 170
<b>Depreciation of property, plant and equipment</b>		
Buildings and constructions	4 995	4 969
Machinery and equipment	30 813	30 949
Other assets	2 422	2 396
Total	38 230	38 314
Depreciation, amortisation and impairment total	39 048	39 484

## 12 OTHER OPERATING EXPENSES

1 000 €	2018	2017
Repair, servicing and maintenance services	13 552	11 560
Real estate taxes	6 058	6 167
Rents	1 338	1 402
Operation services	17 033	16 366
Other expenses	15 456	16 522
Total	53 437	52 016

<b>Auditor's fees</b>		
1 000 €	2018	2017
Audit fees	172	169
Auditor's mandatory opinions	0	2
Tax advisory	5	2
Other services	9	43
Total		216

## 13 RESEARCH & DEVELOPMENT

Research and development recognised as an expense during the period totalled 62 thousand euros in 2018 (0 thousand euros in 2017).

## 14 SHARE OF (LOSS)/PROFIT OF ASSOCIATES AND JOINT VENTURES

1 000 €	2018	2017
Länsi-Suomen Voima Oy	-54	1
Oy Alholmens Kraft Ab	-54	424
Tahkoluodon Polttoöljy Oy	0	0
Teollisuuden Voima Oyj	-15 218	-9 737
Torniolaakson Voima Oy	31	47
Vaskiluodon Voima Oy	-4 241	-169
Voimalohi Oy	0	10
Total	-19 535	-9 424

Investments in associates and joint ventures are disclosed in note 19.

## 15 FINANCE INCOME AND COSTS

1 000 €	2018	2017
Dividend income on available-for-sale investments	6	8
Interest income on loans and receivables	2 722	2 408
Derivative financial instruments (hedge accounting is not applied)		
Fair value gains	0	1 913
Foreign exchange gains	0	0
Other finance income	0	0
Finance income total	2 728	4 329
Interest expense capitalised on qualifying assets	10 659	10 376
Derivative financial instruments (hedge accounting is not applied)		
Fair value losses	3 368	0
Foreign exchange losses	0	0
Other finance cost	2 733	3 686
Impairment of investments in non-current assets	10 877	0
Finance costs total	27 637	14 063
Total finance income and costs	-24 909	-9 734

## 16 INCOME TAX

1 000 €	2018	2017
Taxes for the financial year	0	5
Taxes for the previous financial years	0	1
Change in deferred tax liability	0	-843
Total	0	-838

PVO delivers electricity and heating to its shareholders at cost price. According to the cost based pricing the Group does not pay any taxes on its energy related operations, therefore the Group does not recognise any deferred tax assets or liabilities on these operations. Income taxes and deferred taxes are recognised, on the other hand, on the services provided by the Group.

### Change in deferred tax:

1 000 €	2018	2017
Accumulated depreciation difference 1.1.	0	843
Charged/(credited) to the statement of comprehensive income	0	-843
Accumulated depreciation difference 31.12.	0	0

Differences between income taxes recognised in the consolidated income statement and the tax rate in Finland as presented in the following table:

1 000 €	2018	2017
Result before income tax	-32 360	1 829
Tax based on Finnish tax rate 20%	6 472	-366
Unrecognised tax losses	0	-381
Tax-free income	0	3 711
Share of profits and losses of associates and joint ventures	-3 627	-1 844
Non-deductible expenses	-2 265	0
Unrecognised deferred taxes due to cost price principle	-1 444	-1 108
Tax losses excluding the deferred tax asset for previous periods	864	825
Income taxes recognised in consolidated income statement	0	838

## 17 INTANGIBLE ASSETS

1 000 €	Emission allowances - carbon dioxide	Intangible rights	Other intangible assets	Total
Cost or valuation at 1.1.2018	773	281 158	17 961	299 892
Additions	2 088		15	2 103
Disposals	-829		-395	-1 224
Reclassifications			352	352
At 31.12.2018	2 032	281 158	17 933	301 123
Accumulated amortisation and impairment 1.1.2018	0	1 319	15 209	16 528
Disposals			-395	-395
Amortisation for the period		42	775	817
Accumulated amortisation and impairment 31.12.2018	0	1 361	15 589	16 950
Closing net book amount 31.12.2018	2 032	279 797	2 344	284 173
Closing net book amount 31.12.2017	773	279 839	2 752	283 364

1 000 €	Emission allowances - carbon dioxide	Intangible rights	Other intangible assets	Total
Cost or valuation at 1.1.2017	1 205	280 964	17 871	300 040
Additions	699	56	198	953
Disposals	-1 131	-11	-759	-1 901
Reclassifications		149	651	800
At 31.12.2017	773	281 158	17 961	299 892
Accumulated amortisation and impairment 1.1.2017	0	1 286	14 835	16 120
Disposals			-763	-763
Amortisation for the period		33	1 137	1 170
Accumulated amortisation and impairment 31.12.2017	0	1 319	15 209	16 528
Closing net book amount 31.12.2017	773	279 839	2 752	283 364
Closing net book amount 31.12.2016	1 205	279 678	3 037	283 920

The intangible assets include the right to produce hydro power totalling 265 million Euros and and the compensation amounting to 14.4 million Euros paid in 2013, 2014 and 2015 for the water area usage permanent right. The right to produce hydro power and the water area usage permanent right are intangible assets, with indefinite useful lives. Impairment testing for these assets is performed annually. Impairment test have not resulted in any need for impairment, because the future generated cash flows exceed the carrying value of the asset. The estimate for right to produce hydro power and the water area usage permanent right which are based on the future amount of electricity produced multiplied by the price for electricity (excluding fixed costs) exceeds the carrying value of the intangible assets.

There is no goodwill included within intangible rights and other intangible assets.

## 18 PROPERTY, PLANT AND EQUIPMENT

1 000 €	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Prepayments	Total
Cost or valuation at 1.1.2018	33 824	129 030	717 903	83 468	2 519	966 745
Additions		12	-35	4	5 381	5 362
Disposals	-45	-135		-9		-189
Reclassifications		28	2 005		-2 385	-352
Cost or valuation 31.12.2018	33 779	128 935	719 873	83 463	5 515	971 566
Accumulated depreciation 1.1.2018	0	49 711	339 531	46 426	0	435 668
Disposals and reclassifications		-135				-135
Depreciation for the period		4 995	30 813	2 423		38 231
Amortisation and impairment, discontinued operations				362		362
Accumulated depreciation 31.12.2018	0	54 571	370 344	49 211	0	474 126
Net book amount 31.12.2018	33 779	74 364	349 530	34 251	5 515	497 440
Net book amount 31.12.2017	33 824	79 319	378 373	37 041	2 519	531 077

1 000 €	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Prepayments	Total
Cost or valuation at 1.1.2017	33 849	130 173	724 940	83 066	5 510	977 539
Additions	2		1 489	656	4 117	6 264
Disposals	-27	-1 637	-14 188	-406		-16 258
Reclassifications		494	5 662	152	-7 108	-800
Cost or valuation 31.12.2017	33 824	129 030	717 903	83 468	2 519	966 745
Accumulated depreciation 1.1.2017	0	46 246	322 773	44 074	0	413 093
Disposals and reclassifications		-1 504	-14 191	-406		-16 101
Depreciation for the period		4 969	30 949	2 396		38 314
Amortisation and impairment, discontinued operations				362		362
Accumulated depreciation 31.12.2017	0	49 711	339 531	46 426	0	435 668
Net book amount 31.12.2017	33 824	79 319	378 373	37 041	2 519	531 077
Net book amount 31.12.2016	33 849	83 927	402 168	38 991	5 510	564 446

In 2018 and 2017 the asset retirement obligation of one landfill was revised. Further, the lifetime of one landfill was revised in 2017.

Management has assessed that no other indications of impairment exists.

## FINANCE LEASE AGREEMENTS

Amounts of finance leased assets included in property, plant and equipment:

1 000 €	Machinery and equipment
<b>31.12.2018</b>	
Cost	325 376
Disposals and reclassifications	0
Accumulated depreciation	-139 846
Net book amount	185 530
<b>31.12.2017</b>	
Cost	325 376
Disposals and reclassifications	0
Accumulated depreciation	-125 669
Net book amount	199 707

## Borrowing costs included in the cost of property, plant and equipment:

1 000 €	Buildings and constructions	Machinery and equipment	Other tangible assets	Total
Cost or valuation at 1.1.2018	460	15 642	111	16 213
Additions				0
Disposals				0
Cost or valuation at 31.12.2018	460	15 642	111	16 213
Accumulated depreciation 1.1.2018	270	6 919	68	7 258
Disposals				0
Depreciation for the period	19	615	4	638
Accumulated depreciation 31.12.2018	289	7 534	72	7 896
Net book amount 31.12.2018	171	8 107	39	8 317
Net book amount 31.12.2017	190	8 722	43	8 955

1 000 €	Buildings and constructions	Machinery and equipment	Other tangible assets	Total
Cost or valuation at 1.1.2017	460	15 642	111	16 213
Additions				0
Disposals				0
Cost or valuation at 31.12.2017	460	15 642	111	16 213
Accumulated depreciation 1.1.2017	252	6 304	63	6 620
Disposals				0
Depreciation for the period	18	615	5	638
Accumulated depreciation 31.12.2017	270	6 919	68	7 258
Net book amount 31.12.2017	190	8 722	43	8 955
Net book amount 31.12.2016	208	9 337	48	9 593

The borrowing costs related to the construction of power plants are capitalized as part of the acquisition cost of the asset and depreciated over the useful life of the asset.



## 19 INVESTMENTS IN ASSOCIATES AND JOINT VENTURES

1 000 €	2018	2017
At 1 January	744 184	758 984
Disposals	-3 313	0
Impairment	-10 877	0
Share of profit	-19 535	-9 424
Other comprehensive income	4 166	-5 376
At 31 December	714 625	744 184

### Associates and Joint Ventures

Company, domicile	2018	Interest held % 2017	2018	Book value 2017
<b>Associates</b>				
Oy Alholmens Kraft Ab, Pietarsaari	49,90%	49,90%	18 449	18 503
Länsi-Suomen Voima Oy, Harjavalta	19,90%	19,90%	33 598	33 651
Tahkoluodon Polttoöljy Oy, Pori	32,00%	32,00%	0	0
Tomiolaakson Voima Oy, Ylitornio	50,00%	50,00%	1 946	1 915
			53 993	54 069
<b>Joint Ventures</b>				
Teollisuuden Voima Oyj, Helsinki	57,06%	58,47%	651 269	676 511
Vaskiluodon Voima Oy, Vaasa	50,00%	50,00%	9 172	13 413
Voimalohi Oy, Kemi	50,00%	50,00%	191	191
			660 632	690 115
Associates and joint ventures total			714 625	744 184

Pohjolan Voima accounts for Teollisuuden Voima Oyj as a joint venture in the IFRS consolidated financial statements. Pohjolan Voima Oyj owns 57.06 % of the share capital of Teollisuuden Voima Oyj at 31 December 2018 (31 December 2017: 58,47%). Based on the Articles of Association and other company records which dictate the basis for the decision making and governance of the company, as well as, Pohjolan Voima Oyj's right to appoint board members, the Group has assessed that Teollisuuden Voima Oyj should be accounted for as a joint venture.

Pohjolan Voima sold TVO's shares that entitled to the proportion of Meri-Pori power plant production volume. The title passed 31 December 2018. In connection with the arrangement Pohjolan Voima received return of share capital of 3,3 million Euros and recorded an impairment of 10,9 million Euros that was charged from Pohjolan Voima's shareholders of C2-series.

Teollisuuden Voima Oyj has investment commitments totalling 440 (792) million Euros.

Goodwill on acquisition of Länsi-Suomen Voima Oy is included in the investments in the associates totalling 28 million Euros at 31 December 2018 (31 December 2017: 28 million Euros). Impairment testing of the goodwill is performed annually. Länsi-Suomen Voima Oy owns the hydropower plant located in Harjavalta at Kokemäenjoki. Pohjolan Voima has assessed that the fair value of the investment in the associate exceeds its book value at 31.12.2018.

Information on the associated companies and joint ventures of the Group, and their aggregate assets and liabilities, revenues and profit or loss for the year is presented below. All associates and joint ventures are unlisted companies.

1 000 €	Assets	Liabilities	Revenue	Profit/ loss (-)
<b>2018</b>				
Oy Alholmens Kraft Ab	107 386	70 145	67 824	-107
Länsi-Suomen Voima Oy	40 407	13 335	3 166	-269
Tahkoluodon Polttoöljy Oy	8	0	0	0
Teollisuuden Voima Oyj	7 662 370	5 917 114	350 271	-18 226
Tomiolaakson Voima Oy	7 339	3 446	1 567	12
Vaskiluodon Voima Oy	84 066	64 806	98 141	-1 696
Voimalohi Oy	1 479	1 066	4 323	19
Total	7 903 055	6 069 912	525 292	-20 267

1 000 €	Assets	Liabilities	Revenue	Profit/ loss (-)
<b>2017</b>				
Oy Alholmens Kraft Ab	110 595	73 247	41 696	-225
Länsi-Suomen Voima Oy	42 893	15 542	3 245	3
Tahkoluodon Polttoöljy Oy	8	0	0	-1
Teollisuuden Voima Oyj	7 353 463	5 686 769	320 928	-9 431
Tomioalaakson Voima Oy	7 874	4 043	1 679	21
Vaskiluodon Voima Oy	129 388	96 679	78 352	-42
Voimalohi Oy	1 595	1 204	4 071	21
<b>Total</b>	<b>7 645 816</b>	<b>5 877 484</b>	<b>449 971</b>	<b>-9 654</b>

#### Related-party transactions - transactions with associates and joint ventures

1 000 €	2018	2017
Sales to associates and joint ventures	8 999	3 378
Purchases from associates and joint ventures	260 210	224 743
Receivables from associates and joint ventures	461 126	411 191
Liabilities to associates and joint ventures	210 855	221 868

	2018	2017
Personnel employed by associates and joint ventures in average	959	928

## Summary of the financial information on joint ventures

Teollisuuden Voima Oyj is the most significant joint venture of Pohjolan Voima. Teollisuuden Voima Oyj is a public limited company, the shares of which do not have a quoted market price. Teollisuuden Voima is consolidated in the Group's financial statements using the equity method.

	TVO Group 2018	TVO Group 2017
<b>Summary of the balance sheet</b>		
<b>Current</b>		
Cash and cash equivalents	221 166	140 239
Other current assets	415 474	293 054
Current assets in total	636 640	433 293
Financial liabilities (excl. trade payables)	-459 513	-392 540
Other current liabilities (incl. trade payables)	-158 590	-191 384
Current liabilities in total	-618 102	-583 924
<b>Non-current</b>		
Assets	7 025 730	6 920 170
Financial liabilities	-5 299 011	-5 102 845
Non-current liabilities in total	-5 299 011	-5 102 845
<b>Net assets</b>	<b>1 745 257</b>	<b>1 666 694</b>

	2018	2017
<b>Summary of the statement of comprehensive income</b>		
Sales	350 271	320 928
Depreciation	-55 181	-54 385
Finance income	13 170	12 239
Finance costs	-47 435	-42 881
<b>Profit/loss from continuing operations before income tax</b>	<b>-18 226</b>	<b>-9 433</b>
Income tax expense	0	2
<b>Profit/loss from continuing operations after income tax</b>	<b>-18 226</b>	<b>-9 431</b>
Other comprehensive income	7 125	-9 195
<b>Profit/loss from continuing operations</b>	<b>-11 101</b>	<b>-18 626</b>

	2018	2017
<b>Summary of the financial information</b>		
Net assets at 1 January	1 666 694	1 589 252
Profit/loss for the year	-11 101	-18 626
The change and interest of subordinated shareholder loans	95 488	96 068
Decrease of share capital	-5 825	0
<b>Net assets at the end of the period</b>	<b>1 745 257</b>	<b>1 666 694</b>
Group ownership %	57,06%	58,47%
Group ownership share	995 843	974 516
IFRS-entries relating to the valuation	-344 574	-298 005
<b>Book value</b>	<b>651 269</b>	<b>676 511</b>

## 20 AVAILABLE-FOR-SALE FINANCIAL ASSETS

1 000 €	2018	2017
Investments in non-listed securities	486	505
Total	486	505

Available-for-sale financial assets consist mainly of vacation cottages used by personnel totalling 0.5 million Euros (2017: 0.5).

## 21 LOANS AND OTHER RECEIVABLES

### Non-current loans and other receivables

1 000 €	2018	2017
Loans to associates and joint ventures	409 153	348 921
Finance lease receivables	0	0
Other non-current receivables	36 881	37 041
Total	446 034	385 962

Loans to associates and joint ventures include a loan receivable from Teollisuuden Voima Oyj of 409.2 (2017: 348.9) million Euros. There is no material credit risk related to the non-current loans and other receivables. The fair value of the receivables has been presented in Note 31 Fair values of financial assets.

### Trade and other receivables

1 000 €	2018	2018
Trade receivables	58 461	47 539
Pledged cash deposits	184	138
Interest-bearing receivables	0	73
Prepayments and accrued income	24 029	36 869
Other current receivables	1 724	1 833
Total	84 399	86 452

Carrying values of trade receivables and other receivables approximates their fair value.

### Prepayments and accrued income:

1 000 €	2018	2017
Prepayments, energy purchases	12 402	22 809
Indirect taxes	5 321	7 816
Other	6 306	6 244
Total	24 029	36 869

The Group recorded credit losses of 56.7 thousand Euros in 2018 (2017: 0,5 thousand euros) on trade receivables or other receivables. The Group had no material outstanding receivables as per 31 December 2018. Therefore, the aging of trade receivables are not presented.

## 22 SHORT-TERM DEPOSITS, CASH AND CASH EQUIVALENTS

### CASH AND CASH EQUIVALENTS

1 000 €	2018	2017
Cash at bank and on hand	59 598	43 857
Total	59 598	43 857

Cash and cash equivalents comprise of cash on hand, bank deposits and other short-term (up to three months), liquid investments.

## 23 INVENTORIES

1 000 €	2018	2017
Fuels		
Coal	2 409	1 908
Other fuels	8 075	2 557
Prepayments	1 554	726
Total	12 038	5 190

No inventory impairment was recorded from continued operations (2017: 0) and from discontinued operations (2017: 0) in 2018.

## 24 DISCONTINUED OPERATIONS AND ASSETS HELD FOR SALE

### Discontinued operations

1 000 €	2018	2017
Income	10 493	11 932
Costs	-7 882	-13 502
Profit before income tax	2 611	-1 570
Profit from discontinued operations	2 611	-1 570

### Cash flow from discontinued operations

1 000 €	2018	2017
Cash flows from operating activities	2 901	11 699
Cash flows from investing activities	2 178	318
Cash flows from financing activities	0	0
Cash flows total	5 079	12 017

Board of Directors of PVO-Lämpövoima Oy decided 27 October 2015 to propose, that the electricity production of condensing power plants in Kristiinankaupunki and Pori Tahkoluoto will be terminated. PVO's extraordinary shareholders' meeting approved the decision 13 November 2015. PVO-Lämpövoima's operations are presented in the financial statement 2018 and 2017 as discontinued operations. PVO-Lämpövoima's tangible assets and inventory are presented as assets held for sale.

### Assets held for sale

1 000 €	2018	2017
Tangible assets	2 708	2 930
Loans and other receivables	0	250
Inventory	1 946	5 514
Trade and other receivables	0	152
Total	4 653	8 845

There were no liabilities related to assets held for sale in 2018 nor 2017.

## 25 EQUITY

According to the articles of association, PVO supplies energy to its shareholders at cost, i.e.. delivers energy it has produced or acquired to each shareholder according to their proportionate ownership in each series of shares. Shareholders are according to their proportionate ownership in each series of shares responsible for the fixed costs for the underlying shares, regardless of whether the power or energy share is used or not. Variable costs, on the other hand, are invoiced to the shareholders based on the share of the energy delivered.

### Reconciliation of the number of shares:

1 000 €	Number of shares	Share capital	Share issue	Share premium	Revaluation reserve	Reserve for invested non-restricted equity	Retained earnings	Total
1.1.2017	31 805 093	64 108	49 305	220 292	2 910	286 190	198 039	820 844
Proceeds from share issue	880 448	1 481	-49 305			47 824		0
Transfer to retained earnings and reserve for invested non-restricted equity						-5 145	5 145	0
Adjustment relating to former business combinations of a company dissolved				-3 470				-3 470
Acquisition and annulment of own shares	-176 428	-296						-296
Other comprehensive income					-5 376		-10 392	-15 768
31.12.2017	32 509 113	65 293	0	216 822	-2 466	328 869	192 792	801 310
Transfer to retained earnings and reserve for invested non-restricted equity						-2 186	2 186	0
Other comprehensive income					4 166		-29 098	-24 933
<b>31.12.2018</b>	<b>32 509 113</b>	<b>65 293</b>	<b>0</b>	<b>216 822</b>	<b>1 700</b>	<b>326 683</b>	<b>165 879</b>	<b>776 377</b>

## Shares

The number of shares at 31 December 2018 was 32.509.113. The shares have no nominal value. All issued shares are fully paid.

### The company has 14 registered series of shares

Share capital by share category	Number	1 000 €
Series A: - entitling the holder to obtain energy produced or purchased by PVO-Vesivoima Oy	13 350 077	22 453
Series B: - entitling the holder to obtain 56.8% of the energy produced or purchased by Teollisuuden Voima Oyj's - Olkiluoto plant 1 and 2	7 124 507	11 983
Series B2: - entitling the holder to obtain 60.2% of the energy produced by Teollisuuden Voima Oyj's Olkiluoto plant 3 once its construction is completed.	5 603 151	9 424
Series C: - entitling the holder to obtain energy produced or purchased by PVO-Lämpövoima Oy	2 224 498	11 954
Series C2: - entitling the holder to obtain 56.8% of the energy produced or purchased by Teollisuuden Voima Oyj's Meri-Pori coal power plant	359 198	604
Series G: - entitling the holder to obtain 49.9% of the energy produced by Oy Alholmens Kraft Ab	354 290	596
Series G2: - entitling the holder to obtain 76.0% of the energy produced by Kymin Voima Oy	238 216	401
Series G4: - entitling the holder to obtain 72.0% of the energy produced by Rauman Voima Oy	296 486	499
Series G5: - entitling the holder to obtain energy produced by Laanilan Voima Oy	155 272	261
Series G6: - entitling the holder to obtain energy produced by Porin Prosessivoima Oy	646 217	1 087
Series G9: - entitling the holder to obtain 54.0% of the energy produced by Kaukaan Voima Oy	589 071	991
G10-sarja - entitling the holder to obtain 84.0 % of the energy produced by Hämeenkyrön Voima Oy	213 600	359
Series M: - entitling the holder to obtain 100,0% of the energy produced by Mussalon Voima Oy	307 707	2 921
Series V: - entitling the holder to obtain 50.0% of the energy produced by Vaskiluodon Voima Oy	1 046 823	1 761
	<b>32 509 113</b>	<b>65 293</b>

**The following shares were issued during the financial year:**

There were no share issues subscribed in 2018.

**Other changes in shareholders' equity:**

Annual General Meeting of Pohjolan Voima Oyj decided on 20 March 2018 to cover negative retained earnings of 2.2 million Euros by lowering the reserve of invested unrestricted equity fund by the same amount.

**Share premium**

Share premium is recorded under the old Limited Liability Companies Act (29.9.1978/734), and was calculated as the difference between the nominal value of the shares and the subscription price. Share premium is restricted equity under the Limited Liability Companies Act. Share premium may be reduced to cover losses or it can be returned to owners under certain conditions.

**Revaluation reserve**

Derivative instruments used in cash flow hedging and fair value gains or losses on investments available-for-sale are recorded in the revaluation reserve. Fair value changes are transferred to the profit for the year when hedged cash flows realize. Fair value changes in investments available-for-sale are transferred to the profit for the year when the investment is disposed of or when its value has been impaired.

**Invested non-restricted equity**

Subscription prices for shares are recorded in invested non-restricted equity to the extent that they are not, based on an explicit decision, to be recorded as share capital.

## 26 PROVISIONS

1 000 €	Environmental provisions
<b>At 1 January 2018</b>	<b>4 491</b>
Additions	0
Disposals	-1 054
Effect of discounting	-92
<b>At 31 December 2018</b>	<b>3 345</b>

1 000 €	2018	2017
Non-current	3 345	4 491
Total	3 345	4 491

### Environmental provisions

The environmental provisions include provision for the landscaping of power plant landfills. The present value of the landscaping is capitalized as part of the other tangible assets and recorded as a provision. The environmental provision totalled 3.3 million Euros at 31 December 2018 and it is estimated that it will be fully utilised by 2030.

The discount rate used to determine present value was 0.38 %.

## 27 DEFERRED TAX LIABILITIES

1 000 €	2018	2017
Accumulated depreciation difference 1.1.	0	843
Charged to the statement of comprehensive income	0	-843
<b>Accumulated depreciation difference 31.12.</b>	<b>0</b>	<b>0</b>

## 28 BORROWINGS

1 000 €	2018	2017
<b>Non-current:</b>		
Borrowings from associates and joint ventures	195 859	196 285
Borrowings from financial institutions	608 286	648 921
Bonds	125 000	0
Finance lease liabilities	178 527	195 405
<b>Total</b>	<b>1 107 672</b>	<b>1 040 611</b>
<b>Current:</b>		
Borrowings from financial institutions	5 800	6 881
Pension loans	0	2 712
Other interest-bearing current liabilities	84 893	109 782
Finance lease liabilities	23 840	20 751
<b>Total</b>	<b>114 533</b>	<b>140 126</b>
<b>Total borrowings</b>	<b>1 222 205</b>	<b>1 180 736</b>

Fair values of non-current and current borrowings are presented in note 31.

Teollisuuden Voima Oyj is obliged to nuclear waste management. The obligation entitles Teollisuuden Voima Oyj to borrow 75% of its holdings in the State Nuclear Waste Management Fund. Teollisuuden Voima Oyj has granted corresponding loans to its shareholders. Pohjolan Voima's share is 195.9 (196.3) million Euros.

Pohjolan Voima Group has 7 finance lease contracts for power plant machinery with an average lease term of 10 years (31 December 2017 7 contracts). Contracts expire in 2019 to 2026. Sale and lease agreements included in sale and leaseback arrangements are evaluated as a whole: Sale does not transfer the risks and rewards of ownership to the buyer, which means that criteria for derecognition are not fulfilled for the seller i.e. the lessee. The arrangement does not transfer the right of use of the assets to the finance company.

## OTHER NON-CURRENT LIABILITIES

1 000 €	2018	2017
<b>Other non-current liabilities</b>		
Derivative financial liabilities		
Interest rate swaps	6 293	2 993
<b>Total</b>	<b>6 293</b>	<b>2 993</b>

Fair values of derivatives are disclosed in note 30.

## INTEREST-BEARING NET LIABILITIES

1 000 €	2018	2017
<b>Interest-bearing liabilities total</b>	<b>1 222 205</b>	<b>1 180 736</b>
<b>Interest-bearing financial assets</b>		
Non-current		
Loan receivables	409 153	348 921
<b>Total</b>	<b>409 153</b>	<b>348 921</b>
Current		
Pledged cash deposits	184	138
Interest-bearing receivables	0	73
Cash and cash equivalents	59 598	43 857
<b>Total</b>	<b>59 782</b>	<b>44 068</b>
<b>Interest-bearing financial assets total</b>	<b>468 935</b>	<b>392 989</b>
<b>Interest-bearing liabilities net</b>	<b>753 269</b>	<b>787 748</b>

## THE CHANGES OF NET LIABILITIES IN THE CASH FLOW

1 000 €	Other assets		Liabilities arising from financial activities					Other liabilities, current	Total
	Financial assets, non-current	Financial assets, current	Finance lease, non-current	Finance lease, current	Borrowings, non-current	Borrowings, current			
<b>Net liabilities</b>									
<b>1.1.2017</b>	<b>288 690</b>	<b>53 340</b>	<b>-216 152</b>	<b>-13 649</b>	<b>-868 410</b>	<b>-14 882</b>	<b>-109 808</b>	<b>-880 871</b>	
Cash flows	60 231	-9 272	20 747	-7 102	23 204	5 289	26	93 123	
<b>Net liabilities</b>									
<b>31.12.2017</b>	<b>348 921</b>	<b>44 068</b>	<b>-195 405</b>	<b>-20 751</b>	<b>-845 206</b>	<b>-9 593</b>	<b>-109 782</b>	<b>-787 748</b>	
Cash flows	60 232	15 714	16 878	-3 089	-83 939	3 793	24 889	34 479	
<b>Net liabilities</b>									
<b>31.12.2018</b>	<b>409 153</b>	<b>59 782</b>	<b>-178 527</b>	<b>-23 840</b>	<b>-929 145</b>	<b>-5 800</b>	<b>-84 893</b>	<b>-753 269</b>	



## 29 TRADE PAYABLES AND OTHER CURRENT LIABILITIES

1 000 €	2018	2017
Trade payables	13 508	11 576
Liabilities to associates and joint ventures	14 996	25 583
Accrued expenses	19 136	16 653
Other current liabilities	5 028	3 117
Held emission allowances, Energy Authority	2 032	773
Derivative financial instruments	11	8
<b>Total</b>	<b>54 711</b>	<b>57 708</b>

Emission allowances are recorded at cost and are presented separately on the balance sheet. The obligation relating to emission allowances are recorded at book value of the held allowances to short-term debt. Allowances and the related obligations are derecognised when they are reported or sold.

### Accrued expenses:

1 000 €	2018	2017
Accrued personnel expenses	2 295	2 695
Accrued expenses for fuel purchases	5 624	6 957
Accrued expenses for energy purchases	1 078	649
Accrued rents	1 355	1 264
Interest liabilities	2 972	1 692
Other	5 811	3 397
<b>Total</b>	<b>19 136</b>	<b>16 653</b>

## 30 DERIVATIVE FINANCIAL INSTRUMENTS

### Fair value of derivative financial instruments

1 000 €	2018	2018	Total
	Positive fair values	Negative fair values	
Interest rate swaps	13	-6 317	-6 304
Forward foreign exchange contracts and swaps	0	0	0
<b>Total</b>	<b>13</b>	<b>-6 317</b>	<b>-6 304</b>

1 000 €	2017	2017	Total
	Positive fair values	Negative fair values	
Interest rate swaps	514	-3 515	-3 001
Forward foreign exchange contracts and swaps	0	0	0
<b>Total</b>	<b>514</b>	<b>-3 515</b>	<b>-3 001</b>

### Nominal value of derivative financial instruments

1 000 €	2018	2017
Interest rate swaps	262 000	272 000
Forward foreign exchange contracts and swaps	0	0

## 31 FINANCIAL ASSETS AND LIABILITIES BY CATEGORY AND FAIR VALUE HIERARCHY

1 000 €	31 Dec 2018	Fair value through profit and loss	Financial liabilities carried at amortised cost	Book value total	Fair value total	Note	Level 2	Level 3
<b>Non-current financial assets</b>								
Other financial assets		486		486	486	20		486
Loan receivables			409 153	409 153		21		
Other receivables			36 881	36 881		21		
		486	446 034	446 520				
<b>Current financial assets</b>								
Cash and cash equivalents			59 598	59 598		22		
Loan receivables			184	184		21		
Trade and other receivables			60 185	60 185		21		
Prepayments and accrued income			24 029	24 029		21		
		0	143 996	143 996				
<b>Total</b>		<b>486</b>	<b>590 031</b>	<b>590 517</b>				
<b>Non-current financial liabilities</b>								
Borrowings from associates and joint ventures			195 859	195 859		28		
Borrowings			733 286	733 286		28		
Finance lease liabilities			178 527	178 527		28		
Derivative financial instruments		6 293		6 293	6 293	28	6 293	
		6 293	1 107 672	1 113 965				
<b>Current financial liabilities</b>								
Loans and commercial papers			90 693	90 693		28		
Trade payables			13 508	13 508		29		
Other current liabilities			22 057	22 057		29		
Accrued expenses			19 136	19 136		29		
Finance lease liabilities			23 840	23 840		28		
Derivative financial instruments		11		11	11	29	11	
		11	169 233	169 244				
<b>Total</b>		<b>6 304</b>	<b>1 276 905</b>	<b>1 283 209</b>	<b>6 304</b>		6 304	486

As at 31 December 2018 the amount of offsetting derivative instruments included in the financial assets and financial liabilities in the Group was -6.3 (2017: -3.0) million Euros.

	Gross amounts recognised in the balance sheet	Net amount
Derivative contracts 2018	-6 304	-6 304
Derivative contracts 2017	-3 001	-3 001

1 000 €	1 Jan 2018	Fair value through profit and loss	Financial liabilities carried at amortised cost	Book value total	Fair value total	Note	Level 2	Level 3
<b>Non-current financial assets</b>								
		505		505	505	20		505
			348 921	348 921		21		
			37 041	37 041		21		
		505	385 962	386 467	505			
<b>Current financial assets</b>								
			43 857	43 857		22		
			211	211		21		
			49 372	49 372		21		
			36 869	36 869		21		
		0	130 309	130 309				
<b>Total</b>		<b>505</b>	<b>516 271</b>	<b>516 776</b>				
<b>Non-current financial liabilities</b>								
			196 285	196 285		28		
			648 921	648 921		28		
			195 405	195 405		28		
		2 993		2 993	2 993	28	2 993	
		2 993	1 040 611	1 043 604				
<b>Current financial liabilities</b>								
			119 375	119 375		28		
			11 576	11 576		29		
			29 472	29 472		29		
			16 653	16 653		29		
			20 751	20 751		28		
		8		8	8	29	8	
		8	197 826	197 834				
<b>Total</b>		<b>3 001</b>	<b>1 238 437</b>	<b>1 241 438</b>	<b>3 001</b>		3 001	505

## Financial assets and liabilities by measurement categories

Financial instruments that are measured at fair value in the balance sheet are presented according to fair value measurement hierarchy:

Level 1: quoted prices in active markets for identical assets or liabilities. The Group did not have any financial assets or liabilities classified on level 1 as at 31 December 2018 nor 1 January 2018.

Level 2: inputs other than quoted price included within level 1 that are observable for the assets or liability, either directly or indirectly.

Level 3: inputs for the assets or liability that is not based on observable market data.

Derivative financial instruments are initially recognized at fair value and subsequently measured at fair value at the closing date. The fair values reflect the prices, which PVO would have to pay or would receive, if it called a derivatives contract. Fair value of interest rate swaps is determined using a discounted cash flow method using market rates prevailing at the closing date as the discount rate, which were 0,47 % - 1,42 % (-0,46 - 0,89 %) (level 2). Fair values of forward foreign exchange contracts and swaps are determined using quoted forward rates from contracts with similar duration. PVO does not apply hedge accounting according to IFRS 9, so the changes in fair values for derivative instruments are recorded in the statement of comprehensive income.

The Group owns unlisted shares the market value of which is not reliably available. The fair value is determined by methods based on management's judgement (level 3).

## 32 CONTINGENT LIABILITIES AND ASSETS AND PURCHASE COMMITMENTS

1 000 €	2018	2017
<b>On behalf of own loans</b>		
Pledged deposits	70	90
Other contingent liabilities	203 705	203 881
<b>On behalf of associated companies and joint ventures</b>		
Guarantees	32	35
Guarantee according to Nuclear Energy Act	77 227	106 494
<b>Total</b>	<b>281 034</b>	<b>310 500</b>

The pledged deposits relate mainly to margin accounts for the electricity trading, emission allowance trading and environmental permits.

Other liabilities consist mainly of the parent company's loan guarantees. In 2018 a bank guarantee of 195.9 million Euros (2017: 196.3 million Euros) was given to the State Nuclear Waste Management Fund.

### Guarantee under the Nuclear Energy Act

According to the Finnish Nuclear Energy Act, Teollisuuden Voima, a joint venture of which Pohjolan Voima owns 57.06%, is obliged to fund the decommissioning of nuclear power plants and final disposal of spent nuclear fuel through the Finnish State Nuclear Waste Management Fund.

The amount of the contingent liability is determined by the administrative authority (Ministry of Employment and Economy) based on the Nuclear Energy Act. The directly enforceable guarantees relating to Nuclear waste management given by the shareholders of Teollisuuden Voima Oyj cover the uncovered portion of nuclear waste

management liability as well as a liability for any unforeseen expenses of nuclear waste management in accordance with the Nuclear Energy Act. The directly enforceable guarantee given by Pohjolan Voima is 77.2 million Euros (2017: 106.5 million Euros).

## **INVESTMENT COMMITMENTS**

### **Joint ventures**

Pohjolan Voima Oyj has committed to an investment into the nuclear power plant Olkiluoto 3 EPR built by Teollisuuden Voiman Oyj during 2004 to 2017. The commitment consists of a 432 million Euros investment, a shareholder loan of 108 million and an additional shareholder loan of a maximum of 421 million Euros. As at 31 December 2018 Pohjolan Voima Oyj has fulfilled 841 (2017: 781) million Euros of its commitments. Investments are based on the financial plan of Olkiluoto 3 EPR, according to which capital is raised in accordance with the progress of the project.

## **LEGAL PROCEEDINGS**

### **Parent company and subsidiaries**

Pohjolan Voima's fully owned subsidiary PVO-Lämpövoima Oy (PVL) and Fortum Power and Heat Oy's (FPH) predecessors agreed in 1989 on co-operation agreement according to which the parties have among other things permanent right of use to certain power plant constructions and machines owned by the other party when operating the Tahkoluoto coal power plant owned by PVL and on the other hand Meri-Pori coal power plant owned by FPH. PVL's electricity production at Tahkoluoto site ceased in 2015. Therefore PVL terminated the co-operation agreement in March 2017. FPH disputed the termination and in August 2017 Helsinki district court decided on precautionary measure on FPH's appeal. The precautionary measure rules PVL to allow FPH to continue the use of Tahkoluoto site's power plant constructions and machines as stated in the co-operation agreement. Further, in September 2017, FPH commenced arbitration relating to PVL's termination of the co-operation agreement according to the rules of Helsinki Chamber of Commerce's arbitration proceeding. Simultaneously FPH filed application for summons in Helsinki district court towards Pohjolan Voima Oyj, in which FPH demanded among other things that permanent rights of use according to the co-operation agreement would apply also to Pohjolan Voima. PVL as well as Pohjolan Voima has disputed all demands presented by FPH.

On 8 June 2018, PVO-Lämpövoima, Pohjolan Voima and FPH signed an agreement by which the parties agree upon the cancellation of all pending processes and legal proceedings, as well as the transfer of the assets jointly used by PVO-Lämpövoima's Tahkoluoto power plant and FPH's Meri-Pori power plant under the cooperation agreement to FPH and the sale of a land area owned by PVO-Lämpövoima to FPH.

## Joint ventures

TVO was a party in arbitration proceedings compliant with the rules of the International Chamber of Commerce (ICC) concerning the delay to the construction of the OL3 EPR and the related expenses. The arbitration proceedings began in December 2008 at the initiative of the plant supplier.

In July 2015, TVO updated its estimated expenses and losses, which amounted to approximately €2.6 billion until December 2018, at which time regular electricity production should have begun at the Olkiluoto 3 EPR unit according to the schedule provided by the plant supplier in September 2014. The compensation demand last updated by the plant supplier in April 2017 amounts to some €3.59 billion. This sum is based on an updated analysis provided by the plant supplier regarding the events up until September 2014, and up until the end of December 2014 with regard to some claims. The sum includes past-due interest (until the end of June 2017), around €1.58 billion in payment items postponed by TVO pursuant to the plant delivery contract and some €132 million in lost profit as claimed by the plant supplier.

The court of arbitration issued three final and binding partial decisions in 2016 and 2017 on the principal matters pending. In the partial decisions, the majority of the matters were decided in favour of TVO, and the majority of the plant supplier's claims regarding these matters were rejected. The monetary claims made by the parties were not addressed in the partial decisions.

In March 2018, TVO announced that it had signed a comprehensive settlement agreement concerning the completion of the OL3 EPR project and related disputes with the plant supplier consortium companies, Areva NP, Areva GmbH and Siemens AG, as well as Areva SA, the parent company of Areva companies, of which the state of France owns 100%. The agreement entered into force at the end of March 2018.

TVO has announced that, under the terms and conditions of the settlement agreement:

In order to provide and maintain adequate and competent technical and human resources for the completion of the OL3 EPR project, Areva will source the necessary additional resources from Framatome S.A.S., the majority owner of which is Electricité de France (EDF).

The supplier consortium companies undertake to ensure that the funds dedicated to the completion of the OL3 EPR project will be sufficient and will cover all applicable warranty periods, including setting up a trust mechanism funded by the Areva companies to secure financing of the expenses from the completion of the OL3 EPR project.

The turnkey principle of the OL3 EPR plant contract and the joint and several liability of the supplier consortium companies remain in full force.

The settlement agreement also noted the plant supplier's most recent schedule, according to which regular electricity production in the unit would have commenced in May 2019.

The ICC arbitration concerning the costs and losses caused by the delay of the OL3 EPR project was settled with financial compensation of 450 million Euros to be paid to TVO in two instalments by the plant supplier consortium companies. TVO received the first instalment of 328 million Euros when the settlement agreement entered into force in March 2018. The second instalment of 122 million Euros is to be paid upon completion of the OL3 EPR plant unit, or on 31 December 2019 at the latest.

The parties withdrew all ongoing legal actions related to the OL3 EPR project, including the arbitration proceedings and appeals pending before the General Court of the European Union.

The supplier consortium companies would have been entitled to receive from TVO an incentive payment of a maximum of 150 million Euros upon completion of the OL3 EPR project in compliance with the schedule laid down in the settlement agreement. The agreement stated that in the event that the supplier consortium companies failed to

complete the OL3 EPR project by the end of 2019, they will pay a delay penalty to TVO, the sum of which would depend on the actual time of completion of the OL3 EPR project, but which would not exceed 400 million Euros.

During the first quarter of 2018, TVO added a provision of €150 million for the maximum amount of the incentive payment to be paid to the supplier consortium companies if the OL3 EPR project was completed within the schedule laid down in the settlement agreement. TVO received from the plant supplier, the Areva-Siemens consortium, an updated schedule for the commissioning of the plant unit in June 2018. According to the information provided in June, regular electricity production in the OL3 EPR unit was to start in September 2019. Hence, the provision was withdrawn by €50 million during the second quarter of 2018. In November 2018, TVO received a new, updated schedule from the plant supplier, the Areva-Siemens consortium. According to this schedule, regular electricity production in the OL3 EPR unit will start in January 2020. The new schedule caused total withdrawal of the provision, €100 million, in the last quarter of the year. These settlement payments to TVO and any penalty payable to TVO due to any additional project delay have been taken into account when calculating the final total cost estimate of the OL3 EPR project. Based upon latest schedule offered by the consortium, the cost estimation of TVO and the settlement agreement, TVO estimates that overall cost of the OL3 EPR project will be approximately €5.5 billion in total.

### 33 OPERATING LEASES

The Group has leased the Helsinki, Harjavalta, Nokia and Oulu office spaces. The lease expires in 2022 for the Helsinki office. Other leases are valid for the time being. The contracts include the possibility to continue the lease period after the expiration date of the initial contract period.

1 000 €	<b>2018</b>	<b>2017</b>
No later than 1 year	652	649
Later than 1 year and no later than 5 years	1 647	2 050
<b>Total</b>	<b>2 298</b>	<b>2 699</b>

## 34 EMISSION ALLOWANCES

### Carbon Dioxide Emission

Generally the Group holds emission allowances covering the annual CO<sub>2</sub> emissions. If the actual emissions exceed allowances held, the company has recognised an expenses for emission rights at market price for each ton of emission exceeding its allowances. PVO-Lämpövoima's, which is classified as discontinued operations, emission information is not included the below listed information.

	<b>2018</b>	<b>1 000 €</b>
	<b>t CO<sub>2</sub></b>	
Allowances received free of charge	291 273	
Combined annual emissions of the plants'	599 899	
Emission allowances held	1 999 173	
External sales of emission allowances *	55 000	946
External purchases of emission allowances **	180 557	2 362

	<b>2017</b>	<b>1 000 €</b>
	<b>t CO<sub>2</sub></b>	
Allowances received free of charge*	316 439	
Combined annual emissions of the plants'	524 796	
Emission allowances held	2 107 573	
External sales of emission allowances **	0	0
External purchases of emission allowances ***	118 570	762

\* Emission sales are included in revenue.

\*\* The cost of purchased emission rights are included in materials and services and remaining emission allowances held at the closing date are included the balance sheet as intangible assets.



## 35 RELATED-PARTY TRANSACTIONS

The Group's related parties include the parent company, subsidiaries, associates and joint ventures as well as the largest shareholder, UPM-Kymmene Group. Related parties also include the Board of Directors and the Corporate Executive Team members including the CEO and Deputy CEO.

### Parent company and subsidiaries:

Company	Production	Country	Ownership (%)	Voting right (%)
Hämeenkyrön Voima Oy	Thermal Power	Finland	84,000	84,000
Kaukaan Voima Oy	Thermal Power	Finland	54,000	54,000
Kymin Voima Oy	Thermal Power	Finland	76,000	76,000
Laanilan Voima Oy	Thermal Power	Finland	100,000	100,000
Porin Prosessivoima Oy	Thermal Power	Finland	100,000	100,000
PVO-Lämpövoima Oy	Thermal Power	Finland	100,000	100,000
PVO Power Management Oy	Services company	Finland	100,000	100,000
PVO Power Services Oy	Services company	Finland	100,000	100,000
PVO-Vesivoima Oy	Hydropower	Finland	100,000	100,000
Rauman Biovoima Oy	Thermal Power	Finland	71,949	71,949
Rouhialan Voimansiirto Oy	Services company	Finland	100,000	100,000

### List of associated companies and joint ventures

Company	Registered Office
<b>Associated companies</b>	
Oy Alhomens Kraft Ab	Pietarsaari
Länsi-Suomen Voima Oy	Harjavalta
Tahkoluodon Polttoöljy Oy	Pori
Torniolaakson Voima Oy	Ylitornio
<b>Joint ventures</b>	
Teollisuuden Voima Oyj	Helsinki
Vaskiluodon Voima Oy	Vaasa
Voimalohi Oy	Kemi

### Transactions with related parties, 1000 €

Related party transactions relate to normal business operations of Pohjolan Voima.

2018	Sales	Purchases	Receivables	Liabilities
Associates and joint ventures	8 999	260 210	461 126	210 855
UPM-Kymmene Group	206 800	68 792	20 946	10 002

2017	Sales	Purchases	Receivables	Liabilities
Associates and joint ventures	3 378	224 743	411 191	221 868
UPM-Kymmene Oyj	181 026	65 480	18 036	9 847

### The Board of Directors and Executive team

Senior management of Pohjolan Voima consists of the board members and the executive management team members, including the President and CEO and the deputy President & CEO. The Group has not granted any loans to senior management, and has no business transactions with management.

1 000 €	2018	2017
Salaries and other short-term employee benefits	2 425	2 129
Total	2 425	2 129

## 36 BREAKDOWN OF SHARE OWNERSHIP AND SHAREHOLDER INFORMATION

Shareholder	2018	2017
	% of shares	% of shares
EPV Energia Oy	5,49%	5,49%
Etelä-Suomen Voima Oy	1,48%	1,48%
Helen Oy	0,62%	0,62%
Kemira Oyj (ml. Eläkesäätiö)	5,06%	5,06%
Keskinäinen Eläkevakuutusyhtiö Ilmarinen	1,83%	1,83%
Kokkolan Energia Oy	1,85%	1,85%
Kymmivoima Oy	5,91%	5,91%
Metsä Group (Metsäliitto, Metsä Fibre, Metsä Board Oyj)	3,66%	3,66%
Myllykoski Oyj *)	0,63%	0,63%
Oulun Energia Oy	0,91%	0,91%
Outokumpu Oyj	0,10%	0,10%
Oy Perhonjoki Ab	2,17%	2,17%
Porin kaupunki	1,40%	1,40%
Rautaruukki Oyj	0,09%	0,09%
Stora Enso Oyj	15,61%	15,61%
UPM Energy Oy	47,69%	47,69%
UPM Communication Papers Oy	3,46%	3,46%
Vantaan Energia Oy	0,23%	0,23%
Yara Suomi Oy (ml. Eläkesäätiö)	1,84%	1,84%
<b>Yhteensä</b>	<b>100,00%</b>	<b>100,00%</b>

\*) Myllykoski Oyj is a part UPM-Kymmene Group.

Shareholders by sector	%	%
	of shares	of shares
Forest industry	71,04%	71,04%
Energy companies	18,64%	18,64%
Chemical industry	6,90%	6,90%
Metal industry	0,19%	0,19%
Other	3,23%	3,23%
<b>Yhteensä</b>	<b>100,00%</b>	<b>100,00%</b>

## 37 EVENTS AFTER THE REPORTING PERIOD

On 20 February 2019, Pohjolan Voima announced having made a decision to demolish the condensing power plans at Tahkoluoto in Pori and in Kristiinankaupunki. The market-based production operation of the plants, owned by PVO-Lämpövoima Oy, a subsidiary of Pohjolan Voima, was ceased due to unprofitability in June 2015, after which various possible new uses for the plants were investigated. Preparations for the final demolition began in 2017. The actual demolition work is expected to start in the spring of 2019.

On 25 February 2019 Radiation and Nuclear Safety Authority (STUK) gave its statement on operating licence application of Olkiluoto 3 EPR plant unit. STUK does not see any obstacles to grant the permission as applied until the end of 2038. STUK has reviewed according to the Nuclear Energy Act OL3 EPR plant units' safety, and also operation of the TVO Group as entity, such as resources, know-how and nuclear waste management. The Finnish Government makes the decision on the operating licence.

# Parent company financial statements (FAS)

## Content

*Income Statement*

*Balance Sheet*

*Cash Flow Statement*

**Notes to financial statements**

# PARENT COMPANY FINANCIAL STATEMENTS (FAS)

## INCOME STATEMENT

1 000 €	Note	1.1. - 31.12.2018	1.1. - 31.12.2017
<b>Revenue</b>	2	<b>446 596</b>	<b>387 081</b>
Other operating income	3	206	6 458
Materials and services	4	-183 532	-137 874
Personnel expenses	5	-6 284	-6 856
Depreciation, amortisation and impairment	6	-969	-1 157
Other operating expenses	7	-243 789	-242 620
<b>Operating profit or loss</b>		<b>12 228</b>	<b>5 032</b>
Finance income and costs	8	-18 285	-7 214
<b>Profit or loss before appropriations and taxes</b>		<b>-6 057</b>	<b>-2 182</b>
Income tax expense	9	0	-4
<b>Profit or loss for the year</b>		<b>-6 057</b>	<b>-2 186</b>

# BALANCE SHEET

1 000 €	Note	31.12.2018	31.12.2017
<b>ASSETS</b>			
NON-CURRENT ASSETS			
Intangible assets	10	656	1 055
Property, plant and equipment	11	617	729
Investments	12		
Holdings in Group undertakings		416 610	419 584
Other investments		1 140 208	1 094 628
<b>TOTAL NON-CURRENT ASSETS</b>		<b>1 558 091</b>	<b>1 515 996</b>
CURRENT ASSETS			
Non-current receivables	13	36 860	36 718
Current receivables	14	67 303	69 254
Cash and cash equivalents		61 087	44 347
<b>TOTAL CURRENT ASSETS</b>		<b>165 250</b>	<b>150 319</b>
<b>Total assets</b>		<b>1 723 341</b>	<b>1 666 315</b>
<b>EQUITY AND LIABILITIES</b>			
EQUITY			
Share capital	15	65 293	65 293
Share premium		216 822	216 822
Revaluation reserve		218 644	218 644
Reserve for invested non-restricted equity		326 683	328 869
Retained earnings		0	0
Profit or loss for the year		-6 057	-2 186
<b>TOTAL EQUITY</b>		<b>821 385</b>	<b>827 442</b>
LIABILITIES			
Non-current liabilities	16	730 859	631 285
Current liabilities	17	171 097	207 588
<b>TOTAL LIABILITIES</b>		<b>901 956</b>	<b>838 873</b>
<b>Total equity and liabilities</b>		<b>1 723 341</b>	<b>1 666 315</b>

# CASH FLOW STATEMENT

1 000 €		1.1. - 31.12.2018	1.1. - 31.12.2017
<b>Operating activities</b>			
Operating profit or loss		12 228	5 032
Adjustments to operating profit or loss	1)	878	-4 594
Change in net working capital	2)	-2 594	-250
Interest paid		-7 529	-8 383
Interest received		3 283	3 465
Dividends received		6	7
Other financial items		-2 635	-3 390
Income tax paid		-4	-5
<b>Cash flow from operating activities</b>		<b>3 632</b>	<b>-8 118</b>
<b>Investments</b>			
Proceeds from sales of shares in participating interests		2	0
Proceeds from other investments		0	80
Purchases of property, plant and equipment and intangible assets		-291	-262
Share of a liquidated and sold group company		2 972	7 460
Proceeds from other shares		64	0
Equity refunds received		3 310	0
Proceeds from sales of property, plant and equipment and intangible assets		44	2 197
Increase (-) or decrease (+) of loan receivables		-60 232	-60 231
<b>Cash flow from investing activities</b>		<b>-54 130</b>	<b>-50 756</b>
<b>Financing</b>			
Proceeds from borrowings		125 000	385 000
Repayments of borrowings		-28 138	-389 760
Increase (+) or decrease (-) in current interest-bearing receivables		0	135
Proceeds (+) or repayments (-) of current interest-bearing liabilities		-29 625	4 435
Purchase of own shares		0	-297
Proceeds from issuance of ordinary shares		0	49 305
<b>Cash flow from financing activities</b>		<b>67 237</b>	<b>48 818</b>
<b>Net (decrease)/increase in cash and cash equivalents</b>		<b>16 740</b>	<b>-10 056</b>
Cash and cash equivalents at 1.1.		44 347	54 403
<b>Cash and cash equivalents at 31.12.</b>		<b>61 087</b>	<b>44 347</b>
<b>1) Adjustments to operating profit or loss</b>			
Depreciation, amortisation and impairment		969	1 157
Losses(+) or gains (-) of sales of non-current assets		-91	-5 751
		<b>878</b>	<b>-4 594</b>
<b>2) Change in net working capital</b>			
Increase (-) or decrease (+) of non-interest-bearing receivables		1 970	6 894
Increase (+) or decrease (-) of current non-interest-bearing liabilities		-4 564	-7 144
		<b>-2 594</b>	<b>-250</b>

# Notes to financial statements

## 1 Basis of preparation

Pohjolan Voima Oyj's financial statements have been prepared in accordance with Finnish Accounting Standards (FAS) and other laws and regulations governing the preparation of the financial statements in Finland.

Pohjolan Voima Oyj (0210161-4, Helsinki) is the parent company of Pohjolan Voima – Group.

### **Revenue**

Revenue is recognised net of value-added taxes and discounts. Revenue is recognised at the time of delivery.

### **Other operating income**

Revenue from activities outside the normal operations is reported in other operating income. This includes items such as rental income and gains on sale of assets.

### **Research and development costs**

Research and development costs are expensed as incurred.

### **Pension costs**

Statutory pension liabilities are covered through pension insurance arrangements.

### **Foreign currencies and derivative contracts**

Transactions denominated in foreign currencies have been valued using the exchange rate at the date of the transaction. Receivables and liabilities denominated in foreign currencies outstanding on the balance sheet date have been valued using the exchange rate quoted on the balance sheet date. Exchange rate differences are presented within finance income and cost in the income statement.

In accordance with the financing policy, Pohjolan Voima Oyj enters into derivative contracts only for managing the interest rate risk and for hedging purposes. The interest rate risk is monitored by means of duration, which is set at the level where the electricity price sensitivity to changes in interest rates is on an acceptable level considering the individual risk-bearing capacity of each series of shares. Derivative contracts are not fair-valued but considered as off-balance sheet items. Derivatives used to manage interest rate risk are accrued for the contract period and they are recognised against the interest expenses of the hedged loans. Pohjolan Voima Oyj enters into foreign exchange rate derivative contracts relating to the fuel purchases of its subsidiaries. The key figures of foreign exchange rate and interest rate derivatives are disclosed in the notes.

### **Income taxes and deferred taxes**

The tax expense for the period comprises current tax, relating to the current period and any adjustments made to taxes for the previous financial period. Pohjolan Voima Oyj operations are based on cost price and the company does not pay any taxes on its energy related operations. No deferred tax assets on the operating losses from previous periods have been recognized.

## Non-current assets

The intangible assets and property, plant and equipment is stated at historical cost less accumulated amortisation and depreciation according to plan. Historical cost includes the variable costs of the investment. Received government grants have been deducted from acquisition cost. Depreciation is calculated using the straight-line method based on the estimated useful lives. Depreciation and amortization is started when the asset is taken into use.

The estimated useful lives have been defined as follows:

Other capitalised long-term expenditure 3-10 years

Machinery and equipment 3-20 years

Buildings and constructions 8-30 years

## Investments

Investments include holdings in investment funds with short-term interest and certificates of deposit of financial institutions. Investments are recognised in the balance sheet at cost. They are included in cash and cash equivalents in the cash flow statement.



## NOTES TO INCOME STATEMENT

### 2 SALES

1 000 €	2018	2017
Sales of electricity produced	334 876	280 216
Sales of heat produced	106 786	101 462
Other sales	4 934	5 403
Total	446 596	387 081

### 3 OTHER OPERATING INCOME

1 000 €	2018	2017
Gains on sale and dissolution of fixed assets and subsidiaries' shares	96	5 764
Rental income	103	66
Other income	7	628
Total	206	6 458

### 4 MATERIALS AND SERVICES

1 000 €	2018	2017
Energy purchases	183 532	137 874
Total purchases	183 532	137 874

### 5 PERSONNEL EXPENSES AND AVERAGE NUMBER OF PERSONNEL

1 000 €	2018	2017
Wages and salaries		
Board members and CEO	1 488	997
Other wages and salaries	3 702	4 689
Total	5 189	5 686
Pension expenses	933	975
Other personnel expenses	162	195
Total	1 095	1 170
Total personnel expenses	6 284	6 856
Average number of personnel		
Salaried employees	50	57
Wage-earners	0	0
Total	50	57

### 6 DEPRECIATION, AMORTISATION AND IMPAIRMENT

1 000 €	2018	2017
Depreciation according to plan		
Intangible rights	0	10
Other capitalised long-term expenditure	398	593
Buildings and constructions	46	15
Machinery and equipment	78	92
Investments	447	447
Total	969	1 157

## 7 OTHER OPERATING EXPENSES

1 000 €	2018	2017
Energy purchases	237 519	236 326
Repair, servicing and maintenance services	348	65
Rents	777	803
Real estate taxes	19	6
Fees to experts	2 730	2 956
Other expenses	2 396	2 464
<b>Total</b>	<b>243 789</b>	<b>242 620</b>

### AUDITOR'S FEES

1 000 €	2018	2017
PricewaterhouseCoopers Oy:		
Audit fees	107	98
Tax advisory	4	2
Auditor's mandatory opinions	0	2
Other services	9	43
<b>Total</b>	<b>117</b>	<b>143</b>

## 8 FINANCE INCOME AND COSTS

1 000 €	2018	2017
Dividend income from others	6	7
Interest income from investments in participating interests	2 717	2 369
Other interest and finance income from Group undertakings from others	726 1	1 024 38
<b>Total finance income</b>	<b>3 450</b>	<b>3 438</b>
Interest costs and other financial costs		
Participating interests	-993	-1 470
Others	-20 741	-9 182
<b>Total finance costs</b>	<b>-21 734</b>	<b>-10 652</b>
<b>Total finance income and costs</b>	<b>-18 284</b>	<b>-7 215</b>

Other interest and financial income includes exchange rate differences (net).

## 9 INCOME TAXES

1 000 €	2018	2017
Income taxes for the period	0	3
Income taxes from previous periods	0	1
<b>Total</b>	<b>0</b>	<b>4</b>

# NOTES TO BALANCE SHEET

## 10 INTANGIBLE ASSETS

1000 €	Other capitalised long-term expenditure	Total
Cost or valuation at 1.1.	5 272	5 272
Disposals	0	0
Reclassifications	0	0
Cost or valuation at 31.12.	5 272	5 272
Accumulated amortisation 1.1.	-4 217	-4 217
Accumulated amortisation of disposals and reclassifications	0	0
Amortisation for the period	-398	-398
Accumulated amortisation 31.12.	-4 615	-4 615
Net book amount 31.12.2018	656	656
Net book amount 31.12.2017	1 055	1 055

## 11 PROPERTY, PLANT AND EQUIPMENT

1000 €	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Total
Cost or valuation at 1.1.	99	992	1 087	46	2 223
Additions	-	11	-	-	11
Disposals	-	-135	-4	-	-139
Cost or valuation at 31.12.	99	868	1 083	46	2 096
Accumulated depreciation 1.1.	-	-705	-789	-	-1 494
Accumulated depreciation of disposals and reclassifications	-	135	4	-	139
Depreciation for the period	-	-46	-78	-	-123
Accumulated depreciation 31.12.	-	-616	-862	-	-1 478
Net book amount 31.12.2018	99	252	221	46	617
Net book amount 31.12.2017	99	286	298	46	729

Production machinery and equipment at 31.12. 0

## 12 INVESTMENTS

1000 €	Holdings in Group undertakings	Participating interests	Receivables from participating interests	Other shares and similar rights of ownership	Total
Cost or valuation at 1.1.	425 806	743 866	348 922	499	1 519 092
Additions	-	-	60 232	-	60 232
Disposals	-2 974	-3 312	-	-15	-6 302
Cost or valuation at 31.12.	422 831	740 554	409 153	483	1 573 022
Accumulated impairment 1.1.	-6 222	-10 877	-	-	-17 099
Accumulated impairment 31.12.	-6 222	-10 877	-	-	-17 099
Net book amount 31.12.2018	416 610	729 676	409 153	483	1 555 923
Net book amount 31.12.2017	419 584	743 866	348 922	499	1 512 871

Revaluations included in the cost at 31.12. 265 145

## 13 NON-CURRENT RECEIVABLES

1 000 €	2018	2017
Capital loan receivables	1	1
Other non-current receivables	36 860	36 717
<b>Total</b>	<b>36 860</b>	<b>36 718</b>
Receivables from Group undertakings		
Capital loan receivables	1	1
<b>Total receivables from Group undertakings</b>	<b>1</b>	<b>1</b>
Receivables from participating interests		
Other non-current receivables	36 796	36 717
<b>Total receivables from participating interests</b>	<b>36 796</b>	<b>36 717</b>
Receivables from others		
Other non-current receivables	63	0
<b>Total receivables from others</b>	<b>63</b>	<b>0</b>

## 14 CURRENT RECEIVABLES

1 000 €	2018	2017
Trade receivables	46 618	36 563
Other receivables	1	383
Prepayments and accrued income	20 684	32 308
<b>Total</b>	<b>67 303</b>	<b>69 254</b>
Receivables from Group undertakings		
Trade receivables	20	60
Prepayments and accrued income	690	410
<b>Total receivables from Group undertakings</b>	<b>710</b>	<b>470</b>
Receivables from participating interests		
Trade receivables	7	8
Prepayments and accrued income	14 136	23 807
<b>Total receivables from participating interests</b>	<b>14 143</b>	<b>23 815</b>
Prepayments and accrued income:		
Accrued financial expenses	2 462	1 107
Accrued personnel expenses	11	13
Accrued interest income	760	599
Accrued sales of emission rights	1 476	638
Accrued arrangement fee for credit facility	535	1 078
Accrued VAT on prepayments	2 726	5 560
Accrued energy purchases, credit	112	124
Accrued energy purchases	12 402	22 809
Others	199	380
<b>Total</b>	<b>20 684</b>	<b>32 308</b>
Interest-bearing receivables		
Non-current assets	409 153	348 922
Current assets	61 087	44 347
<b>Total</b>	<b>470 240</b>	<b>393 269</b>

## 15 EQUITY

1 000 €	2018	2017
Share capital 1.1.	65 293	64 108
Transfer from share issue	0	1 481
Purchase and annulment of own shares	0	-296
Share capital 31.12.	65 293	65 293
Share issue 1.1.	0	49 305
Transfer to share capital	0	-1 481
Transfer to reserve for invested non-restricted equity	0	-47 824
Share issue 31.12.	0	0
Share premium 1.1.	216 822	216 822
Share premium 31.12.	216 822	216 822
Revaluation reserve 1.1.	218 644	218 644
Revaluation reserve 31.12.	218 644	218 644
Reserve for invested non-restricted equity 1.1	328 869	286 190
Share issues	0	47 824
Transfer to retained earnings	-2 186	-5 145
Reserve for invested non-restricted equity 31.12	326 683	328 869
Retained earnings 1.1.	-2 186	-5 145
Transfer from reserve for invested non-restricted equity	2 186	5 145
Retained earnings 31.12.	0	0
Profit or loss for the year	-6 057	-2 186
<b>Total</b>	<b>821 385</b>	<b>827 442</b>
Distributable earnings 31.12.		
Retained earnings	0	0
Profit or loss for the year	-6 057	-2 186
Reserve for invested non-restricted equity	326 683	328 869
<b>Total</b>	<b>320 625</b>	<b>326 683</b>

*Share capital by share category, see note 25 in the consolidated financial statements.*

## 16 NON-CURRENT LIABILITIES

1 000 €	2018	2017
Bonds	125 000	0
Loans from financial institutions	410 000	435 000
Other non-current liabilities	195 859	196 285
<b>Total</b>	<b>730 859</b>	<b>631 285</b>
Liabilities to participating interests		
Other non-current liabilities	195 859	196 285
Non-interest-bearing and interest-bearing non-current liabilities		
Interest-bearing	730 859	631 285
<b>Total</b>	<b>730 859</b>	<b>631 285</b>

## 17 CURRENT LIABILITIES

1 000 €	2018	2017
Other interest-bearing liabilities	129 864	162 201
Trade payables	27 890	37 824
Other current liabilities	2 961	280
Accrued expenses	10 382	7 283
<b>Total</b>	<b>171 097</b>	<b>207 588</b>
-	-	-
To Group undertakings		
Trade payables	15 500	14 849
Other current liabilities	0	280
Accrued expenses	580	202
To Group undertakings, total	16 080	15 331
To participating interests		
Trade payables	12 131	22 804
Accrued expenses	2 755	2 558
To participating interests, total	14 886	25 362
Accrued expenses		
Accrued personnel expenses	1 310	1 837
Accrued interest costs	3 738	3 045
Accrued energy sales, credit	1 256	222
Accrued energy purchases	1 761	1 290
Accrued emission right purchases	1 577	687
Others	740	202
Total accrued expenses	10 382	7 283
Non-interest-bearing and interest-bearing current liabilities		
Non-interest-bearing	41 233	45 388
Interest-bearing	129 864	162 200
<b>Total</b>	<b>171 097</b>	<b>207 588</b>

## 18 GUARANTEES AND CONTINGENT LIABILITIES

1 000 €	2018	2017
Guarantees		
Guarantees for loans		
On behalf of participating interests	17	19
Other guarantees		
As security for own liabilities	196 037	199 078
On behalf of Group undertakings	0	0
<b>Total guarantees</b>	<b>196 055</b>	<b>199 097</b>
Leasing liabilities		
Payments during the following year	16	78
Payments in subsequent years	14	30
<b>Total leasing liabilities</b>	<b>30</b>	<b>108</b>
Rental liabilities		
Payments during the following year	652	649
Payments in subsequent years	1 647	2 050
<b>Total leasing liabilities</b>	<b>2 298</b>	<b>2 699</b>
Other contingent liabilities		
Guarantee according to Nuclear Energy Act	77 227	106 494
As security for own liabilities	31	101
<b>Total other contingent liabilities</b>	<b>77 258</b>	<b>106 596</b>

According to the Finnish Nuclear Energy Act, Teollisuuden Voima, a joint venture of which Pohjolan Voima owns 57.06%, is obliged to fund the decommissioning of nuclear power plants and final disposal of spent nuclear fuel through the Finnish National Nuclear Waste Management Fund.

The amount of the contingent liability is determined by the administrative authority (Ministry of Employment and Economy) based on the Nuclear Energy Act. The directly enforceable guarantees given by the shareholders of Teollisuuden Voima Oyj cover the uncovered portion of the Nuclear Waste Management obligation as well as a liability for any unforeseen expenses of nuclear waste management in accordance with the Nuclear Energy Act. The directly enforceable guarantee given by Pohjolan Voima is 77.2 million Euros (2017: 106.5 million Euros).

## 19 DERIVATIVE FINANCIAL INSTRUMENTS

1 000 €	2018	2017
Interest rate swap contracts		
Nominal value	424 000	434 000
Market value (including retained interests)	-2 684	-1 443
Average maturity (years)	4,6	5,3
Floating reference rate	Euribor 6 mo/ Euribor 3 mo/ Euribor 1 mth./	Euribor 6 mo/ Euribor 3 mo/ Euribor 1 mth./
Fixed rate (on average)	0,150%	0,668%
The interest rate swap contracts cover the following financial agreements with floating interest rates:		
Bank credit	410 000	435 000
Amounts owed to participating interests	195 859	196 285

## Financing risks

Board of Directors approve a financing policy for the company, which determines the purpose and risk levels for the financing operations. The refinancing risk is managed through diversified sources of financing, sufficiently long maturity of loans and a balanced schedule of maturity. The primary loan currency is the euro. If loans are taken out in other currencies, the currency risk is eliminated by means of derivative contracts. The interest rate risk is monitored by means of duration, which indicates the sensitivity of the loan portfolio to changes in the interest rates. The duration of the loan portfolio is managed within the limits set by the financing policy, using derivative contracts if necessary.

The Group maintains a certain amount of liquid assets, credit limit arrangements and commercial paper programmes to reduce the liquidity risk. The Group's liquidity is secured by the 300 million Euros revolving credit facility, which matures in 2021. The loan facility was fully undrawn as per 31.12.2018. For its short-term financing, the company uses mainly its domestic 300 million Euros commercial paper program.

The excess liquidity is invested in secure and profitable instruments with a duration of up to 12 months. Investments are diversified to various instruments and the investment instruments which are chosen based on guaranteed liquidity in the secondary market even under unfavorable.



# Signing of the Board of Directors' report and financial statements

## Board of Directors' dividend proposal

The parent company Pohjolan Voima's profit and loss account indicates a loss of € 6 056 957,29.

The Board of Directors proposes to the Annual General Meeting that the loss be transferred to the retained earnings account, and that no dividends be distributed.

Helsinki, March 6, 2019

**Tapio Korpeinen**

Chairman

**Seppo Parvi**

Deputy Chairman

**Esa Kaikkonen**

**Jukka Hakkila**

**Anders Renvall**

**Tapani Sointu**

**Rami Vuola**

**Heikki Liukas**

**Patrick Wackström**

**Ilkka Tykkyläinen**

President and CEO

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## The Auditor's note

Our auditor's report has been issued today.

Helsinki, March 12, 2019

**PricewaterhouseCoopers Oy**

Authorised Public Accountants

**Jouko Malinen**

Authorised Public Accountant

# Auditor's Report (Translation from the Finnish Original)

To the Annual General Meeting of Pohjolan Voima Oyj

## Report on the Audit of the Financial Statements

### Opinion

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial performance and financial position and cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of the financial statements in Finland and comply with statutory requirements.

### What we have audited

We have audited the financial statements of Pohjolan Voima Oyj (business identity code 0210161-4) for the year ended 31 December 2018. The financial statements comprise:

- the consolidated balance sheet, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies
- the parent company's balance sheet, income statement, statement of cash flows and notes.

### Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Independence

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

### Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine 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, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or to cease operations, or there is 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 good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent company or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

## Other Reporting Requirements

### Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information.

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. With respect to the report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact. We have nothing to report in this regard.

### Other Opinion

We support that the Members of the Board of Directors and the Managing Director should be discharged from liability for the financial period audited by us.

Helsinki 12 March 2019

### **PricewaterhouseCoopers Oy**

Authorised Public Accountants

Jouko Malinen

Authorised Public Accountant