REPORT OF THE BOARD OF DIRECTORS AND FINANCIAL STATEMENTS

2020

Contents

Report of the Board of Directors of Teollisuuden Voima Oyj 2020

Main events in 2020

THE ROLE of low-carbon energy, such as renewable energy and nuclear power, is crucial in the mitigation of climate change. In 2020, the share of nuclear power was about 34 percent of all electricity produced in Finland. During its over 50 year history, Teollisuuden Voima Oyj (TVO) has produced more than 520 terawatt hours (billion kilowatt hours) of climate friendly electricity in total.

The spread of the global coronavirus pandemic (COVID-19) in 2020 had an impact also on the TVO Group's operations. Considerable measures were undertaken during the year in order to prevent the spread of COVID-19 infections, and despite COVID-19 restrictions, work has been able to continue under special arrangements.

The electricity generation at TVO's Olkiluoto nuclear power plant in 2020 totaled 14.59 terawatt hours, which accounted for about one-sixth of all electricity consumed and about 22 percent of all electricity produced in Finland. The combined load factor of the plant units was 93.5 percent. Together with the share of the Meri-Pori coal-fired power plant TVO's production totaled 14.67 (14.93) TWh, which accounted for about 18 percent of all electricity consumed and about 22.3 percent of all electricity produced in Finland. TVO renounced its share of Meri-Pori's capacity in the beginning of July 2020. Subsequently, the Company's C series shares, which entitled to electricity generated at Meri-Pori, were invalidated. The Group's turnover was EUR 275.1 (254.2) million.

The electricity production of the Olkiluoto power plant units, Olkiluoto 1 (OL1) and Olkiluoto 2 (OL2) during 2020 was 14,587 (14,751) GWh, which is the fourth highest production amount ever. The plant units operated safely. OL1's net production was 7,310 (7,542) GWh and OL2's net production was 7,277 (7,209) GWh.

The refueling and maintenance outages carried out at the plant units on alternating years are designed to ensure that a good level of production and operability is maintained at the Olkiluoto nuclear power plant at all times. In 2020, the annual outages were carried out according to special arrangements in order to prevent COVID-19 infections on the power plant site. The maintenance outage implemented at OL1 was adjusted in scope and duration from the original plan due to the exceptional circumstances. Extensive modernizations without safety or availability significance were transferred to be completed in upcoming outages. The duration of the outage at OL1 was circa 14 days, and the fuel exchange outage at OL2 lasted 11 days.

There was a disturbance at the OL2 plant unit in December, when the plant unit was suddenly disconnected from the grid and a site area emergency was declared at the plant unit. The disturbance quickly proved to be less serious than a site area emergency, and the plant unit was driven down into a cold shutdown state. The situation was caused due to hot water moving into the filters of the reactor water clean-up system, which is when the activity levels (radiation levels) of the steam moving through the main steam lines momentarily rose to about 3 to 4 times higher compared with the normal activity level.

Immediate actions to prevent similar occurrences have been completed, and the disturbance caused an interruption of nine days in OL2's electricity production. The disturbance did not cause harm to people or the environment. The Radiation and Nuclear Safety Authority in Finland (STUK) classified the event at the severity level 0 on the INES scale, which means it did not have significance in relation to nuclear or radiation safety.

Preparing the Olkiluoto 3 EPR (OL3 EPR) plant unit for production proceeded in 2020, when system testing, maintenance work, and the repair work of technical faults were continued at the construction site in preparation for nuclear fuel loading. In April, TVO submitted a permission application to STUK for nuclear fuel loading.

According to the updated schedule provided by the plant supplier Areva–Siemens consortium in August, OL3 EPR's nuclear fuel will be loaded into the reactor in March 2021, the first connection to the grid will take place in October 2021, and regular electricity production will start in February 2022. The new Areva management appointed in summer 2020 continues to prepare a financial solution for the completion of the project until the end of the guarantee period. In addition, negotiations continue with the Areva–Siemens consortium regarding the terms of completing the project.

In an Extraordinary Shareholder Meeting held by TVO on December 16, an additional shareholder loan commitment was signed, comprising a total of EUR 400 million new subordinated shareholder loan agreements. All of TVO's shareholders signed the addition to the agreement and commitment concerning the shareholder loan arrangement in accordance with the proposal presented by TVO's Board of Directors.

The construction works of Posiva's encapsulation plant and final disposal facility proceeded as planned.

At the end of the year, the total number of personnel in the Group was 975 (942). The number of personnel working for Posiva and its subsidiary Posiva Solutions Oy was 92 (90). A total of 84 (129) new staff members were recruited at the Group during 2020.

Operating environment

THE GOVERNMENT gave a proposal regarding the reform of the Finnish State Nuclear Waste Management Fund in October. The aim of the proposal is to make the investment activities of the assets managed by the Finnish State Nuclear Waste Management Fund more diversified and long-term.

Legislative work on sustainable finance continues in the European Union. The European Commission is responsible for further preparation of the sustainable finance legislation, and the first delegated act (climate change adaptation and mitigation) is in the consultation phase. The inclusion of nuclear power in the sustainable finance taxonomy will be resolved in 2021.

The European Council decided to support the proposal to tighten the EU´s climate target. To achieve carbon neutrality in 2050, the European Council endorsed the binding target of reducing greenhouse gas emissions by at least 55 percent by 2030 (compared to 1990 levels). In addition, the Council acknowledged the right of the Member States to decide on their energy mix and to choose the most appropriate technologies.

In 2020, the Ministry of Finance continued negotiations with the European Commission on whether to maintain deduction rights for interest expenses regarding nuclear power. The current Government's Programme mentions the possibility of excluding Mankala-model companies and publicly-owned infrastructure companies from the limitation regarding deductions for interest expenses.

TVO as a company

TVO is a non-listed public limited-liability company owned by Finnish industrial and energy companies. According to TVO's Articles of Association, the Company operates in the fields of power plant and transmission system construction and acquisition as well as in the generation, relay, and transfer of electricity primarily to the Company's shareholders in accordance with the terms set in the Articles of Association.

TVO operates on a cost-price principle (Mankala principle). 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 chapter: *The cost-price principle* in the Notes to the consolidated financial statements).

TVO is owned by six shareholders, some of which, like TVO, operate based on the Mankala principle. Electricity generated by TVO serves the needs of numerous Finnish industry and energy companies, some of which were owned by 131 Finnish municipalities in 2020. TVO generates about 18 percent of all electricity consumed in Finland.

TVO's operations are founded on a strong safety culture and securing the safety of production. TVO's activity-based management system covers production activities at the Olkiluoto nuclear power plant, maintaining and developing production capacity, additional construction of production capacity, and functions required to control and resource these activities. The system meets the requirements of international quality control, environmental, occupational health and occupational safety standards, and has been certified by DNV GL Business Assurance Finland Oy Ab. The general part of the activity-based management system also acts as the licensee's quality control system approved by STUK. The implementation, functionality, and efficiency of the activity-based management system is regularly monitored with internal audits and management reviews.

TVO's Corporate Governance system is described in a separate report. TVO's principles of responsible operating practices are described in TVO's Code of Conduct (see chapter: *Responsibility*).

The objectives of TVO's strategy include the competitive and predictable price of electricity, a solid safety brand, and satisfied customers. The goal is to maintain a competitive average electricity production cost and to ensure that the operability of the plant units meets the Company's goals. Safety culture is maintained at a high level and safety is systematically upheld and developed at all stages of the nuclear power lifecycle.

Financial performance

THE GROUP'S consolidated turnover for 2020 was EUR 275.1 (254.2) million. The higher fixed fee invoiced from shareholders compared to the previous year was mainly due to the Nuclear Waste Management fee of the Finnish State Nuclear Waste Management Fund (see chapter: *Nuclear waste management*).

The amount of electricity delivered to the shareholders was 14,645 (14,911) GWh. The annual outages at the Olkiluoto plant units were shorter compared to the previous year. The slightly lower delivery volume of electricity from the Olkiluoto plant units was due to the disturbance at OL2 in December. In addition, the delivery volume of electricity from Meri-Pori was lower compared to the previous year, since TVO renounced its share of Meri-Pori's capacity in the beginning of July 2020.

The consolidated profit was EUR 0.5 (87.2) million. An updated cost estimate based on a new nuclear waste management technical plan and schedule and the changes of the provision regarding nuclear waste management obligation had an effect on the profit/loss and turnover of the year 2019.

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 5,109.3 (4,961.6) million, of which EUR 929.3 (679.3) million were subordinated shareholder loans. During 2020, TVO raised a total of EUR 353.7 (943.2) million in non-current liabilities, of which EUR 250,0 (0) million were subordinated shareholder loans. Repayments during the year amounted to EUR 255.5 (742.4) million.

In the beginning of 2020, TVO agreed on a new EUR 100 million three-year bilateral bank loan. In addition, the expiration dates of bilateral bank loans totaling EUR 500 million were extended from 2021 and 2022 to 2023. In TVO's Extraordinary General Meeting on December 16, 2020, a new additional shareholder loan commitment was signed, comprising a total of EUR 400 million subordinated shareholder loan agreements.

The Company has a EUR 1,300 million syndicated revolving credit facility in total which consists of two tranches. EUR 1,000 million matures in 2023 and EUR 300 million matures in 2022.

In April, Fitch Ratings (Fitch) affirmed TVO's credit rating at its current level BBB-, but changed the Company's outlook from stable to negative. According to Fitch, this reflects OL3 EPR's delay in nuclear fuel loading, uncertainty caused by the COVID-19 pandemic, as well as the current weak electricity price environment.

Due to the delay in OL3 EPR's nuclear fuel loading, Standard & Poor's (S&P) downgraded TVO's long-term corporate credit rating from BB+ to BB in April. S&P assessed the outlook as negative. In September, S&P placed TVO's long-term credit rating BB on CreditWatch with negative implications. In December, S&P affirmed its long-term corporate credit rating at BB and removed TVO from CreditWatch Negative. The outlook is still negative. According to S&P, the EUR 400 million shareholder loan recently granted to TVO reduces near-term risk and signals that TVO's owners still support the OL3 EPR project, despite the delays it has suffered.

In December 2020, Japan Credit Agency (JCR) affirmed TVO's long-term corporate credit rating at A+, but changed the outlook to negative.

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, 2020, the amount of the loan was EUR 716.4 (591.4) million, and it has been relent to the Company's A-series shareholders. On March 31, 2020, the loan from the Finnish State Nuclear Waste Management Fund was increased by EUR 125.0 (March 29, 2019 decreased by EUR 74.8) million.

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

Share capital

TVO'S share capital on December 31, 2020 was EUR 600.4 (600.4) million.

The Company has 1,360,000,000 (1,394,283,730) shares, of which 680,000,000 belong to the A series and 680,000,000 to the B 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 EPR unit. The Company's C series shares, which entitled to electricity generated at Meri-Pori, were invalidated in July.

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 7 § of 7th Chapter of the Securities Market Act (746/2012), 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 the Company's website (**https://www.tvo.fi/financialpublications**) at the same time as this Report of the Board of Directors.

Administrative bodies

TVO'S administrative bodies and their operations in 2020 have been described in a separate Corporate Governance Statement to be found on the Company's website **https://www.tvo.fi/financialpublications**.

Regulatory environment

THE BASIC principle of nuclear energy legislation is that the use of nuclear energy must be in line with the overall good of society. The key regulations governing the use of nuclear energy, the monitoring of its use, and nuclear safety are included in the Nuclear Energy Act and the Nuclear Energy Decree, as well as in subordinate regulations issued by them, such as Regulatory Guides on nuclear safety (YVL Guides) and regulations by STUK. In addition to these, regulations applied to the use of nuclear energy are included e.g. in the Radiation Act.

An amendment to the Nuclear Energy Act (964/2020) entered comprehensively into force on December 21, 2020, which stipulates on security personnel's jurisdictions, training, and use of force equipment. Simultaneously, the Security Clearance Act (965/2020) was amended so that the right to implement a concise security clearance was broadened to include persons taking part in the transport of nuclear waste, as well as persons taking part in construction or planning who have information with safety relevance concerning a nuclear power plant.

At the end of the year, the Finnish Parliament addressed the government proposal (HE 178/2020 vp), which would renew the regulation concerning the provision for nuclear waste management expenses so that the investment activities of the assets managed by the Finnish State Nuclear Waste Management Fund could be made more diversified and long-term than currently, and would allow for broader risk taking and higher profits. The regulation concerning research programs on the safe use and nuclear waste management of nuclear power plants funded by the Finnish State Nuclear Waste Management Fund would be renewed simultaneously. The Finnish Parliament Commerce Committee's report on the amendment to the legislation is likely to be completed in the beginning of 2021, and the amendment to the legislation is meant to enter into force gradually as of May 1, 2021.

The working group set up last year in October by the Ministry of Economic Affairs and Employment (MEAE) to review the need for the renewal of the Nuclear Energy Act submitted its final report to the Minister of Economic Affairs in August 2020. The working group found it necessary to initiate a comprehensive renewal of the Nuclear Energy Act due to its lack of clarity, changes which have occurred in the operating environment of nuclear power plants, and expected developments.

During 2020, a total of nineteen updated YVL Guides have been introduced at the OL1 and OL2 plant units, as well as at the OL3 EPR plant unit. In 2020, STUK published eight updated YVL regulations as well as one completely new YVL regulation (E.13), which shall enter into force during 2021. In 2021, STUK will publish two new YVL regulation updates (YVL A.11 and YVL A.12), which shall enter into force during 2021.

In addition, STUK will begin preparations for the renewal of nuclear safety regulations in 2021, during which the foundations and direction of the regulation renewal shall be determined, including the YVL Guides.

The Nuclear Liability Act concerns the liability the operator of a nuclear power 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 for up to a minimum of 600 million SDR. MEAE is preparing an amendment to the Nuclear Liability Act, where the plant operator's liability for a nuclear incident outside of Finland would be increased to EUR 1,200 million. The government proposal on the issue is set to be presented to the Finnish Parliament in spring 2021 and enter into force as of the beginning of 2022.

The use of nuclear energy is subject to license. Applications for a decision-in-principle, construction license and operating license, as well as the new, upcoming license for decommissioning a nuclear power plant are made to the Finnish Government. STUK is responsible for monitoring the safety of nuclear energy use, and it also supervises safety and emergency arrangements and nuclear material safeguards.

Risk management, major risks and uncertainties

Risk management

THE OBJECTIVE of risk management is to support the realization of TVO's strategy and business objectives, and to ensure that TVO's operational preconditions are maintained. Risk management is carried out comprehensively according to the strategic objectives set by the Board of Directors, company-level policies, and good governance.

Risk management is supervised by the Company's Board of Directors, which also verifies the Company's risk management policy. The Board of Directors of each affiliate company supervises risk management of the affiliate company and verifies that the company's risk management policy is in line with TVO's policies. The President and CEO, with the help of the Company's Management Group, is in charge of risk management in accordance with TVO's objectives and strategy. Under the Management Group operates a risk management group, which is in charge of ensuring adequate risk treatment in the Company and also for confirming the implementation of risk management measures.

Each organization unit is responsible for the identification, analysis, and treatment of risks connected to its operations, as well as the follow-up of measures. Risk identification is carried out as part of TVO's strategic and operational planning and follow-up, and also as part of project management.

Risk management process

TVO has a group-wide risk management process, used to ensure that risks facing the Company's operations are systematically identified and each risk is treated according to its severity. The objective of the risk management process is to either prevent the risk from materializing or to reduce its likelihood or consequences. The acknowledged risks are gathered to a company-level risk register, where all the risks and their significance are displayed in accordance of each risk's consequence and likelihood. All risks are reported to the Company's Management Group, Audit and Finance Committee, and the Board of Directors in accordance with the annual management program.

The comprehensive development of risk management is evaluated with the help of the annually prepared risk management evaluation, which is used to set the goals for the development of risk management. Risk management evaluation is implemented in accordance with a model based on risk maturity levels.

In 2020, TVO's management and operational planning process continued to increase the level and effectiveness of risk management. Risk management is a part of the Group's strategy process and, as such, it is being developed to help meet the Group's objectives with an acceptable risk level. During 2020, the policies and procedures of risk management were improved in many levels of risk management. In addition, the description of the responsibilities of risk management were further clarified in 2020.

Major risks and uncertainties

THE RISKS related to safety and electricity production are reduced by keeping the plant units in good condition. Safe and reliable production is ensured by efficient lifecycle management of the plant units and high-quality planning and implementation of the annual outages.

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

In the OL3 EPR project, risk management is primarily a question of overseeing and guiding the work of the Supplier according to the terms of the turnkey contract and the settlement agreement.

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

There are no major risks or uncertainties in view concerning electricity production at the OL1 and OL2 plant units.

Financial risk management and fuel price risks are dealt with in the notes to the consolidated financial statements, note 27: *Financial Risk Management*.

Risks related to OL3 EPR project

Schedule and planned completion

TVO's major risks are related to the schedule of the OL3 EPR project, the consortium company Areva's sufficient financial capacity to fulfil its obligations until the end of the guarantee period, and the profit-yielding capacity 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 Plant Supplier in August 2020, regular electricity production at the unit will commence in February 2022.

The risk related to the planned completion refers to a situation in which commercial use cannot be launched as planned, which leads to additional costs.

During 2020, several risk management measures related to the OL3 EPR project have been executed to improve TVO's readiness to commission the OL3 EPR plant unit as well as operate three nuclear power plant units. TVO closely monitors the compliance of the conditions set in the settlement agreement in March 2018 and ascertains that the commissioning of the OL3 EPR plant unit is executed according the schedule provided by the Plant Supplier and that financial and technical resources are secured. Areva's new management appointed in the summer of 2020 is preparing a financial solution for completing the project until the end of the guarantee period. In addition, negotiations on the terms of the project's completion continue with the Areva–Siemens consortium.

Profit-yielding capacity of OL3 EPR

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

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

Major plant modifications and their implementation

INCREASE of production costs and deterioration of profitability may be consequences of failed implementation of plant modifications. In major large-scale plant modification projects, it is important to establish and assign responsibility for requirements related to nuclear safety and to ensure that the project parties meet these requirements in advance to avoid unexpected costs during the project.

In risk assessment analysis, increased project costs are viewed to arise either from inadequate preparation and requirement specifications, major unpredicted technical issues, challenges in the execution of the licensing process, or deficiencies in project management and control.

As risk management measures, TVO has in 2020 continued to prioritize projects and measures that are most vital in view of the schedule and costs to secure adequate resourcing for them. Furthermore, TVO aims to ensure that project suppliers have the readiness and interests to complete the projects they are involved in.

Organization's capabilities

AN ORGANIZATION'S competence and ability to function as a licensee may be compromised by dysfunctional management, failed reaction to changes in the operational environment, or negative atmosphere of the work community. In addition to the rise of immediate costs, this may also lead to an increased likelihood of other risks being realized.

In order to maintain its capability to function as a licensee, TVO has prepared for the operation phase of the OL3 EPR plant unit and for future retirements by recruiting 77 new staff members in 2020 and by maintaining a comprehensive supplier chain. Furthermore, TVO has also executed a competence survey, the results of which are used for personnel planning. OL3 EPR trainings have continued during 2020. TVO has also undertaken measures to further develop its work community culture and to strengthen its safety culture. TVO implements a personnel survey approximately every 18 months and the results of the latest survey were received in February 2020.

Financial and liquidity risks

THE FINANCING risks of TVO's business include liquidity, market, and credit risks. By diversifying sources of finance, and with long-term credit commitments and liquid funds, financing risks are reduced. The financial position has been strengthened by bilateral bank loans and adding new shareholder loan commitments. 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.

Financing costs are impacted by the changes in TVO's credit rating and outlooks as well as market changes to interest rates and corporate loan margins. There is a risk of a significant rise in financing costs from their current level. This risk has been analyzed through various scenarios based on the changes in the average interest rate and margin of TVO's loan portfolio. If the risk is realized, the consequences include increased cost of financing and thus an increase in production costs.

TVO's financing situation has developed as planned as the Company utilizes a variety of financing sources in diverse ways. In addition to the international capital market, the Company also acquires long-term financing from banks and other financial institutions. Credit ratings play a major role in capital market financing.

Financing is used to secure TVO's liquidity under all circumstances. For this purpose, the Company maintains significant liquidity buffers in the form of various revolving credit facilities and liquid assets. It is TVO's basic principle to acquire about three-quarters of its financing from the financial market and one quarter from its shareholders. TVO aims to maintain long-term financial arrangements and financing is arranged for the Company, not for separate projects.

Solid trust of shareholders, banks, and investors in TVO's operations has remained strong also in 2020. This is reflected in the significant new shareholder loan commitments to complete the OL3 EPR project, as well as in bilateral bank loans.

Increase in the cost of final disposal of spent nuclear fuel

IF Posiva's final disposal project EKA is not implemented according to plan, project costs rise, or the completion of the project is delayed, the cost estimate of final disposal will rise, which in turn will influence the amount of the existing nuclear waste management liability of spent fuel.

As a risk management measure, the cost estimate was specified during 2020. The most significant industrialization measures related to final disposal were defined and suppliers' readiness and interests with regard to the completion of the EKA project in the planned schedule and budget was assessed.

Risks related to social and personnel matters, respect of human rights and risks related to corruption and bribery

RISKS related to social and personnel matters and respect of human rights, as well as risks related to corruption and bribery constitute one area of the Company's risk assessment. No significant risks affecting the Company's operations have been detected on the aforementioned matters during 2020. The possible risks detected in these areas are addressed according to the Company's ordinary risk management process.

Continuous risk management in these matters is executed according to TVO's Code of Conduct. The internal auditor, assigned by the Board of Directors, supervises the implementation of the Code of Conduct in the Company's operations. The possible risks are evaluated in projects and investments as necessary. In addition, these matters are evaluated when reviewing suppliers in accordance to a separate supplier-review procedure. TVO's principles and results of ethical business are described more specifically in the chapter on *Responsibility*.

Pending court cases and disputes

TVO and Wärtsilä Finland Oy (Wärtsilä) signed an agreement on the delivery of Emergency Diesel Generators and their auxiliary systems to Olkiluoto nuclear power plant (the so-called EDG project) in 2013. In December 2018, Wärtsilä published a stock exchange release announcing a major provision it has made on two nuclear power plant projects to cover the excess costs and project delays, and stating that the allocation of responsibility for the additional costs and delays is in dispute. In April 2019, Wärtsilä announced in its notification addressed to TVO that EUR 65.0 million of the provision applies to TVO's EDG project. In October 2020, TVO initiated arbitration proceedings against Wärtsilä concerning the installation and commissioning schedule of the auxiliary diesel generators (EDG 1–8) in accordance with the EDG project's delivery agreement. The allocation of responsibility between the parties concerning the abovementioned additional costs and delays are to be resolved in the same proceedings. The arbitration proceedings are still ongoing.

Nuclear power

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

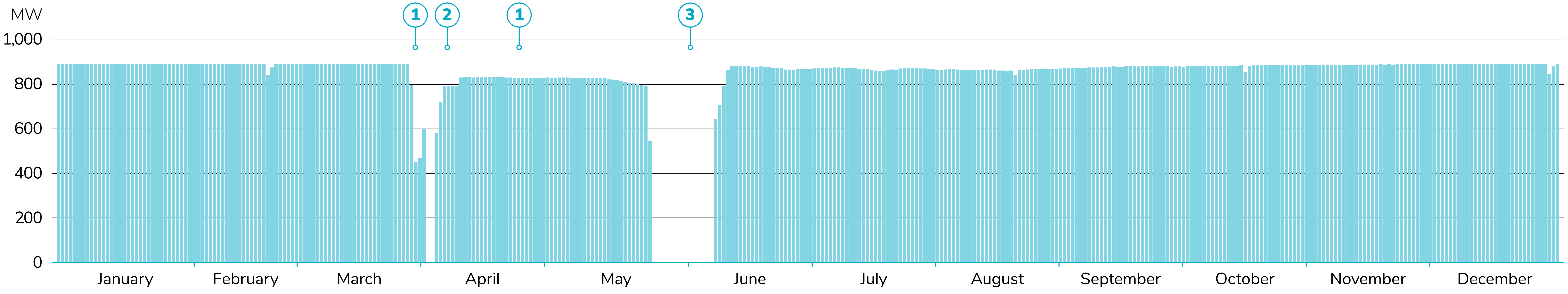
Olkiluoto 1 and Olkiluoto 2

THE ELECTRICITY production of OL1 and OL2 in 2020 was 14,587 (14,751) GWh, and the total load factor was 93.5 (94.8) percent.

The plant units operated safely. OL1's net production was 7,310 (7,542) GWh and load factor 93.7 (96.9) percent. OL2's net production was 7,277 (7,209) GWh and load factor 93.3 (92.7) percent.

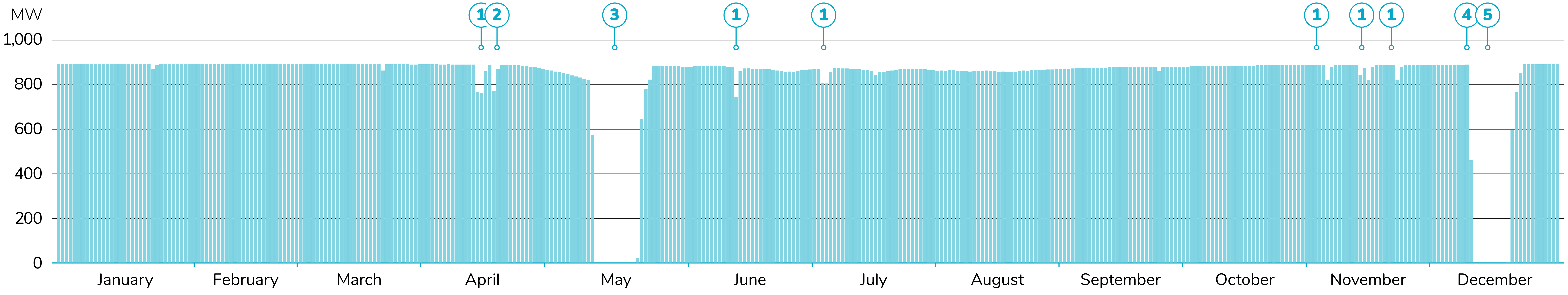
There was a disturbance at OL2 in December, when the plant unit was suddenly disconnected from the grid, and a site area emergency was declared at the plant unit. The disturbance quickly proved to be less serious than a site area emergency, and the plant unit was driven down into a cold shutdown state. The situation was caused due to hot water moving into the filters of the reactor water clean-up system. The

OL1 Production
Average output MW



1. Restriction due to fuel 2. Repair of the main steam valve 3. Annual outage

OL2 Production
Average output MW



1. Low electricity demand 2. Partial scram due to a failure in temperature measurement 3. Annual outage
4. Reactor scram due to high activity levels in the main steam lines 5. Cold shutdown state due to inspection and repair work

plant unit's safety functions operated as planned, and the disturbance did not cause harm to people or the environment. The disturbance led to an interruption of nine days in OL2's electricity production.

Annual outages

THE REFUELING and maintenance outages carried out at the plant units on alternating years are designed to ensure that a good level of operability and production is maintained at the Olkiluoto nuclear power plant at all times.

The 2020 annual outages of the Olkiluoto nuclear power plant were started with a refueling outage at the OL2 plant unit on May 10. The refueling outage was completed on May 21.

The annual outage carried out at the OL1 plant unit was a maintenance outage, which started on May 24 and was completed on June 8. The duration of the plant unit's annual outage was shortened in March from the planned 25 days to 14 days due to the COVID-19 pandemic. Numerous special procedures and arrangements were put in place during the annual outages to protect peoples' health in Olkiluoto and prevent the possible spread of the virus, as well as to ensure a safe and high-quality annual outage. Modernizations and repair work with safety and availability significance were completed during the annual outages. Other planned modernizations were transferred to be completed in upcoming outages. Preventive maintenance was carried out normally according to the preventive maintenance programme. A significant task was the modernization of the bushing modules of one containment, which was completed for the first time. Other significant tasks were the modernization of the valve actuator in the cooling system of the shutdown reactor as well as the changing of two valves, the connection of the new recirculation line to one subsystem in auxiliary feed water systems, as well as repair work, preventive maintenance, inspections, and testing.

The annual outages were carried out successfully despite special arrangements due to COVID-19.

No occupational accidents resulting in absence occurred during the annual outages.

In addition to TVO's own personnel, up to 690 contractor employees took part in the outage works.

Olkiluoto 3 EPR

OL3 EPR, currently under construction, was procured as a fixed-price turnkey project from a consortium (Plant 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.

In March 2018, TVO signed a comprehensive Global Settlement Agreement (GSA) with the OL3 EPR plant supplier consortium companies Areva NP, Areva GmbH, and Siemens AG, as well as with the Areva Group parent company Areva SA, which is wholly owned by the French State. The agreement entered into force at the end of March 2018. In the GSA, the plant supplier consortium companies committed to ensuring that the funds dedicated to the completion of the OL3 EPR project are sufficient and cover all applicable guarantee periods. Consequently, a trust mechanism was set up funded by Areva companies to secure the funds required to cover Areva's costs for the completion of the OL3 EPR project. The fund has been replenished during the accounting period according to the terms of the agreement. During the accounting period, TVO has recognized receivables from the Plant Supplier amounted to the accumulated compensation until the end of the accounting period in accordance with the GSA. The EUR 240 million compensation decreases the historical costs of property, plant, and equipment in the balance sheet.

The Finnish Government granted an operating license for the plant unit in March 2019. TVO submitted on April 8, 2020 a permission application to STUK for nuclear fuel loading of the OL3 EPR nuclear power plant unit.

TVO issued on August 28, 2020 a stock exchange release stating that TVO has received an updated re-baseline schedule on the commissioning of the OL3 EPR plant unit from the supplier Areva–Siemens consortium. According to the schedule, fuel will be loaded into the reactor in March 2021, the unit will be connected to the grid in October of the same year, and regular electricity production starts in February 2022. The new Areva management, appointed in the summer of 2020, is preparing a financial solution to finalize the project until the end of the guarantee period. TVO continues negotiations with the Areva–Siemens consortium on the terms for project completion.

According to the Plant Supplier's latest project schedule, TVO's current cost estimate, and the effects of the GSA, TVO estimates that its total investment in the OL3 EPR project will be approximately EUR 5.7 billion.

Due to the COVID-19 pandemic, work at the OL3 EPR construction site has continued under special arrangements, and TVO is now getting ready for nuclear fuel loading. The remaining system testing, maintenance work, and the repair work on the technical faults will be completed before the fuel loading. In addition, preparations are being made for the remaining inspections from STUK, and the fuel loading permission application and its security assessment are being completed. Work is continued on the preparedness for nuclear fuel loading of technical systems. The remaining work has been scheduled in detail.

At the end of the reporting period, the workforce at the site was circa 1,600 people. The occupational safety at the site remained at a good level.

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 2020, nuclear fuel purchases amounted to EUR 65.6 (68.5) million and the amount consumed to EUR 61.9 (59.5) million.

The nuclear fuel and uranium stock carrying value on December 31, 2020 was EUR 265.6 (261.9) 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 1,029.5 (1,040.8) 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 November 2020, MEAE set TVO's liability for nuclear waste management at EUR 1,450.6 (1,471.4) million to the end of 2020 and the Company's funding target for 2021 at EUR 1,450.6 (1,471.4) million.

In March 2020, the Finnish State Nuclear Waste Management Fund confirmed TVO's nuclear waste management fee refund for 2019 at EUR -42.3 (payment 26.7) million, which was returned by the Fund on March 31, 2020 (paid into the fund on March 29, 2019).
The nuclear waste management liability of TVO is lower at the end of 2020 than in the previous year based on the decrease of nuclear waste management's total cost estimate updated every three years. Thus, assets will be refunded from the Nuclear Waste Management Fund to TVO in respect of 2020 according to the rules of the Fund. The estimate for the refund as documented in the financial statements is EUR 28.3 million. The refund has a decreasing effect on the production cost of OL1 and OL2 plant units in 2020. The final refunded amount of the nuclear waste management fee of 2020 will be confirmed in March 2021.

A total of 8,498 (8,371) m^3 of low- and medium-level radioactive waste has accumulated from the OL1 and OL2 plant units during their operation. During 2020, the amount of waste increased by approximately 127 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 1,597 (1,565) tons, of which 33 (35) tons accumulated in 2020. 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 responsible for the final disposal of spent nuclear fuel generated at the power plants of its owners, TVO (Olkiluoto NPP) and Fortum (Loviisa NPP).

Posiva's final disposal project has advanced to the building phase of the encapsulation plant and the underground final disposal repository designed for the final disposal of spent nuclear fuel. The currently ongoing EKA project entails the implementation of the encapsulation plant as a whole, the additional excavations required for the final disposal repository, the installation of the systems needed for the start of final disposal, the operating license process, and setting up the supply chains necessary for production operation.

The work at Posiva's encapsulation plant site and final disposal repository, ONKALO, progressed during 2020 despite COVID-19 restrictions. Detailed planning of the plant systems has continued with the preparation of construction plans for safety-classified systems and their processing by authorities. The supplier selection for key equipment of the encapsulation plant is mostly done, and the design and manufacturing of equipment is progressing.

During the year, central tunnels which combine deposition tunnels were excavated in a depth of circa 430 metres. In the future, these central tunnels will be used to get into the deposition tunnels. The reinforcement of the personnel shaft leading into the final disposal facilities of spent nuclear fuel was completed in April, and the installation of the structures for the personnel lift was started in September. Building and technical installations progressed well and on schedule.

The work at the encapsulation plant is progressing according to schedule, and at the end of 2020, the structures of the plant reached a height of five metres above ground level. About two thirds of the frame structure has been completed.

The method test and excavation plans for the joint functional test, which demonstrates final disposal, were delivered to STUK in summer 2020.

Posiva's owners submitted the annual report on nuclear waste management of 2019 to the MEAE at the end of March. The nuclear waste management scheme, which presents the estimated management costs for the years 2020–2023, was submitted to the Ministry at the end of June 2020. The altered costs due to the delay in the launch of OL3 EPR were submitted to the MEAE at the end of September 2020. The updated costs are based on the nuclear waste management scheme submitted to the MEAE in June 2019, which contains an estimate of nuclear waste management costs for financial provision.

Coal power

TVO had a 45 percent holding in the Meri-Pori coal-fired power plant owned and operated by Fortum Power and Heat Oy. TVO renounced its share of Meri-Pori's capacity in the beginning of July 2020. Fortum acquired the capacity for its use in the beginning of 2019.

Meri-Pori

The amount of electricity produced by TVO's share at the Meri-Pori coal-fired power plant between January 1– June 30, 2020 was 82.4 (January 1– December 31, 2019: 181.7) GWh requiring 30.7 (65.9) thousand tons of coal and 72.6 (160.2) thousand tons of carbon dioxide emission rights.

Research and development

RESEARCH and development costs were EUR 11.7 (14.7) million, most of which was used for R&D activities related to nuclear waste management.

TVO is a significant financier of Finnish public sector research programs for reactor safety and nuclear waste management. In 2020, TVO's contribution to the Finnish State Nuclear Waste Management Fund, which finances such programs, amounted to EUR 7.2 (7.3) million.

In spring 2020, TVO initiated its own three-year research project as part of the national EcoSMR project, in which comprehensive and up-to-date information is produced about SMR *(Small Modular Reactor)* plants and the development of regulation which suits SMRs is supported.

TVO is part of a national nuclear power companies' (TVO, Fortum, Fennovoima) joint project, where the goal is to develop licensing and approval processes of systems and equipment at nuclear power plants in Finland. In 2020, the testing and commissioning phase of common practices and a shared digital platform was reached.

Acquisitions of tangible and intangible assets and shares

INVESTMENTS in 2020 were EUR 55.9 (369.5) million. Investments of the parent company were EUR 52.6 (278.2) million, of which EUR 9.1 (224.8) million were allocated to the OL3 EPR project. The OL3 EPR investment is decreased by the additional compensation in accordance with the GSA, which has been recorded as EUR 240 million for the accounting period.

Carbon dioxide emission allowances have been relinquished to the Energy Authority worth EUR 3.7 (10.2) million. In 2020, emission allowances were acquired worth EUR 1.7 (5.1) million. The Company's need for carbon dioxide emission allowances for the accounting period was covered by acquired emission allowances.

Responsibility

RESPONSIBILITY is one of the Company's core values. For TVO, the most important aspects of responsibility include a safety culture of a high standard, the supply of environmentally friendly electricity for society, creating added economic value, good work community and networks, as well as being a valued trailblazer in the nuclear industry.

The TVO Group and its entire personnel are committed to a high standard safety culture (see: chapter *Safety*).

TVO Group-level policies, approved by the Management Group, outline key objectives related to responsible operations. Group-level policies include:

- Nuclear safety and quality policy (nuclear safety, radiation protection, nuclear material safeguards, and quality)
- Corporate social responsibility policy (environment and energy efficiency, procurement, personnel, occupational safety, and communications)
- Production policy (plant operation and maintenance as well as increasing the production capacity)
- Corporate safety policy (safety of production and activities as well as the safety of people and facilities, rescue and emergency activities, and data security).

TVO's principles of responsible business operations are described in TVO's Code of Conduct, which is approved by the Company's Board of Directors and applies to the entire personnel as well as all partners and subcontractors. TVO's Code of Conduct complies with OECD's Guidelines for Multinational Enterprises. TVO considers any non-compliance with its Code of Conduct unacceptable. The Code of Conduct is a part of the training requirements of all TVO employees and is included in Company's Terms of Procurement. Code of Conduct training was completed by 160 people in total in 2020. The Code of Conduct is published on TVO's website at https://www.tvo.fi/code-of-conduct.

TVO has committed to promote the following of the United Nations Sustainable Development Goals in its actions:

TVO reports on its corporate social responsibility in accordance with the core extent of Global Reporting Initiative (GRI) Standards. TVO's Responsibility Report is published on the Company's webpage https://www.tvo.fi/financialpublications. TVO's Responsibility Report has been subjected to a limited audit by an external party. The information in the Environmental Report included in the Responsibility Report has been verified by an external party.

Objectives and Results of TVO's Responsibility Program

Objectives of responsibility are based on the principle of continuous improvement. The objectives enable the Company to monitor the realization of major responsibility issues.

	Objective 2020	Actual 2020
Reputation index	75	77
Personnel survey, category	A*	A*
Reports suspecting violations of the Company's Code of Conduct	-	3
Sick leaves, %	-	2.3
Occupational accident frequency	< 2.4	4.5
Collective radiation dose, manmSv	837	565
Number of environmental incidents, pcs	0	0
Unplanned energy unavailability factor, %	< 0.8	2.4
Number of unplanned automatic scrams, pcs	0	2

Reputation index: TVO Group stakeholder survey, average of respondent groups 0–100; under 50=Weak, 50–62=Moderate, 62–70=Good, over 70=Excellent. The survey is conducted and the results are reported every two years. The next survey will be conducted in 2021.
***Personnel survey:** The personnel survey was conducted at the end of 2019. The results were reported in the beginning of 2020. The survey is conducted every 18 months. The evaluation scale from highest to lowest result is AAA-C, where A is satisfactory.
Occupational accident frequency: per million working hours. The indicator is Group-level, including Posiva and TVO's and Posiva's subcontractors.
Collective radiation dose: World Association of Nuclear Operators (WANO) indicator. Reference point: other WANO members' NPPs. Goal: the best quarter.
Environmental incidents: in class considerable/severe.
Unplanned energy unavailability factor: % of total production.

Implementation of nuclear professionalism was strengthened

The development of management principles and working policies in a nuclear power plant has been carried out through defining nuclear professionalism, in other words expectations for working in a nuclear power plant, and implementing procedures to confirm expectations. The expectations for a nuclear professional are a part of TVO's activity-based management system.

During 2020, a year defined by COVID-19, the focus was on working as a nuclear professional under special circumstances. In 2020, a safety culture survey was completed at the TVO Group, the results of which had comprehensively improved from the previous survey completed in 2018.

Results of Ethical Business

TVO does not tolerate any kind of corruption or bribery. The Code of Conduct requires employees to refrain from transactions and retreat from situations that could cause a conflict between the interests of the Company and the individual. The Company maintains a register on the engagements of specified individuals. TVO also has specific instructions regarding hospitality practices, related party transactions, and the processing of insider information. Detailed instructions are available regarding the approval procedure of TVO's commitments (procurement agreements, orders, invoices, etc.).

TVO respects the human rights of all people affected by the Company's operations and expects the same from all companies acting in its supply and subcontracting chains. TVO's objective is to guarantee good working conditions for all employees. In accordance with its Code of Conduct, TVO does not condone any kind of discrimination or harassment on the grounds of age, gender, ethnic origin, religion, beliefs, opinions, or other personal characteristics. TVO observes an equality and equal opportunity principle.

All personnel, partner, and subcontractor activities at Olkiluoto are supervised by TVO. TVO only trades with approved suppliers. All products and services acquired must meet the requirements of TVO's safety, quality, and environmental standards as well as the principles of responsible business described in the Company's Code of Conduct. TVO's supplier review process also includes active monitoring and periodical reviewing of suppliers. Through supplier reviews, the Company ensures that suppliers follow good practices on environmental, personnel, and quality management related issues. During 2020, 180 suppliers were reviewed by using various methods.

TVO has a procedure for reporting suspected violations of the Company's Code of Conduct and abuses of insider information. The report can also be filed anonymously. TVO's internal audit processes all concerns regarding possible violations against the Code of Conduct or abuses of insider information in such a manner that the rights and the privacy of both the person raising the concern and the alleged violator are protected under all circumstances.

Internal audit investigated three notifications of possible violations against TVO's Code of Conduct in 2020 and implemented necessary actions.

Safety and Occupational Safety

Safety

The safe use of the Olkiluoto nuclear power plant relies on competent and responsible personnel, high-quality plant technology, the principle of continuous improvement, and independent internal and external supervision. TVO's activity-based management system meets the requirements of the ISO 9001 standard. In order to ensure safe operation, TVO systematically estimates the level of safety and safety culture, and all TVO employees are committed to a high-quality safety culture.

TVO regularly assesses the state of its overall safety from the viewpoints of production, nuclear safety, safety and service life management as well as management, organization, and personnel. The overall level of safety is good.

The state of the safety culture is regularly assessed according to the International Atomic Energy Agency (IAEA) procedure. In 2020, a safety culture survey was carried out in the TVO Group. Compared to the previous survey completed in 2018, the results had comprehensively improved. TVO's safety culture is estimated to be at a level at which the strategic importance of safety has been recognized and preventative practices are observed. TVO aims at reaching the highest possible level of safety culture. TVO has continued to employ various measures to maintain and develop the Company's safety culture.

The Company regularly assesses the operations of its plant units with the help of internationally used safety indicators. Of the safety indicators, collective radiation dose, unplanned energy unavailability factor, and unplanned automatic scrams realization are described in the table "Objectives and results of TVO's responsibility principle" (see chapter: *Responsibility*).

The Olkiluoto nuclear power plant units, OL1 and OL2, operated safely throughout the year. TVO classifies events affecting nuclear safety in accordance with the international INES scale (0–7). In 2020, the Olkiluoto nuclear power plant had nine issues classified as level 0 (No safety significance) and one issue classified as level 1 (Anomaly, exceptional incident with safety effects). TVO investigates all events with possible impacts on nuclear safety, and defines corrective measures for their causes. TVO publishes information on every significant event with public interest in the News section of the Company's website.

Occupational safety

Occupational health and safety activity is guided by an ISO 45001 certified occupational health and safety system, which also includes construction operations at the OL3 EPR site in the areas where TVO is responsible.

The mission of the Occupational safety organization is to support, monitor, and develop occupational safety activities. The Group has responsible contractors working in Olkiluoto, who follow the Group's expectations and adhere to common principles. The group-level goal of occupational safety in 2020 was to clarify occupational safety responsibilities in the organization, to support team managers, to strengthen cooperation with contractors, and to develop danger recognition and risk management.

The Group's goal for accident frequency in 2020 was 2.4 (accidents per million work hours). The annual outages were completed in a safe manner, and no occupational accidents resulting in absence occurred during the annual outages. However, the goal for accident frequency was not achieved, since the accident frequency in Olkiluoto was 4.5 in 2020. TVO personnel, Posiva personnel, and all contractors working in Olkiluoto are included in the accident frequency calculation, excluding the OL3 EPR site, which is reported by the plant supplier consortium Areva–Siemens.

Key occupational safety figures for 2020 are reported in further detail in the corporate responsibility and environmental reporting.

The environment

TVO is committed to observing the principles of sustainable development, and environmental responsibility is a part of the Company's management system. TVO's and Posiva's certified environmental management systems meet the requirements of the international ISO 14001 standard and the energy efficiency system. Their goal is continuous improvement and raising the level of environmental protection. TVO's system is also Eco-Management and Audit Scheme (EMAS) registered.

TVO recognizes the environmental and energy aspects of its operations and works to minimize their negative impacts at all stages of the electricity production chain. Risks related to the environment have also been recognized and no significant risks influencing operations were detected in risk analysis. Through risk management operations, the Company aims to foresee possible divergent situations and to mitigate their effects to the environment. TVO constantly monitors the environmental impacts of its operations.

The Company's operations met the requirements set in legislation, environmental permits, and the environmental management system in 2020. The most significant environmental impacts of the Olkiluoto nuclear power plant are the production of climate-friendly electricity and the local warming of the sea water near the plant. During the year under review, the electricity production of the Olkiluoto nuclear power plant was 14.59 TWh, and the temperature of cooling water remained within the limits required by the environmental permit.

As in previous years, the environmental load caused by the Olkiluoto nuclear power plant was minimal in 2020. Radioactive emissions into the atmosphere and water were below regulatory limits.

Operations were developed in accordance with the regulations of environmental permits and the environmental management system. In accordance with the principle of continuous improvement, the environmental management system sets goals for the Company's operations. The system is regularly monitored by a team of environmental experts from various organizational units. TVO is also part of an energy efficiency agreement. The Company's total energy savings target for the agreement period 2017–2025 is 150 GWh.

In August, TVO initiated an environmental impact assessment for building a near-surface final disposal facility for very low-level nuclear waste in Olkiluoto. In addition, the Olkiluoto water management security project for securing the supply of raw water and building a transfer sewer for waste water progressed to the construction engineering stage in autumn 2020.

Environmental issues from 2020 and key figures related to the environment as well as the results of the environmental program are reported in further detail in the corporate social responsibility and environmental reporting. The information has been verified by an external party.

Group personnel and training

Personnel

TVO's Code of Conduct and group-level policies lay down the principles of the Company's personnel policy. TVO aims to provide a healthy, equal work community that promotes equality and does not condone any form of discrimination.

At the year-end, the total number of personnel in the Group was 975 (942), and the average during the year was 984 (943). The year-end total number of personnel in TVO was 973 (941), and the average during the year was 983 (942). The year-end total for permanent personnel was 954 (922).

TVO recruited 77 (129) employees in 2020. During the year, 45 (56) permanent employees left the Company, including 11 (13) who retired. TVO's sick leave percentage was 2.3 (2.6).

The collective agreements for different groups of personnel in the energy industry are in force in accordance with the so called framework agreement of labor confederations until the beginning of 2022. 100 percent of TVO employees are working under collective agreement.

The TVO Group prepared for possible COVID-19 infections during the year, and the spread of the virus was prevented through several measures on the Olkiluoto island. Practices and working customs changed significantly as a result of the COVID-19 pandemic. Broad measures included e.g. reducing travel, transitioning to working remotely where possible, restricting guests in the TVO Group's facilities, cutting back on different events, as well as transferring training into an online environment. Access restrictions were implemented in the area to divide encounters to separate zones and minimize contacts. In addition, extensive measures were carried out in offices regarding work place meals, cleanliness, and tidiness.

Personnel performance and workload are monitored in navigation discussions held three times a year. Personnel admission and exit interviews are held at all levels of the Group. Supervisors are instructed in the general and professional induction training of new employees before new recruits begin their work. Summaries are drawn of both admission interviews of new employees and exit interviews of personnel leaving the Company and the results are utilized in developing operations.

The Group's management and operational culture is being developed with the help of the Better workplace programme. The goals of the programme include improving efficiency of operations and securing good preconditions for operations by developing issues related to the work of each individual, the immediate work community, and the entire Group. The progress of the programme is monitored on a regular basis, and the effectiveness is measured with e.g. regular personnel surveys. In 2020, the focus has been, among other things, on promoting concrete actions related to nuclear professionalism, on clarifying decision making, on developing cooperation, and on developing actions of wellbeing at work and occupational safety.

The focus of occupational health care has been on preventative occupational health care, which supports the employee's health, work, and functioning abilities, as well as their maintenance and development.

The human resource issues and indicators for 2020 can be found in more detail in connection with corporate responsibility reporting.

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. Personnel were trained for a total of 10,342 (12,249) days, on average 10.6 (13.0) days per each TVO employee (including TVONS). Despite the COVID-19 situation, diverse training was offered, and training was carried out in a high-quality manner, taking the COVID-19 situation into account.

In 2020, OL1 and OL2 operators attended operational training days in the spring and in the autumn as well as advanced simulator courses according to their training program.

In 2020, OL3 EPR operators attended operational training days in the spring and in the autumn as well as advanced simulator courses according to their training program. OL3 EPR operators work in shifts in the combined operating organization of the Supplier and TVO, carrying out system operation and monitoring tasks.

OL3 EPR training was organized for TVO's and the Plant Supplier's personnel e.g. on the correct procedures at a nuclear power plant (the Work Site Standard training). The aforementioned training was also set as a condition for access permission to the plant units. In addition, training was given on technical specifications, different instructions of the project, and the operating line's decision-making process. Training on nuclear fuel loading and processing machines at OL3 EPR was organized for recognized target groups.

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 2020, a total of 3,527 (3,193) people took the general part of the induction training, and 1,614 (1,707) people the radiation protection part (those recorded by January 15, 2020). Both training courses were offered in Finnish and English. Both parts are also available for renewal in the external online learning environment in Finnish and English.

Basic know-how needed in annual outages was developed by two separate trainings. Virtual and mock-up training were a condition for access permission to the plant units, which were carried out online due to the COVID-19 pandemic. The objective of these trainings was to educate TVO staff and contractor workers on the expectations of TVO concerning work quality and correct procedures.

721 TVO staff and 1,165 contractors, of which 33 were authorities, completed the annual outage training online. The total number of trained persons was 1,886 in 2020. The mock-up training was completed by employees of the Group who had not taken part in the training before or felt the need to repeat the topic (the gap between repeating the training is two years for the Group employees). A total of 304 people took part in the training. Contractors and authorities also trained with a video mock-up, in which a total of 1,100 people took part, including 25 authorities.

In spring 2020, TVO participated in carrying out a nuclear safety and nuclear waste management course (YJK) together with other central actors in the field. Through this training, students are given a comprehensive image of the nuclear industry and its central operating models. The YJK training which was planned for the autumn was postponed due to the COVID-19 pandemic. Subsequently, it was decided that the content of the course would be modified, and the training would be started with a new concept in autumn 2021.

TVO took part in the Nordic Nuclear Trainee Program together with Swedish and the Fortum-owned Loviisa nuclear power plants. The aim of the training is to interest young people in the nuclear industry as an employer and to highlight nuclear power as a future opportunity. The implementation of the program itself suffered from the COVID-19 pandemic, but the training was started with virtual meetings in autumn 2020. The program is meant to continue in spring 2021.

Subsidiaries and joint ventures

TVO NUCLEAR SERVICES OY (TVONS) is a wholly-owned subsidiary of TVO. TVONS provides its customers with expertise in high-level nuclear safety, cost-effective operations and nuclear waste management, and services and know-how related to building new nuclear plants. The special expertise and networks 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 nuclear power plants. Posiva Solutions Oy (PSOY) is a wholly-owned subsidiary of Posiva. As stated in its Articles of Association, PSOY provides nuclear waste management consultancy and planning, as well as research and development activity related to the industry.

Major Events after the End of the Year

TVO has agreed that the expiration dates of bilateral bank loans totaling EUR 775 million have been extended from 2022 and 2023 to 2024.

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. Commissioning tests and maintenance work remain before nuclear fuel loading. TVO still needs a separate permission from STUK for nuclear fuel loading. TVO continues to support the Plant Supplier in the completion of the project. Delay compensations from the Plant Supplier to TVO in accordance with the GSA in 2018 will continue until June 30, 2021. TVO continues negotiations with the Areva–Siemens consortium on the terms for the completion of the project.

Posiva continues the implementation of the EKA project in 2021, which encompasses the entirety of the final disposal facilites. Posiva is preparing to submit an operating license to STUK.

COVID-19 measures shall be continued during 2021 in accordance with the general policies of the Finnish Government and the recommendations of the Finnish Institute for Health and Welfare (THL). The COVID-19 situation shall also be taken into consideration in the preparations for the annual outages during the spring to ensure employees' safety.

Proposals to the Annual General Meeting

TEOLLISUUDEN VOIMA OYJ'S distributable equity as of December 31, 2020 amounted to EUR 18,730,000. 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€)	2020	2019	2018	2017	2016
Turnover	275	254	350	321	343
Profit/loss for the financial year	0	87	-18	-9	-11
Research expenses	12	15	16	16	14
Investments	56	369	181	299	265
Equity	2,043	1,819	1,745	1,667	1,589
Subordinated shareholder loans (hybrid equity) (included in the former) [2] [4]	929	679	679	579	479
Non-current and current interest-bearing liabilities (excluding loan from VYR) [1]	4,281	4,370	4,141	3,923	4,179
Loan from VYR	716	591	666	656	1,027
Provision related to nuclear waste management	1,030	1,041	952	953	955
Balance sheet total	8,181	7,942	7,662	7,354	7,952
Equity ratio, % [3]	31.7	28.8	28.9	29.0	26.6
Average number of personnel	984	943	872	801	765

[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€)	2020	2019	2018	2017	2016
Profit/loss for the financial year (IFRS)	0	87	-18	-9	-11
The impact of the nuclear waste management obligation [1] (profit -/loss +)	6	-80	22	18	17
Other IFRS adjustments	0	-1	-1	-1	-1
The impact of joint ventures	3	-1	-1	-1	-2
Profit/loss before appropriations	9	5	2	7	3
Adjusted profit/loss for the financial year	9	5	2	7	3

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

	2020	2019	2018	2017	2016
TVO's share in the Finnish State Nuclear Waste Management Fund (VYR) (M€)	1,479	1,514	1,480	1,437	1,380
TVO's funding target obligation to the Finnish State Nuclear Waste Management Fund (M€)	1,451	1,471	1,506	1,471	1,428
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets) (M€)	1,030	1,041	952	953	955

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 (FAS)

Teollisuuden Voima Oyj (FAS) (M€) Parent company's financial statement has been prepared in accordance with the Finnish Accounting Standards (FAS).	2020	2019	2018	2017	2016
Turnover	271	251	346	316	340
Profit/loss before appropriations	8	5	1	6	3
Fuel costs	64	65	72	57	69
Nuclear waste management costs	28	-5	58	64	73
Capital expenditure (depreciation and financial income and expenses)	34	39	53	51	52
Investments	52	278	177	298	262
Equity	861	857	857	863	858
Appropriations	197	193	187	185	183
Non-current and current interest-bearing liabilities (excluding loan from VYR and loans from equity holders of the company) [1] [2]	4,180	4,282	4,070	3,833	4,043
Loans from equity holders of the company [2]	929	679	679	579	479
Loan from VYR	716	591	666	656	1,027
Balance sheet total	6,995	6,724	6,619	6,272	6,793
Equity ratio, % [3]	31.7	28.2	29.0	29.0	26.4
Average number of personnel	983	942	871	800	764

[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)	2020	2019	2018	2017	2016
Olkiluoto 1	7,299	7,531	6,742	7,144	7,035
Olkiluoto 2	7,264	7,198	7,321	6,241	7,288
Total Olkiluoto	14,563	14,729	14,063	13,385	14,323
Meri-Pori	82	182	660	131	563
Total	**14,645**	**14,911**	**14,723**	**13,516**	**14,886**

Capacity factors, %	2020	2019	2018	2017	2016
Olkiluoto 1	93.7	96.9	87.8	93.1	91.4
Olkiluoto 2	93.3	92.7	94.3	81.3	94.6
Total capacity factor	**93.5**	**94.8**	**91.1**	**87.2**	**93.0**

TVO share of the electricity used in Finland, %	2020	2019	2018	2017	2016
	18.1	17.3	16.9	15.8	17.5

TVO Group financial statements

Consolidated income statement

EUR 1,000	Note	1 Jan-31 Dec 2020	1 Jan-31 Dec 2019
Turnover	3	**275,120**	**254,208**
Work performed for own purpose	4	21,217	18,596
Other income	5	13,253	12,796
Materials and services	6	-78,230	-81,966
Personnel expenses	7	-72,493	-67,787
Depreciation and impairment charges	3, 8	-45,461	-45,488
Other expenses	9	-86,183	-92,798
Operating profit/loss		**27,223**	**-2,439**
Finance income	10	11,616	11,550
Finance expenses	10	-39,517	76,700
Total finance income and expenses		-27,901	88,250
Share of the profit/loss of joint ventures		1,132	1,385
Profit/loss before income tax		**454**	**87,196**
Income taxes	11	0	0
Profit/loss for the financial year		**454**	**87,196**
Profit/loss for the financial year attributable to:			
Equity holders of the company		454	87,196

Consolidated statement of comprehensive income

EUR 1,000	1 Jan-31 Dec 2020	1 Jan-31 Dec 2019
Profit/loss for the financial year	454	87,196
Other comprehensive items		
Items that may be reclassified to profit or loss in subsequent periods:		
Cash flow hedges	-21,994	-8,028
Total other comprehensive profit/loss items	-21,994	-8,028
Total comprehensive profit/loss for the financial year	**-21,540**	**79,168**
Total comprehensive profit/loss for the financial year attributable to:		
Equity holders of the company	-21,540	79,168

Consolidated balance sheet

EUR 1,000	Note	31 Dec 2020	31 Dec 2019
Assets			
Non-current assets			
Property, plant and equipment	12	5,664,650	5,663,306
Intangible assets	13	2,589	5,961
Loans and other receivables	16	959,286	596,417
Investments in joint ventures	14	4,236	7,374
Investments in shares	17	1,934	1,934
Derivative financial instruments	20	28,516	29,254
Share in the Finnish State Nuclear Waste Management Fund	24	1,029,522	1,040,826
Total non-current assets		**7,690,733**	**7,345,072**
Current assets			
Inventories	19	274,215	269,856
Trade and other receivables	16	52,231	73,262
Derivative financial instruments	20	2,515	15,859
Cash and cash equivalents	18	161,363	237,832
Total current assets		**490,324**	**596,809**
Total assets		**8,181,057**	**7,941,881**
Equity and liabilities			
Capital and reserves attributable to equity holders of the company			
Share capital	21	600,365	600,365
Share premium reserve and statutory reserve	21	242,383	242,383
Reserve for invested non-restricted equity	21	0	3
Fair value and other reserves	21	-27,372	-5,378
Subordinated shareholder loans (hybrid equity)	21	929,300	679,300
Retained earnings	21	298,272	302,724
Total equity		**2,042,948**	**1,819,397**

EUR 1,000	Note	31 Dec 2020	31 Dec 2019
Liabilities			
Non-current liabilities			
Provision related to nuclear waste management	24	1,029,522	1,040,826
Loan from the Finnish State Nuclear Waste Management Fund	22	716,447	591,441
Bonds	22	2,720,218	2,858,937
Other financial liabilities	22	1,092,051	1,040,301
Derivative financial instruments	20, 22	40,413	29,820
Total non-current liabilities		**5,598,651**	**5,561,325**
Current liabilities			
Current financial liabilities	22	427,211	422,769
Derivative financial instruments	20, 22	1,598	18,365
Advance payments received	23	19,789	17,788
Trade payables	23	8,330	6,655
Other current liabilities	23	82,530	95,582
Total current liabilities		**539,458**	**561,159**
Total liabilities		**6,138,109**	**6,122,484**
Total equity and liabilities		**8,181,057**	**7,941,881**

Consolidated statement of changes in total equity

EUR 1,000	Share capital	Share premium reserve and statutory reserve	Reserve for invested non-restricted equity	Fair value and other reserves	Subordinated shareholder loans (hybrid equity)	Retained earnings	Attributable to equity holders of the company	Total equity
Equity 1 Jan 2020	**600,365**	**242,383**	**3**	**-5,378**	**679,300**	**302,724**	**1,819,397**	**1,819,397**
Profit/loss for the financial year	0	0	0	0	0	454	454	454
Other comprehensive profit/loss items:								
Cash flow hedges	0	0	0	-21,994	0	0	-21,994	-21,994
Subordinated shareholder loans (hybrid equity)	0	0	0	0	250,000	0	250,000	250,000
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	0	-4,906	-4,906	-4,906
Acquisition of own shares	0	0	-3	0	0	0	-3	-3
Equity 31 Dec 2020	**600,365**	**242,383**	**0**	**-27,372**	**929,300**	**298,272**	**2,042,948**	**2,042,948**

EUR 1,000	Share capital	Share premium reserve and statutory reserve	Reserve for invested non-restricted equity	Fair value and other reserves	Subordinated shareholder loans (hybrid equity)	Retained earnings	Attributable to equity holders of the company	Total equity
Equity 1 Jan 2019	**600,365**	**242,383**	**3**	**2,650**	**679,300**	**220,556**	**1,745,257**	**1,745,257**
Profit/loss for the financial year	0	0	0	0	0	87,196	87,196	87,196
Other comprehensive profit/loss items:								
Cash flow hedges	0	0	0	-8,028	0	0	-8,028	-8,028
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	0	-5,028	-5,028	-5,028
Equity 31 Dec 2019	**600,365**	**242,383**	**3**	**-5,378**	**679,300**	**302,724**	**1,819,397**	**1,819,397**

Consolidated cash flow statement

EUR 1,000	Note	2020	2019
Operating activities			
Profit/loss for the financial year		454	87,196
Adjustments:			
Finance income and expenses		27,901	-88,250
Depreciation and impairment charges		45,461	45,488
Share of the profit/loss of joint ventures		-1,132	-1,385
Other non-cash flow income and expenses		-29,268	1,488
Sales profit/loss of property, plant and equipment and shares		-51	-16
Changes in working capital:			
Increase (-) or decrease (+) in non-interest-bearing receivables		21,527	76,952
Increase (-) or decrease (+) in inventories		-4,465	-8,985
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities		-9,191	-25,404
Interest paid and other finance expenses		-3,896	-3,437
Dividend received		4,270	0
Interest received		3,217	3,497
Cash flow from operating activities		**54,827**	**87,144**
Investing activities			
Acquisition of property, plant and equipment		-273,590	-395,144
OL3 EPR project compensation		0	122,000
Proceeds from sale of property, plant and equipment		127	23
Acquisition of intangible assets		-741	-97
Loan receivables granted		-125,138	-9,098
Repayments of loans granted		240	84,006
Cash flow from investing activities		**-399,102**	**-198,310**

EUR 1,000	Note	2020	2019
Financing activities			
Acquisition of own shares		-3	0
Withdrawals of subordinated shareholder loans (hybrid equity)		250,000	0
Withdrawals of long-term loans		228,715	943,192
Repayment of long-term loans		-255,481	-817,151
Principal elements of lease payments		-2,052	-2,049
Interest paid of subordinated shareholder loans (hybrid equity)		-4,818	-5,170
Increase (-) or decrease (+) in interest-bearing receivables		2,030	-2,030
Increase (+) or decrease (-) in current financial liabilities		349,415	11,039
Repayment of current financial liabilities		-300,000	0
Cash flow from financing activities		**267,806**	**127,831**
Change in cash and cash equivalents		**-76,469**	**16,665**
Cash and cash equivalents 1 Jan		237,832	221,166
Cash and cash equivalents 31 Dec	18	**161,363**	**237,832**

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 a gas turbine plant. Fortum used TVO's share of the Meri-Pori capacity as of the beginning of 2019, and TVO relinquished its share in Meri-Pori in full in July 2020.

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 February 18, 2021. Under the Finnish Limited Liability Companies Act the Shareholders' meeting may modify or reject the financial statements.

The effect of coronavirus pandemic on financial statements

The coronavirus pandemic (COVID-19) has not affected materially accounting policies nor reporting numbers.

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:

1. Acquisition, transport, transportation insurance, storage and handling costs of fuel;
2. Taxes depending on the power production, and
3. 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:

4. Normal operating, maintenance and administrative costs;
5. Other taxes than those depending on the power production;
6. Insurance costs;
7. 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;
8. Depreciations;
9. Costs set out in the Nuclear Energy Act incurred by the Company's nuclear waste management (concerning the nuclear power plants), and
10. 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 preparation

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 December 31, 2020. 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 2019. The Group has adopted the following amendments to existing standards on January 1, 2020:

- IAS 1 (amendment) Presentation of Financial Statements and IAS 8 (amendment) Accounting Policies, Changes in Accounting Estimates and Errors
- IFRS 3 (amendment) Business Combinations
- IFRS 9 (amendment) Financial Instruments, IFRS 7 (amendment) Financial Instruments: Disclosures and IAS 39 (amendment) Financial Instruments: Recognition and Measurement
- IFRS 16 (amendment) Leases
- Revised Conceptual Framework for Financial Reporting

The following amendments to existing standards issued already will be adopted by the Group in 2021:

- IFRS 9 (amendment) Financial Instruments, IFRS 7 (amendment) Financial Instruments: Disclosures, IAS 39 (amendment) Financial Instruments: Recognition and Measurement, IFRS 4 (amendment) Insurance Contracts and IFRS 16 (amendment) Leases

The following new standards and amendments to existing standards issued already will be adopted by the Group in 2022 or later:

- IAS 1 (amendment) Presentation of Financial Statements [1)]
- IAS 16 (amendment) Property, Plant and Equipment [1)]
- IFRS 3 (amendment) Business Combinations [1)]
- IAS 37 (amendment) Provisions, Contingent Liabilities and Contingent Assets [1)]
- Annual Improvements 2018-2020: IFRS 9 Financial Instruments, IFRS 16 Leases and IAS 41 Agriculture [1)]
- IFRS 17 Insurance Contracts [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 January 1, 2022.
2) The standard, interpretation or amendment to published standard or interpretation is still subject to endorsement by the European Union. Effective date will be January 1, 2023.

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 of 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 divided into variable and fixed charge. Revenue on sales of electricity concerning variable charge is recognized based on delivery. The recognized income for shareholders is based on the quantities delivered. The variable charge is invoiced and recognized in turnover monthly. These variable costs are payed retrospectively in the 24th of next month. The fixed costs are invoiced one month in advance and recognized advance payments received. The fixed charge is entered as income in the right month. According to TVO's Articles of Association the fixed costs must be paid monthly in advance and no later than the 24th day of the preceding month .

The revenue from services is recognized on an accrual basis on the accounting period when the services are rendered to the customer and when the control of the service transfers to a 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 and compensation, 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	18–35 years
• Automation investments associated with the modernization	15 years
• Additional investments	10 years
Buildings and structures	10–40 years
TVO's share in the 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 recognition 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 supplies is determined by using the rolling weighted average cost formula. The use of nuclear fuel is recognized according to calculated consumption.

Leases

Leases are contracts, that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Leases are recognised as right-of-use assets and lease liability. Right-of-use assets are recognised on the commencement date and measured at acquisition cost, which includes the amount of the initial measurement of lease liability, any lease payments made before the commencement date less any lease incentives received and any initial direct costs. Lease liabilities are regonised on the commencement date and are measured at present value of remaining payments that will be paid during the term of lease. The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, the average interest rate on Group's loans and derivatives is used. Right-of-use assets are generally depreciated according to IAS 16 Property, Plant and Equipment.

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.

Lease payments associated with short-term leases and all leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT equipment. 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

In the Group, financial assets are divided into the following categories in accordance with the IFRS 9 standard: assets measured at fair value through profit or loss, at fair value through other comprehensive income items and at amortised cost. According to the standard, the classification is based on the business goal of the financial assets and contractual cash flows, and they are classified during their original acquisition.

Transaction expenses are included in the original book value of the financial liabilities, except in the case of items measured at fair value through profit or loss. All purchases and sales of financial assets are recognised at fair value on their trade date.

Financial assets are derecognised once the Group has lost its contractual right to the cash flows or transferred a significant portion of the risks and revenue out of the Group.

Recognised at fair value through profit or loss

Derivative financial instruments that do not meet the criteria for hedge accounting of the IFRS 9 standard are recognised at fair value through profit or loss. Profit and loss resulting from changes in fair value are recognised in the income statement in the financial period during which they have arisen. However, if expenses or income resulting from derivative financial instruments are caused by the construction of the OL3 EPR power plant, they are activated as part of the acquisition cost of the asset.

Fund holdings are recognised at fair value through profit or loss as either current or non-current items. In the Group, fund holdings are included in current receivables, except in the case of items whose maturity exceeds 12 months from the reporting date. Fund investments measured at fair value through profit or loss are classified as fund holdings.

Amortised cost

Amortised cost includes non-current loan and other receivables as well as current trade and other receivables. If an item is due in over 12 months, it is recognised as a non-current asset. After initial recognition, all loan and other receivables are measured at amortised cost using the effective interest method. Trade receivables are recognised on the balance sheet at their original nominal value, which corresponds to their fair value.

Fair value through other comprehensive income items

Share investments are included in the "Non-current asset investments in shares" class and recognised at fair value through other comprehensive income items. Changes in fair value are entered in other comprehensive income items and presented in the equity fair value reserve.

Cash and cash equivalents

Cash and cash equivalents comprise cash balances, call deposits and other short-term, liquid investments. Items classified as cash and cash equivalents have a maturity of no more than three months from the date of acquisition.

Impairment of financial assets

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

According to the IFRS 9 standard, the Group applies a simplified provision matrix to recognising the credit risks in trade receivables, on the basis of which a deductible item is recognised for all trade receivables based on the expected credit losses over the entire period of validity. The Group's annual credit losses have been very minor, and the expected credit losses according to the new model are not expected to have a significant impact. The impairment model has no impact on financial assets measured at fair value, since expected credit losses are already taken into account in the fair value in accordance with the IFRS 9 standard. As regards financial instruments measured at amortised cost, the Group performs active monitoring and recognises impairment in profit or loss in accordance with the criteria.

On each closing date, the Group estimates whether objective evidence exists of the impairment of an individual financial asset or a group thereof. If the fair value of the financial assets has fallen substantially below their acquisition cost on the closing date, this is considered evidence of impairment of the financial assets. The impairment loss of equity convertible investments classified as items recognised at fair value through other comprehensive income items is not reversed by means of the income statement.

Evidence of impairment may include, for example, the counterparty's substantial financial difficulties, failure to pay interest or instalments, probability of bankruptcy or other financial reorganisation, or observable information indicating determinable reduction of the estimated deferred cash flows, such as changes in the delay of payments and the counterparty's deteriorated financial situation correlating with the failure to pay.

Financial liabilities

The Group's financial liabilities are divided into the following categories in accordance with the IFRS 9 standard: assets measured at fair value through profit or loss, at fair value through other comprehensive income items and at amortised cost.

Financial liabilities are recognised at fair value including transaction expenses. After initial recognition, all financial liabilities are measured at amortised cost using the effective interest method. Financial liabilities are included in non-current and current liabilities and may be either interest-bearing or non-interest-bearing. An item is recognised in current liabilities if it is due within 12 months of the closing date.

Derivative financial instruments and hedge accounting

The Group uses derivative financial instruments to hedge against the currency risk of fuel acquisitions and currency and interest rate risk of loans. Derivative financial instruments are recognised on the balance sheet at fair value on the day on which the Group becomes a party to the derivative financial instruments contract and are thereafter always measured at fair value on the closing date.

Items covered by hedge accounting in accordance with the IFRS 9 standard include instruments used for hedging against the currency risk of the Group's uranium supply contracts (forward exchange contracts, currency swaps) and some of the interest rate swaps used for hedging against the fluctuation of interest cash flows in the Group's loan agreements.

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

With the adoption of the IFRS 9 standard, the assessment of hedge effectiveness is based on future orientation. The ineffectiveness of the Group's hedging relationships is expected to continue being very minor.

The IFRS 9 standard defines three hedge effectiveness requirements for the application of hedge accounting. The first requirement requires a financial relationship between the hedged item and hedging instrument. It must be expectable that the changes in the value of the hedging instrument and hedged item are opposite due to the instrument or risk used as the shared basis. Secondly, the standard requires that changes in value due to the financial relationship are not dominated by the impact of credit risk. Thirdly, the hedging rate of the hedging relationship must equal the hedging rate resulting from the amount of the hedged item that the organisation actually hedges and the amount of the hedging instrument that the organisation actually uses for hedging that amount of the hedged item. The IFRS 9 standard requires the same hedging rate that is actually used in risk management.

Cash flow hedging

The effective portion of the changes in fair value of the derivative instruments that have been specified as cash flow hedges and meet the criteria for cash flow hedging are entered in other comprehensive income items and presented in the equity fair value reserve. Profit or loss relating to the ineffective portion is recognised in the income statement, except if they are caused by the construction of the OL3 EPR power plant, in which case the finance charges are capitalized as part of the acquisition cost. Changes in fair value accumulated in equity are recognised in the balance sheet for the financial period in which the hedged item affects the profit or loss. The "At fair value through other comprehensive income items" category also includes derivative financial instruments in cash flow hedge accounting.

In hedging against the currency risk of fuel acquisitions, the hedging instrument's profits and losses are moved from equity to amend the cost of the inventory item in question. In the hedging of fuel acquisitions, profit or loss recognised in inventories is recognised according to the inventory recognition principles to adjust fuel acquisitions in "Materials and services".

When the interest rate risk hedging of loans no longer meets the requirements for applying hedge accounting, or when a hedging instrument acquired for hedging falls due or is sold, the profit or loss accumulated in equity at the time in question is recognised in profit or loss during the validity of the hedged item in question. When the forecast transaction is no longer expected to take place, the profit or loss accumulated in equity is recognised in the income statement.

When the currency risk hedging of fuel acquisitions no longer meets the requirements for applying hedge accounting, or when a hedging instrument acquired for hedging falls due or is sold, the profit or loss accumulated in equity at the time in question is recognised in inventories at the same time as the purchase of inventories. When the forecast transaction is no longer expected to take place, the profit or loss accumulated in equity is recognised in the income statement.

Fair value hedging

The Group applies fair value hedge accounting in the interest rate risk hedging of publicly quoted fixed-rate liabilities. Changes in the fair value of derivative instruments that meet the criteria for fair value hedge accounting, as well as the change in fair value caused by the interest rate risk of the related hedged items, are recognised in profit or loss in the financial items in the income statement. The balance sheet values of loans and fair values of hedging instruments directed at loans are included in interest-bearing liabilities and assets. If the criteria for hedge accounting are no longer met, the adjustments made to the hedged loan are released into the income statement using the effective interest method for the remaining maturity of the loan.

Derivatives outside hedge accounting

Changes in the fair value of interest rate options, interest rate swaps and forward exchange contracts left outside hedge accounting are presented in financial income and expenses to the extent that they are not activated as part of the acquisition cost caused by the construction of the OL3 EPR power plant.

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 two series of shares, A and B. 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 Company's C series shares, which entitled to electricity generated at Meri-Pori, were in-validated in July.

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 discount rate used in the measurement of provisions is the estimated average risk premium of companies with TVO's rating in relation to risk-free interest rate plus the ECP's inflation target. The increase in the provision due to the passage of time is recognised 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 lowest of the fair 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 April 30, 2009.

The settlement agreement between TVO and the plant supplier consortium companies Areva NP, Areva GmbH and Siemens AG as well as with Areva Group parent company Areva SA, a company wholly owned by the French State, concerning the completion of the OL3 EPR project and related disputes entered into force late March 2018. In the GSA (Global Settlement Agreement), the plant supplier consortium companies committed to ensuring that the funds dedicated to the completion of the OL3 EPR project are sufficient and cover all applicable guarantee periods. Consequently, a trust mechanism was set up funded by Areva companies to secure the funds required to cover Areva's costs for the completion of the OL3 EPR project. The fund has been replenished during the accounting period according to the terms of the agreement. During the accounting period, TVO has recognized receivables from the Plant Supplier amounted to the accumulated compensation until the end of the accounting period in accordance with the GSA. The EUR 240 million compensation decreases the historical costs of property, plant, and equipment in the balance sheet. All the amounts corresponding to the settlement amount have been entered as property, plant and equipment in the Group balance sheet.

TVO has received an updated re-baseline schedule on the commissioning of the OL3 EPR plant unit from the supplier Areva–Siemens consortium. According to the schedule, fuel will be loaded into the reactor in March 2021, the unit will be connected to the grid in October of the same year, and regular electricity production starts in February 2022. The new Areva management, appointed in the summer of 2020, is preparing a financial solution to finalize the project until the end of the guarantee period. TVO continues negotiations with the Areva–Siemens consortium on the terms for project completion.

According to the Plant Supplier's latest project schedule, TVO's current cost estimate, and the effects of the GSA, TVO estimates that its total investment in the OL3 EPR project will be approximately EUR 5.7 billion.

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. TVO's management have estimated that there is not known any technical or other issues that would prevent the completion of OL3 EPR-project or the commencement of the unit as stipulated in the settlement agreement. The recognition criterias of the acquisition costs OL3 EPR-project are realized because all the necessary actions will be completed to prepare the asset for its intended use.

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 share-holders 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.

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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 EPR (OL3 EPR), 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 was produced by TVO share at the Meri-Pori coal-fired power plant. Fortum used TVO's share of the Meri-Pori capacity as of the beginning of 2019, and TVO relinquished its share in Meri-Pori in full in July 2020.

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.

Turnover by segments

EUR 1,000	2020	2019
Nuclear power	269,308	238,197
Coal-fired power	5,812	16,011
Total	**275,120**	**254,208**

Depreciation and impairment charges by segments

EUR 1,000	2020	2019
Nuclear power	-38,627	-38,683
Coal-fired power	0	0
Depreciation and impairment charges (FAS)	-38,627	-38,683
The impact of the nuclear waste management obligation	-6,372	-6,353
Other IFRS adjustments	-462	-452
Total (IFRS)	**-45,461**	**-45,488**

Finance income and expenses by segments

EUR 1,000	2020	2019
Nuclear power	4,261	-108
Coal-fired power	0	0
Finance income and expenses (FAS)	4,261	-108
The impact of the nuclear waste management obligation	-28,857	87,099
The impact of financial instruments	338	647
The impact of joint ventures	-4,270	0
Other IFRS adjustments	627	612
Total (IFRS)	**-27,901**	**88,250**

Profit/loss for the financial year by segments

EUR 1,000	2020	2019
Nuclear power	8,560	5,278
Coal-fired power	0	0
Profit/loss before appropriations (FAS)	8,560	5,278
The impact of the nuclear waste management obligation	-5,962	79,258
The impact of financial instruments	338	647
Other IFRS adjustments	656	628
The impact of joint ventures	-3,138	1,385
Total (IFRS)	**454**	**87,196**

Assets by segments

EUR 1,000	2020	2019
Nuclear power	6,995,740	6,711,401
Coal-fired power	0	12,505
Total (FAS)	6,995,740	6,723,906
The impact of the nuclear waste management obligation	1,156,968	1,174,234
The impact of financial instruments	6,586	12,904
The impact of finance leases	49,701	51,440
Other IFRS adjustments	-31,163	-26,966
The impact of joint ventures	3,225	6,363
Total (IFRS)	**8,181,057**	**7,941,881**

Trade receivables by segments

EUR 1,000	2020	2019
Nuclear power	2,939	9,731
Coal-fired power	0	8,365
Total (FAS)	2,939	18,096
Total (IFRS)	**2,939**	**18,096**

Group-wide disclosures

Turnover shared to production of electricity and services

EUR 1,000	2020	2019
Production of electricity	271,014	250,962
Services	4,106	3,246
Total	**275,120**	**254,208**

Trade receivables shared to production of electricity and services

EUR 1,000	2020	2019
Production of electricity	1,508	17,468
Services	1,431	628
Total	**2,939**	**18,096**

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	2020	2019
Personnel expenses related to OL3 EPR	21,217	18,596
Total	**21,217**	**18,596**

5 Other income

EUR 1,000	2020	2019
Rental income	1,121	1,256
Profits from sales of property, plant and equipment and shares	51	16
Sales of services	11,340	10,820
Other income	741	704
Total	**13,253**	**12,796**

6 Materials and services

EUR 1,000	2020	2019
Nuclear fuel	65,588	68,503
Coal	1,777	4,853
Materials and supplies	5,088	4,750
CO_2 emission rights	1,741	5,316
Nuclear waste management services 1)	-1,008	-3,111
Increase (-) or decrease (+) in inventories	-4,729	-9,332
External services	9,773	10,987
Total	**78,230**	**81,966**

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

7 Personnel expenses

Employee benefit costs

EUR 1,000	2020	2019
Wages and salaries	62,372	56,868
Pension expenses - defined contribution plans	8,117	9,231
Other compulsory personnel expenses	2,004	1,688
Total	**72,493**	**67,787**

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.

Average number of personnel during financial year

	2020	2019
Office personnel	798	760
Manual workers	186	183
Total	**984**	**943**

Number of personnel on December 31

	2020	2019
Office personnel	793	752
Manual workers	182	190
Total	**975**	**942**

8 Depreciation and impairment charges

EUR 1,000	2020	2019
Intangible assets		
ICT software	366	332
Other intangible assets	47	62
Total	**413**	**394**
Property, plant and equipment		
Buildings and construction	3,351	3,329
Machinery and equipment	34,280	34,135
Other property, plant and equipment	1,045	1,277
Decommissioning	6,372	6,353
Total	**45,048**	**45,094**
Total	**45,461**	**45,488**

9 Other expenses

EUR 1,000	2020	2019
Maintenance services	15,156	22,493
Regional maintenance and service	9,285	8,479
Research services	3,323	3,597
Other external services	25,364	24,378
Real estate tax	6,306	6,198
Rents	1,324	783
ICT expenses	6,300	5,450
Personnel related expenses	3,537	4,389
Corporate communication expenses	766	848
Other expenses	14,822	16,183
Total	**86,183**	**92,798**

Auditors’ fees and non-audit related services PricewaterhouseCoopers Oy

EUR 1,000	2020	2019
Auditing	199	154
Tax services	8	5
Other services	33	50
Total	**240**	**209**

10 Finance income and expenses

Items included in the income statement

EUR 1,000	2020	2019
Interest income from loans and other receivables		
Nuclear waste management loan receivables from equity holders of the company	3,586	2,987
Other	127	133
Non-hedge accounted derivatives		
Change in fair value	483	702
Interest income from assets related to nuclear waste management	7,420	7,728
Finance income, total	**11,616**	**11,550**
Interest expenses and other finance expenses		
To the Finnish State Nuclear Waste Management Fund	3,586	2,987
To others	-492	-377
Hedge accounted derivatives [1]		
Ineffective portion of the change in fair value in fair value hedge relationship	0	1
Non-hedge accounted derivatives		
Change in fair value	146	54
Realised derivative expenses, net	0	7
Interest expenses of provision related to nuclear waste management	36,277	-79,372
Finance expenses, total	**39,517**	**-76,700**
Total	**-27,901**	**88,250**

[1] In hedge accounting the change in fair value adjustment of the loan was EUR 1.7 million and the change of the fair value in hedging instruments was EUR -1.6 million. The ineffective portion is recognized EUR 0 thousand in profit or loss and the change in fair value resulting from ineffectiveness is activated in the balance sheet.

Other comprehensive items

Other comprehensive items related to derivative financial instruments:

EUR 1,000	2020	2019
Cash flow hedges		
Changes in the fair value of which the following items have transferred	-26,261	-10,163
Transfers to inventories	3,715	5,289
Transfers to the nuclear power plant under construction	-7,982	-7,424
Transferred items, total	**-4,267**	**-2,135**
Cash flow hedges, total	**-21,994**	**-8,028**
Total other comprehensive items	**-21,994**	**-8,028**

11 Income tax expense

EUR 1,000	2020	2019
Taxes based on the taxable income of the financial year	0	0
Total	**0**	**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

2020 EUR 1,000	Land and water areas	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Construction in progress and advance payments	Decommissioning	Total
Acquisition cost 1 Jan	12,130	270,261	1,372,043	54,046	5,046,246	218,141	6,972,867
Increase	0	2,173	16,253	126	34,451	410	53,413
Decrease	-76	-2,198	-7,056	0	-6,833	0	-16,163
Transfer between categories	0	7,655	11,875	0	-19,530	0	0
Acquisition cost 31 Dec	12,054	277,891	1,393,115	54,172	5,054,334	218,551	7,010,117
Accumulated depreciation and impairment charges according to plan 1 Jan	0	224,741	952,404	47,684	0	84,733	1,309,561
Accumulated depreciation from deduction	0	-2,086	-7,056	0	0	0	-9,142
Depreciation for the period	0	3,351	34,280	1,045	0	6,372	45,048
Accumulated depreciation and impairment charges according to plan 31 Dec	0	226,006	979,628	48,729	0	91,105	1,345,467
Book value 31 Dec 2020	**12,054**	**51,886**	**413,488**	**5,443**	**5,054,334**	**127,445**	**5,664,650**
Book value 1 Jan 2020	12,130	45,521	419,640	6,362	5,046,246	133,407	5,663,306

2019 EUR 1,000	Land and water areas	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Construction in progress and advance payments	Decommissioning	Total
Acquisition cost 1 Jan	12,137	267,142	1,375,296	54,004	4,820,551	132,531	6,661,661
Recognised on adoption of IFRS 16	0	310	452	0	0	0	762
Increase	0	1,148	24,926	42	252,486	85,610	364,212
Decrease	-7	-49	-43,985	0	-9,727	0	-53,768
Transfer between categories	0	1,710	15,354	0	-17,064	0	0
Acquisition cost 31 Dec	12,130	270,261	1,372,043	54,046	5,046,246	218,141	6,972,867
Accumulated depreciation and impairment charges according to plan 1 Jan	0	221,461	962,254	46,406	0	78,381	1,308,501
Accumulated depreciation from deduction	0	-49	-43,985	0	0	0	-44,034
Depreciation for the period	0	3,329	34,135	1,278	0	6,352	45,094
Accumulated depreciation and impairment charges according to plan 31 Dec	0	224,741	952,404	47,684	0	84,733	1,309,561
Book value 31 Dec 2019	**12,130**	**45,521**	**419,640**	**6,362**	**5,046,246**	**133,407**	**5,663,306**
Book value 1 Jan 2019	12,137	45,992	413,495	7,598	4,820,551	54,149	5,353,922

The costs for the new plant unit (OL3 EPR) under construction constituted EUR 5.0 billion of the advance payments in 2020 (EUR 5.0 billion in 2019).

Leases

Amounts recognised in the balance sheet

The balance sheet shows the following amounts relating to leases:

Right-of-use assets

EUR 1,000	Construction in progress	Buildings and construction	Machinery and equipment
Book value 1 Jan 2020	72,741	456	352
Increase	0	313	166
Decrease	0	-111	0
Depreciation for the period	0	-141	-208
Book value 31 Dec 2020	**72 741**	**517**	**310**

EUR 1,000	Construction in progress	Buildings and construction	Machinery and equipment
Book value 1 Jan 2019	72,723	310	452
Increase	18	275	140
Depreciation for the period	0	-129	-240
Book value 31 Dec 2019	**72,741**	**456**	**352**

Part of the assets acquired through lease agreements is accumulated as costs for construction in progress so there is no accumulated depreciation.

Lease liabilities

EUR 1,000	2020	2019
Current	2,061	1,992
Non-current	49,416	51,169
Total	**51,477**	**53,161**

Amounts recognised in the statement of profit or loss

The statement of profit or loss shows the following amounts relating to leases:

Depreciation charge of right-of-use assets

EUR 1,000	2020	2019
Buildings and construction	141	129
Machinery and equipment	208	240
Total	**349**	**369**
Interest expense (included in finance expenses)	173	146
Expenses relating to short-term leases (included in other expenses)	145	10
Expenses relating to leases of low-value assets that are not shown above as short-term leases (included in other expenses)	264	263

The total cash outflow for leases in 2020 was EUR 2,634 (2,467) thousand.

The Group's leasing activities and how these are accounted for

The Group leases a spare part of the nuclear power plant, offices, vehicles and equipments. Rental contracts are made for periods of under a year to five years. Part of the contracts are valid until further notice. Holding period of these leases are based on management's judgement. The property of construction in progress can be redeemed at the earliest in 2025.

The lease payments are discounted using the interest rate implicit in the lease, if the rate can readily be determined. If that rate cannot be readily determined, the average interest rate on Group's loans and derivatives is used. The average interest rate on loans and derivatives on December 31, see note 27. Payments associated with short-term leases of equipment and vehicles and all leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT equipment.

Changes in accounting policies in 2019

Until the financial year 2018, leases of property, plant and equipment were classified as either finance leases or operating leases. From 1 January 2019, leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group.

The Group has adopted IFRS 16 Leases retrospectively from January 1, 2019. The reclassifications and the adjustments arising from the new leasing rules are therefore recognised in the opening balance sheet on January 1, 2019.

On adoption of IFRS 16, the Group recognised lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of IAS 17 Leases. These liabilities were measured at the present value of the remaining lease payments, discounted using average rate on Group's loans and derivatives as of January 1, 2019, which was 1.81%.

In 2019 when applying IFRS 16 for the first time, the Group has used the following practical expedients permitted by the standard: applying a single discount rate to a portfolio of leases with reasonably similar characteristics and accounting for operating leases with a remaining lease term of less than 12 months as at January 1, 2019 as short-term leases.

13 Intangible assets

2020

EUR 1,000	CO_2 emission rights	Computer software	Other intangible assets	Advance payments	Total
Acquisition cost 1 Jan	3,760	21,342	4,123	50	29,276
Increase	1,741	528	-6	220	2,483
Decrease	-5,442	-273	0	0	-5,715
Acquisition cost 31 Dec	59	21,597	4,117	270	26,044
Accumulated depreciation and impairment charges according to plan 1 Jan	0	19,734	3,581	0	23,315
Accumulated depreciation from deduction	0	-273	0	0	-273
Depreciation for the period	0	366	47	0	413
Accumulated depreciation and impairment charges according to plan 31 Dec	0	19,827	3,628	0	23,455
Book value 31 Dec 2020	**59**	**1,770**	**490**	**270**	**2,589**
Book value 1 Jan 2020	3,760	1,608	543	50	5,961

2019

EUR 1,000	CO_2 emission rights	Computer software	Other intangible assets	Advance payments	Total
Acquisition cost 1 Jan	8,834	21,288	4,123	7	34,253
Increase	5,142	54	0	43	5,239
Decrease	-10,216	0	0	0	-10,216
Acquisition cost 31 Dec	3,760	21,342	4,123	50	29,276
Accumulated depreciation and impairment charges according to plan 1 Jan	0	19,401	3,519	0	22,920
Depreciation for the period	0	333	62	0	395
Accumulated depreciation and impairment charges according to plan 31 Dec	0	19,734	3,581	0	23,315
Book value 31 Dec 2019	**3,760**	**1,608**	**543**	**50**	**5,961**
Book value 1 Jan 2019	8,834	1,887	605	7	11,333

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

The borrowing costs of the power plant construction in progress, OL3 EPR project have been capitalized. Realized financial income and expenses have been divided by committed capital. The average share of capitalized borrowing costs in 2020 was 100.00 % (100.00 % in 2019). The average interest rate on loans and derivatives on December 31, see note 27.

Capitalized interest costs during construction

2020 EUR 1,000	Other intangible assets	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Advance payments	Total
Acquisition cost 1 Jan	1,167	27,122	95,394	2,402	1,462,915	1,589,000
Increase	0	0	0	0	85,220	85,220
Decrease	0	0	0	0	313	313
Acquisition cost 31 Dec	1,167	27,122	95,394	2,402	1,548,448	1,674,533
Accumulated depreciation and impairment charges according to plan 1 Jan	911	21,168	74,452	1,875	0	98,407
Depreciation for the period	12	284	997	26	0	1,319
Accumulated depreciation and impairment charges according to plan 31 Dec	923	21,452	75,449	1,901	0	99,726
Book value 31 Dec 2020	**244**	**5,670**	**19,945**	**501**	**1,548,448**	**1,574,808**
Book value 1 Jan 2020	256	5,954	20,942	527	1,462,915	1,490,594

2019 EUR 1,000	Other intangible assets	Buildings and construction	Machinery and equipment	Other property, plant and equipment	Advance payments	Total
Acquisition cost 1 Jan	1,167	27,122	95,394	2,402	1,362,033	1,488,118
Increase	0	0	0	0	105,581	105,581
Decrease	0	0	0	0	-4,699	-4,699
Acquisition cost 31 Dec	1,167	27,122	95,394	2,402	1,462,915	1,589,000
Accumulated depreciation and impairment charges according to plan 1 Jan	899	20,884	73,455	1,850	0	97,089
Depreciation for the period	12	284	997	25	0	1,318
Accumulated depreciation and impairment charges according to plan 31 Dec	911	21,168	74,452	1,875	0	98,407
Book value 31 Dec 2019	**256**	**5,954**	**20,942**	**527**	**1,462,915**	**1,490,594**
Book value 1 Jan 2019	268	6,238	21,939	552	1,362,033	1,391,030

14 Investments in joint ventures

EUR 1,000	2020	2019
Posiva Group	4 236	7 374
31 Dec	**4 236**	**7 374**

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 their shares.

In the consolidated financial statements Posiva Group is accounted by the equity method of accounting.

Summarised balance sheet

EUR 1,000	Posiva Group 2020	Posiva Group 2019
Current		
Cash and cash equivalents	26,383	17,023
Other current assets (excluding cash)	6,545	10,326
Total current assets	32,928	27,349
Financial liabilities (excluding trade payables)	-378	-378
Other current liabilities (including trade payables)	-23,145	-13,601
Total current liabilities	-23,523	-13,979
Non-current		
Assets	531	986
Financial liabilities	-3,872	-4,029
Total non-current liabilities	-3,872	-4,029
Net assets	**6,064**	**10,327**

Summarised statement of comprehensive income	2020	2019
Turnover	115,975	85,372
Depreciation and impairment charges	-33	-37
Interest income	3	1
Interest expense	-69	-69
Pre-tax profit from continuing operations	1,925	2,355
Income tax expense	-388	-474
Post-tax profit from continuing operations	**1,537**	**1,881**

Reconciliation of summarised financial information	2020	2019
Operating net assets 1 Jan	10,327	8,446
Profit/loss for the period	1,537	1,881
Dividend distribution	-5,800	0
Closing net assets	**6,064**	**10,327**
Interest in joint venture	4,236	7,374
Carrying value	**4,236**	**7,374**

15 Book values of financial assets and liabilities by categories

2020 EUR 1,000	Fair value through profit or loss	At fair value through other comprehensive income items	Amortised cost	Book value total	Fair value total	Note
Non-current assets						
Loans and other receivables			959,286	959,286	959,286	16
Share investments		1,934		1,934	1,934	17
Derivative financial instruments, no hedge accounting	12,251			12,251	12,251	20
Derivative financial instruments, cash flow hedge accounting		6,125		6,125	6,125	20
Derivative financial instruments, fair value hedge accounting	10,140			10,140	10,140	20
Current assets						
Trade and other receivables			52,230	52,230	52,230	16
Derivative financial instruments, no hedge accounting	633			633	633	20
Derivative financial instruments, cash flow hedge accounting		1,313		1,313	1,313	20
Derivative financial instruments, fair value hedge accounting	569			569	569	20
Total by category	**23,593**	**9,372**	**1,011,516**	**1,044,481**	**1,044,481**	
Non-current liabilities						
Loan from the Finnish State Nuclear Waste Management Fund			716,447	716,447	716,447	22
Other financial liabilities			3,812,269	3,812,269	3,863,422	22
Derivative financial instruments, no hedge accounting	6,837			6,837	6,837	20
Derivative financial instruments, cash flow hedge accounting		33,576		33,576	33,576	20
Current liabilities						
Current financial liabilities			427,211	427,211	427,211	22
Trade payables			8,330	8,330	8,330	23
Other current liabilities			82,530	82,530	82,530	23
Derivative financial instruments, no hedge accounting	193			193	193	20
Derivative financial instruments, cash flow hedge accounting		1,405		1,405	1,405	20
Total by category	**7,030**	**34,981**	**5,046,786**	**5,088,797**	**5,139,950**	

2019 EUR 1,000	Fair value through profit or loss	At fair value through other comprehensive income items	Amortised cost	Book value total	Fair value total	Note
Non-current assets						
Loans and other receivables			596,417	596,417	596,417	16
Share investments		1,934		1,934	1,934	17
Derivative financial instruments, no hedge accounting	5,882			5,882	5,882	20
Derivative financial instruments, cash flow hedge accounting		11,049		11,049	11,049	20
Derivative financial instruments, fair value hedge accounting	12,322			12,322	12,322	20
Current assets						
Trade and other receivables			73,262	73,262	73,262	16
Derivative financial instruments, no hedge accounting	11,858			11,858	11,858	20
Derivative financial instruments, cash flow hedge accounting		4,001		4,001	4,001	20
Total by category	**30,063**	**16,984**	**669,679**	**716,726**	**716,726**	
Non-current liabilities						
Loan from the Finnish State Nuclear Waste Management Fund			591,441	591,441	591,441	22
Other financial liabilities			3,899,238	3,899,238	4,046,541	22
Derivative financial instruments, no hedge accounting	9,922			9,922	9,922	20
Derivative financial instruments, cash flow hedge accounting		19,898		19,898	19,898	20
Current liabilities						
Current financial liabilities			422,769	422,769	422,769	22
Trade payables			6,655	6,655	6,655	23
Other current liabilities			95,582	95,582	95,582	23
Derivative financial instruments, no hedge accounting	17,426			17,426	17,426	20
Derivative financial instruments, cash flow hedge accounting		940		940	940	20
Total by category	**27,348**	**20,838**	**5,015,685**	**5,063,870**	**5,211,173**	

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 December 31 (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

2020 EUR 1,000	Level 1	Level 2	Level 3
Financial assets at fair value			
Derivative financial instruments at fair value through profit or loss		12,884	
Derivative financial instruments designated as cash flow hedges		7,438	
Derivative financial instruments designated as fair value hedges		10,709	
Share investments			1,934
Total		**31,031**	**1,934**
Financial liabilities at fair value			
Derivative financial instruments at fair value through profit or loss		7,030	
Derivative financial instruments designated as cash flow hedges		34,981	
Total		**42,011**	

2019 EUR 1,000	Level 1	Level 2	Level 3
Financial assets at fair value			
Derivative financial instruments at fair value through profit or loss		17,741	
Derivative financial instruments designated as cash flow hedges		15,050	
Derivative financial instruments designated as fair value hedges		12,322	
Share investments			1,934
Total		**45,113**	**1,934**
Financial liabilities at fair value			
Derivative financial instruments at fair value through profit or loss		27,348	
Derivative financial instruments designated as cash flow hedges		20,838	
Total		**48,185**	

Fair value estimation

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.

On December 31, 2020, TVO has unquoted shares worth EUR 1,934 (2019:1,934) thousand. Direct market prices are not available for unquoted shares and therefore their fair value is determined using methods based on management judgement.

Offsetting financial assets and liabilities

2020 EUR 1,000	Gross amounts	Related amounts not set off	Net amount
Derivative financial assets	31 031	-18,216	12,815
Derivative financial liabilities	-42 011	18,216	-23,795

2019 EUR 1,000	Gross amounts	Related amounts not set off	Net amount
Derivative financial assets	45 113	-25,679	19,434
Derivative financial liabilities	-48 185	25,679	-22,506

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	2020	2019
Nuclear waste management loan receivables	716,447	591,441
Loan receivables	2,839	4,976
Other receivables	240,000	0
Total	959,286	596,417

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	2020	2019
EPV Energia Oy	72,319	74,009
Fortum Oyj	293,356	300,214
Loiste Holding Oy	772	790
Kemira Oyj	0	20,995
Pohjolan Voima Oyj	350,000	195,433
Total	**716,447**	**591,441**

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 2,335 (2,442) thousand. Other receivables constitute of OL3 EPR project compensation EUR 240,000 (0) thousand.

During the accounting period, TVO has recognized receivables from the Plant Supplier amounted to the accumulated compensation until the end of the accounting period in accordance with the GSA. The EUR 240 million compensation decreases the historical costs of property, plant, and equipment in the balance sheet.

Trade and other receivables (current assets)

EUR 1,000	2020	2019
Trade receivables	2,939	18,096
Loan receivables	240	240
Prepayments and accrued income	46,348	53,935
Other receivables	2,704	991
Total	**52,231**	**73,262**

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 December 31, 2020 the Group had EUR 182 (211) thousand overdue receivables of which EUR 0 (0) thousand was overdue more than six months. The overdue receivables are not expected to cause the Group credit losses or impairments.

17 Investments in shares

EUR 1,000	2020	2019
Share investments	1,934	1,934
Total	**1,934**	**1,934**

18 Cash and cash equivalents

Cash and cash equivalents consist of on-hand cash, demand deposits and other current, liquid investments.

19 Inventories

EUR 1,000	2020	2019
Raw uranium and natural uranium		
Replacement cost	90,702	79,630
Book value	96,673	91,772
Difference	**-5,971**	**-12,142**
Raw uranium and natural uranium	96,673	91,772
Nuclear fuel	168,906	170,083
Materials and supplies	8,636	8,001
Total	**274,215**	**269,856**

20 Derivative financial instruments

Nominal values of the derivative financial instruments

2020	Maturity structure					
EUR 1,000	< 1 year	1-3 years	3-5 years	5-7 years	> 7 years	Total
Interest rate swaps	380,000	624,117	300,000	90,000	630,000	2,024,117
Forward foreign exchange contracts and swaps [1]	23,872	32,347	24,381	3,424	1,729	85,753
Cross-currency swaps		153,678	224,907			378,585
Total	**403,872**	**810,141**	**549,288**	**93,424**	**631,729**	**2,488,455**

2019	Maturity structure					
EUR 1,000	< 1 year	1-3 years	3-5 years	5-7 years	> 7 years	Total
Interest rate swaps	431,955	739,117	265,000	300,000	260,000	1,996,071
Forward foreign exchange contracts and swaps [1]	36,107	40,640	21,489	10,981		109,217
Cross-currency swaps	211,042	153,678	224,893			589,613
Total	**679,103**	**933,435**	**511,382**	**310,981**	**260,000**	**2,694,902**

[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

2020

EUR 1,000	Positive	Negative	Total
Interest rate swaps			
Cash flow hedges	114	-33,763	-33,649
Fair value hedges	10 709		10,709
Non-hedges		-6,460	-6,460
Forward foreign exchange contracts and swaps			
Cash flow hedges	7 324	-1,218	6,106
Non-hedges	1 497	-71	1,426
Cross-currency swaps			
Non-hedges	11 387	-499	10,888
Total	**31 031**	**-42,011**	**-10,980**

2019

EUR 1,000	Positive	Negative	Total
Interest rate swaps			
Cash flow hedges		-20,598	-20,598
Fair value hedges	12 322		12,322
Non-hedges		-5,825	-5,825
Forward foreign exchange contracts and swaps			
Cash flow hedges	15 050	-240	14,810
Non-hedges	2 657	-149	2,508
Cross-currency swaps			
Non-hedges	15 084	-21,373	-6,289
Total	**45 113**	**-48,185**	**-3,073**

The effect of hedge accounting in financial position and result

The interest rate hedging in fair value hedge accounting

EUR 1,000	2020	2019
The book value of the derivative financial instruments, receivables	10,709	12,322
Nominal value	423,000	423,000
Due date	03/2021–02/2025	03/2021–02/2025
The book value of the hedged item, liabilities	423,000	423,000
The degree of hedging	1:1	1:1
The change of the basic value in valid hedging instruments since 1.1.	-1,613	744
The effectiveness of the hedge used to determine the change of value for the hedged item	1,679	-735
The weighted average interest rate during the year	1.80 %	1.19 %

The interest rate hedging in cash flow hedge accounting

EUR 1,000	2020	2019
The book value of the derivative financial instruments, liabilities	33,649	20,598
Nominal value	1,301,117	1,073,071
Due date	12/2021–11/2030	03/2020–06/2029
The degree of hedging	1:1	1:1
The change of the basic value in valid hedging instruments since 1.1.	-13,051	-8,399
The effectiveness of the hedge used to determine the change of value for the hedged item	13,183	8,417
The weighted average interest rate during the year	0.51 %	1.31 %

The currency hedging in cash flow hedge accounting

EUR 1,000	2020	2019
The book value of the derivative financial instruments, receivables	7,324	15,050
The book value of the derivative financial instruments, liabilities	1,218	240
Nominal value	85,753	109,217
Due date	01/2021–01/2028	01/2020–01/2025
The degree of hedging	1:1	1:1
The change of the spot value in valid hedging instruments since 1.1.	-10,278	5,401
The effectiveness of the hedge used to determine the change of value for the hedged item	10,278	-5,401
The weighted average of protected rate (inc. forward points) during the year (USD)	1.36	1.37
The weighted average of protected rate (inc. forward points) during the year (SEK)	10.10	10.47

21 Equity

Share capital

The registered share capital of the Company according to the Articles of Association was EUR 600,365 thousand on December 31, 2020. TVO does not have a maximum or minimum limit for the share capital. The number of the shares on December 31, 2020 was 1,360,000,000. The shares are divided into the two series of shares as follows: A series 680,000,000 and B series 680,000,000. 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.

At TVO's Extraordinary General Meeting held in June 2018, TVO and its shareholders agreed on ownership arrangements of shares entitling to a share of Meri-Pori power plant's production capacity. TVO relinquished its share in Meri-Pori in full in July 2020. The Company's C series shares, which entitled to electricity generated at Meri-Pori, were invalidated in July 2020.

Share number reconciliations:

EUR 1,000	Number of shares	Share capital	Share premium reserve and statutory reserve	Reserve for invested non-restricted equity
1 Jan 2019	1,394,283,730	606,193	242,383	0
31 Dec 2019	1,394,283,730	600,365	242,383	3
31 Dec 2020	**1,360,000,000**	**600,365**	**242,383**	**0**

In December 31, 2020 the company has two registered share series: A and B.

Share number

	31 Dec 2020	31 Dec 2019
A series	680,000,000	680,000,000
B series	680,000,000	680,000,000
C series	0	34,283,730
Total	**1,360,000,000**	**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.

Reserve for invested non-restricted equity

The carrying value of reserve for invested non-restricted equity in the balance sheet December 31, 2020 is EUR 0 (3) thousand.

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)

During the accounting period, Company raised EUR 250,00 thousand new subordinated shareholder loans. The carrying value of the interest-bearing subordinated shareholder loans in the balance sheet December 31, 2020 was EUR 929,300 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	2020	2019
Non-current interest-bearing liabilities		
Loan from the Finnish State Nuclear Waste Management Fund	716,447	591,441
Bonds	2,720,218	2,858,937
Loans from financial institutions	983,308	925,564
Loans from others	59,326	63,568
Lease liabilities	49,416	51,169
Derivative financial instruments	40,413	29,820
Total	**4,569,128**	**4,520,499**
Current interest-bearing liabilities		
Current portion of long-term bonds	153,781	114,894
Current portion of loans from financial institutions	74,698	44,413
Current portion of Private Placements	0	89,015
Current portion of lease liabilities	2,061	1,992
Other interest-bearing liabilities	196,671	172,455
Derivative financial instruments	1,598	18,365
Total	**428,809**	**441,134**
Total	**4,997,937**	**4,961,633**

TVO has December 31, 2020 issued EUR-, USD-, GBP-, and SEK-denominated Private Placements amounting to EUR 714.6 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 2020, the effect of foreign exchange hedges was positive amounting to EUR 17.1 million and correspondingly, the effect of foreign currency denominated loans was negative amounting to EUR 17.1 million.

23 Trade payables and other current liabilities

EUR 1,000	2020	2019
Advances received	19,789	17,788
Trade payables	8,330	6,655
Accruals and deferred income and other liabilities	82,530	95,582
Total	**110,649**	**120,025**

Accruals and deferred income and other liabilities are allocated as follows:

EUR 1,000	2020	2019
Finnish State Nuclear Waste Management Fund	3,484	3,364
Accrued interests	42,868	39,036
Accrued personnel expenses	19,019	18,395
Accruals related to CO_2 emission rights	59	3,760
Others	17,100	31,027
Total	**82,530**	**95,582**

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 2019. 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. The overall effect on profit for the period in 2019 was positive 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.

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

EUR 1,000	2020	2019
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets)	1,029,522	1,040,826
Provision related to nuclear waste management (non-current liabilities)		
Beginning of the year	1,040,826	952,020
Increase/decrease in provision	8,899	205,706
Used provision	-56,479	-37,528
Changes due to discounting	36,276	-79,372
End of the year	1,029,522	1,040,826
The discount rate %	4.0	4.0

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	2020	2019
Liability for nuclear waste management according to the Nuclear Energy Act	1,450,600	1,471,400
TVO's funding target obligation 2021 (2020) to the Finnish State Nuclear Waste Management Fund	1,450,600	1,471,400
TVO's share in the Finnish State Nuclear Waste Management Fund 31.12.2020 (31.12.2019)	1,478,800	1,513,500
Difference between the liability and TVO's share of the fund 31.12.2020 (31.12.2019)	-28,200	-42,100

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 1,450.6 (1,471.4) million on December 31, 2020 (December 31, 2019). The nuclear waste management liability of TVO is lower in the end of 2020 than in the previous year based on the decrease of nuclear waste management's total cost estimate updated every three years. The carrying value of the liability in the balance sheet calculated according to IAS 37 is EUR 1,029.5

(1,040.8) million on December 31, 2020. 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. The discount rate used in calculating fair value of assets and debts related to nuclear waste management liability was updated in December 2019. The change in the discount rate has an effect on the provision. The provision increases, when the discount rate used is lowered.

TVO's share in the Finnish State Nuclear Waste Management Fund is EUR 1,478.8 (1,513.5) million on December 31, 2020. The carrying value of the TVO's share in the fund in the balance sheet is EUR 1,029.5 (1,040.8) million. The difference is due to the fact that IFRIC 5 limits the carrying amount of TVO's share 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 increases 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. Assets will be refunded from the Nuclear Waste Management Fund to TVO in respect of 2020 according to the rules of the Fund, since the nuclear waste management liability of TVO is lower in the end of 2020 than in the end of 2019. The estimate for the refund as documented in the financial statements is EUR 28.3 million.

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 annually. The loans are included in the interest-bearing liabilities, see note 22 Interest-bearing liabilities.

25 Obligations and other commitments

Pledged promissory notes and financial guarantees

EUR 1,000	2020	2019
Pledged promissory notes to the Finnish State Nuclear Waste Management Fund	716,447	591,441
Guarantees given by shareholders related to the nuclear waste management obligation	95,880	77,980

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

Contingent liabilities given on own behalf

EUR 1,000	2020	2019
Bank guarantees	550	7,000

Investment commitments

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

EUR 1,000	2020	2019
OL1 and OL2	88,600	80,600
OL3	433,900	411,800
Total	**522,500**	**492,400**

Pending Court Cases and Disputes

TVO and Wärtsilä Finland Oy (Wärtsilä) signed an agreement on the delivery of Emergency Diesel Generators and their auxiliary systems to Olkiluoto nuclear power plant (the so-called EDG project) in 2013. In December 2018, Wärtsilä published a stock exchange release announcing a major provision it has made on two nuclear power plant projects to cover the excess costs and project delays, and stating that the allocation of responsibility for the additional costs and delays is in dispute. In April 2019, Wärtsilä announced in its notification addressed to TVO that EUR 65.0 million of the provision applies to TVO's EDG project. In October 2020, TVO initiated arbitration proceedings against Wärtsilä concerning the installation and commissioning schedule of the auxiliary diesel generators (EDG 1–8) in accordance with the EDG project's delivery agreement. The allocation of responsibility between the parties concerning the abovementioned additional costs and delays are to be resolved in the same proceedings. The arbitration proceedings are still ongoing. TVO has not recorded any receivables or provisions concerning the case.

CO_2 emission rights

In principle TVO has, on December 31, 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 December 31.

	2020		2019	
	t CO_2	EUR 1,000	t CO_2	EUR 1,000
Total annual emissions from production facilities	74,074		161,924	
Possessed emission rights	1,991		162,546	
Emission rights bought [1]	72,300	1,741	214,200	5,142

TVO has been responsible for the amount of emission rights corresponding to its share of the production of the Meri-Pori plant. TVO relinquished its share in Meri-Pori in full in July 2020. On December 31, 2020 TVO does not possess any emission rights concerning Meri-Pori plant.

[1] The purchases of the emission rights are included in materials and services. The emission rights that TVO possesses on December 31 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 ventures. The related parties also include the Board of Directors and the Executive Management including the President and 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

2020 EUR 1,000	Sales	Purchases	Receivables	Liabilities
Posiva Group	12,039	77,541	8,492	1,359

2019 EUR 1,000	Sales	Purchases	Receivables	Liabilities
Posiva Group	11,522	57,450	4,769	3,831

Teollisuuden Voima Oyj's shareholders

According to IAS 24 -standard in addition the Group related parties are TVO's two biggest shareholders Pohjolan Voima Oyj (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

2020 EUR 1,000	Sales	Purchases	Receivables	Liabilities
PVO, Fortum Oyj, Fortum Power and Heat Oy	226,980	11,274	647,148	809,817

2019 EUR 1,000	Sales	Purchases	Receivables	Liabilities
PVO, Fortum Oyj, Fortum Power and Heat Oy	211,181	26,431	514,476	603,264

Senior management's employee benefits

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

EUR 1 000	2020 Senior management	2019 Senior management
Wages, salaries and other short-term benefits	2,344	2,564
Total	**2,344**	**2,564**

27 Financial risk management

Financing and financial risks are centrally managed by the finance operations of TVO Group in accordance with the Finance Policy approved by the Board of Directors. Compliance with the Finance Policy is monitored by the Board of Directors and the company's management. The SVP, Treasury is responsible for financing operations. TVO Group 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 Group'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 Group 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 Group, 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 Group 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 corre-sponding 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, commer-cial papers, municipal papers, and treasury notes as well as money market funds are accepted as invest-ments, and they are mostly for the short-term purposes with maximum duration of 12 months.

Undiscounted cash flows of financial liabilities

2020

EUR 1,000	2021	2022	2023	2024	2025–	Total
Loans from financial institutions [1]	79,498	223,408	650,608	26,104	90,130	1,069,748
Financing costs [2]	9,666	6,148	3,003	912	1,485	21,215
Loan from the Finnish State Nuclear Waste Management Fund [3]					716,447	716,447
Financing costs	3,484	3,582	3,582	3,582	3,582	17,813
Bonds [4]	153,781	250,561	500,000	644,899	1,313,000	2,862,241
Financing costs	56,882	52,720	49,230	34,791	58,409	252 032
Loans from others [4]		56,117				56,117
Financing costs	589	583				1,172
Lease liabilities	2,061	2,042	2,030	1,797	43,547	51,478
Commercial papers	191,870					191,870
Other liabilities	89,122					89,122
Interest rate derivatives	12,495	10,836	6,890	5,932	22,380	58,532
Total	**599,449**	**605,997**	**1,215,343**	**718,017**	**2,248,980**	**5,387,786**

EUR 1,000	2021	2022	2023	2024	2025–	Total
Forward foreign exchange contracts	574	299	63	65	288	1,289

[1] Repayments in 2021 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.

Undiscounted cash flows of financial liabilities

2019

EUR 1,000	2020	2021	2022	2023	2024–	Total
Loans from financial institutions [1]	44,413	149,498	619,698	50,608	116,234	980,451
Financing costs [2]	10,550	9,675	6,140	2,102	2,731	31,198
Loan from the Finnish State Nuclear Waste Management Fund [3]					591,441	591,441
Financing costs	2,988	2,957	2,957	2,957	3,480	15,339
Bonds [4]	131,955	153,781	250,561	500,000	1,957,900	2,994,196
Financing costs	53,759	57,082	52,873	49,235	93,217	306 167
Loans from others [4]	79,114		56,117			135,231
Financing costs	1,826	696	698			3,219
Lease liabilities	2,012	1,958	1,933	1,934	45,324	53,161
Commercial papers	172,455					172,455
Other liabilities	59,836					59,836
Interest rate derivatives	10,347	9,552	7,527	4,090	14,815	46,331
Total	**569,254**	**385,199**	**998,504**	**610,927**	**2,825,142**	**5,389,025**

EUR 1,000	2020	2021	2022	2023	2024-	Total
Forward foreign exchange contracts	285	80	28			394

[1] Repayments in 2020 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 Group is exposed to currency risk mainly in connection with its fuel purchases. The currency of purchases of raw uranium and enrichment 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 36 and 48 months. At the closing date the duration was 40 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 December 31, 2020 was 1.56 % (2019: 1.63 %).

Borrowings issued at variable rates expose TVO Group to cash flow interest rate risk. Borrowings issued at fixed rates expose TVO Group to fair value interest rate risk. TVO Group shall apply hedge accounting as far as practical. Based on the various scenarios, TVO Group 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 Group 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

2020

EUR 1,000	2021	2022	2023	2024	2025–	Total
Interest rate swaps						
Cash flows	-9,593	-9,242	-5,296	-4,345	-20,117	-48,594

2019

EUR 1,000	2020	2021	2022	2023	2024-	Total
Interest rate swaps						
Cash flows	-8,255	-6,968	-6,240	-2,803	-11,429	-35,694

Sensitivity to market risks

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

		2020		**2019**
EUR 1,000	Income statement	Equity	Income statement	Equity
+ 10% change in EUR/USD and EUR/SEK exchange rates		-8,575		-10,922
- 10% change in EUR/USD and EUR/SEK exchange rates		8,575		10,922
1% upward parallel shift in interest rates	-6,717	59,087	-10,904	38,425
1% downward parallel shift in interest rates	6,386	-65,093	11,165	-41,755

Assumptions:

The change in EUR/USD and EUR/SEK exchange rates are assumed to be +/- 10 per cent.

The currency 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 EPR and are capitalized in the balance sheet.

Bonds

Euro Medium Term Note Programme EUR 4.000.000.000

EUR 1,000	2020		2019			
Currency	Nominal amount	Carrying amount	Nominal amount	Carrying amount	Interest rate %	Maturity date
EUR	153,781	153,781	153,781	153,781	2.500	17.3.2021
EUR	30,000	30,000	30,000	30,000	3.880	9.5.2022
EUR	100,000	100,000	100,000	100,000	Euribor 6M + 1.580	12.9.2022
EUR	23,000	23,000	23,000	23,000	4.080	1.12.2022
EUR	20,000	20,000	20,000	20,000	2.800	8.5.2024
EUR	75,000	75,000	75,000	75,000	3.600	14.12.2027
EUR	23,000	23,000	23,000	23,000	3.500	3.5.2030
EUR	45,000	45,000	45,000	45,000	3.900	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	2.125	4.2.2025
EUR	500,000	500,000	500,000	500,000	2.625	13.1.2023
EUR	400,000	400,000	400,000	400,000	2.000	8.5.2024
EUR	650,000	650,000	650,000	650,000	1.125	9.3.2026
SEK			650,000	70,945	Stibor 3M + 1.090	17.3.2020
SEK			550,000	61,009	2.840	19.5.2020
SEK	1,000,000	97,561	1,000,000	97,561	Stibor 3M + 1.17	15.2.2022
SEK	500,000	48,780	500,000	48,780	Stibor 3M + 1.78	15.2.2024
SEK	850,000	82,927	850,000	82,927	2.375	15.2.2024
SEK	500,000	46,624	500,000	46,624	Stibor 3M + 1.42	29.10.2024
SEK	500,000	46,568	500,000	46,568	1.557	29.10.2024
Total		**2,862,241**		**2,994,196**		

TVO Group debt structure by maturity

December 31, 2020

EUR 1,000	2021	2022	2023	2024	2025	2026	2027	2028	2029–	Total
Loans from financial institutions	79,498	223,408	650,608	26,104	26,104	26,104	26,104	11,818		1,069,748
Bonds	153,781	250,561	500,000	644,899	500,000	650,000	75,000		88,000	2,862,241
Loans from others		56,117								56,117
Lease liabilities	2,061	2,042	2,030	1,797	43,547					51,478
Commercial papers	191,870									191,870
Total	**427,211**	**532,128**	**1,152,638**	**672,800**	**569,651**	**676,104**	**101,104**	**11,818**	**88,000**	**4,231,454**

TVO Group credit commitment by maturity

December 31, 2020

EUR 1,000	2021	2022	2023	2024	2025	2026	2027	2028	2029–	Total
Syndicated revolving credit facility		300,000	1,000,000							1,300,000
Bilateral revolving credit facility										
Bilateral bank loan										
Total		300,000	1,000,000							1,300,000

EUR 30 million has been drawn from the EUR 300 million syndicated revolving credit facility.

On December 31, 2020, the Group had undrawn credit facilities amounting to EUR 1,270 million (2019: EUR 1,300 million).
In addition, the Group had subordinated shareholder loan (hybrid equity) commitments totaling EUR 400 million (2019: EUR 250 million) and cash and cash equivalents amounting to EUR 161 million (2019: EUR 238 million). .

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 Group has in place a master agreement (ISDA) with all derivative contract counterparties.

Fuel price risk

The fuel used for electricity production by the Group is uranium.

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

Capital risk management

TVO Group’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 Group’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 Group’s management

	2020	2019
Equity ratio, % (IFRS, Group) [1]	31.7	28.8
Equity ratio, % (Parent company) [2]	31.7	28.2

[1] $\text{Equity ratio \%} = 100 \times \dfrac{\text{equity + loans from equity holders of the company}}{\text{balance sheet total - provision related to nuclear waste management - loan from the Finnish State Nuclear Waste Management Fund}}$

[2] $\text{Equity ratio \%} = 100 \times \dfrac{\text{equity + appropriations + loans from equity holders of the company}}{\text{balance sheet total - loan from the Finnish State Nuclear Waste Management Fund}}$

Net debt reconciliation

EUR 1,000	2020	2019
Cash and cash equivalents	161,363	237,832
Non-current interest-bearing liabilities (excluding loan from VYR)	3,812,269	3,899,238
Current interest-bearing liabilities	427,211	422,770
Net debt	**4,078,117**	**4,084,176**

	Liabilities from financing activities			Other assets	
EUR 1,000	Liabilities	Leases	Sub-total	Cash and cash equivalents	Total
Net debt 1 Jan 2019	**-4,055,978**	**-54,795**	**-4,110,773**	**221,166**	**-3,889,607**
Cash flows	-212,203	2,049	-210,154	16,666	-193,488
Acquisitions - leases	0	-93	-93	0	-93
Other non-cash flow expenses	-988	0	-988	0	-988
Net debt 31 Dec 2019	**-4,269,169**	**-52,839**	**-4,322,008**	**237,832**	**-4,084,176**
Cash flows	-147,644	2,052	-145,592	-76,469	-222,061
Acquisitions - leases	0	-361	-361	0	-361
Other non-cash flow expenses	228,811	-329	228,482	0	228,482
Net debt 31 Dec 2020	**-4,188,002**	**-51,477**	**-4,239,479**	**161,363**	**-4,078,116**

28 Events after the balance sheet date

TVO has agreed that the expiration dates of bilateral bank loans totaling EUR 775 million have been extended from 2022 and 2023 to 2024.

Parent company financial statements

Parent company income statement

EUR 1,000	Note	1 Jan-31 Dec 2020	1 Jan-31 Dec 2019
Turnover	2	**271,014**	**250,961**
Work performed for own purpose	3	21,217	18,596
Other income	4	16,599	14,957
Materials and services	5	-107,233	-79,873
Personnel expenses	6	-72,382	-67,677
Depreciation and impairment charges	7	-38,627	-38,683
Other expenses	8	-86,710	-93,238
Operating profit/loss		**3,878**	**5,043**
Financial income and expenses	9	4,261	-108
Profit/loss before appropriations and taxes		**8,139**	**4,935**
Appropriations	10	-3,869	-4,935
Profit/loss for the financial year		**4,270**	**0**

Parent company balance sheet

EUR 1,000	Note		31 Dec 2020		31 Dec 2019
Assets					
Non-current assets					
Intangible assets	11		2,589		5,961
Tangible assets	11		5,527,099		5,515,711
Investments					
Holdings in group companies	12	8		8	
Holdings in joint ventures	12	1,011		1,011	
Other receivables	12	963,505	964,524	600,637	601,656
Total non-current assets			**6,494,212**		**6,123,328**
Current assets					
Inventories	13		274,044		269,579
Current receivables	14		66,010		93,481
Cash and cash equivalents			160,954		237,298
Total current assets			**501,008**		**600,358**
Total assets			**6,995,220**		**6,723,686**

EUR 1,000	Note	31 Dec 2020	31 Dec 2019
Equity and liabilities			
Equity			
Share capital	15	600,365	600,365
Share premium reserve	15	232,435	232,435
Statutory reserve	15	9,948	9,948
Reserve for invested non-restricted equity	15	0	3
Retained earnings (loss)	15, 16	14,460	14,460
Profit (loss) for the financial year	15, 16	4,270	0
Total equity		**861,478**	**857,211**
Appropriations		**196,898**	**192,611**
Liabilities			
Non-current liabilities	17, 18	3,754,827	3,854,397
Shareholders' loans	17	929,300	679,300
Loan from the Finnish State Nuclear Waste Management Fund	17	716,447	591,441
Current liabilities	19	536,270	548,726
Total liabilities		**5,936,844**	**5,673,864**
Total equity and liabilities		**6,995,220**	**6,723,686**

Parent company cash flow statement

EUR 1,000	2020	2019
Operating activities		
Operating profit/loss	3,878	5,043
Adjustments to operating profit /loss [1]	38,576	38,667
Changes in working capital [2]	7,747	43,144
Interest paid and other financial expenses	-3,723	-3,291
Dividend received	4,270	0
Interest received	3,217	3,497
Cash flow from operating activities	**53,965**	**87,060**
Investing activities		
Acquisition of non-current assets	-280,884	-402,137
OL3 EPR project compensation	0	122,000
Proceeds from sale of intangible and tangible assets	127	23
Loan receivables granted	-125,138	-9,098
Repayments of loans granted	240	84,006
Cash flow from investing activities	**-405,655**	**-205,206**
Financing activities		
Acquisition of own shares	-3	0
Withdrawals of long-term loans	478,715	943,192
Repayment of long-term loans	-255,481	-817,151
Increase (-) or decrease (+) in interest-bearing receivables	2,030	-2,030
Increase (+) or decrease (-) in short-term interest-bearing liabilities	349,415	11,039
Repayment of short-term interest-bearing liabilities	-300,000	0
Group contribution received	670	343
Cash flow from financing activities	**275,346**	**135,393**
Change in cash and cash equivalents	**-76,344**	**17,247**
Cash and cash equivalents 1 Jan	237,298	220,051
Cash and cash equivalents 31 Dec	**160,954**	**237,298**

EUR 1,000	2020	2019
[1] Adjustments to operating profit/loss		
Depreciation and write-downs	38,627	38,683
Gain (-) or loss (+) from divestment of non-current assets	-51	-16
Total	**38,576**	**38,667**
[2] Changes in working capital		
Increase (-) or decrease (+) in inventories	-4,465	-8,985
Increase (-) or decrease (+) in non-interest-bearing receivables	21,701	76,847
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	-9,489	-24,718
Total	**7,747**	**43,144**

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 less grants received, accumulated depreciation and impairment charges and compensation, if any. 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	18–35 years
Automation investments associated with the modernization	15 years
Additional investments	10 years
Buildings and structures	10–40 years
TVO's share in the Olkiluoto gas turbine power plant	30 years

Valuation of inventories

Materials and supplies have been valued at direct acquisition cost, 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 funds back and lends them further to its shareholders.

2 Turnover

EUR 1,000	2020	2019
Olkiluoto 1 and Olkiluoto 2	265,202	234,950
Meri-Pori	5,812	16,011
Total	**271,014**	**250,961**
Electricity delivered to equity holders of the company (GWh)		
Olkiluoto 1	7,299	7,531
Olkiluoto 2	7,264	7,198
Total Olkiluoto	14,563	14,729
Meri-Pori	82	182
Total	**14,645**	**14,911**

3 Work performed for own purpose

EUR 1,000	2020	2019
Personnel expenses related to OL3	21,217	18,596

4 Other income

EUR 1,000	2020	2019
Rental income	1,121	1,256
Sales profit of tangible assets and shares	51	16
Sales of services	14,686	12,981
Other income	741	704
Total	**16,599**	**14,957**

5 Materials and services

EUR 1,000	2020	2019
Purchases, accrual basis		
Nuclear fuel	65,588	68,503
Coal	1,777	4,853
Materials and supplies	5,088	4,750
Increase (-) or decrease (+) in inventories	-4,729	-9,332
Total	**67,724**	**68,774**
CO_2 emission rights	1,741	5,316
Nuclear waste management		
Contribution to the Finnish State Nuclear Waste Management Fund [1)]	-28,219	-42,128
Nuclear waste management services	56,479	37,528
Total	**28,260**	**-4,600**
External services	9,508	10,383
Total	**107,233**	**79,873**

[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	61,865	59,455
Coal	1,777	5,403
Materials and supplies	4,082	3,916
Total	**67,724**	**68,774**

6 Notes concerning personnel and members of administrative bodies

Average number of personnel

	2020	2019
Office personnel	797	759
Manual workers	186	183
Total	**983**	**942**

Number of employees 31 Dec

	2020	2019
Office personnel	791	751
Manual workers	182	190
Total	**973**	**941**

EUR 1,000	2020	2019
Personnel expenses		
Wages and salaries	62,273	56,775
Pension expenses	8,107	9,216
Other compulsory personnel expenses	2,002	1,686
Total	**72,382**	**67,677**
Salaries and fees paid to management		
President and members of the Board of Directors	739	734

7 Depreciation and impairment charges

EUR 1,000	2020	2019
Depreciation according to plan		
Other capitalised long-term expenses	413	394
Buildings and construction	3,210	3,199
Machinery and equipment	33,959	33,813
Other tangible assets	1,045	1,277
Total	**38,627**	**38,683**

8 Other expenses

EUR 1,000	2020	2019
Maintenance services	15,156	22,493
Regional maintenance and services	9,285	8,479
Research services	3,323	3,597
Other external services	25,410	24,371
Real estate tax	6,306	6,198
Rents	1,815	1,252
ICT expenses	6,299	5,450
Personnel related expenses	3,533	4,387
Corporate communication expenses	764	847
Other expenses	14,819	16,164
Total	**86,710**	**93,238**

Auditors’ fees and non audit-related services PricewaterhouseCoopers Oy

EUR 1,000	2020	2019
Auditing	193	148
Tax services	8	5
Other services	33	50
Total	**234**	**203**

9 Financial income and expenses

EUR 1,000	2020	2019
Dividend Income		
From joint ventures	4,270	0
Total	4,270	0
Interest income on long-term investments		
From joint ventures	15	0
From others	3,586	3,004
Total	**3,601**	**3,004**
Other interest and financial income		
From others	112	116
Total	**112**	**116**
Interest income on long-term investments and other interest and financial income, total	**7,983**	**3,120**
Interest expenses and other financial expenses		
To the Finnish State Nuclear Waste Management Fund	3,586	2,987
To others	88,758	104,738
Capitalised interest costs	-88,622	-104,497
Total	**3,722**	**3,228**
Total financial income (+) and expenses (-)	**4,261**	**-108**
Financial income and expenses include exchange rate gains (+) and losses (-) (net)	92	79

10 Appropriations

EUR 1,000	2020	2019
Group contribution	418	343
The difference between depreciation according to plan and tax depreciation, increase (-) or decrease (+)	-4,287	-5,278
Total	**-3,869**	**-4,935**

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 2020	54,011	3,760	26,130	50	83,951
Increase	0	1,740	522	220	2,482
Decrease	0	-5,442	-273	0	-5,715
Acquisition cost 31 Dec 2020	54,011	59	26,378	270	80,718
Accumulated depreciation according to plan 1 Jan	54,011	0	23,978	0	77,989
Accumulated depreciation from deduction	0	0	-273	0	-273
Depreciation according to plan	0	0	413	0	413
Book value 31 Dec 2020	**0**	**59**	**2,260**	**270**	**2,589**
Accumulated depreciation difference 1 Jan	0	0	1,431	0	1,431
Change in depreciation difference	0	0	163	0	163
Accumulated depreciation difference 31 Dec	0	0	1,594	0	1,594
Undepreciated acquisition cost in taxation 31 Dec 2020	0	59	666	270	994

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 2020	12,130	267,390	1,369,701	53,380	5,036,720	6,739,323
Increase	0	1,860	14,966	126	32,726	49,678
Decrease	-76	-2,086	-7,056	0	0	-9,218
Transfer between categories	0	7,655	11,875	0	-19,530	0
Acquisition cost 31 Dec 2020	12,054	274,819	1,389,486	53,506	5,049,917	6,779,783
Accumulated depreciation according to plan 1 Jan	0	224,610	951,983	47,019	0	1,223,612
Accumulated depreciation from deduction	0	-2,086	-7,056	0	0	-9,142
Depreciation according to plan	0	3,209	33,959	1,045	0	38,214
Book value 31 Dec 2020	**12,054**	**49,086**	**410,600**	**5,442**	**5,049,917**	**5,527,099**
Accumulated depreciation difference 1 Jan	0	-6,361	194,832	2,710	0	191,180
Change in depreciation difference	0	2,009	2,364	-249	0	4,124
Accumulated depreciation difference 31 Dec	0	-4,352	197,196	2,461	0	195,304
Undepreciated acquisition cost in taxation 31 Dec 2020	12,054	53,438	213,404	2,981	5,049,917	5,331,795

Share of machinery and equipment from book value 31 Dec 2020			393,978			
Share of machinery and equipment from book value 31 Dec 2019			401,658			

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 2020	11,046	1,167	27,122	95,394	2,401	1,504,642	1,641,772
Increase	0	0	0	0	0	88,582	88,582
Acquisition cost 31 Dec 2020	11,046	1,167	27,122	95,394	2,401	1,593,224	1,730,355
Accumulated depreciation according to plan 1 Jan	11,046	911	21,168	74,452	1,875	0	109,452
Depreciation according to plan	0	12	284	997	25	0	1,318
Book value 31 Dec 2020	**0**	**244**	**5,670**	**19,945**	**501**	**1,593,224**	**1,619,585**
Accumulated depreciation difference 1 Jan	0	256	5,954	20,942	527	0	27,679
Change in depreciation difference	0	-12	-284	-997	-25	0	-1,318
Accumulated depreciation difference 31 Dec	0	244	5,671	19,945	502	0	26,361
Undepreciated acquisition cost in taxation 31 Dec 2020	0	0	0	0	0	1,593,224	1,593,224

12 Investments

EUR 1,000	Holdings in group companies	Holdings in joint ventures	Other stocks and shares	Loan receivables, joint ventures	Loan receivables, others	Long-term receivables	Total
Acquisition cost 1 Jan 2020	8	1,011	4,218	2,442	591,947	2,030	601,656
Increase	0	0	0	133	154,567	243,950	398,650
Decrease	0	0	0	-240	-29,561	-5,980	-35,781
Acquisition cost 31 Dec 2020	8	1,011	4,218	2,335	716,953	240,000	964,524
Book value 31 Dec 2020	**8**	**1,011**	**4,218**	**2,335**	**716,951**	240,000	**964,524**
Loan from the Finnish State Nuclear Waste Management Fund lent further to the equity holders of the company					716,447		716,447

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	2020	2019
Raw uranium and natural uranium		
Replacement cost	90,702	79,630
Book value	96,673	91,772
Difference	**-5,971**	**-12,142**
Raw uranium and natural uranium	96,673	91,772
Nuclear fuel	168,906	170,083
Supplies	8,465	7,724
Total	**274,044**	**269,579**

14 Current receivables

EUR 1,000	2020	2019
Receivables from group companies		
Accrued income	1,588	1,052
Total	**1,588**	**1,052**
Receivables from joint ventures		
Loan receivables	240	240
Prepayments and accrued income	5,893	2,074
Total	**6,133**	**2,314**
Receivables from others		
Trade receivables	1,508	17,467
Other receivables	2,736	984
Total	**4,244**	**18,451**
Prepayments and accrued income		
Prepaid interests	15,261	21,275
Accrued interest income	3,484	2,988
Other accrued income	34,168	44,462
Other prepaid expenses	1,132	2,939
Total	**54,045**	**71,664**
Total	**66,010**	**93,481**

15 Equity

EUR 1,000	2020	2019
Share capital 1 Jan	600,365	600,365
Share capital 31 Dec	600,365	600,365
Share premium reserve 1 Jan	232,435	232,435
Share premium reserve 31 Dec	232,435	232,435
Statutory reserve 1 Jan	9,948	9,948
Statutory reserve 31 Dec	9,948	9,948
Reserve for invested non-restricted equity 1 Jan	3	3
Change	-3	0
Reserve for invested non-restricted equity 31 Dec	0	3
Retained earnings/loss 1 Jan	14,460	14,460
Retained earnings/loss 31 Dec	14,460	14,460
Profit/loss for the financial year	4,270	0
Total	**861,478**	**857,211**

16 Distributable equity

EUR 1,000	2020	2019
Retained earnings	14,460	14,460
Profit/loss for the financial year	4,270	0
Total	**18,730**	**14,460**

17 Non-current liabilities

EUR 1,000	2020	2019
Bonds	2,708,460	2,862,242
Loans from financial institutions	986,540	931,238
Other loans	59,827	60,917
Shareholders' loans [1]	929,300	679,300
Loan from the Finnish State Nuclear Waste Management Fund [2]	716,447	591,441
Total	**5,400,574**	**5,125,138**

[1] Subordinated loans.
[2] Lent further to the shareholders.

Bonds

Euro Medium Term Note Programme EUR 4,000,000,000

Currency	Capital 2020	EUR 1,000 2020	Capital 2019	EUR 1,000 2019	Maturity date
EUR	153,781	153,781	153,781	153,781	17.3.2021 [1]
EUR	30,000	30,000	30,000	30,000	9.5.2022
EUR	100,000	100,000	100,000	100,000	12.9.2022
EUR	23,000	23,000	23,000	23,000	1.12.2022
EUR	75,000	75,000	75,000	75,000	14.12.2027
EUR	20,000	20,000	20,000	20,000	8.11.2032
EUR	23,000	23,000	23,000	23,000	3.5.2030
EUR	20,000	20,000	20,000	20,000	8.5.2024
EUR	45,000	45,000	45,000	45,000	31.3.2032
EUR	500,000	500,000	500,000	500,000	4.2.2025
EUR	500,000	500,000	500,000	500,000	13.1.2023
EUR	400,000	400,000	400,000	400,000	8.5.2024
EUR	650,000	650,000	650,000	650,000	9.3.2026
SEK	0	0	650,000	70,945	17.3.2020 [1]
SEK	0	0	550,000	61,009	19.5.2020 [1]
SEK	1,000,000	97,561	1,000,000	97,561	15.2.2022
SEK	500,000	48,781	500,000	48,781	15.2.2024
SEK	850,000	82,927	850,000	82,927	15.2.2024
SEK	500,000	46,623	500,000	46,624	29.10.2024
SEK	500,000	46,568	500,000	46,568	29.10.2024
Total		**2,862,241**		**2,994,197**	
Current portion of long-term bonds [1]		**153,781**		**131,955**	
Total		**2,708,460**		**2,862,242**	

Other loans

US Private Placements

Currency	Capital 2020	EUR 1,000 2020	Capital 2019	EUR 1,000 2019	Maturity date
USD	0	0	50,000	39,557	26.8.2020 [1]
USD	0	0	50,000	39,557	26.8.2020 [1]
GBP	50,000	56,117	50,000	56,116	15.11.2022
Total		**56,117**		**135,231**	
Current portion of other loans [1]		0		79,114	
Total		56,117		56,117	
Collateral received		3,710		4,800 [1]	17.3.2021 [1]
Total		**59,827**		**60,917**	

18 Debts due in more than five years

EUR 1,000	2020	2019
Debts due in more than 5 years	1,327,026	2,082,430

19 Current liabilities

EUR 1,000	2020	2019
Liabilities from joint ventures		
Accruals	1,359	3,831
Total	**1,359**	**3,831**
Liabilities from others		
Advances received	19,789	17,788
Trade payables	9,410	7,730
Total	**29,199**	**25,518**
Interest-bearing liabilities		
Bonds	153,781	131,955
Loans from financial institutions	79,499	44,413
Commercial paper program	191,870	172,455
Private Placements	0	79,114
Total	**425,150**	**427,937**
Accruals and deferred income		
Finnish State Nuclear Waste Management Fund	3,484	2,988
Accrued interests	42,867	39,662
Accrued personnel expenses	18,996	18,303
Accruals related to CO_2 emission rights	59	3,760
Other accruals and deferred income	15,156	26,727
Total	**80,562**	**91,440**
Total	**536,270**	**548,726**

20 Commitments

Leasing liabilities

EUR 1,000	2020	2019
Leasing liabilities falling due in less than a year	2,511	2,612
Leasing liabilities falling due later	49,425	51,238
Total	**51,936**	**53,850**

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

Contingent liabilities given on own behalf

EUR 1,000	2020	2019
Bank guarantees	550	7,000

Nuclear waste management

EUR 1,000	2019	2019
Liability for nuclear waste management according to the Nuclear Energy Act [1)]	1,450,600	1,471,400
TVO's funding target obligation 2021 (2020) to the Finnish State Nuclear Waste Management Fund	1,450,600	1,471,400
Collateral for nuclear waste management contingencies	95,880	77,980
Nuclear waste management loan receivables pledged to the Finnish State Nuclear Waste Management Fund	716,447	591,441

[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.

21 Derivative financial instruments

EUR 1,000	2020	2019
Interest rate derivatives		
Interest rate swaps (nominal value)	2,024,117	1,996,071
Fair value	-29,400	-14,100
Forward foreign exchange contracts		
Forward foreign exchange contracts (nominal value)	85,753	109,217
Fair value	7,532	17,318
Cross-currency swaps		
Cross-currency swaps (nominal value)	378,585	589,613
Fair value	10,888	-6,289

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.

22 Series of shares

Share capital and series of shares

	Number 2020	Number 2019	EUR 1,000 2020	EUR 1,000 2019
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	0	0
Change	-34,283,730	0	0	0
31 Dec	0	34,283,730	0	0
Total	**1,360,000,000**	**1,394,283,730**	**600,365**	**600,365**

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.

23 CO_2 emission rights

In principle TVO has, on December 31, 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 December 31.

	2020		**2019**	
	t CO_2	EUR 1,000	t CO_2	EUR 1,000
Total annual emissions from production facilities	74,074		161,924	
Possessed emission rights	1,991		162,546	
Emission rights bought [1)]	72,300	1,741	214,200	5,142

TVO has been responsible for the amount of emission rights corresponding to its share of the production of the Meri-Pori plant. TVO relinquished its share in Meri-Pori in full in July 2020. On December 31, 2020 TVO does not possess any emission rights concerning Meri-Pori plant.

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

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

Teollisuuden Voima Oyj's distributable equity as of December 31, 2020 amounted to EUR 18,730,000. 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 18, 2021

Tiina Tuomela	Ilkka Tykkyläinen	Risto Andsten
Esa Kaikkonen	Tapio Korpeinen	Markus Mannström
Markus Rauramo	Anders Renvall	Rami Vuola
Juha-Pekka Weckström	Jarmo Tanhua CEO	

The auditor's note

Our auditor's report has been issued today.

Helsinki, February 18, 2021

PricewaterhouseCoopers Oy
Authorised Public Accountants

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

Our opinion is consistent with the additional report to the Audit Committee.

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 2020. 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.

To the best of our knowledge and belief, the non-audit services that we have provided to the parent company and to the group companies are in accordance with the applicable law and regulations in Finland and we have not provided non-audit services that are prohibited under Article 5(1) of Regulation (EU) No 537/2014. The non-audit services that we have provided are disclosed in note 9 to the Financial Statements.

Our audit approach

Overview

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

- We audited the consolidated financial statements and the financial statements of the parent company Teollisuuden Voima Oyj.

- Olkiluoto 3 EPR power plant under construction
- 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 (2019: € 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.

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

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	How our audit addressed the key audit matter
Olkiluoto 3 EPR power plant under construction	
Accounting policies and notes 1, 12 and 13 in the consolidated financial statements. Note 11 in the financial statements of the parent company. Olkiluoto 3 EPR is a nuclear power plant under construction (OL3 EPR project), which has been ordered under a turnkey contract. Delivery of the plant has been significantly delayed from the original schedule. During the OL3 ERP project, € 5,0 billion have been capitalised on Property, plant and equipment under Construction in progress and Advance payments of the consolidated and the parent company's balance sheet. According to the Articles of Association, each shareholder of the series of shares bears their share of the variable and fixed annual costs as specified in detail in the Articles of Association. Our audit of the consolidated financial statements and the financial statements of the parent company focused especially on this item due to the significant carrying amounts on the balance sheet and as the delivery of the plant has been considerably delayed from the original schedule. In addition, a significant amount of borrowing costs has been capitalised on this item.	We reviewed the management's procedures, records and other documentation related to the progress monitoring of the OL3 EPR project. We also tested the internal controls relating to approval, monitoring and reporting of expenses capitalised on the OL3 EPR project. We tested purchase invoices and company's own expenses relating to the OL3 EPR project to ascertain the costs capitalised on the power plant construction in progress meet the recognition criteria. During our audit we reviewed that the borrowing costs capitalised on the OL3 EPR project were capitalised in accordance with the accounting principles applied, and the capitalisation was performed consistently under the same principles as in previous financial statements. In our audit of the amount capitalised on the balance sheet, we considered the provisions regarding shareholder responsibilities incorporated in the Articles of Association. We assessed the adequacy of the information presented in the financial statements.

Key audit matter	How our audit addressed the key audit matter
Assets and provisions related to the nuclear waste management obligation	
Accounting policies and notes 12 and 24 in the consolidated financial statements. Provision related to nuclear waste management obligation € 1,0 billion is presented in Non-current liabilities and Share in The Finnish State Nuclear Waste Management Fund € 1,0 billion in Non-current assets of the consolidated financial statements. The fair value of the nuclear waste management provision has been determined by discounting the future cash flows, which are based on the plans of future activities and the estimated expenditure relating to it, taking into account actions already taken. The fair value of the share in The Finnish State Nuclear Waste Management Fund is valued at the lower of fair value or the value of the provision. Our audit of the consolidated financial statements focused especially on the nuclear waste management obligation related items on the balance sheet and the income statement due to the significant amounts and the high level of management judgement used in the calculations such as technical plans, time factor, cost estimates and discount rate.	We assessed the company's accounting policies for compliance with International Financial Reporting Standards. We reviewed the cash flow forecasts and related documentation, and interviewed the preparers of the calculations to assess the basis for the estimates and assumptions used, and whether the cash flow forecasts are prepared consistently based on the best available information at the time. We tested the mathematical accuracy of the calculations and whether the calculations are technically prepared in line with the same principles from one accounting period to another. We assessed whether the discount rate and inflation rate used in the calculations are appropriately determined. We also assessed the adequacy of the disclosures presented in the accounting policies and notes of the consolidated financial statements.

There are no significant risks of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014 with respect to the consolidated financial statements or 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 a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or to cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

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

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

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

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

Appointment

Teollisuuden Voima Oyj became a public interest entity in June 2009. We have been the auditors of Teollisuuden Voima Oyj all that time it has been a public interest entity.

Other Information

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

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 other information that we obtained prior to the date of this auditor's report, 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. The proposal by the Board of Directors regarding the result of the accounting period is in compliance with the Companies Act. 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 18 February 2021

PricewaterhouseCoopers Oy
Authorised Public Accountants

Niina Vilske
Authorised Public Accountant (KHT)

Financial information in 2021

In 2021, Teollisuuden Voima Oyj will publish the interim reports as follows:

Interim Report for January-March 2021
on April 22, 2021

Interim Report for January-June 2021
on July 14, 2021

Interim Report for January-September 2021
on October 15, 2021

The interim reports are published at approximately 16:00 EET in Finnish and English, and are available on TVO’s website.