TVO

WELL-BEING WITH
NUCLEAR ELECTRICITY

Report of the Board of Directors and Financial Statements 2016

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Year 2016 in brief

The use of electricity in Finland increased by over three percent and the market price has been rising slightly. The Finnish Government's new energy and climate strategy states that nuclear power continues to provide a significant share of Finland's increasingly carbon-neutral energy production. In its preliminary PINC (Nuclear Illustrative Program) communication, the European Commission, for its part, estimates that nuclear energy will remain an important component of the EU's energy mix. In the communication, the Commission also highlighted the development of cooperation between national regulatory authorities in order to improve the cost-efficiency of nuclear power plants.

The electricity generation at Teollisuuden Voima's (TVO) Olkiluoto nuclear power plant in 2016 totaled 14.35 terawatt hours (billion kilowatt-hours), which accounted for about 17 percent of all electricity consumed in Finland. The consolidated turnover was EUR 343.4 (275.7) million.

The Olkiluoto 1 and 2 plant units are in safe and good production condition. Major modernization works were made at the power plant, and the safety culture which steers all the activities was developed further. On January 26, 2017, TVO filed with the Ministry of Economic Affairs and Employment an application for the renewal of the operating license of OL1 and OL2. The renewal of the operating licence is applied for from the Government until the end of 2038. The 20-year operating licence in force at the moment must be renewed by the end of 2018.

The Olkiluoto 3 EPR project progressed according to the Supplier's schedule towards the commencement of regular electricity generation at the end of 2018. TVO announced in October 2016 the Nordic electricity market that according to the Supplier's test program, OL3 EPR will produce, with varying power, 2–4 TWh of electricity in the second half of 2018.

The ongoing restructuring of the nuclear power industry in France will affect also the OL3 EPR project. TVO requires that the completion of the OL3 EPR project is respected and all the necessary financial and other resources will be allocated to the completion and long-term operation of OL3 EPR in accordance with the plant contract obligations.

TVO received a final and binding partial award in the International Chamber of Commerce (ICC) arbitration proceeding related to the scheduling, licensing and licensability and system design incurred at the OL3 EPR project. In the partial award, the great majority of the matters dealt with were finally resolved in favour of TVO. The arbitration proceedings are still going on with further partial awards to come before the final award where the Tribunal will declare liabilities to pay compensation.

Posiva, first in the world, started the construction of the final disposal facility for spent nuclear fuel after the Radiation and Nuclear Safety Authority in Finland (STUK) issued a decision that Posiva is in the position to launch the first works under the construction license.

At the end of the year, the total number of personnel in TVO Group was 747 (749) and in Posiva, including its subsidiary Posiva Solutions Oy, 80 (77).

Operating environment

The total consumption of electricity in Finland in 2016 was 85.1 terawatt hours (TWh). The consumption increased by 3.1 percent compared to the previous year. The share of net electricity imports was record high at 22.3 percent (19.8 TWh) of the total consumption. The amount of nuclear power generated in 2016 was 22.3 TWh, which accounted for 26.2 percent of the electricity procured.

The Finnish Government's new energy and climate strategy was completed in December 2016. The strategy answers, for example, the question how to achieve the government program's target for the share of renewable energy and phasing out coal as energy source. The strategy also provides solutions how Finland can achieve the EU's 2030 energy and climate targets.

The new energy and climate strategy recognizes a strong role for nuclear power. It states that nuclear power continues to provide a significant share of Finland's increasingly carbon-neutral energy production. According to the strategy, nuclear power is a necessary solution for the long-term transition away from carbon-based energy in Finland's electricity sector, and today's investments in nuclear energy can continue to be capitalized on for many decades to come. The Olkiluoto 3 EPR unit under construction has been given special attention in the strategy, which recognizes the significant contribution that the OL3 EPR can make towards the self-sufficiency of the electricity production in our country.

The EU Commission published in November 2016 a legislative package in order to renew the EU electricity market model and update the directives regarding renewable energy and energy efficiency. In addition, a research by the EU Commission on capacity mechanisms and legislation directed to the Member States to strengthen the security of supply as well as a proposal for Energy Union's new governance model were published. The goal of the new governance model is to monitor the development in the Member States and this way ensure that the EU will meet the Union's energy and climate targets. The legislative proposals will be passed to the handling of the European Parliament in January 2017, after which the Member States will form their own initial views, presumably in autumn 2017. The legislative process as a whole will probably take about two years.

In its preliminary communication published in April 2016, the Commission estimated that nuclear energy will remain an important component of the EU's energy mix in the 2050 horizon. To improve cost-effectiveness of nuclear power plants, the Commission also highlighted the development of cooperation in standardization and licensing issues.

Main events

- The production year at TVO's nuclear power plant in Olkiluoto was good again. The electricity generation at the power plant in 2016 totaled 14.35 TWh. The plant units operated well apart from a few production disruptions, and the combined load factor of the plant units was 93.0 percent. Together with the share of the Meri-Pori coal-fired power plant TVO's production totaled 14.91 TWh. The electricity produced in Olkiluoto accounted for about 17 percent of all electricity consumed in Finland.
- The annual outages of 2016 at the Olkiluoto nuclear power plant were carried out from May 8 to June 9, 2016. Olkiluoto 1 (OL1) had a more extensive maintenance outage taking more than 21 days, and Olkiluoto 2 (OL2) underwent a refueling outage that lasted over 9 days.
- Preparations for the renewal of the operating license for OL1 and OL2 plant units in 2018 were continued by making plant modifications to further improve safety in possible but unlikely accident situations, where several safety systems were lost simultaneously. On January 26, 2017, TVO filed with the Ministry of Economic Affairs and Employment an application for the renewal of the operating license of OL1 and OL2. The renewal of the operating licence is applied for from the Government until the end of 2038. The 20-year operating license in force at the moment must be renewed by the end of 2018.
- Preparing the Olkiluoto 3 EPR (OL3 EPR) plant unit for production proceeded in 2016. The Supplier started test runs with the I&C in January and testing of the process systems in April. TVO submitted the operating license application to the Ministry of Economic Affairs and Employment (MEAE) in April. TVO expects to receive the operating license in the first half of 2018. According to the Supplier's schedule, regular electricity generation at the plant unit will commence at the end of 2018.
- In the International Chamber of Commerce (ICC) arbitration proceedings related to the delay and the ensuing costs incurred at the OL3 EPR project, a final and binding partial award was granted in November 2016. In the partial award, the

ICC Tribunal addressed the early period of the project. This comprised many of the facts and matters that TVO relies upon in its main claims against the Supplier, as well as certain key matters that the Supplier relies upon in its claims against TVO. In doing so, the partial award finally resolved the great majority of these facts and matters in favor of TVO. The partial award did not take a position on the claimed monetary amounts. The arbitration proceedings are still going on with further partial awards to come before the final award where the Tribunal will declare liabilities to pay compensation.

- In 2016, Areva Group announced a restructuring of its business. The restructuring plan apparently involves a transfer of the operations of Areva NP, excluding the OL3 project and certain other operations, to an ad hoc structure which is to be sold to a consortium led by EDF as well as to a joint venture with EDF, known as NICE. In November, Areva and EDF announced that they had made a binding agreement on the restructuring, which was informed to be completed during the second semester of 2017. TVO requires that the restructuring respects the completion of the OL3 EPR project within the current schedule and that all liabilities of the plant contract are respected.
- In December 2016, Posiva started the excavation works under the construction license for the final disposal facility for spent nuclear fuel after the Radiation and Nuclear Safety Authority in Finland (STUK) issued a decision that Posiva is in the position to launch the construction of the final disposal facility.

Financial performance

TVO operates on a cost-price principle (Mankala principle). TVO's goal is not to make profit or pay dividends. The shareholders are charged incurred costs on the price of electricity and thus in principle the profit/loss for the period under review is zero, unless specific circumstances dictate otherwise. The shareholders pay variable costs based on the volumes of energy supplied and fixed costs in proportion to their ownership, regardless of whether they have made any use of their share of the output or not. Because of the Company's operating principle, key indicators based on financial performance will not be presented. See “The cost-price principle" in the Notes to the consolidated financial statements.

The consolidated turnover for 2016 was EUR 343.4 (275.7) million. The amount of electricity delivered to the shareholders was 14,886 (14,405) GWh. The increase in the amount of electricity delivered to shareholders was due to higher delivery volumes of both OL2 and Meri-Pori coal-fired power plant compared to the previous year.

The consolidated profit/loss was EUR -10.5 (4.6) million.

Financing and liquidity

TVO's financial situation has developed as planned.

TVO's liabilities (non-current and current) at the end of the year, excluding the loan from the Finnish State Nuclear Waste Management Fund relent to shareholders, totaled EUR 4,521.8 (December 31, 2015: 3,987.5) million, of which EUR 479.3 (479.3) million were subordinated shareholder loans. During 2016, TVO raised a total of EUR 975.0 (600.0) million in non-current liabilities, of which EUR 0.0 (100.0) were subordinated shareholder loans. Repayments during the year amounted to EUR 375.2 (222.6) million, of which EUR 0.0 (60.0) were subordinated shareholder loans.

In May, Fitch Ratings affirmed its previous rating BBB for TVO but changed the Company's outlook to negative. Standard & Poor's downgraded in May TVO's rating from BBB- to BB+ and assessed the outlook as stable. In February, Japan Credit Rating Agency (JCR) confirmed its AA- rating for TVO and evaluated the Company's future outlook as stable.

In February, TVO signed a new revolving credit facility (the Facility) of EUR 1,300 million. The Facility refinances TVO's existing revolving credit facility signed in March 2011 and consists of two tranches: EUR 1,000 million 5-year tranche and EUR 300 million 3 year tranche. Both tranches include two one-year extension options. The Facility will be used for general corporate purposes. The Facility is fully undrawn.

In September, the European Investment Bank (EIB) granted TVO a loan of EUR 100 million for the ongoing modernization and safety improvement projects at Olkiluoto 1 and Olkiluoto 2 power plant units.

During 2016, TVO has also signed bilateral bank loans totaling EUR 575 million, of which EUR 100 million are undrawn.

In November, TVO issued a EUR 500 million public bond. The long six-year bond was issued under the Company's EMTN programme and it will pay an annual coupon of 2.625 percent.

The OL3 EPR project's share of financing costs has been capitalized in the balance sheet.

TVO uses its right to borrow funds back from the Finnish State Nuclear Waste Management Fund within the framework of legal regulations. On December 31, 2016 the amount of the loan was EUR 1,027.1 (December 31, 2015: 1,009.1) million and it has been relent to the Company's A-series shareholders. On March 31, 2016 loan from the Finnish State Nuclear Waste Management Fund was increased by EUR 18.0 (26.3) million.

Share capital

TVO's share capital on December 31, 2016 was EUR 606.2 (606.2) million.

The Company has 1,394,283,730 (1,394,283,730) shares, of which 680,000,000 belong to the A series, 680,000,000 to the B series and 34,283,730 to the C series. The A series shares entitle to electricity generated at the OL1 and OL2 units and the B series shares to the electricity generated at the OL3 unit. The C series owners have right to acquire electricity generated by TVO's share of the Meri-Pori coal-fired power plant.

Administrative principles

Because TVO is a non-listed public company applying the cost-price principle, it observes the Corporate Governance Code for listed companies where applicable. TVO is not obligated to observe the Corporate Governance Code nor therefore its Comply or Explain principle. According to the Securities Market Act (746/2012), section 7 of chapter 7, the issuer of a security subject to public trading must provide a Corporate Governance Statement in its Annual Report or separately. TVO has given a separate Corporate Governance Statement which is published on its website, www.tvo.fi at the same time with this Report of the Board of Directors.

Administrative bodies

TVO's administrative bodies and their operations in 2016 have been described in a separate Corporate Governance Statement to be found on the Company's website.

Regulatory environment

The purpose of the nuclear energy legislation is to ensure that the use of nuclear energy is conducted in a manner that benefits the overall good of society. The main rules of the use of nuclear energy, monitoring the use, and nuclear safety, are included in the Finnish Nuclear Energy Act and Nuclear Energy Decree as well as lower level statutes issued pursuant to them, such as the Radiation and Nuclear Safety Authority's YVL (NPP) guidelines. Other regulations pertaining to the exploitation of nuclear energy are in the Radiation Act.

New Regulatory Guides on nuclear safety (YVL Guides) published by the Radiation and Nuclear Safety Authority in Finland (STUK) in November 2013 have been adopted at the Olkiluoto power plant. Most of the requirements specified for nuclear power plants and the licensees of the plants were enforced as of September 1, 2015.

The new Guides lay down increased requirements and specify them in more detail. They cover the design and operation of nuclear power plants, the safety of the plant and the environment, nuclear materials and nuclear waste as well as structures and equipment at nuclear facilities. STUK issued separate decisions regarding the application of the requirements at existing plant units, such as OL1 and OL2. As far as new nuclear power plants are concerned, the new Guides will be enforced as such. An assessment of compliance with the new requirements at the OL3 plant unit was submitted to STUK in April 2016 in the same context as the operating license application for OL3 was submitted to the Ministry of Economic Affairs and Employment.

TVO carried out the compliance assessment as part of a more extensive project that focused on the assessment of the safety level.

In addition, the Nuclear Liability Act concerns the liability the operator of a nuclear plant has in the event of a nuclear accident. A temporary amendment to the Nuclear Liability Act came into force as of the beginning of 2012. According to the temporary amendment, the plant operator's liability for a nuclear incident in Finland is unlimited but limited to a maximum amount of 600 million Special Drawing Rights (SDR), corresponding to EUR 700 million, for nuclear damage outside of Finland. The operator has to have insurance up to a minimum of 600 million SDR.

The use of nuclear energy is subject to license. Applications are made to the Government for a decision-in-principle, construction license and operating license. The Radiation and Nuclear Safety Authority in Finland (STUK) is responsible for monitoring the safety of nuclear energy use. STUK is also responsible for monitoring safety and emergency arrangements and nuclear material.

Risk management, major risks and uncertainties

Risk management

Risk management is a systematic approach which aims to support the fulfillment of TVO's strategy and business objectives as well as to ensure the existence of TVO’s operational preconditions. Risk management is executed based on the company's policies and corporate governance.

Risk management is supervised by the Board of Directors of the Company, which endorses the principles on which it is based. The CEO, with the help of the Company's Management Board, is in charge of the risk management according to TVO's objectives and strategy. Under the Management Board, there is a risk management group that is in charge of ensuring adequate risk treatment in the company.

The organization units are responsible for risk identification, analyzing and risk treatment. Risk identification is carried out as part of TVO’s strategic and operational planning and follow-up as well as part of project management.

TVO has launched a company-wide risk management process which the Company's organization units comply with. By operating in accordance with the risk management process TVO ensures that risks facing the Company are systematically identified and each risk is treated according to its significance. The objective of the risk treatment process is either to prevent the risk from materializing or to reduce its likelihood or consequence.

TVO reduces risks connected with safety and production by keeping the plant units in good condition. Safe and reliable production is ensured by efficient life-cycle management of the plant units and high-quality planning and implementation of the annual outages.

Indemnity and property risks are covered with insurances. The aim of insurance management is to keep the scope, cover and cost of insurance in an acceptable level. TVO is a member of European nuclear insurance associations. Statutory liability insurance is in force for nuclear liability.

Fuel for the production of electricity, uranium and coal, is bought on the global market. Risks connected with nuclear fuel have been reduced by making purchases from a variety of suppliers and by concluding long-term contracts.

At OL3 EPR, risk management during the construction stage is primarily a question of overseeing and guiding the work of the Supplier according to the terms of the turnkey contract. Property damage risks and possible delays caused by them are covered by insurances.

TVO’s financing and financial risk management is dealt with centrally by the Company's Treasury and Risk Management function in accordance with the financing policy adopted by the Board of Directors. The financing risks of TVO's business include liquidity and market and credit risks. By diversifying sources of finance, and with long-term credit commitments and liquid funds, financing risks can be reduced. The financial position has been strengthened by issuing long term private placements and bonds. TVO has reduced market risks by making use of interest rate and currency derivatives. According to the Company’s financing policy, the loans denominated in foreign currencies will be hedged to the euro until the maturity date by using derivatives. Financial risk management and fuel price risks are dealt with in the notes to the consolidated financial statements, note 27 (Financial Risk Management).

Major Risks and Uncertainties

TVO’s major risks are related to the schedule of the OL3 EPR project. Under the plant contract, electricity production was scheduled to start at the end of April 2009. The completion of the project, however, has been delayed.

According to the schedule last updated by the Supplier in September 2014, regular electricity production in the unit will commence at the end of 2018.

The delay causes additional costs and losses, for which TVO has claimed compensation from the turnkey supplier of the OL3 EPR plant unit.

There are no major risks or uncertainties concerning electricity production at OL1 and OL2 plant units or the Meri-Pori coal-fired power plant.

Pending court cases and disputes

In 2012, TVO submitted a claim and defence in the International Chamber of Commerce (ICC) arbitration proceedings concerning the delay and the ensuing costs incurred at the Olkiluoto 3 EPR project. In July 2015, TVO updated its quantification estimate of its costs and losses to amount to approximately EUR 2.6 billion until December 2018, which, according to the schedule submitted by the OL3 Supplier in September 2014, is the estimated start of regular electricity production of OL3.

The proceedings were initiated in December 2008 by the OL3 Supplier. The Supplier’s monetary claim, updated in February 2016, is approximately EUR 3.52 billion in total. The sum is based on the Supplier’s updated analysis of events that occurred through September 2014, with certain claims quantified to December 31, 2014. The sum includes penalty interest (calculated to June 30, 2016) and payments allegedly delayed by TVO under the plant contract amounting to a combined total of approximately EUR 1.45 billion, as well as approximately EUR 135 million in alleged loss of profit.

In November 2016, the ICC Tribunal made a final and binding partial award. In the partial award, the ICC Tribunal addressed the early period of the project (time schedule, licensing and licensability, and system design). This comprised many of the facts and matters that TVO relies upon in its main claims against the Supplier, as well as certain key matters that the Supplier relies upon in its claims against TVO. In doing so, the partial award finally resolved the great majority of these facts and matters in favour of TVO, and conversely rejected the great majority of the Supplier's contentions in this regard. The partial award did not take a position on the claimed monetary amounts. The arbitration proceeding is still going on with further partial awards to come before the final award where the Tribunal will declare liabilities to pay compensation.

TVO considers its claims to be well-founded and has considered and found the claims of the Supplier to be without merit. The partial award provides material confirmation for this position.

TVO has sought to obtain more detailed information from Areva Group on its announced restructuring and its impacts on the OL3 EPR project. As TVO has not received such information it begun legal proceedings at the end of September 2016 before the Commercial Court of Nanterre in France. The aim of this is to urgently obtain this information with a view to securing the assurances that all the necessary financial and other resources, particularly in relation to the EPR technology capabilities, will be allocated for the completion and long-term operation of OL3 EPR and that the Supplier Areva-Siemens will meet all their contractual obligations and liabilities.

The Supplier consortium companies (AREVA GmbH, AREVA NP SAS and Siemens AG) are jointly and severally liable for the plant contract obligations.

TVO has not recorded any receivables or provisions on the basis of claims presented in the arbitration proceedings.

Nuclear power

TVO owns and operates two nuclear power plant units, Olkiluoto 1 (OL1) and Olkiluoto 2 (OL2), and is building a new plant unit, Olkiluoto 3 EPR (OL3 EPR) at Olkiluoto in Eurajoki, Finland.

Olkiluoto 1 and Olkiluoto 2

The electricity production of the Olkiluoto power plant units, OL1 and OL2, during 2016 was 14,348 (14,261) GWh. The total load factor was 93.0 (92.7) %.

The plant units operated safely. OL1's net production was 7,048 (7,397) GWh and load factor 91.4 (96.2) %. OL2's net production was 7,301 (6,864) GWh and load factor 94.6 (89.2) %.

OL1 was out of production in April for less than a week. Electricity production at the plant unit was interrupted on April 11 for the replacement of damaged fuel elements. Back to electricity generation the plant unit was connected on April 16.

OL2 was shut down into a cold state on June 24 for the replacement of a reactor internal recirculation pump motor. The plant unit was connected back to electricity generation on June 27. Also on December 13, OL2 was shut down into a cold state due to disruption on the generator excitation system. The unit was back online on December 17.

TVO is preparing for the upcoming operating license renewal of OL1 and OL2 in 2018 by making plant modifications, which will further improve the plant units' safety in possible but unlikely accidents in which several safety systems were lost at the same time.

On January 26, 2017, TVO filed with the Ministry of Economic Affairs and Employment an application for the renewal of the operating license of OL1 and OL2. The renewal of the operating licence is applied for from the Government until the end of 2038. The 20-year operating license in force at the moment must be renewed by the end of 2018.

Annual outages

The annual outages of 2016 at the Olkiluoto nuclear power plant were carried out from May 8 to June 9, 2016. OL1 had a more extensive maintenance outage taking more than 21 days, and OL2 underwent a refueling outage that lasted over 9 days. The annual outage period was about five days longer than expected. The schedule was affected e.g. by delays in work carried out on control rod actuators. In all other respects the annual outages were implemented according to plans.

At OL1, the main works carried out during the maintenance outage included replacing one of the main circulation pumps to a new type and renewal of the associated frequency converter, renewal of the neutron flux measurement calibration system, replacement of low-voltage switchgears as well as modernisation in one sub-system of the heating system that contributes to residual heat removal. A containment leak-tightness test was also carried out. In addition to TVO's own personnel, up to about one thousand employees of external contractors were involved in the outage works.

In addition to refueling, the OL2 outage included also annually recurring maintenance work.

Olkiluoto 3 EPR

Olkiluoto 3 EPR (OL3 EPR), currently under construction, was procured as a fixed-price turnkey project from a consortium (Supplier) formed by AREVA GmbH, AREVA NP SAS and Siemens AG. As stipulated in the plant contract, the consortium companies have joint and several liability for the contractual obligations. According to the schedule last updated by the Supplier in September 2014, regular electricity production in the unit will commence at the end of 2018.

In 2016, Areva Group announced a restructuring of its business. The restructuring plan apparently involves a transfer of the operations of Areva NP, excluding the OL3 EPR project and certain other operations, to an ad hoc structure which is to be sold to a consortium led by EDF, and a joint venture with EDF known as NICE. On November 16, Areva and EDF announced that they had made a binding agreement on the restructuring, which was announced to be completed during the second semester of 2017. The implementation of the restructuring plan is subject to decisions and clearances, such as those related to the contemplated state aid and merger connected with the plan. After the reporting period, in January 2017, the EU Commission made a conditional decision on the state aid. TVO requires that the restructuring respects the completion of the OL3 EPR project within the current schedule and that all liabilities of the plant contract are respected.

Most of the construction works for the plant unit have been completed. The installation of the electrical systems, the instrumentation and control system (I&C), and mechanical systems is still in progress. Test runs with the I&C were commenced by the Supplier in January 2016. In April 2016, the Supplier started testing of the process systems, and TVO submitted the operating license application to the Ministry of Economic Affairs and Employment (MEAE). The decision to grant a license will be made by the Finnish Government on the basis of MEAE's proposal. The training simulator was completed in October, and the Supplier carried out the Nuclear Circuit Cleaning (NCC) in October–November.

The first phase of the commissioning of the turbine plant is completed. Some of the systems and components will be kept in operation; the rest has been preserved by the Supplier in accordance with a separate plan.

The workforce at the site at the end of the period under review was about 2,000 persons. Occupational safety at the site remained at a good level.

The pending disputes concerning the plant unit are described in the paragraph ‘ Pending Court Cases and Disputes ’.

All realized costs of the OL3 EPR project that can be recognized in the cost of the asset have been entered as property, plant and equipment in the Group balance sheet.

Nuclear fuel

In 2016, the nuclear fuel purchases amounted to EUR 61.3 (65.7) million and the amount consumed to EUR 54.4 (52.9) million.

The nuclear fuel and uranium stock carrying value on December 31, 2016 was EUR 231.0 (December 31, 2015: 224.2) million.

Nuclear waste management

Under the Finnish Nuclear Energy Act, the Company is responsible for the measures related to nuclear waste management and the related costs.

The liabilities in the consolidated financial statement show a provision related to nuclear waste management liability of EUR 954.6 (December 31, 2015: 971.2) million, calculated according to the international IFRS accounting principles. A corresponding amount, under assets, represents the Company’s share in the Finnish State Nuclear Waste Management Fund.

In order to cover the costs of nuclear waste management, TVO makes contributions to the Finnish State Nuclear Waste Management Fund. In December 2016, MEAE set TVO's liability for nuclear waste management at EUR 1,450.1 (1,369.4) million to the end of 2016 and the Company's funding target for 2017 at EUR 1,428.4 (1,369.4) million.

In March 2016, the Finnish State Nuclear Management Fund confirmed TVO’s nuclear waste man¬agement fee for 2015 at EUR 11.4 (20.8) million, which was paid into the Fund on March 31, 2016 (March 31, 2015). The nuclear waste management fee for 2016 will be confirmed in March 2017.

A total of 6,468 (6,321) m^3 of low- and medium-level radioactive waste has accumulated from the OL1 and OL2 plant units during their operation. During 2016, the amount of waste increased by approximately 129 m^3. The waste is disposed of in the final repository for low- and medium-level waste (VLJ repository) in Olkiluoto.

The total amount of spent nuclear fuel by the end of the year was 1,465 (1,432) tons, of which 33 (35) tons accumulated in 2016. The spent fuel is stored in the fuel pools of the plant units and in an interim storage facility (the KPA storage facility) at Olkiluoto.

Final Disposal of Spent Nuclear Fuel

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

Posiva's final disposal project has moved from the design phase to the concept and cost optimization phase.

The works of the last excavation stage of the underground bedrock research facility ONKALO started in March have progressed according to plan and are nearly completed. In May, the municipality of Eurajoki granted a building permit for the final disposal facility for spent nuclear fuel. Excavations for the encapsulation plant started in October.

The nuclear waste management plan for 2016–2018 was submitted to the Ministry of Economic Affairs and Employment (MEAE) at the end of June. The waste management fee collected from those liable for nuclear waste management is based on the nuclear waste management plan to be updated every three years.

The five-year international research project on Greenland ice sheet and the four-year European-wide cooperation on plugging and sealing technology for geological disposal facilities were completed.

In November, the Radiation and Nuclear Safety Authority in Finland (STUK) issued a decision that Posiva is in the position to start the construction of the final disposal facility. Posiva and YIT Construction signed a contract in November on the excavations of the final disposal facility, and the first excavation works were started in early December.

Posiva Solutions Oy, a wholly-owned subsidiary of Posiva Oy, was founded on June 10, 2016. The company focuses on the sales of the know-how Posiva has accumulated from its design, research and development activities in the final disposal of spent nuclear fuel, as well as on associated consulting services. In June, Posiva Solutions made a service agreement on providing Fennovoima Oy with expert services related to the final disposal of spent nuclear fuel. In October, Posiva Solutions made a service agreement with the Czech Radioactive Waste Repository Authority SÚRAO.

Coal power

TVO has a 45 percent holding in the Meri-Pori coal-fired power plant owned and operated by Fortum Power and Heat Oy. The Meri-Pori power plant is located on the Tahkoluoto island in Pori, Finland.

Meri-Pori

The amount of electricity produced by TVO's share at the Meri-Pori coal-fired power plant was 562.7 (167.2) GWh requiring 198.2 (60.7) thousand tons of coal and xxx.x (138.7) thousand tons of carbon dioxide emission rights.

Research and development

Research and development costs were EUR 13.8 (17.2) million, most of which was used for R&D activities related to nuclear waste management.

TVO is a major financier of Finnish public sector research programs for reactor safety and nuclear waste management. In 2016, TVO's contribution to the Finnish State Nuclear Waste Management Fund, which finances such programs, amounted to EUR 6.4 (4.7) million.

Acquisitions of tangible and intangible assets and shares

Investments in 2016 were EUR 265.4 (345.2) million. Investments of the parent company were EUR 262.5 (344.3) million, of which EUR 208.3 (297.7) million was allocated to the OL3 EPR project.

At present, several plant modifications are planned and implemented in Olkiluoto to prepare the OL1 and OL2 plant units for the renewal of the operating license in 2018.

Carbon dioxide emission allowances have been relinquished to the Energy Market authority worth EUR 1.2 (1.9) million. In 2016, emission allowances were acquired worth EUR 2.7 (1.2) million. The Company’s need for carbon dioxide emission allowances for the period under review was covered by acquired emission allowances.

Safety and environmental issues

The safe operation of the Olkiluoto nuclear power plant is based on high level of plant technology, principle of continuous improvement and competent and responsible personnel as well as independent internal and external control. To ensure safe operation the safety level is systematically assessed at TVO, and TVO’s personnel is committed to a high level of safety culture.

The Olkiluoto nuclear power plant units operated safely during the year. No incidents with a major impact on nuclear safety occurred. In 2016, the Olkiluoto plant had two INES classified incidents. Both of the incidents were classified on the international INES scale (0–7) at level 0 (No safety significance). In case of possible special situations and production faults, TVO provides the Radiation and Nuclear Safety Authority in Finland (STUK) with separate special reports when necessary.

TVO’s aim is to offer its personnel and subcontractors a safe workplace and operating environment. The occupational safety goal on the whole Olkiluoto island is zero accidents and common working methods. TVO has a certified occupational health and safety system compliant with the OHSAS 18001 standard, in which also the activities at the OL3 EPR construction site are included. As in earlier years, actions to reach the zero-accident goal were continued, and the systems integration will provide a basis for common working methods.

The Company’s certified environmental management system, which also includes the activities at the OL3 EPR construction site, meets the requirements of the international ISO 14001 standard and Energy Efficiency system. The environmental management system is EMAS registered.

TVO's operations were in accordance with the Company's environmental policy, environmental permits, and environmental management system apart from that during one monitoring visit, the limit value of the cleaning efficiency of biological oxygen demand at the sanitary waste water treatment plant undershot slightly. However, the cleaning efficiency limit values to annual average were achieved. The environmental load caused by the Olkiluoto nuclear power plant was minor. Despite the fuel leak at OL1 and process system failures occured, radioactive emissions into the atmosphere and water were extremely low, and significantly lower than the limits set by the authorities.

TVO's operations were developed considering the requirements of the environmental permits and according to the environmental management system. The Company has identified the significant environmental aspects related to its activities, and the harmful impacts are being minimized in each phase of the electricity production chain. According to the continuous improvement principal, objectives and targets are determined for the operations in the environment program which is regularly monitored within the Company's environmental group consisting of experts from several different fields. In order to achieve the objectives and targets, corrective actions are defined whenever necessary.

In December 2016, the Regional State Administrative Agency for Southern Finland issued a decision on the revision of the terms of the Olkiluoto nuclear power plant's environmental permit and cooling water permit decision. The environmental and water permit decisions concern the power plant operations including reserve power generation. The decisions include provisions, among others, on the amount of cooling water and heat emission of the power plant as well as on the power plant's environmental monitoring.

More detailed information on the occupational safety indicators as well as environmental issues and indicators for 2016 will be found in connection with corporate social responsibility and environmental reporting on TVO's website, www.tvo.fi. The information is verified by an outside body.

Group personnel and training

Personnel

At the year-end, the total number of personnel in the Group was 747 (749), and the average during the year was 765 (794). The year-end total number of personnel in the Company was 746 (748), and the average during the year was 764 (791). The year-end total for permanent personnel was 720 (730).

TVO recruited 48 (69) employees in 2016. During the year, 58 (90) permanent employees left the Company, including 17 (28) who retired.

Based on the personnel survey 2015, TVO has initiated a new program Hyvinvointi ja tulokselliset tekijät 2020 ("Wellbeing and profitability factors"). The program will focus on the items identified in the personnel survey. The project has progressed according to plan. As part of the program, among other things, a Well-being at work 2016 program was launched.

In early 2016, TVO also launched a Group competence survey project. The aim of the project is to ensure successful commissioning of OL3 EPR and safe operations of all the Olkiluoto plant units, including Posiva's final disposal facility. The project has progressed as planned, and the results of the first phase were presented in TVO's Management Board in December.

The collective agreements for different groups of personnel in the energy industry were in force in accordance with the so called framework agreement of labor confederations until January 31, 2017.

The human resource issues and indicators for 2016 will be found in more detail in connection with corporate social responsibility reporting on TVO's website, www.tvo.fi. The information is verified by an outside body.

Training

The basic, continuing and further training of TVO employees was implemented according to the annual training program the same way as in previous years. The personnel was trained for a total of 7,157 (7,392) days, on average 9.4 (9.3) days per each TVO employee.

According to their refresher training program, the OL1 and OL2 operators participated in the spring and fall 2016 in operation training days and advanced simulator courses.

In 2016, the OL3 operators attended refresher training organized by the Supplier as well as theoretical simulator training. The operators work in shifts in the Supplier's and TVO's joint operating organization, performing system operation and monitoring tasks. In 2016, the OL3 operators have also participated in the extensive inspection and preparation work of OL3 operating instructions.

Everyone working in the Olkiluoto nuclear power plant area participates in induction training. The general part is intended for all persons working in the Olkiluoto area and the radiation part for those working in the controlled area. During 2016, a total of 3,734 (3,576) people took the general part of the induction training and 1,156 (956) people the radiation protection part (those recorded by January 19, 2017). Both training courses were offered in Finnish and English. Both parts are also available for rehearsal in the external online learning environment in Finnish and English.

The human resource issues and indicators for 2016 will be found in more detail in connection with corporate social responsibility reporting on TVO's website, www.tvo.fi. The information is verified by an outside body.

Subsidiaries and joint ventures

TVO Nuclear Services Oy (TVONS) is a wholly-owned subsidiary of TVO. TVONS provides its customers with expertise and services related to high-level nuclear safety, cost-effective operations, and nuclear waste management. The special expertise of TVO personnel is at TVONS customers' disposal.

Posiva Oy, jointly owned by TVO and Fortum, is responsible for the research of the final disposal of spent nuclear fuel and implementation of the final repository of its shareholders' Olkiluoto and Loviisa NPPs. Posiva continued construction and equipment of the underground research facility for final disposal according to plan. The Finnish Government granted a construction license for Posiva's final disposal repository and encapsulation plant in November 2015.

Major events after the end of the year

After the reporting period, in January 2017, the EU Commission made a conditional decision on the state aid. TVO requires that the restructuring respects the completion of the OL3 EPR project within the current schedule and that all liabilities of the plant contract are respected.

Prospects for the future

Electricity production is expected to continue as in previous years. The prerequisites for nuclear power production at Olkiluoto are good. Nuclear fuel availability is guaranteed by long-term agreements.

Realization of the OL3 EPR nuclear power plant project and preparing the plant unit for production will be continued. Testing of the process systems continue, and the next important milestone is the cold functional testing scheduled to commence next summer. TVO will continue to support the Supplier to complete the project.

The Meri-Pori coal-fired power plant capacity will be utilized in accordance with the former principles. After the end of the year in review, Fortum's share of the Meri-Pori coal-fired power plant was accepted into the reserve capacity.

The concept and cost optimization phase of Posiva's final disposal project continues in 2017. After that the aim is to move to the manufacturing phase of special equipment by starting the manufacturing of process equipment for the encapsulation plant. The excavation works for the encapsulation plant and the works of the second phase of works in the ventilation building are expected to be completed in the summer 2017. The first excavation work for the final disposal facility started at the end of last year is estimated to take about two and a half years.

Proposals to the Annual General Meeting

Teollisuuden Voima Oyj's distributable equity as of December 31, 2016 amounted to EUR 9,360,000. The Board of Directors proposes to the Annual General Meeting that no dividend shall be paid.

Key figures of TVO Group

TVO GROUP (IFRS) (M€)	**2016**	2015	2014	2013	2012
Turnover	**343**	276	327	366	352
Profit/loss for the financial year	**-11**	5	-1	31	-2
Research expenses	**14**	17	18	21	24
Investments	**265**	345	339	335	337
Equity	**1 589**	1 612	1 575	1 462	1 310
Subordinated shareholder loans (hybrid equity) (included in the former) 2) 4)	**479**	479	439	339	229
Non-current and current interest-bearing liabilities (excluding loan from VYR) 1)	**4 179**	3 654	3 428	3 221	3 166
Loan from VYR	**1 027**	1 009	983	932	882
Provision related to nuclear waste management	**955**	971	930	898	858
Balance sheet total	**7 952**	7 464	7 054	6 700	6 397
Equity ratio, % 3)	**26,6**	29,4	30,6	30,0	28,1
Average number of personnel	**765**	794	863	894	884

1) The Finnish State Nuclear Waste Management Fund (VYR)
2) Subordinated loans

3) Equity ratio % = 100 x $\frac{\text{equity + loans from equity holders of the company}}{\text{balance sheet total - provision related to nuclear waste management - loan from the Finnish State Nuclear Waste Management Fund}}$

4) During the accounting period 2012, the terms of the loans of the equity holders of the Company have been changed and the loans are included in equity according to IFRS standards.

CONSOLIDATED ADJUSTED PROFIT/LOSS FOR THE FINANCIAL YEAR (M€)	**2016**	2015	2014	2013	2012
Profit/loss for the financial year (IFRS)	**-11**	5	-1	31	-2
The impact of the nuclear waste management obligation 1) (profit -/loss +)	**17**	3	6	-29	4
The impact of financial instruments 2) (profit -/loss +)	**0**	0	0	-1	-1
Other IFRS adjustments	**-1**	-1	0	0	0
Share of the profit/loss of joint ventures	**-2**	0	0	0	0
Profit/loss before appropriations	**3**	7	5	1	1
Adjusted profit/loss for the financial year	**3**	7	5	1	1

1) Includes profit/loss effects from nuclear waste management according to IFRS standard.

2) Includes effects from financial derivatives hedging future cash-flows where hedge accounting is not applied according to IAS 39.

	2016	2015	2014	2013	2012
TVO's share in the Finnish State Nuclear Waste Management Fund (VYR) (M€)	**1 379,7**	1 357,8	1 324,2	1 253,3	1 198,9
TVO's funding target obligation to the Finnish State Nuclear Waste Management Fund	**1 428,4**	1 369,4	1 345,4	1 310,4	1 242,3
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets)	**954,6**	971,2	930,3	897,9	857,6

The difference between the funding target and the share in the Finnish State Nuclear Waste Management Fund at the end of each year is due to the funding target being completed by paying the nuclear waste management fee only during the first quarter of the following year.

Key figures of Teollisuuden Voima Oyj

TEOLLISUUDEN VOIMA OYJ (FAS) (M€)

Parent company's financial statement has been prepared in accordance with the Finnish Accounting Standards (FAS).	**2016**	2015	2014	2013	2012
Turnover	**340**	273	325	363	347
Profit/loss before appropriations	**3**	7	5	1	1
Fuel costs	**69**	59	66	73	62
Nuclear waste management costs	**73**	38	51	89	77
Capital expenditure (depreciation and financial income and expenses)	**52**	111	59	61	65
Investments	**262**	344	339	303	337
Equity	**858**	858	858	858	858
Appropriations	**183**	180	173	167	166
Non-current and current interest-bearing liabilities (excluding loan from VYR) 1)	**4 043**	3 509	3 288	3 088	2 968
Loans from equity holders of the company 2)	**479**	479	439	339	229
Loan from VYR	**1 027**	1 009	983	932	882
Balance sheet total	**6 793**	6 252	5 879	5 572	5 283
Equity ratio, % 3)	**26,4**	28,9	30,0	29,4	28,5
Average number of personnel	**764**	791	858	890	879

1) The Finnish State Nuclear Waste Management Fund (VYR)
2) Subordinated loans

3) Equity ratio % = 100 x $\frac{\text{equity + appropriations + loans from equity holders of the company}}{\text{balance sheet total - loan from the Finnish State Nuclear Waste Management Fund}}$

Electricity delivered to equity holders of the company (GWh)

Olkiluoto 1	**7 035**	7 387	7 254	7 458	6 935
Olkiluoto 2	**7 288**	6 851	7 486	7 148	7 441
Total Olkiluoto 1)	**14 323**	14 238	14 740	14 606	14 376
Meri-Pori	**563**	167	400	725	477
Total	**14 886**	14 405	15 140	15 331	14 853

1) Includes wind power 1.3 (1.4 in 2015) GWh and gas turbine power 0.4 (0.3) GWh.

Capacity factors, %

Olkiluoto 1	**91,4**	96,2	94,5	97,1	90,4
Olkiluoto 2	**94,6**	89,2	97,4	93,1	96,9
Total capacity factor	**93,0**	92,7	96,0	95,1	93,7

TVO share of the electricity used in Finland, %	**17,5**	17,5	18,2	18,2	17,4

TVO Group financial statements

Consolidated income statement

EUR 1 000	Note	**1 Jan-31 Dec 2016**	1 Jan-31 Dec 2015
Turnover	3	**343 398**	275 746
Work performed for own purpose	4	**10 718**	9 137
Other income	5	**11 155**	96 950
Materials and services	6	**-158 329**	-71 647
Personnel expenses	7	**-59 507**	-59 186
Depreciation and impairment charges	3,8	**-54 807**	-114 615
Other expenses	9	**-91 608**	-89 036
Operating profit/loss		**1 020**	47 349
Finance income	10	**16 189**	22 284
Finance expenses	10	**-30 042**	-65 008
Total finance income and expenses	3	**-13 853**	-42 724
Share of the profit/loss of joint ventures		**2 301**	0
Profit/loss before income tax		**-10 532**	4 625
Income taxes	11	**-1**	0
Profit/loss for the financial year		**-10 533**	4 625
Profit/loss for the financial year attributable to:			
Equity holders of the company		**-10 533**	4 625

Consolidated statement of comprehensive income

EUR 1 000	**1 Jan-31 Dec 2016**	1 Jan-31 Dec 2015
Profit/loss for the financial year	**-10 533**	4 625
Other comprehensive items		
Items that may be reclassified to profit or loss in subsequent periods:		
Changes in fair values of the available-for-sale investments	**-371**	-23 412
Cash flow hedges	**-7 490**	19 911
Total other comprehensive profit/loss items	**-7 861**	-3 501
Total comprehensive profit/loss for the financial year	**-18 394**	1 124
Total comprehensive profit/loss for the financial year attributable to:		
Equity holders of the company	**-18 394**	1 124

Consolidated balance sheet

EUR 1 000	Note	**31 Dec 2016**	31 Dec 2015
Assets			
Non-current assets			
Property, plant and equipment	12	**5 040 266**	4 852 768
Intangible assets	13	**7 758**	7 128
Loans and other receivables	16	**1 030 307**	1 012 464
Investments in joint ventures	14	**3 312**	1 009
Investments in shares	17	**1 934**	1 934
Derivative financial instruments	20	**95 795**	110 469
Share in the Finnish State Nuclear Waste Management Fund	24	**954 631**	971 241
Total non-current assets		**7 134 003**	6 957 013
Current assets			
Inventories	19	**249 424**	250 420
Trade and other receivables	16	**46 553**	31 496
Derivative financial instruments	20	**9 998**	4 441
Fund units	18	**200 014**	100 385
Cash and cash equivalents	18	**312 236**	120 236
Total current assets		**818 225**	506 978
Total assets		**7 952 228**	7 463 991
Equity and liabilities			
Capital and reserves attributable to equity holders of the company			
Share capital	21	**606 193**	606 193
Share premium reserve and statutory reserve	21	**242 383**	242 383
Fair value and other reserves	21	**4 720**	12 581
Subordinated shareholder loans (hybrid equity)	21	**479 300**	479 300
Retained earnings	21	**256 656**	271 452
Total equity		**1 589 252**	1 611 999
Liabilities			
Non-current liabilities			
Provision related to nuclear waste management	24	**954 631**	971 241
Loan from the Finnish State Nuclear Waste Management Fund	22	**1 027 050**	1 009 050
Bonds	22	**2 749 544**	2 480 900
Other financial liabilities	22	**1 053 700**	642 370
Derivative financial instruments	20,22	**58 547**	37 030
Total non-current liabilities		**5 843 472**	5 140 591
Current liabilities			
Current financial liabilities	22	**309 394**	493 307
Derivative financial instruments	20,22	**7 742**	755
Advance payments received	23	**41 609**	22 241
Trade payables	23	**17 005**	12 971
Other current liabilities	23	**143 754**	182 127
Total current liabilities		**519 504**	711 401
Total liabilities		**6 362 976**	5 851 992
Total equity and liabilities		**7 952 228**	7 463 991

Consolidated statement of changes in total equity

EUR 1 000	Share capital	Share premium reserve and statutory reserve	Fair value and other reserves	Subordinated shareholder loans (hybrid equity)	Retained earnings	Attributable to equity holders of the company	Total equity
Equity 1 Jan 2016	**606 193**	**242 383**	**12 581**	**479 300**	**271 542**	**1 611 999**	**1 611 999**
Profit/loss for the financial year	0	0	0	0	-10 533	-10 533	-10 533
Other comprehensive profit/loss items:							
Changes in fair values of the available-for-sale-investments	0	0	-371	0	0	-371	-371
Cash flow hedges	0	0	-7 490	0	0	-7 490	-7 490
Subordinated shareholder loans (hybrid equity)	0	0	0	0	0	0	0
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	-4 353	-4 353	-4 353
Equity 31 Dec 2016	**606 193**	**242 383**	**4 720**	**479 300**	**256 656**	**1 589 252**	**1 589 252**

EUR 1 000	Share capital	Share premium reserve and statutory reserve	Fair value and other reserves	Subordinated shareholder loans (hybrid equity)	Retained earnings	Attributable to equity holders of the company	Total equity
Equity 1 Jan 2015	**606 193**	**242 383**	**16 082**	**439 300**	**271 160**	**1 575 118**	**1 575 118**
Profit/loss for the financial year	0	0	0	0	4 625	4 625	4 625
Other comprehensive profit/loss items:							
Changes in fair values of the available-for-sale-investments	0	0	-23 412	0	0	-23 412	-23 412
Cash flow hedges	0	0	19 911	0	0	19 911	19 911
Subordinated shareholder loans (hybrid equity)	0	0	0	40 000	0	40 000	40 000
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	-4 243	-4 243	-4 243
Equity 31 Dec 2015	**606 193**	**242 383**	**12 581**	**479 300**	**271 542**	**1 611 999**	**1 611 999**

Consolidated cash flow statement

EUR 1 000	Note	2016	2015
Operating activities			
Profit/loss for the financial year		**-10 533**	4 625
Adjustments:			
Income tax expenses		**1**	1
Finance income and expenses		**13 853**	42 724
Depreciation and impairment charges		**54 807**	114 615
Share of the profit/loss of joint ventures		**-2 301**	0
Other non-cash flow income and expenses		**-408**	-43 493
Sales profit/loss of property, plant and equipment and shares		**-101**	-27 978
Changes in working capital:			
Increase (-) or decrease (+) in non-interest-bearing receivables		**-18 435**	525
Increase (-) or decrease (+) in inventories		**996**	-10 889
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities		**63 974**	-2 705
Interest paid and other finance expenses		**-2 724**	-6 775
Dividends received		**0**	1 219
Interest received		**8 183**	10 001
Taxes paid		**-1**	-1
Cash flow from operating activities		**107 311**	81 869
Investing activities			
Acquisition of property, plant and equipment		**-343 479**	-256 586
Proceeds from sale of property, plant and equipment		**203**	6
Acquisition of intangible assets		**-376**	-1 095
Acquisition of shares		**-6**	-135
Proceeds from sale of shares		**0**	28 248
Loan receivables granted		**-18 135**	-26 234
Repayments of loans granted		**276**	274
Cash flow from investing activities		**-361 517**	-255 522
Financing activities			
Withdrawals of subordinated shareholder loans (hybrid equity)		**0**	100 000
Repayment of subordinated shareholder loans (hybrid equity)		**0**	-60 000
Withdrawals of long-term loans		**993 000**	526 250
Repayment of long-term loans		**-376 915**	-164 309
Investments in fund units		**-100 000**	-100 000
Interest paid of subordinated shareholder loans (hybrid equity)		**-4 448**	-4 311
Increase (-) or decrease (+) in interest-bearing receivables		**13**	12
Increase (+) or decrease (-) in current financial liabilities		**-65 444**	-117 171
Cash flow from financing activities		**446 206**	180 471
Change in cash and cash equivalents		**192 000**	6 818
Cash and cash equivalents 1 Jan		**120 236**	113 418
Cash and cash equivalents 31 Dec	18	**312 236**	120 236

Notes to the consolidated financial statements

1 General information on the Group

Teollisuuden Voima Oyj together with its subsidiary forms the TVO Group. The ultimate parent of the Group is Teollisuuden Voima Oyj, domiciled in Helsinki.

The Company owns and operates two nuclear power plant units (OL1 and OL2) and has a third unit (OL3) under construction at Olkiluoto in the municipality of Eurajoki. In addition to the nuclear power plant in Olkiluoto, TVO has a share in the Meri-Pori coal-fired power plant and in a gas turbine plant and owns a wind power plant in Olkiluoto.

Copies of the consolidated financial statements are available at the internet address www.tvo.fi.

These consolidated financial statements were authorized for issue by the Board of Directors of TVO in its meeting on 27 February 2017. Under the Finnish Limited Liability Companies Act the Shareholders' meeting may modify or reject the financial statements.

TVO's cost-price principle

TVO is a public limited liability company owned by Finnish industrial and energy companies. Under its Articles of Association, TVO supplies electricity to its shareholders at cost (so-called Mankala principle), which means that it delivers the electricity it has produced or procured to its shareholders in proportion to their shareholdings in each series. Each of the shareholders of each series bears their share of the variable and fixed annual costs as specified in detail in the Articles of Association.

In accordance with TVO's Articles of Association, each shareholder of each series is responsible for the following variable annual costs of the company allocated to the series in proportion it has consumed the electricity generated or transferred by the company:

- Acquisition, transport, transportation insurance, storage and handling costs of fuel;
- Taxes depending on the power production, and
- Other costs incurred to the company directly depending on the power volume used by the respective shareholder

In accordance with TVO's Articles of Association each shareholder of each series, irrespective of whether or not it has used its share of electricity, is responsible for the following fixed annual costs of the company in proportion of the number of shares in particular series it holds:

- Normal operating, maintenance and administrative costs;
- Other taxes than those depending on the power production;
- Insurance costs;
- Installments and interest payments on the loans of the company falling due annually in accordance with the loan agreements of the company as well as other expenses resulting from the financing of the company or the arranging thereof;
- Depreciations;
- Costs set out in the Nuclear Energy Act incurred by the company's nuclear waste management (concerning the nuclear power plants), and
- Other costs independent of power production related to the company's normal business and included in the budget or approved by the Board of Directors.

In accordance with TVO'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. Only the company will have the sole right to call upon the responsibility of the shareholders defined in the Articles of Association. The shareholders shall not be liable for costs other than the costs of the company mentioned above, unless otherwise agreed.

A prerequisite to the shareholder's right to receive electricity is that it has paid its share of costs on time. If a shareholder neglects to observe its payment obligation, the company will have the right to immediately cut off the distribution of electricity to the shareholder and to sell the shareholder's portion of electricity to a party submitting the best offer, primarily to another shareholder of the company.

The cost-price principle is described in detail in the Articles of Association.

2 Accounting policies

Basis of preparations

These consolidated financial statements of TVO Group have been prepared in accordance with International Financial Reporting Standards (IFRS). These financial statements have been prepared in accordance with the IAS and IFRS standards and SIC and IFRIC interpretations effective at 31 December 2016. In the Finnish Accounting Act and regulations issued by virtue of it, “IFRS” refers to the standards and interpretations which have been endorsed by the EU in accordance with the procedure defined in the EU Regulation (EY) No. 1606/2002.

The consolidated financial statements have been prepared under the historical cost convention, except for fund units and investments in shares and derivative financial instruments, which are recognized at fair value.

The consolidated financial statements are presented in euros, which is the functional and presentation currency of the Group's parent company.

The consolidated financial statements have been prepared according to the same accounting policies as in 2015. The Group has adopted the following new standards, interpretations and amendments to existing standards and interpretations on 1 January 2016:

- IFRS 11 (amendment) Joint Arrangements
- IAS 16 (amendment) Property, Plant and Equipment and IAS 38 Intangible Assets
- IAS 27 (amendment) Separate Financial Statements
- IAS 16 (amendment) Property, Plant and Equipment and IAS 41 Agriculture
- IAS 1 (amendment) Presentation of Financial Statements
- IFRS 10 (amendment) Consolidated Financial Statements, IFRS 12 Disclosure of Interests in Other Entities and IAS 28 Investments in Associates and Joint Ventures
- Annual Improvements 2012 - 2014

The amendments have not had impact on the consolidated financial statements.

The following new standards, interpretations and amendments to existing standards and interpretations issued already will be adopted by the Group in 2017 or later:

- IFRS 9 Financial Instruments

  The standard replaces the multiple classification and measurement models in IAS 39 and it will bring changes to classification and measurement of financial assets, their impairment assessment and hedge accounting. TVO expects that the new IFRS 9 standard has no significant impact on the consolidated financial statements. The classification of financial assets will not change remarkably. Loans receivables are still measured at amortized cost and immaterial available-for-sale investments are measured at fair value, and the changes in fair value are still recognized in other comprehensive items. There will be no impact on accounting for financial liabilities. The new impairment model requires the recognition of impairment provisions based on expected credit losses. TVO's annual credit losses have been extremely low thus the new impairment model will have no impact. The new hedge accounting rules will align the accounting for hedging instruments more closely with common risk management practices. As a general rule, more hedge relationships might be eligible for hedge accounting and TVO's hedges likely continue unchanged. TVO's operative hedging will become easier, because the IFRS 9 removes the retrospective effectiveness requirement. TVO's ineffective portion of hedges is expected to be very low also in future. The new standard also introduces expanded disclosure requirements and changes in presentation.

- IFRS 15 Revenue from Contracts with Customers

  The standard will replace IAS 18 which covers contracts for goods and services and IAS 11 which covers construction contracts.

  The new 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 replaces 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.

  Based on initial assessment, the Group estimates that the new standard has no significant impact on the consolidated financial statements.

- IFRS 16 Leases

  The standard removes the current distinction between operating and financing leases and requires recognition of an asset (the right to use the leased item) and a financial liability to pay rentals for virtually all lease contracts. Under IFRS 16, a contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

  Based on initial assessment, the Group estimates that the new standard has no significant impact on the consolidated financial statements, since the remarkable lease agreements have been already recognized as a finance lease on the consolidated financial statements.

- IAS 12 (amendment) Income Taxes

- IAS 7 (amendment) Statement of Cash Flow
- IFRS 10 (amendment) Consolidated Financial Statements and IAS 28 Investments in Associates and Joint Ventures
- Annual Improvements 2014-2016 [1)]
- IFRS 15 (amendment) Revenue from Contracts with Customers [2)]
- IFRS 4 (amendment) Insurance Contracts [2)]
- IFRS 2 (amendment) Share-based Payment [2)]
- IFRIC 22 Foreign currency Transactions and Advance Considerations [2)]
- IAS 40 Investment Property [2)]

Management is assessing the impact of these changes on the financial statements of the Group.

[1)] The standard, interpretation or amendment to published standard or interpretation is still subject to endorsement by the European Union. Effective date will be 1 January 2017.

[2)] The standard, interpretation or amendment to published standard or interpretation is still subject to endorsement by the European Union. Effective date will be 1 January 2018.

Companies included in the consolidated financial statement

Subsidiaries

The consolidated financial statements include Teollisuuden Voima Oyj (TVO) and its subsidiary TVO Nuclear Services Oy. Subsidiaries are companies in which the Group has control at the end of the financial period. Control exists if the Group holds more than a half of the voting rights or otherwise has control. Subsidiaries acquired are consolidated from the date on which control is transferred to the Group, and subsidiaries sold are no longer consolidated from the date that control ceases.

The purchase method of accounting is used to consolidate subsidiaries into the Group. The purchase price is determined as the aggregate of the acquisition date fair values of the assets given as consideration and liabilities incurred or assumed. Costs directly attributable to the acquisition are recognized in profit or loss.

In the consolidation, intercompany share ownership, intercompany transactions, receivables, liabilities, unrealized gains and internal distributions of profits are eliminated. Unrealized losses are not eliminated, if the losses are due to impairment of the asset being transferred. To ensure consistency, subsidiaries' accounting policies have, in all material respects, been changed to conform to the accounting policies adopted by the Group.

Joint ventures

The Group applies IFRS 11 to all joint arrangements. Under IFRS 11 investments in joint arrangements are classified as either joint operations or joint ventures depending on the contractual rights and obligations each investor.

TVO's joint venture is Posiva Oy, which main activities (A series) is final disposal of nuclear fuel of nuclear power plants. Both ventures are liable for its main activities in proportion to their own usage. Posiva Solutions Oy is a wholly-owned subsidiary of Posiva Oy (B series). Posiva Solutions Oy focuses on the sales of the know-how Posiva has accumulated from its design, research and development activities in the final disposal of spent nuclear fuel, as well as on associated consulting services. Posiva Group is accounted for by the equity method of accounting.

Under the equity method of accounting, interests in joint ventures are initially recognized at cost and adjusted thereafter to recognize the Group's share of the post-acquisition profits or losses and movements in other comprehensive income. When the Group's share of losses in a joint venture equals or exceeds its interests in the joint ventures, the Group does not recognize further losses, unless it has incurred obligations or made payments on behalf of the joint ventures.

Unrealized gains on transactions between the Group and its joint venture are eliminated to the extent of the Group's interest in the joint ventures. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Account policies of the joint ventures have been changed where necessary to ensure consistency with the policies adopted by the Group.

Segment reporting

The Group has two reportable segments; nuclear power and coal power. The Board of Directors is the chief operation decision maker.

Revenue recognition principles

TVO operates on a cost-price principle. Revenue is recognized based on the consideration received when electricity is delivered or services are rendered. Revenue is presented net of indirect sales taxes. Revenue is recognized as follows:

Sales of electricity and other revenue

Revenue on sales of electricity is recognized based on delivery. The recognized income for shareholders is based on the quantities delivered. The revenue from services is recognized on an accrual basis on the accounting period when the services are rendered to the customer.

Revenue on long-term consulting services projects that spread over several accounting periods is recognized based on the proportion of costs incurred from work performed up to the balance sheet date and the estimated total expenses of the project. If it is probable that total contract costs will exceed total contract revenue, the expected loss is recognized as an expense immediately.

Other income

Revenue from activities outside the ordinary course of business is reported as other income. This includes joint ventures' revenue from services, rental income and non-recurring items, such as gains from sales of property, plant and equipment. Rental income is recognized on a straight line basis over the rental period and gains from sales of property, plant and equipment when the significant risks and rewards of ownership, interests and control have been transferred to the buyer.

Government grants

Grants are recognized at their fair value, when the Group meets all the conditions attached to them and where there is a reasonable assurance that the grant will be received. Government grants relating to costs are deferred on the balance sheet and recognized in the income statement over the period in which their relevant costs are recorded. Government grants relating to the purchase of property, plant and equipment are deducted from the acquisition cost of the asset.

Research and development costs

Research and development costs (except R&D costs related to nuclear waste management) of the Group are recognized as an expense as incurred and included in other expenses in the income statement. Development costs are capitalized if it is assured that they will generate future income, in which case they are capitalized as intangible assets and amortized over the period of the income streams. Currently the Group does not have any development costs that would qualify for capitalization.

Research costs that relate to nuclear waste management are discussed in paragraph Assets and provisions related to nuclear waste management obligations.

Property, plant and equipment

Property, plant and equipment of the Group are stated on the consolidated balance sheet at historical cost less grants received, accumulated depreciation and impairment charges, if any. Historical cost includes expenditure that is directly attributable to the acquisition of an item.

In the historical costs of power plant projects and other significant investments (completion time more than a year) the financing costs incurred during the construction period will be included.

The historical costs of nuclear power plants include furthermore the estimated costs of dismantling and removing an item and restoring the site on which it is located (more information is included in paragraph Assets and provisions related to nuclear waste management obligations).

Land and water areas are not depreciated.

Other property, plant and equipment are depreciated using the straight-line method over their estimated useful lives.

Straight-line depreciation is based on the following estimated useful lives:

OL1 and OL2 nuclear power plant units:	
- Basic investment	61 years
- Investments made according to the modernization program	21 - 35 years
- Automation investments associated with the modernization	15 years
- Additional investments	10 years
Buildings and structures	10 - 40 years
TVO's share in the Meri-Pori coal-fired plant:	
- Basic investment	25 years
- Additional investments	10 years
Wind power plant	10 years
TVO's share in the Olkiluoto gas turbine power plant	30 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate to reflect the changes in expectations of economic benefits.

Costs of renewal of an item or a part of an item of property, plant and equipment are capitalized if the part is accounted for as a separate item. Otherwise, the subsequent expenditure is included in the carrying amount only when it is probable that future economic benefits associated with the expenditure will flow to the Group.

Annual repair and maintenance costs are recognized in profit or loss, when they occur. Investments connected with the modernization and maintenance of the power plant units are capitalized.

OL3 EPR is nuclear power plant unit under construction. All the realized costs on the OL3 EPR-project that meet recognication criteria are shown as incomplete plant investment. See note 12 Property, plant and Equipment.

Intangible assets

Intangible assets are shown at historical cost less grants received, accumulated amortization and impairment losses if applicable. Historical cost includes costs directly attributable to the acquisition of the particular asset.

Other long-term expenditure included in intangible assets are amortized on a straight-line basis over their estimated useful lives. These include computer software and certain payments made for the use of assets.

The amortization periods of the intangible assets are as follows:

- Computer software	10 years
- Other intangible assets	10 years

The amortization period of an intangible asset is changed where necessary if the estimated useful life changes from that previously estimated.

Furthermore, intangible assets include carbon dioxide (CO_2) emission rights. Emission rights are recognized at historical cost, and are presented under emission rights. The current liability for returning emission rights is recognized at the carrying value of possessed emission rights. If there is a shortfall, a current liability is recognized to cover the acquisition of the missing emission rights. This current liability is valued at the current market value of the emission rights at the balance sheet date. The cost of the emission rights is recognized in the income statement under costs of materials and services. The gains from the sales of emission rights are refunded to the equity holders of the company.

Impairment of property, plant and equipment and intangible assets

The Group assesses at each balance sheet date whether there are indications that the carrying amount of an asset may not be recoverable. If such indications exist, the recoverable amount of the asset in question will be measured. For the purposes of assessing impairment, assets are examined at the level of cash-generating units, that is, at the lowest level that is mainly independent of other units and for which there are separately identifiable cash flows and largely independent from those of corresponding units.

The recoverable amount is the higher of an asset’s fair value less costs to sell or value in use. The value in use is determined by reference to discounted future cash flows expected to be generated by the asset. The discount rate used is pre-tax and reflects the time value of money and asset specific risks.

Impairment loss is recognized when the carrying amount of the asset is greater than its recoverable amount. Impairment loss is charged directly to the income statement. If a cash-generating unit is subject to an impairment loss, it is allocated first to decrease the goodwill and subsequently, to decrease the other assets of the unit. At recognition of the impairment loss, the useful life of the reamortized assets is reassessed. Impairment loss of other assets than goodwill is reversed in the case that a change has occurred in the estimates used in measuring the recoverable amount of the asset. The increased carrying amount must not, however, exceed the carrying amount that would have been determined had no impairment loss been recognized in prior years.

Inventories

Inventories are measured at acquisition cost. The acquisition cost comprises raw materials, direct labor and other direct costs. The carrying amount of inventories is not reduced to a value that is less than its acquisition cost, as TVO operates at cost price, so the net realizable value of inventories always covers their acquisition cost. The cost of coal is determined by using the FIFO (first in, first out) method and the cost of supplies is determined by using the rolling weighted average cost formula. The use of nuclear fuel is recognized according to calculated consumption.

Leases

Finance leases

Leases are classified as finance leases when all substantial risks and rewards incidental to ownership are transferred to the Group. Assets acquired under finance leases are recognized in the balance sheet at the commencement of the lease term at the fair value of the leased asset or, if lower, the present value of the minimum lease payments. Leased assets are depreciated over the shorter of the useful life of the asset and the lease term. Lease obligations are recognized under interest-bearing liabilities.

Lease payments are apportioned during the lease term between the finance charge and the reduction of the outstanding liability to produce a constant periodic rate of interest on the remaining balance of the liability.

Other leases

Lease payments under other leases are recognized in the income statement as an expense under the accrual principle on a straight-line basis over the lease term.

Lease payments received are recognized as income on a straight-line basis over the lease term and presented in the income statement under other income.

Financial assets

The Group has classified its financial assets into four categories as following: derivative financial instruments at fair value through profit or loss, derivative financial instruments designated as cash flow and fair value hedges, loans and other receivables, and available-for-sale investments. The classification is based on the purpose of the acquisition of the assets, and the assets are classified at initial acquisition.

Transaction costs are included at original book value of financial assets, except for items that are measured at fair value through profit or loss. All purchases and sales of financial assets are recognized at fair value on the trading date.

Financial assets are derecognized when the contractual rights to the cash flows of the investment expire or have been transferred or the Group has substantially transferred all the risks and benefits of ownership.

Derivative financial instruments at fair value through profit or loss

Derivative financial instruments that do not meet the criteria for hedge accounting according to IAS 39 are booked at fair value to profit or loss. Gains and losses from changes in fair value are recognized in the income statement in the period in which they arise, except when they relate to the construction of OL3 EPR power plant and are capitalized as part of the cost of the asset.

Derivative financial instruments designed as cash flow and fair value hedges

Financial assets include derivative financial instruments (see Derivative financial instruments and hedge accounting).

Loans and other receivables

Loans and other receivables include non-current loans and other receivables as well as current trade and other receivables. Items that mature after 12 months are recognized in non-current assets. After initial recognition, all loans and other receivables are measured at amortized cost using the effective interest method. Trade receivables are recognized on the balance sheet at their original nominal value, which reflects their fair value.

Available-for-sale investments

Available-for-sale investments include investments in shares, fund units, and instruments that mature after 3 months excluding fixed-term deposits which are recognized in loans and other receivables. Items maturing after 12 months are recognized in non-current assets. Available-for-sale investments are measured at fair value, and the changes in fair value are recognized in other comprehensive items in the fair value reserve under equity. The changes in fair value are transferred from equity to the income statement when the investment is sold or when it is impaired so that an impairment loss needs to be recognized. Investments in unquoted shares whose fair value cannot be reliably determined are measured at acquisition cost.

Cash, cash equivalents and fund units

Cash and cash equivalents consist of cash on hand, demand deposits and other current, highly liquid investments. Assets classified as cash and cash equivalents have a maturity of three months or less from the date of acquisition. Fund units consist of fund units investments which are classified at fair value.

Impairment of financial assets

At each closing date, the Group estimates whether there is any objective evidence that a financial asset or group of financial assets is impaired. If the fair value of equity investment is significantly below its acquisition cost at the closing date, this is evidence of the impairment of equities classified as available-for-sale. If any evidence exists of the impairment, any loss accumulated in the fair value reserve is transferred into profit or loss. Impairment losses on equity investments classified as available-for-sale are not reversed through profit or loss, whereas subsequent reversals of impairment losses on interest-bearing instruments are recognized in profit or loss. The Group recognizes an impairment loss on trade receivables when there is objective evidence that the receivable is not fully collectible.

Evidence of impairment may include indications that the counterparty is experiencing significant financial difficulty, default or delinquency in interest or principal payments, the probability that they will enter bankruptcy or other financial reorganisation, and where observable data indicate that there is a measurable decrease in the estimated future cash flows, such as changes in arrears or economic conditions that correlate with defaults.

Financial liabilities

Financial liabilities are initially recognized at fair value including related transaction costs. After initial recognition, all financial liabilities are measured at amortized cost using the effective interest method. Financial liabilities include non-current and current liabilities, and they can be interest-bearing or non-interest-bearing. An item is included in current liabilities if it matures within 12 months from the closing date. Financial liabilities also include derivative financial instruments (see Derivative financial instruments and hedge accounting).

Derivative financial instruments and hedge accounting

The Group uses derivative financial instruments as hedges of the currency risk relating to purchases of fuel and the currency and interest rate risk of loans. The derivative financial instruments are recognized at fair value on the date when the Group becomes a party to a derivative contract, and subsequently measured at fair value on closing date.

Hedge accounting referred to in IAS 39 is applied to instruments entered into for the purpose of hedging of the currency risk of the Group's commitments for purchases of uranium (forward foreign exchange contracts, currency swaps) and to part of the interest rate swaps entered into for the purpose of hedging against the fluctuations in the interest cash flows relating to the loan contracts of the Group.

Both at the inception of a hedge and thereafter, the Group documents its estimate on whether the derivative financial instruments used in the hedge transactions are highly effective. The derivative financial instruments to which hedge accounting is applied are classified as non-current and current assets and liabilities on the basis of the maturity. The Group applies both cash flow and fair value hedge accounting.

Cash flow hedge

The effective portion of the changes in the fair values of derivatives designated as and qualifying for cash flow hedges is recognized in other comprehensive items in the fair value reserve under equity. The gain or loss relating to the ineffective portion is recognized in profit or loss, except when they relate to the construction of OL3 EPR power plant and are capitalized as part of the cost of the asset. The fair value changes accumulated in equity are recognized in profit or loss in the same period when the hedged item affects profit or loss.

Gains and losses from hedges of the currency risk related to fuel purchases are transferred from equity to adjust the cost of the item of inventory in question. Gains and losses from hedges related to fuel purchases are recognized to adjust the fuel purchases under the Materials and services item in accordance with inventory recognition principles.

When a hedge no longer qualifies for hedge accounting, or the hedging instrument initially recognized as a cash flow hedge matures or is sold, the cumulative gains or losses currently included in equity are recognized in profit or loss during the lifetime of the hedging instrument in question. When an anticipated transaction is no longer expected to occur, the cumulative gain or loss included in equity is recognized in profit or loss.

When a hedge of the currency risk related to fuel purchases no longer qualifies for hedge accounting, or the hedging instrument initially recognized as a cash flow hedge matures or is sold, the cumulative gains or losses currently included in equity are recognized in inventory at the same moment as the purchase of the inventory. When an anticipated transaction is no longer expected to occur, the cumulative gain or loss included in equity is recognized in profit or loss.

Fair value hedge

The Group applies fair value hedge accounting for hedging fixed interest rate risk on publicly traded bonds. Changes in the fair value of derivative financial instruments that qualify as fair value hedges are recognized in the income statement under financial items, along with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The carrying amounts of hedged items and fair values of hedging instruments are included in interest-bearing liabilities and assets. If the hedge no longer meets the criteria for hedge accounting, the adjustment to the carrying amount of a hedged item, for which the effective interest method is used, is recognized to profit or loss over the period to maturity.

Derivatives that do not qualify for hedge accounting

The changes in the fair value of interest rate options, interest rate swaps and forward foreign exchange contracts that do not qualify for hedge accounting are presented under finance income and expenses, unless they relate to the construction of OL3 EPR power plant and are capitalized as part of the cost of the asset.

Borrowing costs

Borrowing costs are recognized in profit or loss in the period when they have incurred, except when they relate to the construction of a power plant or any other significant investment, of which completion time exceeds one year. In that case, borrowing costs are capitalized as part of the cost of the asset.

Foreign currency items

Transactions and financial items denominated in a foreign currency are recognized at the rates on the day when they occur. Receivables and liabilities denominated in a foreign currency are measured in the financial statements at the ECB's official exchange rate on the closing date. Exchange gains and losses from operating activities are included in the corresponding items above operating profit or loss. Exchange differences arising from financial items are recognized in finance income and expenses.

Equity

Share capital

TVO has in its possession three series of shares, A, B and C. The A series entitles the shareholder to the electricity generated by the OL1 and OL2 nuclear power plant units. The B series entitles the shareholder to the electricity that will be generated by the OL3 unit. The C series entitles the shareholder to the electricity generated by the TVO share in the Meri-Pori coal-fired power plant.

Payments received from shares in connection with setting up the TVO and in the form of increases in share capital are recognized under share capital, statutory reserve and share premium reserve.

Subordinated shareholder loans (hybrid equity)

Subordinated shareholder loans (hybrid equity) are treated as equity. Subordinated shareholder loans (hybrid equity) are initially recognized at fair value including related transaction costs. There is no maturity date for the subordinated shareholder loans (hybrid equity), but the borrower is entitled to repay the loan in one or several installments. The Board of Directors of the borrower has the right to decide not to pay interest during any current interest period. Unpaid interest does not accumulate to the following interest periods.

The interest of the subordinated shareholder loans (hybrid equity) are recognized in liabilities when the obligation to pay interest is incurred. Interest expenses are recognized in the retained earnings and are not recognized in profit or loss.

Earnings per share

The Group does not report earnings per share, as the parent company is operating at cost price. The shares of TVO are not traded on a public market.

Provisions

The Group recognizes a provision for environmental restorations, asset retirement obligations, as well as legal and other claims, when the Group has a legal or constructive obligation and it is likely that an outflow of resources will be required to settle the obligation and the amount of the obligation can be reliably estimated. The provision is measured at the present value of the expenditure expected to be required to settle the obligation. The interest rate used in the measurement of provisions is the estimated long-term borrowing rate plus the ECP's inflation target and an estimated company-specific risk premium. The increase in the provision due to the passage of time is recognized as interest expense.

The most significant provision is that for the nuclear waste management obligation under the Nuclear Energy Act. The provision covers all future expenditure arising from nuclear waste management, including the decommissioning of nuclear power plants, the disposal of spent fuel and a risk marginal.

Assets and provisions related to the nuclear waste management obligation

The parent company's nuclear waste management obligation which is based on the Nuclear Energy Act is covered by payments made to the Finnish State Nuclear Waste Management Fund. The obligation covers all the future expenditures for nuclear waste management, including the decommissioning of nuclear power plants, the disposal of 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, TVO's share of the Finnish State Nuclear Waste Management Fund is shown as non-current assets. It is accounted for in accordance with IFRIC 5 Rights to Interests Arising from Decommissioning, Restoration and Environmental Rehabilitation Funds. It is stated that the fund assets are measured at the lower value or the value of the related liabilities since TVO does not have control or joint control over the Finnish State Nuclear Waste Management Fund.

The nuclear waste management obligation is shown as a provision under non-current liabilities. The fair value of the nuclear waste management provision has been determined by discounting the future cash flows which are based on plans about future activity and the estimated expenditure relating to it, taking into account actions already taken.

The present initial value of the provision for the decommissioning of a nuclear power plant (at the time of commissioning the nuclear power plant) has been capitalized as property, plant and equipment and will be adjusted later for possible changes in the plan. The amount recognized relating to decommissioning will be depreciated over the estimated operating time of the nuclear power plant.

The provision for spent fuel covers the future disposal costs of fuel used by the end of each accounting period. The costs for the disposal are expensed 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 each accounting period.

The timing factor is taken into account by recognizing the interest expense related to discounting the nuclear waste management provision. The interest accruing on TVO's share in the Finnish State Nuclear Waste Management Fund is presented as finance income.

TVO's share in the Finnish State Nuclear Waste Management Fund is higher than the corresponding asset recognized in the balance sheet. The nuclear waste management obligation is covered by TVO's share in the Fund, as required by the Nuclear Energy Act. The obligation for nuclear waste management is not discounted. The amount of the annual payment to the

Finnish State Nuclear Waste Management Fund is based on the change on the nuclear waste management obligation and funding obligation target, the share of the profit or loss of the Fund, and the changes resulting from actions taken.

Taxes

The Group does not recognize deferred taxes, because TVO operates at cost price. According to this principle, TVO will not pay taxes on its operations, and therefore there is no taxable income. The tax recognized by the Group consists of tax relating to non-deductible expenses. It also includes any taxes for previous financial years.

Employee benefits

The pension benefits for Group personnel have been arranged with external pension insurance companies. The insurance policies relating to earnings-based pensions, as well as some voluntary pension insurance policies, have been accounted for as defined contribution plans.

Payments made to defined contribution plans as to pensions are recognized on an accrual basis in the income statement.

Critical accounting estimates and judgements

The preparation of financial statements requires estimates and assumptions concerning the future. Estimates and assumptions have an effect on the reported amounts of assets and liabilities, and expenses and income during the accounting period. The actual results may differ from these estimates.

The provision for future obligations for the decommissioning of the nuclear power plant and for the disposal of spent fuel

Estimates and assumptions have been used when estimating the assets, liabilities, expenses and income related to the future decommissioning of the nuclear power plant and the disposal of spent fuel. These are based on long-term cash-flow forecasts of estimated future costs.

The main assumptions relate to technical plans, time factor, cost estimates and the discount rate. The technical plans are approved by State authorities. Any changes in the assumed discount rate would change the provision. If the discount rate used were lowered, the provision would increase.

Any future increase in the provision would be offset by the recognition of an equal increase in TVO's share in the assets of the Finnish State Nuclear Waste Management Fund. According to IFRS, the carrying amount of the assets is limited to the value of the provision, as TVO does not have control in the Finnish State Nuclear Waste Management Fund (see note 24 Assets and provisions related to nuclear waste management obligation).

Power plant construction in progress - OL3 EPR

OL3 EPR is a power plant unit under construction that has been ordered under a turnkey principle. According to an announcement of the OL3 turnkey supplier, the delivery will be delayed from the original schedule according to which the power plant unit should have been in production as of 30 April 2009. In compliance with the supply contract the company is entitled to compensation in case the delay is due to the supplier. Additionally, because of the delay the company has incurred and will incur direct and indirect expenses for which the company on the basis of the supply contract has claimed for compensation. In its Financial Statement the company handles liquidated damages and compensation receivables and the supplier´s claims related to the plant supply as one entity. Claims between the parties will finally be settled in arbitration.

Since the financial result of the arbitration procedure currently in progress cannot be reliably estimated, no receivables or liabilities, as required by IAS 37, have been booked.

No reserves have been booked for the supplier's claims and arbitration procedures. TVO considers its claims to be well-founded and has considered and found the claims of the Supplier to be without merit. In November 2016, the ICC Tribunal made a final and binding partial award. The partial award provides material confirmation for this position.

All the realized costs on the OL3 EPR-project that meet recognition criteria have been booked as acquisition costs of property, plant and equipment on the Group balance sheet.

Impairment testing

Impairment testing of non-current assets is performed when there are indications that the carrying amount of an asset may not be recoverable. In testing, future discounted cash flows which can be recovered by use of the asset and its possible sale are used as an indicator.

TVO operates on a cost-price principle. According to the company documents, the shareholders are obliged to pay all the expenses of the Company in electricity prices including amortization of property, plant and equipment. When assessing by means of recoverable amounts possible impairment of assets and subsequent need for recognition of impairment loss, the recoverable amounts always correspond, with some exceptions, to the carrying amount of the asset and thus, as a rule, no need for recognition of impairment loss arises.

3 Segment reporting

Segment structure in TVO Group

The Group has two reportable segments; nuclear power and coal power.

The electricity of the nuclear power segment is produced at two nuclear power plant units, Olkiluoto 1 and Olkiluoto 2 (OL1 and OL2). A new unit, Olkiluoto 3 (OL3), is under construction at Olkiluoto. The subsidiary of TVO, TVO Nuclear Services Oy (TVONS), of which operation is related to nuclear power, is also included in the nuclear power segment.

The electricity of coal-fired power segment is produced by TVO share at the Meri-Pori coal-fired power plant.

Segment calculation principles

TVO Group discloses in the segment information; turnover, depreciation and impairment charges, finance income and expenses, profit/loss for the year and assets, which the chief operation decision maker follows.

The chief operation decision maker follows reporting according to Finnish Accounting Standards (FAS). Adjustments made under IFRS accounting policies are reported in group level.

EUR 1 000	**2016**	2015
Turnover by segments		
Nuclear power	**315 076**	256 843
Coal-fired power	**28 322**	18 903
Total	**343 398**	275 746
Depreciation and impairment charges by segments		
Nuclear power	**43 019**	102 318
Coal-fired power	**7 798**	7 782
Depreciation and impairment charges (FAS)	**50 817**	110 100
The impact of the nuclear waste management obligation	**3 990**	4 515
Total (IFRS)	**54 807**	114 615

Finance income and expenses by segments		
Nuclear power	**906**	491
Coal-fired power	**202**	563
Finance income and expenses (FAS)	**1 108**	1 054
The impact of the nuclear waste management obligation	**13 561**	42 236
The impact of financial instruments	**2**	-27
Other IFRS adjustments	**-818**	-539
Total (IFRS)	**13 853**	42 724

Profit/loss for the financial year by segments		
Nuclear power	**5 927**	10 823
Coal-fired power	**-2 435**	-3 506
Profit/loss before appropriations (FAS)	**3 492**	7 317
The impact of the nuclear waste management obligation	**-17 143**	-3 258
The impact of financial instruments	**-2**	27
Other IFRS adjustments	**819**	539
Share of the profit/loss of joint ventures	**2 301**	0
Total (IFRS)	**-10 533**	4 625

Assets by segments		
Nuclear power	**6 769 274**	6 218 056
Coal-fired power	**24 240**	34 562
Total (FAS)	**6 793 514**	6 252 618
The impact of the nuclear waste management obligation	**1 050 376**	1 084 129
The impact of financial instruments	**66 204**	81 771
The impact of finance leases	**56 577**	58 310
Other IFRS adjustments	**-16 744**	-12 837
Share of the profit/loss of joint ventures	**2 301**	0
Total (IFRS)	**7 952 228**	7 463 991

GROUP-WIDE DISCLOSURES

Turnover shared to production of electricity and services		
Production of electricity	**339 878**	273 417
Services	**3 520**	2 329
Total	**343 398**	275 746

Information about geographical areas

Teollisuuden Voima Oyj is company owned by Finnish industrial and power companies. TVO delivers electricity to its shareholders at cost price (so-called Mankala principle) , i.e. delivers the electricity produced to its shareholders in proportion to their shareholdings in each series.

The Group assets are located in Finland except part of inventories of nuclear fuel acquisition.

4 Work performed for own purpose

EUR 1 000	**2016**	2015
Personnel expenses related to OL3	**10 718**	9 137
Total	**10 718**	9 137

5 Other income

EUR 1 000	**2016**	2015
Rental income	**970**	929
Profits from sales of property, plant and equipment and shares 1)	**101**	27 978
Sales of services	**9 346**	9 464
Other income 2)	**738**	58 579
Total	**11 155**	96 950

1) The sales profit of tangible assets and shares in year 2015 constitute mainly sales of shares, which reduce the shareholders' fixed costs invoiced in proportion to their ownership EUR 27,971 thousand.

2) Other income in year 2015 constitute mainly the impairment charge of property, plant and equipment invoiced from the shareholders against the OL4 shareholder loans EUR 58,238 thousand.

6 Materials and services

EUR 1 000	**2016**	2015
Nuclear fuel	**61 251**	65 681
Coal	**5 557**	4 412
Materials and supplies	**4 443**	3 075
CO_2 emission rights	**2 662**	1 173
Nuclear waste management services 1)	**72 347**	-5 455
Increase (-) or decrease (+) in inventories	**833**	-10 897
External services	**11 236**	13 658
Total	**158 329**	71 647

1) See note 24 Assets and provision related to nuclear waste management obligation.

7 Personnel expenses

EUR 1 000	2016	2015
Employee benefit costs		
Wages and salaries	**48 356**	48 591
Pension expenses - defined contribution plans	**8 207**	7 973
Other compulsory personnel expenses	**2 944**	2 622
Total	**59 507**	59 186

Employee bonus system

The Nomination and Remuneration Committee under the Board of Directors approves TVO's commitment and remuneration systems. All permanent and long-term temporary employees are included in the employee bonus system. Some of the personnel have deposited their bonuses in the Teollisuuden Voima Personnel Fund.

	2016	2015
Average number of personnel during financial year		
Office personnel	**632**	658
Manual workers	**133**	136
Total	**765**	794
Number of personnel on December 31		
Office personnel	**622**	614
Manual workers	**125**	135
Total	**747**	749

8 Depreciation and impairment charges

EUR 1 000	2016	2015
Intangible assets		
Computer software	**379**	268
Other intangible assets	**842**	847
Total	**1 221**	1 115
Property, plant and equipment		
Buildings and construction	**7 026**	8 754
Machinery and equipment	**39 718**	38 652
Other property, plant and equipment	**2 853**	3 341
Decommissioning	**3 989**	4 515
Impairment charges	**0**	58 238
Total	**53 586**	113 500
Total	**54 807**	114 615

9 Other expenses

EUR 1 000	**2016**	2015
Maintenance services	**16 509**	21 885
Regional maintenance and service	**8 235**	8 300
Research services	**4 504**	2 516
Other external services	**31 627**	27 449
Real estate tax	**6 067**	5 614
Rents	**1 092**	1 262
ICT expenses	**4 003**	3 451
Personnel related expenses	**3 927**	3 572
Corporate communication expenses	**767**	814
Other expenses	**14 877**	14 173
Total	**91 608**	89 036

Auditors' fees and not audit-related services		
Audit fees	**139**	115
Other services	**94**	153
Total	**233**	268

10 Finance income and expenses

EUR 1 000	2016	2015
Items included in the income statement		
Dividend income on available-for-sale investments	**0**	1 219
Interest income from loans and other receivables		
Nuclear waste management loan receivables from equity holders of the company	**5 658**	8 059
Other	**125**	565
Hedge accounted derivatives		
Ineffective portion of the change in fair value in cash flow hedge relationship	**16**	0
Ineffective portion of the change in fair value in fair value hedge relationship	**0**	2
Non-hedge accounted derivatives		
Change in fair value	**41**	51
Interest income from assets related to nuclear waste management	**10 349**	12 388
Finance income, total	**16 189**	22 284
Interest expenses and other finance expenses		
To the Finnish State Nuclear Waste Management Fund	**5 658**	8 059
To others	**377**	2 298
Hedge accounted derivatives		
Ineffective portion of the change in fair value in cash flow hedge relationship	**2**	3
Interest rate swaps, fair value hedges	**1 337**	-6 279
Fair value adjustment of loan attributable to interest rate risk	**-1 337**	6 279
Ineffective portion of the change in fair value in fair value hedge relationship	**39**	18
Non-hedge accounted derivatives		
Change in fair value	**18**	5
Realised derivative expenses, net	**38**	1
Interest expenses of provision related to nuclear waste management	**23 910**	54 624
Finance expenses, total	**30 042**	65 008
Total	**-13 853**	-42 724
Other comprehensive items		
Other comprehensive items related to derivative financial instruments:		
Cash flow hedges		
Changes in the fair value of which the following items have transferred	**-13 967**	21 253
Transfers to the consolidated income statement	**-51**	-84
Transfers to the inventories	**3 953**	9 122
Transfers to the nuclear power plant under construction	**-10 378**	-7 696
Transferred items, total	**-6 477**	1 342
Cash flow hedges, total	**-7 490**	19 911
Changes in fair values of the available-for-sale investments	**-371**	-23 412
Total other comprehensive items	**-7 861**	-3 501

11 Income tax expense

EUR 1 000	**2016**	2015
Taxes based on the taxable income of the financial year	**1**	0
Total	**1**	0

TVO operates at cost price (so called Mankala principle, see note 1 General information on the Group), so TVO does not pay income tax during its operations. Taxes for the financial year consists of non-deductible expenses in taxation.

12 Property, plant and equipment

2016 EUR 1 000	Land and water areas	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Construction in progress and advance payments	Decom-missioning	Total
Acquisition cost 1 Jan	12 173	291 077	1 368 709	54 891	4 276 909	181 483	6 185 242
Increase	0	567	9 847	125	251 797	0	262 336
Decrease	-36	0	-5 397	-87	-7 998	-13 153	-26 671
Impairment charges	0	0	0	0	0	0	0
Transfer between categories	0	0	2 433	441	-2 874	0	0
Acquisition cost 31 Dec	12 137	291 644	1 375 592	55 370	4 517 834	168 330	6 420 907
Accumulated depreciation and impairment charges according to plan 1 Jan	0	230 912	992 464	40 503	0	68 595	1 332 474
Accumulated depreciation from deduction	0	0	-5 332	-87	0	0	-5 419
Depreciation for the period	0	7 026	39 718	2 853	0	3 989	53 586
Accumulated depreciation and impairment charges according to plan 31 Dec	0	237 938	1 026 850	43 269	0	72 584	1 380 641
Book value 31 Dec 2016	**12 137**	**53 706**	**348 742**	**12 101**	**4 517 834**	**95 746**	**5 040 266**
Book value 1 Jan 2016	12 173	60 165	376 245	14 388	4 276 909	112 888	4 852 768

2015 EUR 1 000	Land and water areas	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Construction in progress and advance payments	Decom-missioning	Total
Acquisition cost 1 Jan	12 172	290 378	1 350 842	54 892	4 020 839	180 226	5 909 349
Increase	1	1 694	13 385	-1	326 510	1 257	342 846
Decrease	0	-995	-2 919	0	-4 801	0	-8 715
Impairment charges	0	0	0	0	-58 238	0	-58 238
Transfer between categories	0	0	7 401	0	-7 401	0	0
Acquisition cost 31 Dec	12 173	291 077	1 368 709	54 891	4 276 909	181 483	6 185 242
Accumulated depreciation and impairment charges according to plan 1 Jan	0	223 059	956 731	37 162	0	64 079	1 281 031
Accumulated depreciation from deduction	0	-901	-2 919	0	0	0	-3 820
Depreciation for the period	0	8 754	38 652	3 341	0	4 516	55 263
Accumulated depreciation and impairment charges according to plan 31 Dec	0	230 912	992 464	40 503	0	68 595	1 332 474
Book value 31 Dec 2015	**12 173**	**60 165**	**376 245**	**14 388**	**4 276 909**	**112 888**	**4 852 768**
Book value 1 Jan 2015	12 172	67 319	394 111	17 730	4 020 839	116 147	4 628 318

The costs for the new plant unit (OL3) under construction constituted EUR 4.4 billion of the advance payments in 2016 (EUR 4.2 billion in 2015).

Property, plant and equipment included finance lease agreements:

EUR 1 000	Construction in progress
Book value 1 Jan 2016	72 597
Increase	72
Book value 31 Dec 2016	**72 669**

EUR 1 000	Construction in progress
Book value 1 Jan 2015	72 597
Increase	0
Book value 31 Dec 2015	**72 597**

The assets acquired through financial lease agreements are accumulated as costs for construction in progress so there is no accumulated depreciation.

13 Intangible assets

2016 EUR 1 000	CO_2 emission rights	Computer software	Other intangible assets	Advance payments	Total
Acquisition cost 1 Jan	1 187	20 491	21 782	1 534	44 994
Increase	2 662	1 910	-1 897	363	3 038
Decrease	-1 187	-1 225	0	0	-2 412
Transfer between categories	0	0	1 897	-1 897	0
Acquisition cost 31 Dec	2 662	21 176	21 782	0	45 620
Accumulated depreciation and impairment charges according to plan 1 Jan	0	19 614	18 252	0	37 866
Accumulated depreciation from deduction	0	-1 225	0	0	-1 225
Depreciation for the period	0	379	842	0	1 221
Accumulated depreciation and impairment charges according to plan 31 Dec	0	18 768	19 094	0	37 862
Book value 31 Dec 2016	**2 662**	**2 408**	**2 688**	**0**	**7 758**
Book value 1 Jan 2016	1 187	877	3 530	1 534	7 128

2015 EUR 1 000	CO_2 emission rights	Computer software	Other intangible assets	Advance payments	Total
Acquisition cost 1 Jan	1 932	20 408	21 782	522	44 644
Increase	1 187	83	0	1 012	2 282
Decrease	-1 932	0	0	0	-1 932
Acquisition cost 31 Dec	1 187	20 491	21 782	1 534	44 994
Accumulated depreciation and impairment charges according to plan 1 Jan	0	19 346	17 405	0	36 751
Depreciation for the period	0	268	847	0	1 115
Accumulated depreciation and impairment charges according to plan 31 Dec	0	19 614	18 252	0	37 866
Book value 31 Dec 2015	**1 187**	**877**	**3 530**	**1 534**	**7 128**
Book value 1 Jan 2015	1 932	1 062	4 377	522	7 893

Capitalized borrowing costs included in property, plant and equipment, and intangible assets

The borrowing costs of the power plant construction in progress, OL3 project have been capitalized. Realized financial income and expenses have been divided by committed capital. The average share of capitalized borrowing costs in 2016 was 99.1 % (97.9 % in 2015). The average interest rate on loans and derivatives on 31 December, see note 27.

2016 **Capitalized interest costs during construction** EUR 1 000	Other intangible assets	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Advance payments	Total
Acquisition cost 1 Jan	3 530	31 133	112 781	2 609	1 053 360	1 203 413
Increase	0	0	0	0	106 281	106 281
Decrease	0	0	0	0	-3 497	-3 497
Acquisition cost 31 Dec	3 530	31 133	112 781	2 609	1 156 144	1 306 197
Accumulated depreciation and impairment charges according to plan 1 Jan	2 942	23 564	85 765	1 956	0	114 227
Depreciation for the period	107	443	1 692	34	0	2 276
Accumulated depreciation and impairment charges according to plan 31 Dec	3 049	24 007	87 457	1 990	0	116 503
Book value 31 Dec 2016	**481**	**7 126**	**25 324**	**619**	**1 156 144**	**1 189 694**
Book value 1 Jan 2016	588	7 569	27 016	653	1 053 360	1 089 186

2015 **Capitalized interest costs during construction** EUR 1 000	Other intangible assets	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Advance payments	Total
Acquisition cost 1 Jan	3 530	31 133	112 781	2 609	948 856	1 098 909
Increase	0	0	0	0	106 566	106 566
Decrease	0	0	0	0	-2 062	-2 062
Acquisition cost 31 Dec	3 530	31 133	112 781	2 609	1 053 360	1 203 413
Accumulated depreciation and impairment charges according to plan 1 Jan	2 835	23 120	84 072	1 923	0	111 950
Depreciation for the period	107	444	1 693	33	0	2 277
Accumulated depreciation and impairment charges according to plan 31 Dec	2 942	23 564	85 765	1 956	0	114 227
Book value 31 Dec 2015	**588**	**7 569**	**27 016**	**653**	**1 053 360**	**1 089 186**
Book value 1 Jan 2015	695	8 013	28 709	686	948 856	986 959

14 Investments in joint ventures

EUR 1 000	**2016**	2015
Posiva Oy	**0**	1 009
Posiva Group	**3 312**	0
31 Dec	**3 312**	1 009

Nature of investment in joint ventures:

Name of entity	Place of incorporation	Group-share, %	Measurement method
Posiva Oy - A series	Eurajoki	60	Equity
Posiva Oy - B series	Eurajoki	74	Equity

TVO has a 60 per cent shareholding in Posiva Oy. Posiva is responsible for the research and implementation of final disposal of spent nuclear fuel of its shareholders TVO and Fortum Power and Heat Oy (FPH).

TVO governs Posiva Oy jointly with FPH, based on Articles of Association and Shareholders Agreement. TVO is liable for approximately 74 per cent of Posiva's expenses. The duty of Posiva is to carry out all tasks related to the final disposal of spent nuclear fuel of its shareholder's nuclear power plants in Finland in order to fulfill their nuclear waste management obligation as specified in the Nuclear Energy Act. The company's operations also include research and construction related to the final disposal solution. Management of spent fuel is carried out according to the detailed plan examined by Finnish Centre for Radiation and Nuclear Safety and approved by The Ministry of Employment and the Economy.

Posiva Solutions Oy, a wholly-owned subsidiary of Posiva Oy, was founded on May 20, 2016. Posiva Solutions Oy focuses on the sales of the know-how Posiva has accumulated from its design, research and development activities in the final disposal of spent nuclear fuel, as well as on associated consulting services.

Summarised financial information (FAS) for Posiva Group

Posiva Oy and Posiva Solutions Oy are private companies and there is no quoted market prices available for companie's shares.
In the consolidated financial statements Posiva Group is accounted by the equity method of accounting.

Summarised balance sheet	Posiva Group 2016	Posiva Oy 2015
Current		
Cash and cash equivalents	**14 160**	18 844
Other current assets (excluding cash)	**6 429**	4 690
Total current assets	**20 589**	23 534
Financial liabilities (excluding trade payables)	**-439**	-436
Other current liabilities (including trade payables)	**-13 270**	-19 650
Total current liabilities	**-13 709**	-20 086
Non-current		
Assets	**2 414**	2 935
Financial liabilities	**-4 483**	-4 701
Total non-current liabilities	**-4 483**	-4 701
Net assets	**4 811**	1 682
Summarised statement of comprehensive income		
Turnover	**59 700**	62 610
Depreciation and impairment charges	**128**	109
Interest income	**26**	28
Interest expense	**-56**	-60
Pre-tax profit from continuing operations	**3 905**	2
Income tax expense	**-779**	-2
Post-tax profit from continuing operations	**3 126**	0
Reconciliation of summarised financial information		
Operating net assets 1 Jan	**1 682**	1 682
Profit/loss for the period	**3 126**	0
Share issue	**3**	0
Closing net assets	**4 811**	1 682
Interest in joint venture	**3 312**	1 009
Carrying value	**3 312**	1 009

15 Book values of financial assets and liabilities by categories

2016 EUR 1 000	Derivative financial instruments at fair value through profit or loss	Derivative financial instruments designated as cash flow hedges	Derivative financial instruments designated as fair value hedges	Loans and other receivables	Available-for-sale investments	Financial liabilities measured at amortized cost	Book value total	Fair value total	Note
Non-current assets									
Loans and other receivables				1 030 307			1 030 307	1 030 307	16
Investments in shares					1 934		1 934	1 934	17
Derivative financial instruments	39 352	26 953	29 490				95 794	95 794	20
Current assets									
Trade and other receivables				46 553			46 553	46 553	16
Derivative financial instruments	4 443	5 555					9 998	9 998	20
Total by category	**43 795**	**32 508**	**29 490**	**1 076 860**	**1 934**	**0**	**1 184 587**	**1 184 587**	
Non-current liabilities									
Loan from the Finnish State Nuclear Waste Management Fund						1 027 050	1 027 050	1 027 050	22
Other financial liabilities						3 803 244	3 803 244	3 897 776	22
Derivative financial instruments	29 485	26 785	2 277				58 547	58 547	20
Current liabilities									
Current financial liabilities						309 394	309 394	309 394	22
Trade payables						17 005	17 005	17 005	23
Other current liabilities						143 754	143 754	143 754	23
Derivate financial instruments	6 599	1 143					7 742	7 742	20
Total by category	**36 085**	**27 928**	**2 277**	**0**	**0**	**5 300 447**	**5 366 736**	**5 461 268**	

2015 EUR 1 000	Derivative financial instruments at fair value through profit or loss	Derivative financial instruments designated as cash flow hedges	Derivative financial instruments designated as fair value hedges	Loans and other receivables	Available-for-sale investments	Financial liabilities measured at amortized cost	Book value total	Fair value total	Note
Non-current assets									
Loans and other receivables				1 012 464			1 012 464	1 012 464	16
Investments in shares					1 934		1 934	1 934	17
Derivative financial instruments	58 731	25 862	25 876				110 469	110 469	20
Current assets									
Trade and other receivables				31 496			31 496	31 496	16
Derivative financial instruments	0	4 441					4 441	4 441	20
Total by category	**58 731**	**30 304**	**25 876**	**1 043 960**	**1 934**	**0**	**1 160 804**	**1 160 804**	
Non-current liablities									
Loan from the Finnish State Nuclear Waste Management Fund						1 009 050	1 009 050	1 009 050	22
Other financial liabilities						3 123 270	3 123 270	3 173 706	22
Derivative financial instruments	19 404	17 626					37 030	37 030	20
Current liabilities									
Current financial liabilities						493 307	493 307	493 307	22
Trade payables						12 971	12 971	12 971	23
Other current liabilities						182 127	182 127	182 127	23
Derivative financial instruments	176	579					755	755	20
Total by category	**19 580**	**18 205**	**0**	**0**	**0**	**4 820 725**	**4 858 510**	**4 908 946**	

Fair values of long-term loans, have been estimated as follows:

The fair value of quoted bonds is based on the quoted market value as of 31 December (Level 1). The fair value of fixed rate and market-based floating rate loans is estimated using the expected future payments discounted at market interest rates (Level 2).

The carrying amounts of current financial assets and liabilities approximate their fair value, as the impact of discounting is not significant.

Disclosure of fair value measurements by the level of fair value measurement hierarchy

2016 EUR 1 000	Level 1	Level 2	Level 3
Financial assets at fair value			
Derivative financial instruments at fair value through profit or loss		43 795	
Derivative financial instruments designated as cash flow hedges		32 508	
Derivative financial instruments designated as fair value hedges		29 490	
Available-for-sale investments			
Investments in listed companies	0		
Investments in other stocks and shares			0
Total	**0**	**105 793**	**0**
Financial liabilities at fair value			
Derivative financial instruments at fair value through profit or loss		36 085	
Derivative financial instruments designated as cash flow hedges		27 928	
Derivative financial instruments designated as fair value hedges		2 277	
Total	**0**	**66 289**	**0**

2015 EUR 1 000	Level 1	Level 2	Level 3
Financial assets at fair value			
Derivative financial instruments at fair value through profit or loss		58 731	
Derivative financial instruments designated as cash flow hedges		30 304	
Derivative financial instruments designated as fair value hedges		25 876	
Available-for-sale investments			
Investments in listed companies	0		
Investments in other stocks and shares			0
Total	**0**	**114 910**	**0**
Financial liabilities at fair value			
Derivative financial instruments at fair value through profit or loss		19 580	
Derivative financial instruments designated as cash flow hedges		18 205	
Derivative financial instruments designated as fair value hedges		0	
Total	**0**	**37 785**	**0**

TVO has also 31 December 2016 unquoted shares EUR 1,934 (1,934) thousand whose fair value cannot be reliably determined are measured at acquisition cost.

Fair value estimation

Available-for-sale investments include investments in shares and fund units. Listed shares and fund units are measured at fair value, which is the market price at closing date (Level 1). TVO has not level 3 investments (assets that are not based on observable market data).

The derivative financial instruments are initially recognized at fair value on the date a derivative contract is entered into and are subsequently measured at fair value. The fair values are determined using a variety of methods and financial valuation techniques, and assumptions are based on market quotations at the balance sheet date (Level 2). The fair value of the interest rate swaps is the present value of the estimated future cash flows. The forward contracts are measured using the market quotes at the closing date. The fair value of the interest rate options is calculated using market quotes at the closing date and by using the Black and Scholes option valuation model. The changes in fair value of the interest rate swaps and forward contracts are recognized in equity or profit or loss, depending on whether they qualify for cash flow hedges or not.

The changes in fair value of interest rate options that do not qualify for hedge accounting are presented in the income statement.

2016 EUR 1 000	Gross amounts	Related amounts not set off	Net amount
Offsetting financial assets and liabilities			
Derivative financial assets	105 793	-43 159	62 634
Derivative financial liabilities	-66 289	43 159	-23 131

2015 EUR 1 000	Gross amounts	Related amounts not set off	Net amount
Offsetting financial assets and liabilities			
Derivative financial assets	114 910	-27 438	87 472
Derivative financial liabilities	-37 785	27 438	-10 347

For the financial derivative assets and liabilities subject to enforceable master netting arrangements or similar arrangements above, each agreement between the Group and the counterparty allows for net settlement of the relevant financial derivative assets and liabilities when both elect to settle on a net basis. In the absence of such an election, financial assets and liabilities will be settled on a gross basis, however, each party to the master netting agreement or similar agreement will have the option to settle all such amounts on a net basis in the event of default of the other party. Per the terms of each agreement, an event of default includes failure by a party to make payment when due.

16 Loans and other receivables

Loans and other receivables (non-current assets)

EUR 1 000	**2016**	2015
Nuclear waste management loan receivables	**1 027 050**	1 009 050
Loan receivables	**3 257**	3 414
Total	**1 030 307**	1 012 464

According to section 52 of the Nuclear Energy Act, TVO, in exchange for collateral payments, is entitled to receive fixed-term loans from the Finnish State Nuclear Waste Management Fund, the amount which cannot be larger than 75 per cent of the latest confirmed TVO's share in the Finnish State Nuclear Waste Management Fund. The nuclear waste management loan receivables formed by the amount loaned from the Finnish State Nuclear Waste Management Fund, has been further loaned (with the same terms and conditions) to the equity holders of the company and to Fortum Oyj.

Nuclear waste management loan receivables are allocated as follows:

EUR 1 000	2016	2015
EPV Energia Oy	**67 305**	66 126
Fortum Oyj	**273 020**	268 235
Loiste Holding Oy	**719**	706
Kemira Oyj	**19 092**	18 758
Oy Mankala Ab	**83 580**	82 115
Pohjolan Voima Oy	**583 334**	573 110
Total	**1 027 050**	1 009 050

In accordance with its Articles of Association, TVO delivers electricity to its shareholders at cost price (so-called Mankala principle), i.e. delivers the electricity produced or procured to its shareholders in proportion to their shareholdings in each series. Each of the shareholders of each series is liable for variable and fixed annual costs that are specified in detail in the Articles of Association.

The loan receivables constitute mainly the loan receivables of Posiva Oy EUR 2,753 (2,896) thousand.

Trade and other receivables (current assets)

EUR 1 000	2016	2015
Trade receivables	**38 122**	9 959
Loan receivables	**276**	274
Prepayments and accrued income	**8 025**	13 957
Other receivables	**130**	7 306
Total	**46 553**	31 496

Prepayments and accrued income include prepaid interests, accrued interest income, other accrued income and other prepaid expenses.

The maximum credit loss risk of trade and other receivables corresponds to their book value. On 31 December 2016 the Group had EUR 103 (410) thousand overdue receivables of which EUR 54 (228) thousand was overdue more than six months. The overdue receivables are not expected to cause the Group credit losses or impairments.

17 Available for-sale investments

EUR 1 000	2016	2015
Investments in other stocks and shares	**1 934**	1 934
Total	**1 934**	1 934

18 Cash, cash equivalents and fund units

Cash and cash equivalents consist of on-hand cash, demand deposits and other current, liquid investments. Fund units consist of fund units investments which are classified at fair value.

19 Inventories

EUR 1 000	**2016**	2015
Coal		
Replacement cost	**16 983**	17 190
Book value	**11 838**	20 410
Difference	**5 145**	-3 220
Raw uranium and natural uranium		
Replacement cost	**53 544**	83 941
Book value	**67 828**	63 993
Difference	**-14 284**	19 948
Coal	**11 838**	20 410
Raw uranium and natural uranium	**67 828**	63 993
Nuclear fuel	**163 188**	160 166
Materials and supplies	**6 570**	5 851
Total	**249 424**	250 420

20 Derivative financial instruments

Nominal values of the derivative financial instruments	Maturity structure					
2016 EUR 1 000	< 1 year	1-3 years	3-5 years	5-7 years	> 7 years	Total
Interest rate swaps	30 000	778 446	911 955	429 117	300 000	2 449 518
Forward foreign exchange contracts and swaps 1)	23 533	47 599	34 537	22 944	21 854	150 467
Cross-currency swaps	214 480	375 273	211 042	56 117	0	856 911
Total	**268 013**	**1 201 319**	**1 157 534**	**508 177**	**321 854**	**3 456 897**

Nominal values of the derivative financial instruments	Maturity structure					
2015 EUR 1 000	< 1 year	1-3 years	3-5 years	5-7 years	> 7 years	Total
Interest rate swaps	60 000	348 446	641 955	609 117	150 000	1 809 518
Forward foreign exchange contracts and swaps 1)	18 431	40 908	43 124	24 574	32 470	159 508
Cross-currency swaps	0	531 432	269 415	56 117	0	856 963
Total	**78 431**	**920 787**	**954 493**	**689 808**	**182 470**	**2 825 989**

1) Forward contracts are mainly used for hedging fuel purchases against currency risk. The opposite forward contracts, which have been acquired to adjust these hedging amounts are netted in the table with each other, whereby the nominal describes the protected position.

Fair values of the derivative financial instruments

2016 EUR 1 000	Positive	Negative	Total
Interest rate swaps			
Cash flow hedges		-26 821	-26 821
Fair value hedges	29 490	-2 277	27 213
Non-hedges			
Forward foreign exchange contracts and swaps			
Cash flow hedges	32 508	-1 108	31 401
Cross-currency swaps			
Non-hedges	43 795	-36 085	7 710
Total	**105 793**	**-66 289**	**39 503**

Fair values of the derivative financial instruments

2015 EUR 1 000	Positive	Negative	Total
Interest rate swaps			
Cash flow hedges		-17 731	-17 731
Fair value hedges	25 876		25 876
Non-hedges		-176	-176
Forward foreign exchange contracts and swaps			
Cash flow hedges	30 304	-475	29 829
Cross-currency swaps			
Non-hedges	58 731	-19 404	39 327
Total	**114 910**	**-37 785**	**77 125**

21 Equity

Share capital

The registered share capital of the Company according to the Articles of Association was EUR 606,193 thousand on 31 December 2016. TVO does not have a maximum or minimum limit for the share capital. The number of the shares on 31 December 2016 was 1,394,283,730. The shares are divided into the three series of shares as follows: A series 680,000,000, B series 680,000,000 and C series 34,283,730 shares. The shares have no nominal price as is stipulated in the Finnish Limited Liability Companies Act.

According to the Articles of Association, TVO delivers electricity to its shareholders at cost price, i.e. it delivers the electricity produced or procured to its shareholders in proportion to their shareholding in each series. Each of the shareholders of each series is liable for the variable and fixed annual costs that are specified in detail in the Articles of Association. The Company prepares annually a balance sheet divided into series of shares. The balance sheet, which will be presented to the Shareholders' Meeting, specifies the assets, liabilities and equity of the different series of shares.

Share number reconciliations:

EUR 1 000	Number of shares	Share capital	Share premium reserve and statutory reserve
1 Jan 2015	1 394 283 730	606 193	242 383
31 Dec 2015	1 394 283 730	606 193	242 383
31 Dec 2016	**1 394 283 730**	**606 193**	**242 383**

The company has three registered share series: A, B and C.

Share number	**31 Dec 2016**	31 Dec 2015
A series	**680 000 000**	680 000 000
B series	**680 000 000**	680 000 000
C series	**34 283 730**	34 283 730
Total	**1 394 283 730**	**1 394 283 730**

Share premium reserve

The share premium reserve contains the share premiums of the share issues, EUR 232,435 thousand.

Statutory reserve

The statutory reserve consists of EUR 9,948 thousand paid by Imatran Voima Oy, the predecessor of Fortum Power and Heat Oy, in 1979 when it became an equity holder in the company.

Fair value and other reserves

Profits and losses incurred by fair value changes of available-for-sale investments and derivatives used as cash flow hedges are entered in this reserve. The fair changes of derivatives are transferred to the profit/loss statement, when the cash flows they have been hedging have been realized. Fair value changes in available-for-sale investments are transferred to the income statement, when the investments are relinquished or their value diminishes.

Subordinated shareholder loans (hybrid equity)

The carrying value of the interest-bearing subordinated shareholder loans in the balance sheet 31 December 2016 was EUR 479,300 thousand. There is no maturity date for the subordinated shareholder loans (hybrid equity), but the borrower is entitled to repay the loan in one or several installments. The Board of Directors of the borrower has the right to decide not to pay interest during any current interest period. Unpaid interest does not accumulate to the following interest periods.

Subordinated shareholder loans (hybrid equity) are unsecured and in a weaker preference position than promissory notes. Holders of a subordinated shareholder loans has no shareholder rights, nor does the bond dilute the ownership of the company's shareholders.

Retained earnings

This item contains the earnings from previous financial periods and the profit/loss of the financial year.

22 Interest-bearing liabilities

EUR 1 000	**2016**	2015
Non-current interest-bearing liabilities		
Loan from the Finnish State Nuclear Waste Management Fund	**1 027 050**	1 009 050
Bonds	**2 749 544**	2 480 900
Bank loans	**738 653**	312 399
Loans from others	**259 296**	272 512
Finance leasing liabilities	**55 750**	57 459
Derivative financial instruments	**58 547**	37 030
Total	**4 888 840**	4 169 350
Current interest-bearing liabilities		
Current portion of long-term bonds	**212 325**	270 632
Current portion of bank loans	**44 413**	104 583
Current portion of finance lease liabilities	**1 709**	1 700
Other interest-bearing liabilities (Commercial paper program)	**50 948**	116 392
Derivative financial instruments	**7 742**	755
Total	**317 137**	494 062
Total	**5 205 977**	4 663 412

TVO has issued EUR-, USD-, GBP-, SEK- and NOK-denominated Private Placements amounting to EUR 1,192.9 million. The Placements in foreign currency are treated as EUR floating or fixed rate loans that are adjusted at the closing date with ECB fixing rate. The Private Placements have been swapped by using cross-currency swaps. In 2016, the effect of foreign exchange hedges was negative amounting to EUR 31.6 million and correspondingly, the effect of foreign currency denominated loans was positive amounting to EUR 31.6 million.

Maturity period of finance lease liabilities

EUR 1 000	**2016**	2015
Finance lease liabilities - minimum lease payments		
No later than 1 year	**1 765**	1 700
Later than 1 year and no later than 5 years	**7 132**	6 888
Over 5 years	**48 989**	50 571
Total	**57 886**	59 159
Finance expenses to be accrued	**427**	0
Finance lease liabilities - current value of minimum rents		
No later than 1 year	**1 709**	1 700
Later than 1 year and no later than 5 years	**6 922**	6 888
Over 5 years	**48 828**	50 571
Total	**57 459**	59 159

The finance lease liabilities of the Group comprise the lease agreement of spare parts of the nuclear power plant.

23 Trade payables and other current liabilities

EUR 1 000	**2016**	2015
Advances received	**41 609**	22 241
Trade payables	**17 005**	12 971
Accruals and deferred income and other liabilities	**143 754**	182 127
Total	**202 368**	217 339
Accruals and deferred income and other liabilities are allocated as follows:		
Finnish State Nuclear Waste Management Fund	**54 862**	20 059
Accrued interests	**51 013**	48 612
Accrued personnel expenses	**16 153**	14 362
Accruals related to CO_2 emission rights	**2 661**	1 187
Others	**19 065**	97 907
Total	**143 754**	182 127

24 Assets and provision related to nuclear waste management obligation

Share in the Finnish State Nuclear Waste Management Fund

Under the Nuclear Energy Act in Finland, TVO has a legal obligation to fully fund the legal liability for nuclear waste including the decommissioning of the power plant through the Finnish State Nuclear Waste Management Fund (=nuclear waste management obligation).

TVO contributes funds to the Finnish State Nuclear Waste Management Fund to cover future obligations based on the legal liability calculated according to the Nuclear Energy Act. The carrying value of the fund in TVO's balance sheet is calculated according to the interpretation in IFRIC 5 "Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds".

Provision related to the nuclear waste management obligation

The provision is related to future obligations for decommissioning of the power plant, management of spent fuel and operating waste. The fair value of the provision is calculated according to IAS 37 based on discounted future cash flows which are based on estimated future expenses. The cost estimate is based on a nuclear waste management plan covering the management of spent nuclear fuel and operating waste and decommissioning of the nuclear power plant. The new total cost estimate based on a new nuclear waste management technical plan and schedule is updated every third year. The technical plans, timing and cost estimates are approved by governmental authorities.

The total cost estimate based on a new nuclear waste management technical plan and schedule was updated in June 2016. The updated cost estimate in June 2016 decreased the provision related to the nuclear waste management and finance expenses and increased the amount of materials and services. The provision on balance sheet compared to the value at the end of the previous year was decreased by EUR 23.3 million. The effect of revised cost estimate to the consolidated income statement compared to the previous estimate were EUR 28.1 million increase in materials and services and EUR 24.0 million decrease in finance expenses.

The overall effect on profit for the period in June 2016 was negative because the amount of the share in the Finnish State Nuclear Waste Management Fund and the provision related to nuclear waste management are equal and the difference is entered as an adjustment to materials and services.
Moreover, the costs for spent fuel disposal are expensed during the operating time of the plant, based on fuel usage, and the impact of any changes to the plan and schedules will be recognized immediately in the income statement based on fuel used by the end of each accounting period.

At the end of the year, the balance sheet contains the following assets and liabilities concerning the nuclear waste management obligation:

EUR 1 000	**2016**	2015
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets)	**954 631**	971 241
Provision related to nuclear waste management (non-current liabilities)		
Beginning of the year	**971 241**	930 260
Increase/decrease in provision	**-16 416**	12 783
Used provision	**-24 104**	-26 426
Changes due to discounting	**23 910**	54 624
End of the year	**954 631**	971 241
The discount rate, %	**5,5**	5,5

TVO's legal liability as stated in the Nuclear Energy Act and the Company's share in the Finnish State Nuclear Waste Management Fund

EUR 1 000	**2016**	2015
Liability for nuclear waste management according to the Nuclear Energy Act	**1 450 100**	1 369 400
TVO's funding target obligation 2017 (2016) to the Finnish State Nuclear Waste Management Fund	**1 428 400**	1 369 400
TVO's share in the Finnish State Nuclear Waste Management Fund 31.12.2016 (31.12.2015)	**1 379 700**	1 357 800
Difference between the liability and TVO's share of the fund 31.12.2016 (31.12.2015)	**70 400**	11 600

The legal liability calculated according to the Nuclear Energy Act in Finland and decided by the supervising authority (Ministry of Employment and the Economy) is EUR 1,450.1 (1,369.4) million on 31 December 2016 (31 December 2015). The carrying value of the liability in the balance sheet calculated according to IAS 37 is EUR 954.6 (971.2) million on 31 December 2016. The main reason for the difference between the carrying value of the provision and the legal liability is the fact that the legal liability is not discounted to net present value. Since the future cash flow is spread over 100 years, the difference between non-discounted legal liability and the discounted provisions are remarkable.

TVO's share in the Finnish State Nuclear Waste Management Fund is EUR 1,379.7 (1,357.8) million on 31 December 2016. The carrying value of the TVO's share in the fund in the balance sheet is EUR 954.6 (971.2) million. The difference is due to the fact that IFRIC 5 limits the carrying amount of TVO's interest in the Finnish State Nuclear Waste Management Fund to the amount of the related liability since TVO does not have control over the Finnish State Nuclear Waste Management Fund. As long as the Fund is overfunded from an IFRS perspective, the effects to operating profit from this adjustment will be positive if the provision increase more than the Fund, and negative if actual value of the fund increases more than the provision.

The difference between the funding target and the share in the Finnish State Nuclear Waste Management Fund at the end of each year is due to the funding target being completed by paying the nuclear waste management fee only during the first quarter of the following year.

The Ministry of Employment and Economy (MEE) has adopted the procedure mentioned in the Nuclear Energy Act (section 40, subsection 3) and specified in the Government Decision 1339/1996 for a temporary reduction of the funding target when confirming Teollisuuden Voima Oyj's funding target obligation for 2017.

TVO has issued to the State the shareholders' guarantees as security for the unfunded legal liability. The security also covers unexpected events as determined in the Nuclear Energy Act. The guarantees are included in the nuclear waste management obligations, see note 25 Obligations and other commitments.

Finnish participants in the State Nuclear Waste Management Fund are allowed to borrow from the Fund according to defined rules. TVO utilizes the right to borrow funds back and has pledged the receivables from the shareholders as security for the loans. The loans are renewed yearly. The loans are included in the interest-bearing liabilities, see note 22 Interest-bearing liabilities.

25 Obligations and other commitments

Operating leases
Group as lessee

Minimum rents to be paid based on non-cancellable lease agreements:

EUR 1 000	2016	2015
No later than 1 year	**120**	282
Later than 1 year and no later than 5 years	**109**	94
Total	**229**	376

The rents recognized as expenses during the period are as follows:

Rents	**276**	314
Total	**276**	314

Non-cancellable lease agreements have been made for the office equipment and vehicles.

Pledged promissory notes and financial guarantees

EUR 1 000	2016	2015
Pledged promissory notes to the Finnish State Nuclear Waste Management Fund	**1 027 050**	1 009 050
Guarantees given by shareholders related to the nuclear waste management obligation	**144 530**	137 620

The Company under the nuclear waste management obligation is entitled to borrow an amount equal to 75 per cent of its share in the Finnish State Nuclear Waste Management Fund. TVO has lent the funds borrowed from the fund to its shareholders and has pledged the receivables from the shareholders as collateral for the loan.

The absolute guarantees given by the equity holders of the company are given to cover the unfunded portion of the nuclear waste management obligation and unexpected events as determined in the Nuclear Energy Act.

Commitments

EUR 1 000	2016	2015
Contingent liabilities given on own behalf		
Customs liabilities	**450**	450

Investment commitments

Agreement-based commitments regarding the acquisition of property, plant and equipment:

EUR 1 000	2016	2015
OL1 and OL2	**129 000**	140 000
OL3	**735 000**	692 000
Total	**864 000**	832 000

Pending Court Cases and Disputes

In 2012, TVO submitted a claim and defence in the International Chamber of Commerce (ICC) arbitration proceedings concerning the delay and the ensuing costs incurred at the Olkiluoto 3 EPR project. In July 2015, TVO updated its quantification estimate of its costs and losses to amount to approximately EUR 2.6 billion until December 2018, which, according to the schedule submitted by the OL3 Supplier in September 2014, is the estimated start of regular electricity production of OL3.

The proceedings were initiated in December 2008 by the OL3 Supplier. The Supplier's monetary claim, updated in February 2016, is approximately EUR 3.52 billion in total. The sum is based on the Supplier's updated analysis of events that occurred through September 2014, with certain claims quantified to December 31, 2014. The sum includes penalty interest (calculated to June 30, 2016) and payments allegedly delayed by TVO under the plant contract amounting to a combined total of approximately EUR 1.45 billion, as well as approximately EUR 135 million in alleged loss of profit.

In November 2016, the ICC Tribunal made a final and binding partial award. In the partial award, the ICC Tribunal addressed the early period of the project (time schedule, licensing and licensability, and system design). This comprised many of the facts and matters that TVO relies upon in its main claims against the supplier, as well as certain key matters that the supplier relies upon in its claims against TVO. In doing so, the partial award finally resolved the great majority of these facts and matters in favour of TVO, and conversely rejected the great majority of the supplier's contentions in this regard. The partial award did not take a position on the claimed monetary amounts. The arbitration proceeding is still going on with further partial awards to come before the final award where the Tribunal will declare liabilities to pay compensation.

TVO considers its claims to be well-founded and has considered and found the claims of the Supplier to be without merit. The partial award provides material confirmation for this position.

TVO has sought to obtain more detailed information from Areva Group on its announced restructuring and its impacts on the OL3 EPR project. As TVO has not received such information it begun legal proceedings at the end of September 2016 before the Commercial Court of Nanterre in France. The aim of this is to urgently obtain this information with a view to securing the assurances that all the necessary financial and other resources, particularly in relation to the EPR technology capabilities, will be allocated for the completion and long-term operation of OL3 EPR and that the Supplier Areva-Siemens will meet all their contractual obligations and liabilities.

The Supplier consortium companies (AREVA GmbH, AREVA NP SAS and Siemens AG) are jointly and severally liable for the plant contract obligations.

TVO has not recorded any receivables or provisions on the basis of claims presented in the arbitration proceedings.

CO_2 emission rights

In principle TVO has, on 31 December, emission rights at least the same amount as the actual annual emissions are. If the actual emissions exceed the amount of the emission rights that TVO possesses, TVO has booked the expense for exceeding emission rights at the market value on 31 December.

	2016 t CO2	**EUR 1 000**	2015 t CO2	EUR 1 000
Total annual emissions from production facilities	**472 190**		139 484	
Possessed emission rights	**479 676**		148 029	
Emission rights and emission right reductions bought [1)]	**471 000**	**2 662**	148 029	1 173

TVO is responsible for the amount of emission rights corresponding to its share of the production of the plant.

[1)] The purchases of the emission rights and emission right reductions are included in materials and services. The emission rights that TVO possesses on 31 December are included in intangible assets on the balance sheet.

26 Related party

The Group's related parties include parent company Teollisuuden Voima Oyj and its subsidiary and joint venture. The related parties also include the Board of Directors and the Executive Management including the President and CEO and Deputy CEO.

Group's parent company and subsidiaries

Company	Home country	Ownership, %	Share in voting rights, %
Teollisuuden Voima Oyj	Finland		
TVO Nuclear Services Oy	Finland	100	100

Transactions with related parties are as follows

2016 EUR 1 000	Sales	Purchases	Receivables	Liabilities
Posiva Group	10 024	40 087	4 252	407

2015 EUR 1 000	Sales	Purchases	Receivables	Liabilities
Posiva Group	10 245	45 586	6 871	5

Teollisuuden Voima Oyj's shareholders

According to IAS 24 -standard in addition the Group related parties are TVO's two biggest shareholders Pohjolan Voima Oy (PVO) and Fortum Power and Heat Oy (FPH) which have significant authority and PVO's biggest owner UPM-Kymmene Oyj (UPM) and FPH's owner Fortum Oyj.

Transactions with related parties are as follows

2016 EUR 1 000	Sales	Purchases	Receivables	Liabilities
PVO, Fortum Oyj, Fortum Power and Heat Oy	283 083	10 461	892 740	457 081

2015 EUR 1 000	Sales	Purchases	Receivables	Liabilities
PVO, Fortum Oyj, Fortum Power and Heat Oy	277 236	8 993	856 312	428 943

Senior management's employee benefits

The senior management of TVO comprises the Board of Directors and the Executive Management including President and CEO and Deputy CEO. The Group has no business transactions with senior management.

EUR 1 000	**2016** Senior management	2015 Senior management
Wages, salaries and other short-term benefits	**2 322**	1 912
Total	**2 322**	1 912

27 Financial risk management

Financing and financial risks are centrally managed by the finance department of TVO in accordance with the Finance Policy approved by the Board of Directors. TVO is exposed to a variety of financial risks: liquidity-, market- and credit risk. These do not include the receivables and obligations between the Company and its owners, as the Company operates at cost price (see note 1 General information on the Group).

TVO's guiding financial principles are to ensure access to adequate liquidity reserves and, secondly, to reduce volatility in cash flows deriving form short- and medium-term fluctuations in the financial markets.

In accordance with the Finance Policy of the Company, derivative instruments are entered into only with hedging purposes and they should qualify for hedge accounting under IFRS.

Liquidity risk

Liquidity and refinancing risk is defined as the amount by which earnings and cash flows are affected as a result of the Company not being able to secure sufficient financing. In addition to sufficient liquid assets and committed credit lines TVO aims to diminish the refinancing risk by spreading the maturity dates of its loans and different financing sources as much as possible.

In accordance with the Finance Policy of TVO, the maturities and refinancing of long-term loans are planned so that no more than 25 per cent of the outstanding loans mature during the next rolling 12-month period. The loans borrowed from the Finnish State Nuclear Waste Management Fund, which have been lent further to the shareholders, form an exception.

TVO issues commercial papers under the Commercial Paper Program for short-term funding purposes. There shall always exist committed credit lines with a minimum duration of 12 months for an amount corresponding to the funding needs of the Company for the following 12 months.

In addition to long-term committed credit lines, the Company shall maintain liquid assets at an amount stated in the Finance Policy. In accordance with the Finance Policy, bank deposits, certificates of deposits, commercial papers, municipal papers, and treasury notes as well as money market funds are accepted as investments, and they are mostly for the short-term purposes with maximum duration of 12 months.

Undiscounted cash flows of financial liabilities

2016 EUR 1 000	2017	2018	2019	2020	2021-	Total
Loans from financial institutions 1)	44 413	94 413	144 413	419 413	96 038	798 689
Financing costs 2)	13 797	11 721	8 514	4 919	1 743	40 695
Loan from the Finnish State Nuclear Waste Management Fund 3)					1 027 050	1 027 050
Financing costs	5 659	3 980	5 366	7 418	10 213	32 636
Bonds 4)	214 481	228 519	558 267	131 955	1 836 000	2 969 221
Financing costs	66 582	73 012	71 229	46 789	171 540	429 152
Loans from others 4)		88 446		79 114	56 117	223 677
Financing costs	3 279	3 220	1 998	2 010	1 511	12 018
Finance lease liabilities	1 709	1 718	1 726	1 735	50 571	57 459
Commercial papers	50 948					50 948
Other liabilities	54 884					54 884
Interest rate derivatives	13 980	14 196	8 851	6 080	13 600	56 707
Total	**469 732**	**519 225**	**800 363**	**699 433**	**3 264 383**	**5 753 136**

EUR 1 000	2017	2018	2019	2020	2021-	Total
Forward foreign exchange contracts	890	100	72	53	0	1 115

1) Repayments in 2017 are included in current liabilities in the balance sheet.

2) In addition to interest costs, financing costs include commitment fees.

3) The loan is renewed yearly and connected interest payments are calculated for five years.

4) The placements in foreign currency have been swapped into EUR-floating or fixed cash flow using cross-currency swaps.

On December 31, 2016, TVO had undrawn credit facilities amounting to EUR 1,5000 million (2015: 1,500 million). In addition, the Group has subordinated shareholder loan (hybrid equity) commitments totaling EUR 300 million. In addition, TVO had cash equivalents amounting EUR 512 million.

Undiscounted cash flows of financial liabilities

2015 EUR 1 000	2016	2017	2018	2019	2020-	Total
Loans from financial institutions 1)	104 583	44 413	94 413	44 413	140 451	428 272
Financing costs 2)	13 348	9 822	5 204	2 366	2 925	33 666
Loan from the Finnish State Nuclear Waste Management Fund 3)					1 009 050	1 009 050
Financing costs	8 059	3 785	7 104	10 335	13 490	42 772
Bonds 4)	270 632	214 481	228 519	558 267	1 467 955	2 739 853
Financing costs	82 495	65 094	60 897	58 695	166 686	433 866
Loans from others 4)			88 446		135 231	223 677
Financing costs	3 724	3 653	3 627	2 246	3 976	17 225
Finance lease liabilities	1 700	1 709	1 718	1 726	52 306	59 159
Commercial papers	116 392					116 392
Other liabilities	126 427					126 427
Interest rate derivatives	9 967	9 868	9 568	4 255	6 809	40 467
Total	**737 327**	**352 823**	**499 496**	**682 302**	**2 998 878**	**5 270 826**

EUR 1 000	2016	2017	2018	2019	2020-	Total
Forward foreign exchange contracts	368	42	39	17	12	478

1) Repayments in 2016 are included in current liabilities in the balance sheet.

2) In addition to interest costs financing costs include commitment fees.

3) The loan is renewed yearly and connected interest payments are calculated for five years.

4) The placements in foreign currency have been swapped into EUR-floating or fixed cash flow using cross-currency swaps.

Market risk

Currency risk

TVO is exposed to currency risk mainly in connection with its fuel purchases. The currency of purchases of raw uranium, enrichment and coal is frequently USD. Hedging of a currency denominated purchase is commenced when an agreement is entered into and the forecasted currency risk becomes highly probable. Both short-term and long-term loans are withdrawn mainly in euros. The loans denominated in other currencies than euros are hedged latest at the withdrawal date.

Currency swaps, forward contracts, and options can be used to hedge the currency exposure.

Interest rate risk

Interest-bearing liabilities expose the Company to interest rate risk. The objective of the Company's interest rate risk management is to maintain the interest costs at as low level as possible and to diminish the volatility of interest costs. In accordance with the Finance Policy, the duration of the loan portfolio of the Company can vary between 30 and 42 months. At the closing date the duration was 36 months.

The average interest rate duration is managed with fixed interest rate loans, interest rate swaps, forward rate agreements as well as with interest rate caps and floors.

The average interest rate on loans and derivatives on 31 December 2016 was 2.23 % (2015: 2.66 %).

Borrowings issued at variable rates expose TVO to cash flow interest rate risk. Borrowings issued at fixed rates expose TVO to fair value interest rate risk. TVO shall apply hedge accounting as far as practical. Based on the various scenarios, TVO manages its cash flow interest rate risk by using floating-to-fixed interest rate swaps. Such interest rate swaps have the economic effect of converting borrowings from floating rates to fixed rates. TVO also enters into fixed-to-floating interest rate swaps to hedge the fair value interest rate risk.

Expected cash flows from financial instruments under cash flow hedge accounting

2016 EUR 1 000	2017	2018	2019	2020	2021-	Total
Interest rate swaps						
Cash flows	-12 404	-12 359	-6 393	-4 290	-5 475	-40 922

2015 EUR 1 000	2016	2017	2018	2019	2020-	Total
Interest rate swaps						
Cash flows	-9 614	-9 868	-9 568	-4 255	-6 809	-40 113

Sensitivity to market risks

Sensitivity to market risks arising from financial instruments as required by IFRS 7.

EUR 1 000	**2016** **Income statement**	**Equity**	2015 Income statement	Equity
+ 10% change in EUR/USD exchange rate		**-14 973**		-15 029
- 10% change in EUR/USD exchange rate		**14 973**		15 029
1% upward parallel shift in interest rates	**-457**	**44 414**	-1 180	48 073
1% downward parallel shift in interest rates	**802**	**-42 994**	1 430	-19 523

Assumptions:

The change in EUR/USD exchange rate is assumed to be +/- 10 per cent.

The USD-denominated position includes the forward foreign exchange contracts which are designated as cash flow hedges and recognized in equity and the forward foreign exchange contracts not qualified as cash flow hedges, affecting the income statement.

The variation in interest rates is assumed to be 1 percentage point parallel shift in the interest rate curve.

The interest rate risk position includes the floating rate loan receivables, interest-bearing borrowing, the interest rate derivatives and cash equivalents.

The income statement is affected by the interest-bearing loan receivables, floating rate borrowings and the interest rate derivatives, excluding those interest rate derivatives that are designated as and qualifying for cash hedges, which are recognized in equity. The gain or loss is recognized in profit or loss, except when they relate to the construction of OL3 and are capitalized in the balance sheet.

Bonds

Euro Medium Term Note Programme EUR 4.000.000.000

EUR 1 000 Currency	**2016** Nominal amount	Carrying amount	2015 Nominal amount	Carrying amount	Interest rate %	Maturity date
EUR	0	0	270 632	270 632	6,00	27.6.2016
EUR	500 000	500 000	500 000	500 000	4,625	4.2.2019
EUR	500 000	500 000	500 000	500 000	2,50	17.3.2021
EUR	30 000	30 000	30 000	30 000	3,88	9.5.2022
EUR	100 000	100 000	100 000	100 000	Euribor 6M+1,58	12.9.2022
EUR	23 000	23 000	23 000	23 000	4,08	1.12.2022
EUR	20 000	20 000	20 000	20 000	2,80	8.5.2024
EUR	75 000	75 000	75 000	75 000	3,60	14.12.2027
EUR	23 000	23 000	23 000	23 000	3,50	3.5.2030
EUR	45 000	45 000	45 000	45 000	3,90	31.3.2032
EUR	20 000	20 000	20 000	20 000	3,875	8.11.2032
EUR	500 000	500 000	500 000	500 000	2,201	4.2.2025
EUR	500 000	500 000	0	0	2,723	13.1.2023
NOK	550 000	63 218	550 000	63 218	6,20	22.2.2017
SEK	650 000	63 601	650 000	63 601	5,30	28.3.2017
SEK	300 000	33 898	300 000	33 898	5,30	28.3.2017
SEK	500 000	53 763	500 000	53 763	4,50	8.11.2017
SEK	875 000	99 977	875 000	99 977	3,875	13.9.2018
SEK	1 125 000	128 542	1 125 000	128 542	Stibor 3M+1,40	13.9.2018
SEK	600 000	58 267	600 000	58 267	5,30	30.10.2019
SEK	650 000	70 945	650 000	70 945	Stibor 3M+1,09	17.3.2020
SEK	550 000	61 009	550 000	61 009	2,84	19.5.2020
Total		**2 969 221**		2 739 853		

Credit risk

Credit risk arises from the potential failure of a counterparty to meet its contractual payment obligations. Commercial trade receivables as well as receivables from financial institutions relating to investments, deposits and derivative transactions expose the Company to credit risk. In addition to money market funds, financial institutions that meet the credit rating requirements of the Group´s Financial Policy are accepted as counterparties. Furthermore TVO has in place a master agreement (ISDA) with all derivative contract counterparties.

Fuel price risk

The main fuels used for electricity production by the Group are uranium and coal.

TVO purchases the uranium fuel from the global markets. The purchasing process consists of four stages: purchase of uranium concentrate, conversion, enrichment and fuel fabrication. Purchasing Policy is used to guarantee the availability of fuel and to minimise price risk. This includes storage strategy and diversified long-term purchasing agreements with different suppliers.

TVO has not used commodity derivatives to hedge fuel price risk.

Capital risk management

TVO's objective is to secure sufficient equity and equity-like funding that guarantees diversified funding sources.

The equity ratio of the Company varies along investment cycles. The Group targets to have a minimum equity ratio (IFRS) of 25 per cent in the long-term. When calculating the equity ratio, the loan from the Finnish State Nuclear Waste Management Fund (lent further to the shareholders) and the provision related to nuclear waste management obligation are excluded. Additionally, subordinated loans or equivalent loans from the shareholders are regarded as equity.

According to the terms of some loan agreements, the Company is obliged to offer a repayment of the loan if TVO's equity ratio (IFRS) falls below 25 per cent. There are no other key ratio-related covenants in the loan contracts.

The equity ratio monitored by TVO's management

	2016	2015
Equity ratio, % (IFRS, Group) 1)	**26,6**	29,4
Equity ratio, % (Parent company) 2)	**26,4**	28,9

1) Equity ratio %	= 100 x	equity + loans from equity holders of the company balance sheet total - provision related to nuclear waste management - loan from the Finnish State Nuclear Waste Management Fund

2) Equity ratio %	= 100 x	equity + appropriations + loans from equity holders of the company balance sheet total - loan from the Finnish State Nuclear Waste Management Fund

28 Events after the balance sheet date

After the reporting period, in January 2017, the EU Commission made a conditional decision on the state aid. TVO requires that the restructuring respects the completion of the OL3 EPR project within the current schedule and that all liabilities of the plant contract are respected.

Parent company's financial statements

Parent company's income statement

EUR 1 000	Note	**1 Jan-31 Dec 2016**	1 Jan-31 Dec 2015
Turnover	2	**339 878**	273 418
Work performed for own purpose	3	**10 718**	9 131
Other income	4	**14 185**	98 868
Materials and services	5	**-158 735**	-115 199
Personnel expenses	6	**-59 408**	-58 939
Depreciation and impairment charges	7	**-50 817**	-110 100
Other expenses	8	**-91 571**	-89 197
Operating profit/loss		**4 250**	7 982
Financial income and expenses	9	**-1 111**	-1 053
Profit/loss before appropriations and taxes		**3 139**	6 929
Appropriations	10	**-3 139**	-6 929
Profit/loss for the financial year		**0**	0

Parent company's balance sheet

EUR 1 000	Note		**31 Dec 2016**		31 Dec 2015
Assets					
Non-current assets					
Intangible assets	11		**7 759**		7 141
Tangible assets	11		**4 917 138**		4 707 558
Investments					
Holdings in group companies	12	8		8	
Holdings in joint ventures	12	1 011		1 009	
Other investments	12	1 034 753	**1 035 772**	1 016 892	1 017 909
Total non-current assets			**5 960 669**		5 732 608
Current assets					
Inventories	13		**249 424**		250 420
Long-term receivables	14		**0**		13
Current receivables	15		**71 740**		50 394
Money market instruments			**200 000**		100 000
Cash and cash equivalents			**311 516**		119 023
Total current assets			**832 680**		519 850
Total assets			**6 793 349**		6 252 458
Equity and liabilities					
Equity					
Share capital	16		**606 193**		606 193
Share premium reserve	16		**232 435**		232 435
Statutory reserve	16		**9 948**		9 948
Retained earnings (loss)	16		**9 360**		9 360
Profit (loss) for the financial year	16		**0**		0
Total equity			**857 936**		857 936
Appropriations			**183 323**		179 831
Liabilities					
Non-current liabilities	17, 18		**3 732 694**		3 016 588
Shareholders' loans	17		**479 300**		479 300
Loan from the Finnish State Nuclear Waste Management Fund	17		**1 027 050**		1 009 050
Current liabilities	19		**513 046**		709 753
Total liabilities			**5 752 090**		5 214 691
Total equity and liabilities			**6 793 349**		6 252 458

Parent company's cash flow statement

EUR 1 000	2016	2015
Operating activities		
Operating profit/loss	**4 250**	7 982
Adjustments to operating profit /loss 1)	**50 716**	82 122
Changes in working capital 2)	**46 383**	-12 875
Interest paid and other financial expenses	**-7 172**	-11 084
Dividends received	**0**	1 219
Interest received	**8 180**	10 001
Cash flow from operating activities	**102 357**	77 365
Investing activities		
Acquisition of shares	**-6**	-135
Acquisition of non-current assets	**-345 555**	-259 373
Proceeds from sale of other investments	**0**	28 248
Proceeds from sale of intangible and tangible assets	**203**	6
Loan receivables granted	**-18 135**	-26 234
Repayments of loans granted	**276**	274
Cash flow from investing activities	**-363 217**	-257 214
Financing activities		
Withdrawals of long-term loans	**993 000**	626 250
Repayment of long-term loans	**-375 215**	-222 617
Investments in fund units	**-100 000**	-100 000
Increase (-) or decrease (+) in interest-bearing receivables	**13**	12
Increase (+) or decrease (-) in short-term interest-bearing liabilities	**-65 444**	-117 171
Group contribution received	**999**	483
Cash flow from financing activities	**453 353**	186 957
Change in cash and cash equivalents	**192 493**	7 108
Cash and cash equivalents 1 Jan	**119 023**	111 915
Cash and cash equivalents 31 Dec	**311 516**	119 023
1) Adjustments to operating profit/loss		
Depreciation and write-downs	**50 817**	110 100
Gain (-) or loss (+) from divestment of non-current assets	**-101**	-27 978
Total	**50 716**	82 122
2) Changes in working capital		
Increase (-) or decrease (+) in inventories	**996**	-10 889
Increase (-) or decrease (+) in non-interest-bearing receivables	**-18 584**	215
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	**63 971**	-2 201
Total	**46 383**	-12 875

Notes to the parent company's financial statements

1 Accounting principles

Valuation principles

Non-current assets and their depreciation

Non-current assets have been capitalized at direct acquisition cost including interest costs over the period of construction less planned depreciation and received allowances. Depreciation according to plan is calculated on a straight-line basis according to the estimated useful economic lives.

The depreciation periods are as follows:

OL1 and OL2 nuclear power plant units:	
- Basic investment	61 years
- Investments made according to the modernization program	21 - 35 years
- Automation investments associated with the modernization	15 years
- Additional investments	10 years
Buildings and structures	10 - 40 years
TVO's share in the Meri-Pori coal-fired power plant:	
- Basic investment	25 years
- Additional investments	10 years
Wind power plant	10 years
TVO's share in the Olkiluoto gas turbine power plant	30 years

Valuation of inventories

Materials and supplies have been valued at direct acquisition cost, coal on the basis of the FIFO principle (first in, first out), nuclear fuel according to calculated fuel consumption, and supply stocks at average acquisition cost. If the replacement value of inventories on 31 December is lower than the original acquisition cost, the difference will not be entered in the books as an expense because the company operates at cost price.

CO_2 emission rights

Carbon dioxide (CO_2) emission rights are included in the intangible assets. Emission rights are recognized at historical cost. The current liability for returning emission rights is recognized at the carrying value of possessed emission rights. If there is a shortfall, a current liability is recognized to cover the acquisition of the missing emission rights. This current liability is valued at the current market value of the emission rights at the balance sheet date. The cost of the emission rights is recognized in the income statement under costs of materials and services. The gains from the sales of emission rights are refunded to the equity holders of the company.

Research and development costs

Research and development costs associated with production activity are entered as annual costs for the year in which they were incurred.

Items denominated in foreign currency

Transactions in foreign currency have been entered at the relevant exchange rate or at the transaction rate for purchase and sale of foreign currency. On the balance sheet date exchange rate differences on foreign currency accounts have been entered in the income statement under financial income and expenses.

Money market instruments

Money market instruments comprise shares in short-term money market funds and certificate of deposits. They are valued in the balance sheet at their original acquisition cost and are included in financing activities in the cash flow statements.

Derivative financial instruments

The Company applies hedge accounting. Derivative financial instruments have not been entered on the balance sheet. Their nominal values and fair values are presented in the notes to the financial statements.

Interest rate duration of floating rate loans has been managed with interest rate swaps, caps and floors. Interest costs of these instruments have been entered on accrual basis and shown in net amount under financial income and expenses. The premiums on interest rate options have been accrued over the period to maturity.

Payments of foreign currency denominated inventory acquisitions have been hedged with currency derivatives. The realized exchange rate differences of derivative financial instruments have been entered to adjust the acquisition cost of inventories. Cross currency swaps have been used to hedge foreign currency denominated long term loans.

Items related to nuclear waste management liability

Nuclear waste management obligation is provided for in the Nuclear Energy Act. The obligation covers all future costs from nuclear waste handling including decommissioning of nuclear power plant units, costs for final disposal of spent nuclear fuel and the risk margin, decommissioning being assumed to start at the end of the year in question.

The Ministry of Employment and the Economy confirms annually at the end of the calendar year the liability for nuclear waste management for the current year and the target reserve for the next year.

The company liable for nuclear waste management shall pay its contribution to the Finnish State Nuclear Waste Management Fund so that the company's share in the Fund on 31 March is equal to the company funding obligation target confirmed for the calendar year in question.

The annual contribution to the Finnish State Nuclear Waste Management Fund and costs from nuclear waste management and services are entered as annual expenses. The nuclear waste management fee is based on the company's proposal. If the nuclear waste management fee set by the Finnish State Nuclear Waste Management Fund differs from the amount proposed by the company, the difference is entered in the accounts for the following financial year.

Nuclear waste management liability and the TVO's funding target obligation to the Finnish State Nuclear Waste Management Fund are presented in the notes to the financial statements.

The company must supply the Ministry with guarantees to cover for the difference between the legal nuclear waste management liability and the company´s share in the Finnish State Nuclear Waste Management Fund as well as for unforeseen expenses in nuclear waste management. Guarantees are presented in the notes to the financial statements.

A company, liable for nuclear waste management, or its shareholder, is entitled to a loan from the Finnish State Nuclear Waste Management Fund corresponding to 75 per cent of the company's share in the Fund. TVO uses the right to borrow back and loans the funds borrowed from the Fund further to its shareholders.

2 Turnover

EUR 1 000	**2016**	2015
Olkiluoto 1 and Olkiluoto 2	**311 556**	254 514
Meri-Pori	**28 322**	18 904
Total	**339 878**	273 418
Electricity delivered to equity holders of the company (GWh)		
Olkiluoto 1	**7 035**	7 387
Olkiluoto 2	**7 288**	6 851
Total Olkiluoto 1)	**14 323**	14 238
Meri-Pori	**563**	167
Total	**14 886**	14 405

1) Includes wind energy 1.3 (1.4 in 2015) GWh and energy produced by gas turbine 0.4 (0.3) GWh.

3 Work performed for own purpose

EUR 1 000	**2016**	2015
Personnel expenses related to OL3	**10 718**	9 131

4 Other income

EUR 1 000	**2016**	2015
Rental income	**987**	929
Sales profit of tangible assets and shares 1)	**101**	27 978
Sales of services	**12 359**	11 382
Other income 2)	**738**	58 579
Total	**14 185**	98 868

1) The sales profit of tangible assets and shares in year 2015 constitute mainly sales of shares, which reduce the shareholders' fixed costs invoiced in proportion to their ownership EUR 27,971 thousand.

2) Other income in year 2015 constitute mainly the impairment charge of property, plant and equipment invoiced from the shareholders against the OL4 shareholder loans EUR 58,238 thousand.

5 Materials and services

EUR 1 000	2016	2015
Purchases, accrual basis		
Nuclear fuel	**61 251**	65 681
Coal	**5 557**	4 412
Materials and supplies	**4 443**	3 075
Increase (-) or decrease (+) in inventories	**833**	-10 897
Total	**72 084**	62 272
CO_2 emission rights	**2 662**	1 173
Nuclear waste management		
Contribution to the Finnish State Nuclear Waste Management Fund [1)]	**48 651**	11 612
Nuclear waste management services	**24 104**	26 426
Total	**72 755**	38 038
External services	**11 234**	13 716
Total	**158 735**	115 199

[1)] Based on TVO's proposal. If the contribution confirmed by the Finnish State Nuclear Waste Management Fund for the year differs from the proposal, the difference will be booked in the following financial year.

Consumption		
Nuclear fuel	**54 393**	52 903
Coal	**14 129**	6 371
Materials and supplies	**3 562**	2 999
Total	**72 084**	62 272

6 Notes concerning personnel and members of administrative bodies

	2016	2015
Average number of personnel		
Office personnel	**631**	655
Manual workers	**133**	136
Total	**764**	791

Number of employees 31 Dec		
Office personnel	**621**	613
Manual workers	**125**	135
Total	**746**	748

EUR 1 000	2016	2015
Personnel expenses		
Wages and salaries	**48 280**	48 378
Pension expenses	**8 188**	7 945
Other compulsory personnel expenses	**2 940**	2 617
Total	**59 408**	58 939

Salaries and fees paid to management		
President and CEO deputy and members of the Board of Directors	**995**	835

7 Depreciation and impairment charges

EUR 1 000	2016	2015
Depreciation according to plan		
Other capitalised long-term expenses	**1 232**	1 134
Buildings and construction	**7 026**	8 754
Machinery and equipment	**39 718**	38 652
Other tangible assets	**2 841**	3 322
Impairment charges	**0**	58 238
Total	**50 817**	110 100

8 Other expenses

EUR 1 000	2016	2015
Maintenance services	**16 508**	21 885
Regional maintenance and service	**8 235**	8 301
Research services	**4 504**	2 516
Other external services	**31 621**	27 667
Real estate tax	**6 067**	5 614
Rents	**1 091**	1 262
ICT expenses	**4 003**	3 448
Personnel related expenses	**3 922**	3 565
Corporate communication expenses	**756**	788
Other expenses	**14 864**	14 150
Total	**91 571**	89 197

Auditors' fees and not audit-related services		
Audit fees	**137**	113
Other services	**94**	153
Total	**231**	266

9 Financial income and expenses

EUR 1 000	2016	2015
Dividend income		
From others	**0**	1 219
Total	**0**	1 219
Interest income on long-term investments		
From joint ventures	**30**	36
From others	**5 658**	8 059
Total	**5 688**	8 095
Other interest and financial income		
From others	**92**	528
Total	**92**	528
Interest income on long-term investments and other interest and financial income, total	**5 780**	8 623
Interest expenses and other financial expenses		
To the Finnish State Nuclear Waste Management Fund	**5 659**	8 059
To others	**108 758**	113 125
Capitalised interest costs	**-107 526**	-110 288
Total	**6 891**	10 895
Total financial income (+) and expenses (-)	**-1 111**	-1 053
Financial income and expenses include exchange rate gains (+) and losses (-) (net)	**-30**	292

10 Appropriations

EUR 1 000	**2016**	2015
Group contribution	**353**	388
The difference between depreciation according to plan and tax depreciation, increase (-) or decrease (+)	**-3 492**	-7 317
Total	**-3 139**	-6 929

11 Non-current assets

EUR 1 000	Formation expenses	Intangible rights	Other capitalised long-term expenses	Advance payments	Total
Intangible assets					
Acquisition cost 1 Jan 2016	57 961	1 187	43 053	1 534	103 735
Increase	0	2 662	12	363	3 037
Decrease	0	-1 187	-1 312	0	-2 499
Transfer between categories	0	0	1 897	-1 897	0
Acquisition cost 31 Dec 2016	57 961	2 662	43 650	0	104 273
Accumulated depreciation according to plan 1 Jan	57 961	0	38 633	0	96 594
Accumulated depreciation from deduction	0	0	-1 312	0	-1 312
Depreciation according to plan	0	0	1 232	0	1 232
Book value 31 Dec 2016	**0**	**2 662**	**5 097**	**0**	**7 759**
Accumulated depreciation difference 1 Jan	0	0	3 420	0	3 420
Change in depreciation difference	0	0	-672	0	-672
Accumulated depreciation difference 31 Dec	0	0	2 748	0	2 748
Undepreciated acquisition cost in taxation 31 Dec 2016	0	2 662	2 349	0	5 011

EUR 1 000	Land and water areas	Buildings and construction	Machinery and equipment	Other tangible assets	Construction in progress and advance payments	Total
Tangible assets						
Acquisition cost 1 Jan 2016	12 172	288 569	1 368 708	54 113	4 247 107	5 970 669
Increase	0	563	9 847	125	248 900	259 435
Decrease	-35	0	-5 397	0	-169	-5 601
Transfer between categories	0	0	2 434	441	-2 875	0
Acquisition cost 31 Dec 2016	12 137	289 132	1 375 592	54 679	4 492 963	6 224 503
Accumulated depreciation according to plan 1 Jan	0	230 911	992 464	39 737	0	1 263 112
Accumulated depreciation from deduction	0	0	-5 332	0	0	-5 332
Depreciation according to plan and write-downs	0	7 026	39 718	2 841	0	49 585
Book value 31 Dec 2016	**12 137**	**51 195**	**348 742**	**12 101**	**4 492 963**	**4 917 138**
Accumulated depreciation difference 1 Jan	0	-5 264	179 588	2 088	0	176 412
Change in depreciation difference	0	-1 998	5 800	362	0	4 164
Accumulated depreciation difference 31 Dec	0	-7 262	185 388	2 449	0	180 576
Undepreciated acquisition cost in taxation 31 Dec 2016	12 137	58 457	163 354	9 651	4 492 963	4 736 562

Share of machinery and equipment from book value 31 Dec 2016			333 963			
Share of machinery and equipment from book value 31 Dec 2015			359 605			

Capitalised borrowing costs included in non-current assets

EUR 1 000	Formation expenses	Other capitalised long-term expenses	Buildings and construction	Machinery and equipment	Other tangible assets	Construction in progress	Total
Interest during construction period							
Acquisition cost 1 Jan 2016	11 601	3 530	31 133	112 781	2 609	1 080 172	1 241 826
Increase	0	0	0	0	0	106 710	106 710
Acquisition cost 31 Dec 2016	11 601	3 530	31 133	112 781	2 609	1 186 882	1 348 536
Accumulated depreciation according to plan 1 Jan	11 601	2 942	23 563	85 764	1 957	0	125 827
Depreciation according to plan	0	107	444	1 693	33	0	2 277
Book value 31 Dec 2016	**0**	**482**	**7 126**	**25 324**	**619**	**1 186 882**	**1 220 432**
Accumulated depreciation difference 1 Jan	0	588	7 570	27 017	652	0	35 827
Change in depreciation difference	0	-107	-444	-1 693	-33	0	-2 277
Accumulated depreciation difference 31 Dec	0	482	7 126	25 324	619	0	33 551
Undepreciated acquisition cost in taxation 31 Dec 2016	0	0	0	0	0	1 186 882	1 186 882

12 Investments

EUR 1 000	Holdings in group companies	Holdings in joint ventures	Other stocks and shares	Loan receivables, joint ventures	Loan receivables, others	Total
Acquisition cost 1 Jan 2016	8	1 009	4 441	2 896	1 009 555	1 017 909
Increase	0	2	4	133	18 000	18 139
Decrease	0	0	0	-276	0	-276
Acquisition cost 31 Dec 2016	8	1 011	4 445	2 753	1 027 555	1 035 772
Book value 31 Dec 2016	**8**	**1 011**	**4 445**	**2 753**	**1 027 555**	**1 035 772**
Loan from the Finnish State Nuclear Waste Management Fund lent further to the equity holders of the company					**1 027 050**	**1 027 050**

Group companies	Group share, %
TVO Nuclear Services Oy, Eurajoki	100

Joint ventures	Holding of the parent company, %
Posiva Oy, Eurajoki, A series	60
Posiva Oy, Eurajoki, B series	74

13 Inventories

EUR 1 000	**2016**	2015
Coal		
Replacement cost	**16 983**	17 190
Book value	**11 838**	20 410
Difference	**5 145**	-3 220
Raw uranium and natural uranium		
Replacement cost	**53 544**	83 941
Book value	**67 828**	63 993
Difference	**-14 284**	19 948
Coal	**11 838**	20 410
Raw uranium and natural uranium	**67 828**	63 993
Nuclear fuel	**163 189**	160 166
Supplies	**6 569**	5 851
Total	**249 424**	250 420

14 Long-term receivables

EUR 1 000	**2016**	2015
Loan receivables from others	**0**	13
Total	**0**	13

15 Current receivables

EUR 1 000	**2016**	2015
Receivables from group companies		
Accrued income	**836**	1 550
Total	**836**	1 550
Receivables from joint ventures		
Loan receivables	**276**	274
Prepayments and accrued income	**1 205**	3 701
Total	**1 481**	3 975
Receivables from others		
Trade receivables	**38 013**	9 632
Other receivables	**105**	7 304
Total	**38 118**	16 936
Prepayments and accrued income		
Prepaid interests	**23 661**	17 854
Accrued interest income	**5 659**	8 059
Other accrued income	**1 946**	1 968
Other prepaid expenses	**39**	52
Total	**31 305**	27 933
Total	**71 740**	50 394

16 Equity

EUR 1 000	**2016**	2015
Share capital 1 Jan 2016	**606 193**	606 193
Share capital 31 Dec 2016	**606 193**	606 193
Share premium reserve 1 Jan 2016	**232 435**	232 435
Share premium reserve 31 Dec 2016	**232 435**	232 435
Statutory reserve 1 Jan 2016	**9 948**	9 948
Statutory reserve 31 Dec 2016	**9 948**	9 948
Retained earnings/loss 31 Dec 2016	**9 360**	9 360
Profit/loss for the financial year	**0**	0
Total	**857 936**	857 936

17 Non-current liabilities

EUR 1 000	**2016**	2015
Bonds	**2 754 741**	2 469 221
Bank loans	**749 476**	318 889
Other loans	**228 477**	228 477
Shareholders' loans 1)	**479 300**	479 300
Loan from the Finnish State Nuclear Waste Management Fund 2)	**1 027 050**	1 009 050
Total	**5 239 044**	4 504 938

1) Subordinated loans

2) Lent further to the shareholders

BONDS

Euro Medium Term Note Programme EUR 4.000.000.000 Currency	Capital	Maturity date	EUR 1 000 **2016**	EUR 1 000 2015
EUR	270 632	27 Jun 2016 1)	**0**	270 632
EUR	500 000	4 Feb 2019	**500 000**	500 000
EUR	500 000	17 Mar 2021	**500 000**	500 000
EUR	30 000	9 May 2022	**30 000**	30 000
EUR	100 000	12 Sep 2022	**100 000**	100 000
EUR	23 000	1 Dec 2022	**23 000**	23 000
EUR	75 000	14 Dec 2027	**75 000**	75 000
EUR	20 000	8 Nov 2032	**20 000**	20 000
EUR	23 000	3 May 2030	**23 000**	23 000
EUR	20 000	8 May 2024	**20 000**	20 000
EUR	45 000	31 Mar 2032	**45 000**	45 000
NOK	550 000	22 Feb 2017 1)	**63 218**	63 218
EUR	500 000	13 Jan 2023	**500 000**	0
SEK	650 000	28 Mar 2017 1)	**63 601**	63 601
SEK	300 000	28 Mar 2017 1)	**33 898**	33 899
SEK	500 000	8 Nov 2017 1)	**53 763**	53 763
SEK	875 000	13 Sep 2018	**99 977**	99 977
SEK	1 125 000	13 Sep 2018	**128 542**	128 542
SEK	600 000	30 Oct 2019	**58 267**	58 267
SEK	650 000	17 Mar 2020	**70 945**	70 945
SEK	550 000	19 May 2020	**61 009**	61 009
EUR	500 000	4 Feb 2025	**500 000**	500 000
Total			**2 969 221**	2 739 854

1) Current portion of long-term bond EUR 214,480 (270,632) thousand.

OTHER LOANS

US Private Placements

Currency	Capital	Maturity date	EUR 1 000 2016	EUR 1 000 2015
USD	55 000	19 Aug 2018	**53 111**	53 111
GBP	35 336	19 Aug 2018	**35 336**	35 336
USD	50 000	26 Aug 2020	**39 557**	39 557
USD	50 000	26 Aug 2020	**39 557**	39 557
GBP	50 000	15 Nov 2022	**56 116**	56 116
Total			**223 677**	223 677
Collateral received			**4 800**	4 800
Total			**228 477**	228 477

18 Debts due in more than five years

EUR 1 000	2016	2015
Debts due in more than 5 years	**1 932 242**	1 967 455

19 Current liabilities

EUR 1 000	2016	2015
Liabilities from joint ventures		
Accruals	**407**	5
Total	**407**	5
Liabilities from others		
Advances received	**41 609**	22 241
Trade payables	**18 099**	14 024
Total	**59 708**	36 265
Interest-bearing liabilities		
Bonds	**214 480**	270 632
Bank loans	**44 413**	104 583
Interest-bearing liabilities	**50 948**	116 392
Total	**309 841**	491 607
Accruals and deferred income		
Finnish State Nuclear Waste Management Fund	**49 203**	12 000
Accrued interests	**51 895**	56 671
Accrued personnel expenses	**16 109**	14 332
Accruals related to CO_2 emission rights	**2 662**	1 187
Other accruals and deferred income	**23 221**	97 685
Total	**143 090**	181 876
Total	**513 046**	709 753

20 Distributable equity

EUR 1 000	**2016**	2015
Retained earnings	**9 360**	9 360
Profit/loss for the financial year	**0**	0
Total	**9 360**	9 360

21 Commitments

EUR 1 000	**2016**	2015
Leasing liabilities		
Leasing liabilities falling due in less than a year	**1 886**	1 983
Leasing liabilities falling due later	**56 230**	57 553
Total	**58 116**	59 536

TVO has the right to redeem the lease object for EUR 42.7 million in 2025.

Contingent liabilities given on own behalf		
Customs liabilities	**450**	450

Nuclear waste management		
Liability for nuclear waste management according to the Nuclear Energy Act 1)	**1 450 100**	1 369 400
TVO's funding target obligation 2017 (2016) to the Finnish State Nuclear Waste Management Fund	**1 428 400**	1 369 400
Collateral for nuclear waste management contingencies	**144 530**	137 620
Nuclear waste management loan receivables pledged to the Finnish State Nuclear Waste Management Fund	**1 027 050**	1 009 050

1) Based on the nuclear waste management programme and proposal for the liability made by the Company and which is to be confirmed by the Ministry of Employment and the Economy at the end of the year.

Pending Court Cases and Disputes

See note 25 Obligations and other commitments in the consolidated financial statements.

22 Derivative financial instruments

EUR 1 000	**2016**	2015
Interest rate derivatives		
Interest rate swaps (nominal value)	**2 449 518**	1 809 518
Fair value	**392**	7 969
Forward foreign exchange contracts		
Forward foreign exchange contracts (nominal value)	**150 467**	159 508
Fair value	**31 401**	29 829
Cross-currency swaps		
Cross-currency swaps (nominal value)	**856 911**	856 963
Fair value	**7 710**	39 327

Risk management principles, principles for the recognition of derivatives as well as details of derivatives are described in the

Notes to the IFRS consolidated financial statements. Hedging relationships are effective i.e. the hedged risk and hedging instrument will perfectly match with each other. In documents regarding these hedging relationships, the hedged risks and hedging instruments are extensively described and the effectiveness between them is demonstrated.

23 Series of shares

Share capital and series of shares

	Number **2016**	2015	EUR 1 000 **2016**	2015
A-series - OL1 and OL2				
1 Jan	**680 000 000**	680 000 000	**115 600**	115 600
Change	**0**	0	**0**	0
31 Dec	**680 000 000**	680 000 000	**115 600**	115 600
B-series - OL3				
1 Jan	**680 000 000**	680 000 000	**484 765**	484 765
Change	**0**	0	**0**	0
31 Dec	**680 000 000**	680 000 000	**484 765**	484 765
C-series - TVO's share in the Meri-Pori coal-fired power plant				
1 Jan	**34 283 730**	34 283 730	**5 828**	5 828
Change	**0**	0	**0**	0
31 Dec	**34 283 730**	34 283 730	**5 828**	5 828
Total	**1 394 283 730**	1 394 283 730	**606 193**	606 193

According to the Articles of Association, TVO delivers electricity to its shareholders on the so-called Mankala principle, i.e. it delivers the electricity produced or procured to its shareholders in proportion to their shareholding in each series. Each of the shareholders of each series is liable for the variable and fixed annual costs that are specified in detail in the Articles of Association. The Company prepares annually a balance sheet divided into series of shares. The balance sheet, which will be presented to the Shareholders' Meeting, specifies the assets, liabilities and equity of the different series of shares.

24 Carbon dioxide emission rights

In principle TVO has, on 31 December, emission rights at least the same amount as the actual annual emissions are. If the actual emissions exceed the amount of the emission rights that company possesses, the company has booked the expense for exceeding emission rights at the market value on 31 December.

	2016 t CO_2	**EUR 1 000**	2015 t CO_2	EUR 1 000
Total annual emissions from production facilities	**472 190**		139 484	
Possessed emission rights	**479 696**		148 029	
Emission rights and emission right reductions bought 1)	**471 000**	**2 662**	148 029	1 173

TVO is responsible for the amount of emission rights corresponding to its share of the production of the plant.

1) The purchases of the emission rights and emission right reductions are included in materials and services. The emission rights that company possesses on 31 December are included in intangible rights on the balance sheet and emission right reductions.

Proposals to the Annual General Meeting

Teollisuuden Voima Oyj's distributable equity as of December 31, 2016 amounted to EUR 9,360,000. The Board of Directors proposes to the Annual General Meeting that no dividend shall be paid.

Signatures for the report of the Board of Directors and financial statements

Helsinki, February 27, 2017

Matti Ruotsala	Lauri Virkkunen
Hannu Anttila	Jukka Hakkila
Tapio Korpeinen	Pekka Manninen
Markus Mannström	Markus Rauramo
Tiina Tuomela	Rami Vuola

Jarmo Tanhua
President and CEO

The Auditor's Note

Our auditor's report has been issued today.

Helsinki, February 27, 2017

PricewaterhouseCoopers Oy
Authorised Public Accountants

Jouko Malinen
Authorised Public Accountant

Auditor's report

(Translation of the Finnish Original)

To the Annual General Meeting of Teollisuuden 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 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 Teollisuuden Voima Oyj (business identity code 0196656-0) for the year ended 31 December 2016. The financial statements comprise:

- the consolidated balance sheet, income statement, 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.

Our Audit Approach

Overview

- Overall group materiality: € 25 million, which represents approximately 0,3 % of balance sheet total

- Group audit scope: We audited the consolidated financial statements and the financial statements of the parent company Teollisuuden Voima Oyj.

- Pending court cases and disputes
- Olkiluoto 3 power plant construction in progress
- Assets and provisions related to the nuclear waste management obligation

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Materiality

The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall group materiality for the consolidated financial statements as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements on the financial statements as a whole.

Overall group materiality	€ 25 million
How we determined it	0,3 % of balance sheet total
Rationale for the materiality benchmark applied	We chose balance sheet total as the benchmark because the company's operations are very capital intensive and because, in our view, this is the benchmark against which the performance of the Group is commonly measured by users.

How we tailored our group audit scope

We tailored the scope of our audit, taking into account the structure of the group, the accounting processes and controls, and the industry in which the group operates.

All group companies and the joint venture as well as its subsidiary were audited.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Key audit matter in the audit of the group	How our audit addressed the key audit matter
Pending court cases and disputes *Refer to Accounting principles, Critical accounting estimates and judgements. Note No. 25* An arbitration process initiated by the OL3 supplier related to completion of OL3 commenced in December 2008. The OL3 supplier updated their claim subject to the arbitration proceedings concerning completion delay of OL3 in February 2016. The supplier's monetary claim now totals € 3.52 billion. The company submitted a claim and defence in the arbitration proceedings subject to the rules of the International Chamber of Commerce (ICC) concerning completion delay of OL3 and ensuing costs incurred. The quantification estimate submitted by TVO in July 2015 of the company's costs and losses amounts to approximately € 2.6 billion. TVO has not recorded any receivables or provisions on the basis of claims presented. We paid special attention to this matter because it constitutes a very significant item in the company's financial statements, which is subject to inherent management judgement.	We reviewed the documentation the management had prepared on accounting principles for the financial statements and verified that the documentation was based on documentation and statements held by the company. We also interviewed top management and general counsel of the company as well as other people in charge in order to assess the estimates used for appropriateness and their foundation. We followed progress of the arbitration proceedings and reviewed the partial awards already obtained as well as summaries on them prepared by external lawyers, in order to assess their presentation in the financial statements for appropriateness. We reviewed summaries and statements prepared by both external lawyers and the general counsel of the company on which the management estimate on presentation in the financial statements is based. We also asked for a lawyer's confirmation from the general counsel of the company. We reviewed the information presented in the notes to the financial statements regarding pending court cases and disputes.

Olkiluoto 3 power plant construction in progress

Refer to note 12 Property, plant and equipment, Construction in progress and advance payments and 13 Capitalized borrowing costs included in property, plant and equipment, and intangible assets as well as accounting principles: TVO's cost-price principle and Power plant construction in progress - OL3 EPR

OL3 is a power plant in construction, which has been ordered under a turnkey principle. Delivery of the plant has been significantly delayed from the original schedule.

During the OL3 project € 4.4 million have been capitalized in balance sheet item Property, plant and equipment, Construction in progress and advance payments.

Under the Articles of Association, each of the shareholders of each series bears their share of the variable and fixed annual costs as specified in detail in the Articles of Association.

Our audit focused especially on this item because of the significant monetary amount capitalized in the balance sheet and because completion of the project has been delayed from the original schedule. In addition, a significant amount of financing expenses have been capitalised on this item.

We audited the internal controls of the company relating to approval of expenses capitalized on the OL3 project. In addition, we reviewed company management measures, records and other documentation regarding monitoring of progress of the project.

We tested, on a sample basis, purchase invoices and company's own expenses relating to the project to ascertain the costs capitalised against the power plant construction in progress meet the recognition criteria.

During our audit we reviewed whether the borrowing costs were capitalised in accordance with the accounting principles applied, and whether recognition to the project was performed consistently under the same principles as in previous financial statements.

In our audit of the amount capitalised in the balance sheet we considered the provisions regarding shareholder responsibilities incorporated in the Articles of Association.

Assets and provisions related to the nuclear waste management obligation

Refer accounting principle "Assets and provisions related to the nuclear waste management obligation" and "Critical accounting estimates and judgements', "The provision for future obligations for the decommissioning of the nuclear power plant and for the disposal of spent fuel". Note 12 Property, plant and equipment, Decommissioning and note 24 Assets and provisions related to the nuclear waste management obligation.

The nuclear waste management obligation totalling € 955 million is shown as a provision under non-current liabilities. The fair value of the nuclear waste management provision has been determined by discounting the future cash flows which are based on plans about future activity and the estimated expenditure relating to it, taking into account actions already taken.

The present initial value of the provision for the decommissioning of a nuclear power plant (at the time of commissioning the nuclear power plant) has been capitalized as property, plant and equipment and will be adjusted later for possible changes in the plan. The amount recognized relating to decommissioning will be depreciated over the estimated operating time of the nuclear power plant.

The provision for spent fuel covers the future disposal costs of fuel used by the end of each accounting period. The costs for the disposal are expensed 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 each accounting period.

The assets and provisions related to the nuclear waste management obligation involve inherent judgement, since the estimates made extend far into the future, and subsequently these items on the income statement and balance sheet were subject to special scrutiny.

We reviewed long-term cash-flow forecasts and related documentation and interviewed preparers of these calculations to assess foundations of the estimates and assumptions used, and whether the cash-flow forecasts are prepared consistently based on the best knowledge available at the time. The most significant estimates relate to the amount and time of realization of the future costs.

We also examined whether changes to the estimates are appropriately documented and approved by management.

We tested whether the calculations are technically prepared under the same principles from one accounting period to another.

We assessed whether the discount rate and inflation ratio used in the calculation are appropriately determined, and whether the criteria for the used interest rate and inflation ratio are appropriately documented and approved.

Division of cash-flows into costs related to decommissioning of a nuclear power plant and those related to disposal of spent fuel affects the outcome of the calculation. We tested whether the division described above is made according to the documented fundamentals and whether the division as a rule remains the same from one accounting period to another.

We have no key audit matters to report with respect to our audit of the parent company financial statements.

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 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 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 on 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 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.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication

Other Reporting Requirements

Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises information included in the report of the Board of Directors and in the Annual Report, but does not include the financial statements and our auditor's report thereon. We obtained the report of the Board of Directors prior to the date of this auditor's report and the Annual Report is expected to be made available to us after that date.

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 identified above 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.
- 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 on the information included in the report of the Board of Directors, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Other statements

We support that the financial statements of the parent company and the consolidated financial statements should be adopted. We support that the members of the Board of Directors and the Managing Director of the parent company should be discharged from liability for the period audited by us.

Helsinki 27 February 2017

PricewaterhouseCoopers Oy
Authorised Public Accountants

Jouko Malinen
Authorised Public Accountant

Financial information in 2017

In 2017, Teollisuuden Voima Oyj will publish the interim reports as follows:

Interim Report for January–March 2017 on April 25, 2017

Interim Report for January–June 2017 on July 21, 2017

Interim Report for January–September 2017 on October 23, 2017