REPORT OF THE BOARD OF DIRECTORS AND FINANCIAL STATEMENTS

2021

Contents

Report of the Board of Directors of Teollisuuden Voima Oyj 2021

Main events in 2021

THE ROLE OF LOW-CARBON ENERGY, such as renewable energy and nuclear power, is crucial in the mitigation of climate change. In 2021, the share of nuclear power was about 33 percent of all electricity produced in Finland. During its over 50-year history, Teollisuuden Voima Oyj (TVO) has produced more than 540 terawatt hours (billion kilowatt hours) of climate-friendly electricity in total.

The spread of the global coronavirus pandemic (COVID-19) had an impact also on the TVO Group's operations during 2021. Considerable measures were continued 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 and no widespread transmission chains have occurred at the TVO Group.

The electricity generation at TVO's Olkiluoto nuclear power plant in 2021 totalled 14.4 terawatt hours, which accounted for about one-sixth of all electricity consumed and about 21 percent of all electricity produced in Finland. The combined load factor of the plant units was 92.8 (93.5) percent. The Group's turnover was EUR 298.7 (275.1) million.

The electricity production of the Olkiluoto power plant units, Olkiluoto 1 (OL1) and Olkiluoto 2 (OL2) during 2021 was 14,438 (14,587) GWh. The plant units operated safely. OL1's net production was 7,404 (7,310) GWh and OL2's net production was 7,033 (7,277) GWh.

The refuelling and maintenance outages carried out at the OL1 and OL2 plant units on alternating years are designed to ensure that a good level of production and operability is maintained at all times. In 2021, the annual outages lasted a total of eight weeks, and they proceeded well with all the necessary COVID-19 arrangements in place. The annual outage for OL1 consisted of refuelling and several other tasks, some of which were postponed from last year's annual outages due to the COVID-19 pandemic. The tasks included a main transformer replacement and a pressure test of the reactor primary circuit. In addition to refuelling, the main tasks of OL2's maintenance outage included pump and piping replacements in the shut-down cooling system, the replacement of containment electrical penetration modules, repair work of the seawater channel, a feed water system recirculation line modification, a containment leak-tightness test, and the inspection and vacuum cleaning of the reactor pressure vessel bottom. In addition to TVO's own personnel, approximately 800 external resources participated in the refuelling outage and 1,000 external people worked in the maintenance outage. Approximately one hundred specialists arrived from abroad for the annual outages.

Preparing the Olkiluoto 3 EPR (OL3) plant unit for production proceeded to nuclear commissioning in 2021, when fuel loading was completed in April, and reactor criticality was achieved for the first time in December. Electricity production is to start in March 2022, once the plant unit is connected to the national grid. Regular electricity production starts in July 2022.

In May 2021, a consensus was reached in the negotiations with the Areva–Siemens consortium regarding the main principles of the OL3 project completion. The agreements regarding the amendments to the OL3 project 2018 Global Settlement Agreement (GSA) were signed in June 2021.

Finnish Energy published its energy attitude survey in December 2021, according to which the support for nuclear power in Finland reached an all-time record. Up to half of the respondents would like to see more nuclear power, and a quarter think the current level is appropriate. Energy attitudes have been measured since 1983.

The construction work of Posiva's encapsulation plant and final disposal facility proceeded as planned, and the operating licence application was submitted to the Finnish Government by the end of the year.

At the end of the year, the total number of personnel in the Group was 984 (975). The number of personnel working for Posiva and its subsidiary Posiva Solutions Oy was 93 (92). A total of 71 (84) new staff members were recruited at the Group during 2021.

Operating environment

THE PROCESS OF PLANNING CRITERIA for nuclear power under the EU's Sustainable Finance Taxonomy is still ongoing. After the finalisation of the assessment by the Joint Research Centre (JRC) and the subsequent review process by experts, preparatory work by the European Commission has continued. Furthermore, Mairead McGuinness, the Commissioner responsible for the Taxonomy, visited Olkiluoto in November. A draft version of criteria concerning nuclear power was published in December. Member States can comment on the criteria during January 2022. On 2 February 2022, the European Commission proposed the inclusion of nuclear energy in the EU Taxonomy. The proposal still includes some unclear criteria on the taxonomy eligibility of nuclear power (see chapter: **Major Events after the End of the Year**).

The work on the Commission's Fit for 55 package, unveiled in July, continues. The package contains the measures necessary for achieving the 55 percent greenhouse gas emissions reduction target for 2030. The package contains a revision of the EU Emissions Trading System and measures to kickstart the European hydrogen economy. The rest of the Fit for 55 package was published provisionally in December 2021. These initiatives include the gas market package expected to cover nuclear-based hydrogen production.

In 2021, the International Energy Agency (IEA) published its new Net Zero 2050 scenario. The aim of the scenario is to demonstrate the necessary actions to limit global warming to 1.5 degrees Celsius. IEA predicts that meeting the target would require the doubling of existing nuclear capacity by 2050. According to the International Atomic Energy Agency (IAEA), there were 442 nuclear reactors in operation and 52 reactors were under construction at the end of 2020.

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).

A change took place in TVO's shareholding at the beginning of July 2021, when Oy Mankala Ab purchased all the A and B series shares of Loiste Holding Oy. After the change, TVO is owned by five 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 2021. TVO generates about 17 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 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 the Radiation and Nuclear Safety Authority in Finland (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 the TVO Group's Code of Conduct (see chapter: **Responsibility**).

The objectives of TVO's strategy include a solid safety brand, the competitive and predictable price of electricity, 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 2021 was EUR 298.7 (275.1) million.

The amount of electricity delivered to the shareholders was 14,414 (14,645) GWh. The lower delivery volumes of the Olkiluoto plant units compared with the previous year were due to longer annual outages.

The consolidated profit was EUR -19.7 (0.5) million.

Financing and liquidity

TVO'S FINANCIAL SITUATION has developed as planned.

TVO's liabilities (non-current and current) at the end of the year, excluding the loan from the Finnish State Nuclear Waste Management Fund relent to shareholders, totalled EUR 5,206.0 (5,109.3) million, of which EUR 929.3 (929.3) million were subordinated shareholder loans. During 2021, TVO raised a total of EUR 800.0 (353.7) million in non-current liabilities, of which none (EUR 250.0 million) were subordinated shareholder loans. Repayments during the year amounted to EUR 566.5 (255.5) million.

TVO has a syndicated revolving credit facility of EUR 1,000 million which matures in 2024.

At the beginning of the year, TVO agreed that the maturities of bilateral bank loans totalling EUR 775 million were extended from 2022 and 2023 to 2024. Of these, a EUR 75 million loan has been repaid prematurely. At the end of the year, the maturities of these loans were further extended to 2025 for the amount of EUR 300 million. In addition, a new bilateral bank loan has been made for EUR 100 million, which matures in 2025.

TVO issued in June a EUR 600 million seven-year bond with an annual coupon of 1.375 percent. The bond was issued under the Company's EMTN programme. TVO also announced that it has made an invitation to holders of its outstanding EUR 500 million Notes due in January 2023 to tender their Notes for purchase by TVO for cash. The tender offer results were announced on 22 June 2021. The aggregate principal amount validly offered for purchase by the noteholders was EUR 177,223,000. TVO accepted all valid instructions pursuant to the tender offer.

The credit rating agency S&P Global Ratings (S&P) affirmed in April its long-term credit rating BB for TVO and changed the outlook from negative to positive. According to S&P, the completion of fuel loading at the OL3 plant unit was a significant sign of progress on the project. Japan Credit Rating Agency (JCR) kept its existing rating A+ (Negative Outlook). In addition, TVO has a credit rating BBB- (Negative Outlook) from Fitch Ratings.

TVO uses its right to borrow funds back from the Finnish State Nuclear Waste Management Fund within the framework of legal regulations. On 31 December 2021, the amount of the loan was EUR 711.3 (716.4) million, and it has been relent to the Company's A series shareholders. On 31 March 2021, the loan from the Finnish State Nuclear Waste Management Fund decreased by EUR 5.1 (31 March 2020, increased by EUR 125.0) million.

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

Share capital

TVO'S SHARE CAPITAL on 31 December 2021 was EUR 600.4 (600.4) million.

The Company has 1,360,000,000 (1,360,000,000) 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 OL1 and OL2, and the B series shares to the electricity generated at OL3.

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 (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 2021 have been described in a separate Corporate Governance Statement to be found on the Company's website 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 (269/2021) entered into force in a staggered manner as of 1 May 2021. The amendment reformed the regulation concerning provisions for nuclear waste management expenses, so that the investment activities of the assets managed by the Finnish State Nuclear Waste Management Fund allow for broader risk taking and thus higher profits. Simultaneously, the regulation concerning research programmes on the safe use of nuclear power plants and nuclear waste management funded by the Finnish State Nuclear Waste Management Fund was reformed.

The Ministry of Economic Affairs and Employment (MEAE) is initiating a comprehensive reform of the Nuclear Energy Act. The objective is that the production of nuclear energy is in line with the overall good of society, safe, and financially profitable even in the future. The draft law is supposed to enter the consultation phase during 2024, the government proposal to the Parliament would then follow at the end of the next electoral term, and the new Nuclear Energy act would enter into force in 2028.

During 2021, a total of 17 updated YVL Guides have been introduced at the OL1, OL2, and OL3 plant units. In 2021, STUK published two updated YVL Guides, and the publication of guides YVL A.11 and A.12 finalised the latest round of updates in February 2021. Bringing the guides into force has been delayed from STUK's previously estimated schedule, and all of the updates have not yet been brought into force. The final updated guides (six in total) and the new guide YVL E.13 will be brought into force during 2022.

In 2021, STUK also initiated preparations for the reform of the nuclear safety regulations and guidelines, in which the foundation and directions are laid down for the reform, 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. Amendments to the Nuclear Liability Act (493/2005, 1060/2021, and 1061/2021) entered into force on 1 January 2022 with a Government Decree (1324/2021). According to the amendments, the liability of a plant operator (as defined in the Nuclear Liability Act) for a a nuclear incident outside of Finland was increased to EUR 1,200 million for nuclear plants used in energy production. For nuclear incidents in Finland, the plant operator's liability remains unlimited, as it already has been since 2012, when the Nuclear Liability Act was temporarily amended as concerns this liability. For nuclear plants used for other purposes than energy production and for the transport of nuclear substances, the liability is EUR 80–250 million.

The use of nuclear energy is subject to licence. Applications for a decision-in-principle, construction licence and operating licence, as well as a licence 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 realisation 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, Group-level policies, and good governance.

Risk management is supervised by the Company's Board of Directors, which also verifies the TVO Group'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 is in line with the TVO Group's risk management policy. 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. A risk management group operates under the 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 organisation 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 materialising or to reduce its likelihood or consequences. The acknowledged risks are gathered to company-level risk registers, where all the risks and their significance are displayed in accordance with each risk's consequence and likelihood. All risks are reported to the Management Group, Audit and Finance Committee, and the Board of Directors in accordance with the annual management programme.

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 2021, 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 2021, the understanding of the meaning of the risk management process was strengthened in project management procedures, and risk awareness in decision-making was increased.

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 procured from global markets. 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 project, risk management is primarily a question of overseeing and guiding the work of the Plant 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 plant unit

Schedule and planned completion

TVO's major risks are related to the schedule of the OL3 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 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. Electricity production will start at a 25 percent power output, which is approximately 400 MW, in March 2022. OL3's regular electricity production will commence in July 2022.

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

During 2021, several risk management measures related to the OL3 project have been executed to improve TVO's readiness to commission the 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 the amendments to the agreement in June 2021, and ascertains that the commissioning of OL3 is executed according to the schedule provided by the Plant Supplier and that financial and technical resources are secured.

Profit-yielding capacity of OL3

If the OL3 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 analysed with the help of various scenarios influencing OL3's profit-yielding capacity.

TVO will ensure that the experiences from the Taishan sister plants are utilised during the nuclear commissioning of OL3.

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 2021 continued to prioritise 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.

Organisation's capabilities

AN ORGANISATION'S COMPETENCE and ability to function as a licensee may be compromised by dysfunctional management, failed reaction to changes in the operational environment, or a 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 realised.

In order to maintain its capability to function as a licensee, TVO has prepared for the operation phase of OL3 and for future retirements by recruiting 70 new staff members in 2021 and by maintaining a comprehensive supplier chain. TVO's sick leave percentage was 2.4 and the outgoing turnover rate was 6.3 percent. An investigation related to the psychosocial stress of TVO's and Posiva's supervisors was carried out from August to September 2021, based on which the necessary means and procedures for promoting and supporting the supervisors' coping at work will be planned.

Furthermore, TVO has also executed a competence survey, the results of which are used for personnel planning. OL3 trainings have continued during 2021. 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 November 2021.

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 reorganising bilateral bank loans and issuing a new bond. 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 analysed through various scenarios based on the changes in the average interest rate and margin of TVO's loan portfolio. If the risk is realised, 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 utilises 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 2021. This is reflected among other things in the significant reorganisations of bank financing and the issuing of a new bond during the year.

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 2021. The most significant industrialisation 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 were 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 in the aforementioned matters during 2021. 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 the TVO Group'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. In addition, opportunities to report completely anonymously on incidents perceived to be against the Code of Conduct were increased by introducing a new whistleblower channel at the same time as the TVO Group's Code of Conduct was renewed. The possible risks are evaluated in projects and investments as necessary. Furthermore, these matters are evaluated when reviewing suppliers in accordance with 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 the 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 cost exceedings and project delays, and 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.

TVO received in July 2021 Wärtsilä's counterclaim in the pending arbitration proceedings. Wärtsilä's monetary claim of additional costs is approximately EUR 40 million. TVO submitted its response to Wärtsilä's claims to the court of arbitration in the beginning of November 2021. TVO considers claims made by Wärtsilä to be without merit and demands for them to be overruled and for TVO's legal costs to be compensated.

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

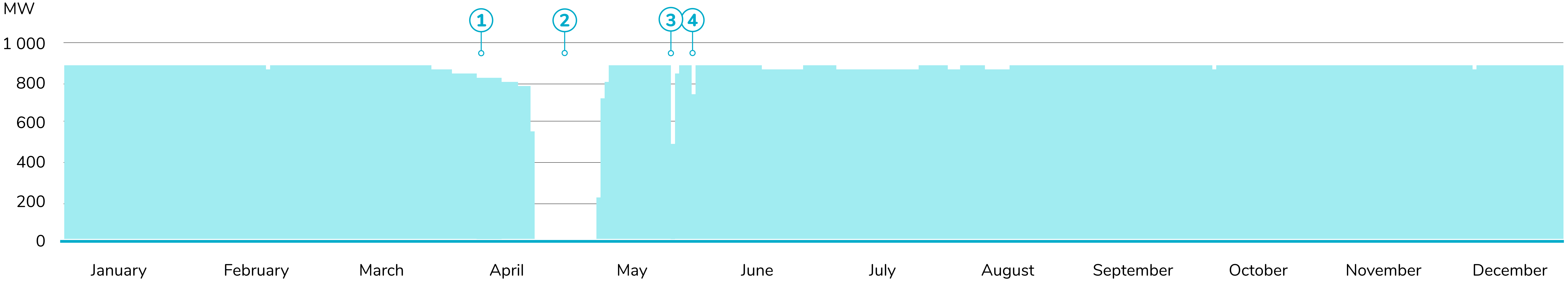
Olkiluoto 1 and Oliluoto 2

THE ELECTRICITY PRODUCTION of OL1 and OL2 in 2021 was 14,438 (14,587) GWh, and the total load factor was 92.8 (93.5) percent.

The plant units operated safely. OL1's net production was 7,404 (7,310) GWh and load factor 95.1 (93.7) percent. OL2's net production was 7,033 (7,277) GWh and load factor 90.4 (93.3) percent.

OL1 Production

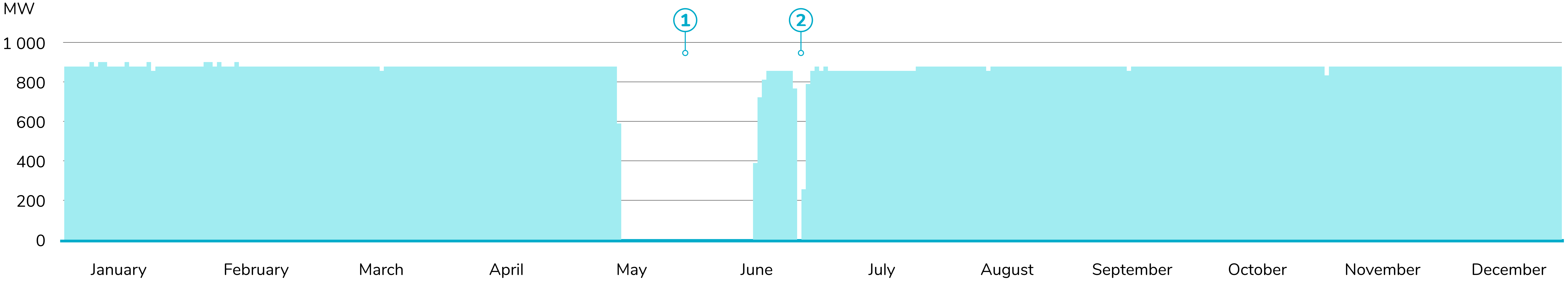
Average output



1. Coast-down 2. Annual refuelling outage 3. Inspection of main condenser 4. Repair of valve in turbine side

OL2 Production

Average output



1. Annual maintenance outage 2. Repair of valve in reactor side

Annual outages

THE REFUELLING and maintenance outages carried out at the OL1 and OL2 plant units on alternating years are designed to ensure that a good level of production and operability is maintained at all times.

The 2021 annual outages of the Olkiluoto nuclear power plant were started with a refuelling outage at the OL1 plant unit on 25 April. The refuelling outage was completed on 11 May. In addition to refuelling, OL1's annual outage consisted of several other tasks, some of which were postponed from last year's annual outages due to the COVID-19 pandemic. The tasks included a main transformer replacement and a pressure test of the reactor primary circuit.

OL2's annual outage was a maintenance outage, which started on 16 May and was completed on 18 June. In addition to refuelling, the main tasks of OL2's maintenance outage included pump and piping replacements in the shut-down cooling system, the replacement of containment electrical penetration modules, repair work of the seawater channel, a feed water system recirculation line modification, a containment leak-tightness test, and the inspection and vacuum cleaning of the reactor pressure vessel bottom.

The annual outages were carried out successfully despite special arrangements due to COVID-19. The aim of the extensive special arrangements and measures was to prevent the spread of potential COVID-19 infections in Olkiluoto, ensure the health and safety of the persons involved in the annual outages, as well as guarantee a safe and high-quality annual outage.

Six occupational accidents resulting in absence occurred during the annual outages.

In addition to TVO's own personnel, approximately 800 external resources participated in the refuelling outage and 1,000 external people worked in the maintenance outage. Approximately one hundred specialists arrived from abroad for the annual outages.

Olkiluoto 3 EPR

OL3, currently under the test production phase, 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 settlement agreement with the plant supplier consortium companies Areva NP, Areva GmbH, and Siemens AG as well as with the Areva Group parent company Areva SA, a company wholly-owned by the French State. The settlement agreement concerned the completion of the OL3 project and related disputes, and it entered into force in late March 2018. The supplier consortium companies committed to ensuring that the funds dedicated to the completion of the OL3 project will be adequate and will cover all applicable guarantee periods, including setting up a trust mechanism funded by Areva companies to secure the financing of the costs for completing the OL3 EPR project. During the accounting period, replenishing the trust was finished according to the terms of the 2018 Global Settlement Agreement (GSA), but it was replenished according to the amendment agreement which entered into force in July 2021 (see further below).

TVO and the Areva–Siemens consortium negotiated since summer 2020 on the terms of the OL3 project completion. In addition, the Areva companies were preparing a financial solution which ensured the necessary funding for the companies to complete the OL3 project. The parties reached a consensus in their negotiations regarding the main principles of the OL3 project completion in May 2021, and the agreements regarding the amendments to the OL3 project 2018 GSA were signed in June 2021. Certain conditions had to be fulfilled in order for the agreements to enter into force, and all conditions were fulfilled on 13 July 2021.

Key matters of the agreement were:

- The Areva companies' trust mechanism, established in the GSA of 2018, was replenished in July with EUR 432.3 million.
- Both parties are to cover their own costs as of July 2021 until the end of February 2022.
- In the case that the plant supplier consortium companies were not to complete the OL3 project by the end of February 2022, they would pay an additional compensation to TVO for delays, depending on the date of completion.
- In connection with the agreement entering into force, the Plant Supplier paid EUR 206.9 million of the EUR 400.0 million delay compensation as agreed in the GSA 2018.

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 project will be approximately EUR 5.7 billion.

STUK granted a fuel loading permit for OL3 in March 2021, and the fuel loading was completed in April 2021. The completion of fuel loading meant that the OL3 plant unit is a nuclear power plant in use.

A turbine overhaul was carried out at OL3 from July to November 2021 because of a jammed turbine. Inspections revealed that the inner casing and rotor in one low pressure turbine were damaged. The damages had been caused by the rotor touching the turbine's inner casing. During the overhaul, the low pressure turbine's rotor was replaced, and inspection work and small modifications took place at all three of the low pressure turbines.

On 16 December 2021, STUK granted TVO permission for making the reactor critical and conducting low power tests. The first criticality of OL3 was reached on 21 December 2021. OL3's electricity production starts in March 2022, once the plant unit has been connected to the national grid.

In connection with the start of fuel loading, publishing the power output of the OL3 plant unit was started on TVO's website. The power output during the test production phase is published on TVO's website at www.tvo.fi/ol3forecast. A market message is published in NordPool regarding any significant changes.

At the end of the reporting period, the workforce at the site was approximately 1,300 people. Despite the COVID-19 pandemic, work at the OL3 site has continued under special arrangements. The occupational safety at the site remained at a good level.

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

Nuclear fuel

IN 2021, nuclear fuel purchases amounted to EUR 61.8 (65.6) million and the amount consumed to EUR 61.4 (61.9) million.

The nuclear fuel and uranium stock carrying value on 31 December 2021 was EUR 265.9 (265.6) 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 1,368.3 (1,029.5) million, calculated according to the international IFRS accounting principles. TVO's share in the Finnish State Nuclear Waste Management Fund, EUR 1,010.1 (1,029.5) million, is presented under assets, calculated according to the IFRIC 5 interpretation. The OL3 plant unit was made critical on 21 December 2021, and a provision related to nuclear waste liability of EUR 367.9 million was recorded in the balance sheet. On 31 December 2021, the OL1/OL2 plant units' share in the Fund is higher than the provision according to IFRS, due to which an adjustment is recorded for the OL1/OL2 plant units' nuclear waste management IFRS calculation. The OL3 plant unit's share in the Fund is in turn lower than the provision according to IFRS, and therefore an adjustment is not recorded.

In order to cover the future costs of nuclear waste management, TVO makes contributions to the Finnish State Nuclear Waste Management Fund in accordance with the Nuclear Energy Act. In December 2021, the MEAE set TVO's liability for nuclear waste management at EUR 1,816.1 (1,450.6) million for the end of 2021 and the Company's funding target for 2022 at EUR 1,436.1 (1,450.6) million.

In March 2021, the Finnish State Nuclear Waste Management Fund confirmed TVO's nuclear waste management fee refund for 2020 at EUR 28.7 (refund 42.3) million, which was returned by the Fund on 31 March 2021 (returned by the Fund on 31 March 2020).

A total of 8,165 (8,498) m^3 of low and medium level radioactive waste has accumulated from the OL1 and OL2 plant units during their operation. The figure in 2021 is lower than the previous year due to Studvik's melt processing of low-level waste. During 2021, the amount of waste generated was approximately 167 m^3. The waste is disposed of in the final repository for low and medium level waste (VLJ repository) in Olkiluoto. In 2021, no intermediate or low level waste was placed in the VLJ repository because of the HVAC renovations taking place at the repository.

The total amount of spent nuclear fuel by the end of the year was 1,630 (1,597) tonnes, of which 33 (33) tonnes accumulated in 2021. 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 in Olkiluoto and Fortum Power and Heat Oy (Fortum) in Loviisa.

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.

A significant event in the preparation of the project in 2021 was the submittal of the operating licence application to the Finnish Government in December.

The work at Posiva's encapsulation plant site and final disposal repository, ONKALO, progressed according to schedule during 2021 despite COVID-19 restrictions. The supplier selection for key equipment of the encapsulation plant is mostly done, and the design and manufacturing of equipment is progressing. The first equipment installations were carried out at the end of 2021. In December 2021, the roof wetting ceremony for the encapsulation plant was celebrated.

In May, the excavation of the five first deposition tunnels, accessed through the central tunnels, was started in ONKALO at a depth of approximately 430 metres. The underground installations of civil and building technology progressed well and on schedule.

Posiva's owners submitted the annual report on nuclear waste management of 2020 to the MEAE at the end of March. The updated costs of the nuclear waste management scheme for 2021–2023 were submitted to the MEAE at the end of June 2021. 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. At the end of September, Posiva's owners submitted nuclear waste management plans for 2022–2024, as well as the nuclear waste management programme YJH-2021, which describes preliminary plans for 2025–2027.

Research and development

THE MAIN OBJECTIVE of TVO's research and development (R&D) activities is to ensure the viability of the current business functions and to create new business opportunities for the TVO Group. The vision for R&D is to be a bold innovator and developer that enables the TVO Group's position as a pioneer within the nuclear industry.

R&D costs were EUR 11.5 (11.7) 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 programmes for reactor safety and nuclear waste management. In 2021, TVO's contribution to the Finnish State Nuclear Waste Management Fund, which finances such programmes, amounted to EUR 5.1 (7.2) million.

The R&D project started at TVO in 2020 related to small modular reactors (SMRs) was continued. The project assesses the use of SMRs in electricity and heat production as well as the feasibility and profitability of different technical options in Finnish circumstances and as part of the Finnish energy system. The project is carried out as part of the broader EcoSMR project financed by Business Finland and coordinated by VTT Technical Research Centre of Finland (VTT).

TVO's R&D activities utilise broad national and international networks. TVO is part of a national nuclear power companies' (TVO, Fortum, Fennovoima) joint project (KELPO), where the goal is to develop licensing and approval processes of systems and equipment at nuclear power plants in Finland. In 2021, the production use of common practices and a shared digital platform was reached in KELPO. STUK approved the first common requirement definitions for mechanical serial-produced standard equipment. A new proposed qualification procedure for electric automation equipment has been sent to STUK for approval. In June 2021, the Nordic KELPO project was initiated together with Swedish nuclear power companies, the aims of which are similar to the national KELPO project.

Acquisitions of tangible and intangible assets and shares

INVESTMENTS IN 2021 were EUR 578.1 (55.9) million. The current value of the provision related to the OL3 plant unit's decommissioning is a total of EUR 367.9 million and has been recorded as an investment in the balance sheet. Investments of the parent company were EUR 219.6 (52.6) million, of which EUR 163.6 (9.1) million were allocated to the OL3 project. The OL3 investment is decreased by the additional compensation in accordance with the GSA, which has been recorded as EUR 160 (240) million for the accounting period. The additional delay compensation as agreed in 2018 has therefore been recorded in full by the end of 2021.

Hitachi Energy (previously Hitachi ABB Power Grids) and TVO have signed a contract about delivering one of Europe's largest battery energy storage systems to Olkiluoto. The 90-megawatt system will support the entire energy network in a potential production disturbance of the OL3 plant unit, thus minimising the effect of power fluctuations on the grid together with Fingrid's system protection. The battery energy storage system will be commissioned in 2022.

Carbon dioxide emission allowances have been relinquished to the Energy Authority worth EUR 0.1 (3.7) million. In 2021, emission allowances were acquired worth EUR 0.2 (1.7) 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 TVO'S VALUES. The most important responsibility aspects guiding the TVO Group's operations include the production of climate-friendly electricity, a safety culture of a high standard, creating added economic value, a good work community and networks, as well as being a pioneer within the nuclear industry and final disposal.

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

The 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).

The principles of responsible business operations are described in the TVO Group'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. The Code of Conduct was updated during spring 2021 and introduced on 1 May 2021. The updated Code of Conduct includes separate parts for the Group's personnel as well as partners and subcontractors. The TVO Group'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 published on TVO's website at www.tvo.fi/codeofconduct.

The TVO Group has committed to promoting 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 Corporate Social Responsibility Report is published on the Company's webpage www.tvo.fi/financialpublications. TVO's Corporate Social Responsibility Report has been subjected to a limited audit by an external party. The information in the Environmental Report included in the Corporate Social Responsibility Report has been verified by an external party.

TVO's Responsibility Objectives and Results

The responsibility objectives are based on the principle of continuous improvement. The objectives enable the Company to monitor the realisation of material responsibility issues. The TVO Group's broader sustainability objectives are reported in the Sustainability Roadmap 2030 as part of TVO's Corporate Social Responsibility Report.

	Objective 2021	Actual 2021
Reputation index	> 75	82
Personnel survey, points / category	69.8 / A+	68.7 / A
Reports suspecting violations of the Company's Code of Conduct	-	6
Sick leaves, %	< 3.0	2.4
Occupational accident frequency	< 2.0	6.3
Collective radiation dose, manmSv	844.6	984
Number of environmental incidents, pcs	0	0
Unplanned energy unavailability factor, %	< 0.7	0.3
Number of unplanned automatic scrams, pcs	0	0

Reputation index: The 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 2023.
Personnel survey: The personnel survey was conducted at the end of 2021. 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.

In 2021, Sustainalytics carried out an ESG risk assessment on TVO. TVO's risk level was 23.0 in the assessment, which is at the lower end of Sustainalytics' Medium Risk category (20-30, Medium ESG Risk). TVO continues the development of sustainability in order to achieve the Low Risk category (10-20).

TVO's position in relation to the EU Taxonomy

The decision on including nuclear power in the EU Taxonomy has been under preparation in the European Commission during the year. The EU Taxonomy is a classification system which, in the future, will determine the financial actions that can be classified as environmentally sustainable investments in the EU. The objective is to make it easier to identify sustainable investment targets, thereby directing investments towards them. As a low-emission electricity production method, nuclear power plays an important role in achieving both national and international climate goals. Therefore, the decision on including nuclear power in the Sustainable Finance Taxonomy is significant.

TVO's turnover as well as capital expenditure and operating expenses were directed at production and construction related to nuclear power during the accounting period. Therefore, according to the technical screening criteria which entered into force on 21 April 2021, the taxonomy eligibility for the accounting period of TVO's turnover is EUR 0, capital expenditure is EUR 0, and operating expenses are EUR 0 for the time being, since the decision-making related to nuclear power is still ongoing.

On 2 February 2022, the European Commission proposed the inclusion of nuclear energy in the EU Taxonomy (see chapter: Major Events after the End of the Year).

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 2021, nuclear professionalism was further reinforced by initiating the Nuclear Professional Leader training programme for supervisors, which includes a section dedicated to safety management. In addition, a nuclear professionalism group was set up, which is tasked with assessing the development of nuclear professionalism and the observation of human factors more efficiently in operations. A concise safety culture survey was carried out in 2021 as part of the personnel survey in the TVO Group, the results of which had improved compared with the previous survey.

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 in Olkiluoto are supervised by TVO. TVO only trades with evaluated and 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 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 2021, 143 suppliers were reviewed by using various methods.

	Number of notifications	Number of notifications resulted in actions
Notifications related to the Code of Conduct (including notifications related to corruption, bribery, extortion, conflicts of interest, and inappropriate behaviour)	1	1
Others (not related to the Code of Conduct)	5	0

TVO has a procedure for reporting suspected violations of the 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 six notifications of possible violations against the TVO Group's Code of Conduct in 2021 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, organisation, 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 2021, a concise safety culture survey was carried out in the TVO Group as part of the personnel survey, the results of which had improved. TVO's safety culture is estimated to be at a level at which the strategic importance of safety has been recognised 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 and develops 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 realisation are described in the table "TVO's Responsibility Objectives and Results" (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 2021, the Olkiluoto nuclear power plant had eight issues classified as level 0 (No safety significance). 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 activities are guided by an ISO 45001 certified occupational health and safety system (OHS system), which also includes construction operations at the OL3 site in the areas where TVO is responsible.

The mission of the OHS organisation 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 most important safety objectives for 2021 were clarifying the OHS responsibilities of the line organisation, supporting supervisors in their work, strengthening contractor cooperation, and developing the processes for identifying hazards and managing risks.

The TVO Group's goal for accident frequency in 2021 was 2.0 (accidents per million work hours). Six occupational accidents resulting in absence occurred during the annual outages. The goal for accident frequency was not achieved, since the accident frequency in Olkiluoto was 6.9 in 2021. TVO personnel, Posiva personnel, and all contractors working in Olkiluoto are included in the accident frequency calculation, excluding the OL3 site, which is reported by the plant supplier consortium Areva–Siemens.

Key occupational safety figures for 2021 are reported in further detail in the Corporate Social Responsibility Report.

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 recognises the environmental and energy aspects of its operations and works to minimise their negative impacts at all stages of the electricity production chain. Risks related to the environment have also been recognised, 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 on 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 2021. 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 14.4 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 2021. Radioactive emissions into the air and water were clearly below annual 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 environment and energy efficiency programme sets goals for the Company's operations. The programme is regularly monitored by a team of environmental experts from various organisational 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 2021, an environmental impact assessment was carried out 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 wastewater progressed to the construction stage during the end of the year.

Environmental issues from 2021 and key figures related to the environment as well as the results of the environment and energy efficiency programme are reported in further detail in the Corporate Social Responsibility Report and Environmental Report. The information has been verified by an external party.

Group personnel and training

Personnel

The TVO Group's Code of Conduct and policies lay down the principles of the 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 984 (975), and the average during the year was 1,004 (984). The year-end total number of personnel in TVO was 982 (973), and the average during the year was 1,002 (983). The year-end total for permanent personnel was 963 (954).

TVO recruited 70 (77) employees in 2021. During the year, 61 (45) permanent employees left the Company, including 5 (11) who retired. TVO's sick leave percentage was 2.4 (2.3).

M.Sc. (Tech.), D.Sc. (Tech.) **Veli-Pekka Nurmi** was appointed in 2021 as TVO's new Senior Vice President for Safety and Security Services as of 1 January 2022. TVO's previous Senior Vice President for Safety and Security Services, M.Sc. (Tech.) **Mikko Kosonen**, was appointed as a Corporate Advisor as of 1 January 2022, and he will retire during the summer 2022.

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

The TVO Group continued preparations for possible COVID-19 infections during the year, and the spread of the virus was prevented through several measures on the Olkiluoto island. Broad measures included e.g., reducing travel, transitioning to remote work 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 into separate zones and minimise contacts. In addition, the staff canteens as well as cleaning operations at all sites underwent major changes, and COVID-19 home tests were put to use provided by the employer. The effectiveness of the measures was deemed successful, since COVID-19 transmission chains were avoided in Olkiluoto.

A personnel survey is carried out in the Group approximately every 18 months. The results of the personnel survey conducted by Eezy Spirit Oy were received in November 2021. The response rate was 85 percent, and the People Power Index, which represents the overall result, was 68.7 (2020: 66.0). The result clearly increased from the previous year, although the rating remained in category A (satisfactory).

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 Group, and the results are utilised in developing operations.

The Group's management and operational culture is 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 2021, the focus has been, among other things, on better and broader communication and processing of shared issues related to nuclear professionalism, clear decision-making and improving cooperation, as well as development activities related to a modern workplace and work methods.

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.

An investigation related to the psychosocial stress of TVO's and Posiva's supervisors was carried out from August to September 2021. 135 supervisors took part in the investigation, and the analysis of the results was carried out by occupational health psychologists at the TVO Group's occupational health care provider, Terveystalo. The objective was to gain an overall picture of the supervisors' coping at work. The necessary means and procedures for promoting and supporting the supervisors' coping at work will be planned based on the results.

The human resource issues and indicators for 2021 can be found in more detail in the Corporate Social Responsibility Report.

Training

The basic, continuing, and further training of the TVO Group employees was implemented according to the annual training programme as in previous years. Personnel were trained for a total of 10,608 (10,342) days, on average 10.8 (10.6) 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 2021, OL1, OL2, and OL3 operators attended operational training days in the spring and in the autumn as well as advanced simulator courses according to their training programme. OL3 operators worked in shifts in the combined operating organisation of the Plant Supplier and TVO, carrying out system operation and monitoring tasks.

OL3 training was organised 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) and on updated instructions and procedures with online courses. The qualification and competence management methods of the Plant Supplier's personnel were verified prior to fuel loading. Training on nuclear fuel loading and handling at OL3 was organised for recognised target groups.

A new training programme called Nuclear Professional Leader (NPL) was launched in order to further develop supervisor skills; its aim is to prepare supervisors for their tasks within the nuclear industry in more comprehensive ways than before. The programme consists of several training courses, some of which apply to all supervisors while others apply to separately appointed roles.

Analysis of detailed role-based competences was continued within competence development. This will allow the roles within the organisation to inherit the correct requirements for training, induction, and competences.

Late in 2021, TVO participated in the implementation of a national nuclear safety and waste management training course together with other major operators in the industry. Together with Swedish nuclear power companies and Fortum's Loviisa nuclear power plant, TVO also participated in the Nordic Nuclear Trainee programme. The purpose of the training is to raise the students' interest towards the nuclear industry as an employer and to help them see the opportunities nuclear power can offer in the future.

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 power plants. The special expertise and networks of TVO personnel are 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 ANNOUNCED in a stock exchange release published on 26 January 2022, that the OL3 plant unit's electricity production starts in the first half of February, instead of the previously estimated start at the end of January. The main reason for the postponement of the start of electricity production was an unplanned automatic trip, which occurred on 14 January 2022. In a stock exchange release published on 3 February 2022, TVO announced that the OL3 plant unit's electricity production starts at the end of February 2022, and regular electricity production starts in July 2022. The schedule was updated once more on 12 February 2022, according to which electricity production starts in March 2022, and regular electricity production starts in July 2022 as previously communicated. During the OL3 plant unit's test production phase, it was observed that there is a need for modifications in the plant unit's automation, especially turbine island related control functions, as well as further testing related to the modifications. The modifications and the tests are taking longer than previously estimated, which is why the schedule was updated.

On 2 February 2022, the European Commission proposed the inclusion of nuclear energy in the EU Taxonomy. The Commission's proposal will next be addressed by the European Parliament and the Council of the European Union. They have four months to review the proposal, after which they may receive an additional two months for the review, should they so wish. Provided that neither turns down the proposal, it will enter into effect. The Commission's proposal on the inclusion of nuclear power in the Taxonomy is welcome. However, the lack of clarity in the taxonomy criteria makes the evaluation of the taxonomy eligibility of TVO's business activities challenging. Therefore, clarifying instructions are awaited from the Commission.

Prospects for the Future

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

OL3's test production phase will be continued with the aim of starting regular electricity production in July 2022. During the test production phase, the plant unit's power output will be gradually increased from approximately 400 MW to 1,300 MW. TVO will carefully follow the fulfillment of the conditions according to the 2018 GSA and the amendment agreements signed in June 2021, as well as the commissioning stages of OL3, so that they are carried out according to the Plant Supplier's schedule ensuring financial and technical resources. Since the Plant Supplier will not finish the OL3 project by the end of February 2022 according to the current schedule, as was stipulated in the amendment agreement of June 2021, the Plant Supplier will pay an additional delay compensation to TVO depending on the date of completion as of the beginning of March 2022.

Posiva will continue the implementation of the EKA project in 2022, which encompasses the entirety of the final disposal facilities.

COVID-19 measures shall be continued during 2022 in accordance with the recommendations of the Finnish Government, the Regional State Administrative Agencies and health care districts, as well as the Finnish Institute for Health and Welfare (THL). The COVID-19 situation shall also be taken into consideration in OL3's nuclear commissioning and the preparations for the annual outages during the spring 2022 to ensure employees' safety.

Proposals to the Annual General Meeting

TEOLLISUUDEN VOIMA OYJ'S distributable equity as of 31 December 2021 amounted to EUR 18,729,960. 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€)	2021	2020	2019	2018	2017
Turnover	299	275	254	350	321
Profit/loss for the financial year	-20	0	87	-18	-9
Research expenses	12	12	15	16	16
Investments	578	56	369	181	299
Equity	2,063	2,043	1,819	1,745	1,667
Subordinated shareholder loans (hybrid equity) (included in the former) [2] [4]	929	929	679	679	579
Non-current and current interest-bearing liabilities (excluding loan from VYR) [1]	4,337	4,281	4,370	4,141	3,923
Loan from VYR	711	716	591	666	656
Provision related to nuclear waste management	1,368	1,030	1,041	952	953
Balance sheet total	8,662	8,181	7,942	7,662	7,354
Equity ratio, % [3]	31.3	31.7	28.8	28.9	29.0
Average number of personnel	1,004	984	943	872	801

[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€)	2021	2020	2019	2018	2017
Profit/loss for the financial year (IFRS)	-20	0	87	-18	-9
The impact of the nuclear waste management obligation [1] (profit -/loss +)	17	6	-80	22	18
Other IFRS adjustments	0	0	-1	-1	-1
The impact of joint ventures	-1	3	-1	-1	-1
Profit/loss before appropriations	-4	9	5	2	7
Adjusted profit/loss for the financial year	-4	9	5	2	7

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

(M€)	2021	2020	2019	2018	2017
TVO's share in the Finnish State Nuclear Waste Management Fund (VYR)	1,451	1,479	1,514	1,480	1,437
TVO's funding target obligation to the Finnish State Nuclear Waste Management Fund	1,436	1,451	1,471	1,506	1,471
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets)	1,010	1,030	1,041	952	953

See note 24 Assets and provisions related to the nuclear waste management obligation.

Key figures of parent company (FAS)

Teollisuuden Voima Oyj (FAS) (M€)
Parent company's financial statement has been prepared in accordance with the Finnish Accounting Standards (FAS).

	2021	2020	2019	2018	2017
Turnover	294	271	251	346	316
Profit/loss before appropriations	-4	8	5	1	6
Fuel costs	61	64	65	72	57
Nuclear waste management costs	41	28	-5	58	64
Capital expenditure (depreciation and financial income and expenses)	38	34	39	53	51
Investments	220	52	278	177	298
Equity	861	861	857	857	863
Appropriations	193	197	193	187	185
Non-current and current interest-bearing liabilities (excluding loan from VYR and loans from equity holders of the company) [1) 2)]	4,277	4,180	4,282	4,070	3,833
Loans from equity holders of the company [2)]	929	929	679	679	579
Loan from VYR	711	716	591	666	656
Balance sheet total	7,156	6,995	6,724	6,619	6,272
Equity ratio, % [3)]	30.8	31.7	28.2	29.0	29
Average number of personnel	1,002	983	942	871	800

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)	2021	2020	2019	2018	2017
Olkiluoto 1	7,393	7,299	7,531	6,742	7,144
Olkiluoto 2	7,021	7,264	7,198	7,321	6,241
Total Olkiluoto	14,414	14,563	14,729	14,063	13,385
Meri-Pori	0	82	182	660	131
Total	**14,414**	**14,645**	**14,911**	**14,723**	**13,516**

Capacity factors, %	2021	2020	2019	2018	2017
Olkiluoto 1	95.1	93.7	96.9	87.8	93.1
Olkiluoto 2	90.4	93.3	92.7	94.3	81.3
Total capacity factor	**92.8**	**93.5**	**94.8**	**91.1**	**87.2**

TVO share of the electricity used in Finland, %	2021	2020	2019	2018	2017
	16.8	18.1	17.3	16.9	15.8

TVO Group

Consolidated income statement

EUR 1,000	Note	1 Jan-31 Dec 2021	1 Jan-31 Dec 2020
Turnover	3	**298,713**	**275,120**
Work performed for own purpose	4	25,036	21,217
Other income	5	13,446	13,253
Materials and services	6	-90,840	-78,230
Personnel expenses	7	-82,142	-72,493
Depreciation and impairment charges	3,8	-43,996	-45,461
Other expenses	9	-103,944	-86,183
Operating profit/loss		**16,273**	**27,223**
Finance income	10	4,681	11,616
Finance expenses	10	-41,887	-39,517
Total finance income and expenses		-37,206	-27,901
Share of the profit/loss of joint ventures		1,280	1,132
Profit/loss before income tax		**-19,653**	**454**
Income taxes	11	0	0
Profit/loss for the financial year		**-19,653**	**454**
Profit/loss for the financial year attributable to:			
Equity holders of the company		-19,653	454

Consolidated statement of comprehensive income

EUR 1,000	Note	1 Jan-31 Dec 2021	1 Jan-31 Dec 2020
Profit/loss for the financial year		-19,653	454
Other comprehensive items			
Items that may be reclassified to profit or loss in subsequent periods:			
Cash flow hedges	10	44,363	-21,994
Total other comprehensive profit/loss items		44,363	-21,994
Total comprehensive profit/loss for the financial year		**24,710**	**-21,540**
Total comprehensive profit/loss for the financial year attributable to:			
Equity holders of the company		24,710	-21,540

Consolidated balance sheet

EUR 1,000	Note	31 Dec 2021	31 Dec 2020
Assets			
Non-current assets			
Property, plant and equipment	12	6,177,755	5,664,650
Intangible assets	13	2,543	2,589
Loans and other receivables	16	714,027	959,286
Investments in joint ventures	14	5,516	4,236
Investments in shares	17	1,935	1,934
Derivative financial instruments	20	33,966	28,516
Share in the Finnish State Nuclear Waste Management Fund	24	1,010,071	1,029,522
Total non-current assets		**7,945,813**	**7,690,733**
Current assets			
Inventories	19	274,489	274,215
Trade and other receivables	16	261,834	52,231
Derivative financial instruments	20	7,809	2,515
Cash and cash equivalents	18	172,318	161,363
Total current assets		**716,450**	**490,324**
Total assets		**8,662,263**	**8,181,057**
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
Fair value and other reserves	21	16,991	-27,372
Subordinated shareholder loans (hybrid equity)	21	929,300	929,300
Retained earnings	21	274,022	298,272
Total equity		**2,063,061**	**2,042,948**

EUR 1,000	Note	31 Dec 2021	31 Dec 2020
Liabilities			
Non-current liabilities			
Provision related to nuclear waste management	24	1,368,291	1,029,522
Loan from the Finnish State Nuclear Waste Management Fund	22	711,266	716,447
Bonds	22	2,811,264	2,720,218
Other financial liabilities	22	1,065,928	1,092,051
Derivative financial instruments	20,22	10,740	40,413
Total non-current liabilities		**5,967,489**	**5,598,651**
Current liabilities			
Current financial liabilities	22	445,619	427,211
Derivative financial instruments	20,22	3,268	1,598
Advance payments received	23	21,218	19,789
Trade payables	23	56,672	8,330
Other current liabilities	23	104,936	82,530
Total current liabilities		**631,713**	**539,458**
Total liabilities		**6,599,202**	**6,138,109**
Total equity and liabilities		**8,662,263**	**8,181,057**

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 2021	**600,365**	**242,383**	**0**	**-27,372**	**929,300**	**298,272**	**2,042,948**	**2,042,948**
Profit/loss for the financial year	0	0	0	0	0	-19,653	-19,653	-19,653
Other comprehensive profit/loss items:								
Cash flow hedges	0	0	0	44,363	0	0	44,363	44,363
Subordinated shareholder loans (hybrid equity)	0	0	0	0	0	0	0	0
Interest paid of subordinated shareholder loans (hybrid equity)	0	0	0	0	0	-4,597	-4,597	-4,597
Equity 31 Dec 2021	**600,365**	**242,383**	**0**	**16,991**	**929,300**	**274,022**	**2,063,061**	**2,063,061**

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**

Consolidated cash flow statement

EUR 1,000	Note	2021	2020
Operating activities			
Profit/loss for the financial year		-19,653	454
Adjustments:			
Finance income and expenses		37,206	27,901
Depreciation and impairment charges		43,996	45,461
Share of the profit/loss of joint ventures		-1,280	-1,132
Other non-cash flow income and expenses		-25,629	-29,268
Sales profit/loss of property, plant and equipment and shares		0	-51
Changes in working capital:			
Increase (-) or decrease (+) in non-interest-bearing receivables		-17,739	21,527
Increase (-) or decrease (+) in inventories		-376	-4,465
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities		13,474	-9,191
Interest paid and other finance expenses		-4,296	-3,896
Dividend received		0	4,270
Interest received		3,977	3,217
Cash flow from operating activities		**29,680**	**54,827**
Investing activities			
Acquisition of property, plant and equipment		-315,370	-273,590
OL3 project compensation		206,875	0
Proceeds from sale of property, plant and equipment		0	127
Acquisition of intangible assets		-263	-741
Acquisition of shares		-1	0
Loan receivables granted		-105	-125,138
Repayments of loans granted		5,392	240
Cash flow from investing activities		**-103,472**	**-399,102**

EUR 1,000	Note	2021	2020
Financing activities			
Acquisition of own shares		0	-3
Withdrawals of subordinated shareholder loans (hybrid equity)		0	250,000
Withdrawals of long-term loans		800,000	228,715
Repayment of long-term loans		-571,683	-255,481
Principal elements of lease payments		-2,117	-2,052
Interest paid of subordinated shareholder loans (hybrid equity)		-4,673	-4,818
Increase (-) or decrease (+) in interest-bearing receivables		0	2,030
Increase (+) or decrease (-) in current financial liabilities		61,630	349,415
Repayment of current financial liabilities		-198,410	-300,000
Cash flow from financing activities		**84,747**	**267,806**
Change in cash and cash equivalents		**10,955**	**-76,469**
Cash and cash equivalents 1 Jan		161,363	237,832
Cash and cash equivalents 31 Dec	18	**172,318**	**161,363**

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 completed the reactor startup of the new Olkiluoto 3 EPR (OL3), in Olkiluoto, in the municipality of Eurajoki. In addition, TVO has a share in a gas turbine plant. Fortum used TVO's share of the Meri-Pori coal-fired power plant's 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 authorised for issue by the Board of Directors of TVO in its meeting on 17 February 2022. Under the Finnish Limited Liability Companies Act, the Shareholders' meeting may modify or reject the financial statements.

Effects of making the OL3 plant unit critical on the financial statements

Preparing the Olkiluoto 3 EPR (OL3) plant unit for production proceeded to nuclear commissioning in 2021, when fuel loading was completed in April, and reactor criticality was achieved for the first time in December. Electricity production is to start in March 2022, once the plant unit is connected to the national grid. Regular electricity production starts in July 2022. At the end of the accounting period for 2021, the OL3 plant unit was in the test production phase. The plant investment is however still incomplete, and all realised costs that can be recognised in the cost of the asset have been entered as incomplete plant investment.

The OL3 plant unit's nuclear waste liability calculation according to IAS 37 starts and the related provision is recorded in the balance sheet once the plant unit is made critical and operations producing nuclear waste begin. The OL3 plant unit was made critical on 21 December 2021, and a provision of EUR 367.9 million was recorded in the balance sheet. No items recognised in profit or loss have been recorded from criticality during the accounting period 2021. The accounting policies of the calculation are consistent with the corresponding calculation for the OL1 and OL2 plant units, and the accounting policies are presented in the paragraph Assets and provisions related to the nuclear waste management obligation.

The effect of the COVID-19 pandemic on the financial statements

Considerable measures were continued in the TVO Group during the year in order to prevent the spread of coronavirus (COVID-19) infections, and despite COVID-19 restrictions, work has been able to continue under special arrangements. The COVID-19 pandemic has not materially affected 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 to the electricity it has consumed 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 to the number of shares in a 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 the 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 on 31 December 2021. 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 recognised 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 2020. The Group has adopted the following amendments to existing standards as of 1 January 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 amendments to existing standards issued already will be adopted by the Group in 2022:

- IAS 16 (amendment) Property, Plant and Equipment

The standard amendment prohibits a company from deducting from the cost of property, plant and equipment amounts received from selling items produced while the company is preparing the asset for its intended use. With the amendment, profts will not be deducted from testing costs which form a part of the asset's acquisition cost as before. Instead, a company will recognise such sales proceeds in the income statement. TVO's sales proceeds from the delivery of OL3's test production electricity and variable costs will be recorded in the income statement.

- IFRS 3 (amendment) Business Combinations
- IAS 37 (amendment) Provisions, Contingent Liabilities and Contingent Assets
- Annual Improvements 2018-2020: IFRS 9 Financial Instruments, IFRS 16 Leases, and IAS 41 Agriculture

The following new standards and amendments to existing standards issued already will be adopted by the Group in 2023 or later:

- IFRS 17 Insurance Contracts
- IAS 1 (amendment) Presentation of Financial Statements [1)]
- IAS 8 (amendment) Accounting Policies, Changes in Accounting Estimates and Errors [1)]
- IAS 12 (amendment) Income Taxes [1)]

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

[1)] The standard, interpretation or amendment to published standard or interpretation is still subject to endorsement by the European Union. Effective date will be 1 January 2023.

Companies included in the consolidated financial statements

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 recognised in profit or loss.

In the consolidation, intercompany share ownership, intercompany transactions, receivables, liabilities, unrealised gains and internal distributions of profits are eliminated. Unrealised 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, the main activities of which (A series) consist of the 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. The Posiva Group is accounted for by the equity method of accounting.

Under the equity method of accounting, interests in joint ventures are initially recognised at cost and adjusted thereafter to recognise 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 recognise further losses, unless it has incurred obligations or made payments on behalf of the joint ventures.

Unrealised gains on transactions between the Group and its joint venture are eliminated to the extent of the Group's interest in the joint ventures. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting 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 on reportable segment; nuclear power. The Board of Directors is the chief operation decision maker. Electricity from the coal power segment was produced with TVO's share in the Meri-Pori coal-fired power plant. Fortum used TVO's share of the Meri-Pori coal-fired power plant's capacity as of the beginning of 2019, and TVO relinquished its share in Meri-Pori in full in July 2020.

Revenue recognition principles

TVO operates on a cost-price principle. Revenue is recognised based on the consideration received when electricity is delivered or services are rendered. Revenue is presented net of indirect sales taxes. Revenue is recognised 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 recognised based on delivery. The recognised income for shareholders is based on the quantities delivered. The variable charge is invoiced and recognised in turnover monthly. These variable costs are payed retrospectively on the 24th of the next month. The fixed costs, or liabilities based on customer contracts, are invoiced one month in advance and recognised as 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 recognised on an accrual basis in the accounting period when the services are rendered to the customer and when the control of the service transfers to a customer.

Revenue from long-term consulting services projects that spread over several accounting periods is recognised 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 recognised 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 recognised 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 recognised 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 recognised 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 recognised as an expense as incurred and included in other expenses in the income statement. Development costs are capitalised if it is assured that they will generate future income, in which case they are capitalised as intangible assets and amortised over the period of the income streams. Currently, the Group does not have any development costs that would qualify for capitalisation.

Research costs that relate to nuclear waste management are discussed in the 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 modernisation programme	17–35 years
• Automation investments associated with the modernisation	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 capitalised 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 recognised in profit or loss, when they occur. Investments connected with the modernisation and maintenance of the power plant units are capitalised.

The OL3 plant unit is under the test production phase, and all realised costs 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 amortisation, 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 amortised on a straight-line basis over their estimated useful lives. These include computer software and certain payments made for the use of assets.

The amortisation periods of the intangible assets are as follows:

• Computer software	10 years
• Other intangible assets	10 years.

The amortisation 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 recognised at historical cost, and are presented under emission rights. The current liability for returning emission rights is recognised at the carrying value of possessed emission rights. If there is a shortfall, a current liability is recognised 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 recognised 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 recognised 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 reamortised 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 recognised 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 realisable 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 recognised according to calculated consumption.

Leases

Leases are contracts that convey 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 interest rate of additional credit, i.e. the average interest rate on the 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 recognised 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 power plant, they are activated as part of the acquisition cost of the asset.

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 the impairment model, the impairment of financial assets must be determined using a model based on expected credit losses. From the Group's perspective, the impairment model applies to trade receivables and the earlier recognition of their credit losses.

According to the IFRS 9 standard, the Group applies a simplified provision matrix for 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.

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 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; excluding derivatives. 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.

At the beginning of the hedging, the Group shall document the financial relationship between the hedging instruments and the hedged items, and whether changes in the cash flows of the hedging instruments are expected to reverse the changes in the cash flows of the hedged items. In addition, the objectives of risk management and the strategies according to which hedging measures are taken are documented. 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 power plant, in which case the finance charges are capitalised 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.

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 power plant.

Borrowing costs

Borrowing costs are recognised 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 the completion time exceeds one year. In that case, borrowing costs are capitalised as part of the cost of the asset.

Foreign currency items

Transactions and financial items denominated in a foreign currency are recognised 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 recognised 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 nuclear power plant unit. The Company's C series shares, which entitled to electricity generated at Meri-Pori, were invalidated in July 2020.

Payments received from shares in connection with founding the Company and in the form of increases in share capital are recognised 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 recognised 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 recognised in liabilities when the obligation to pay interest is incurred. Interest expenses are recognised on an accrual basis in the retained earnings and are not recognised 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 recognises 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 expenditures 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. An adjustment is only recorded if the legal share in the Fund is higher than the provision according to IFRS.

On 31 December 2021 the OL1/OL2 plant units' share in the Fund is higher than the provision according to IFRS, due to which an adjustment is recorded for the OL1/OL2 plant units' nuclear waste management IFRS calculation. The OL3 plant unit's share in the Fund is in turn lower than the provision according to IFRS, and therefore an adjustment is not recorded (see note 24 Assets and provisions related to the nuclear waste management obligation).

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 capitalised as property, plant and equipment and will be adjusted later for possible changes in the plan. The amount recognised 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 recognised immediately in the income statement based on fuel used by the end of each accounting period.

The timing factor is taken into account by recognising 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 recognised 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.

According to the Nuclear Energy Act Section 52 c, which entered into force on 1 May 2021, a three percent protected portion shall be added to the Fund target of the calendar year for a party with a nuclear waste management obligation. The protected portion shall primarily be covered by the surplus as defined in the Nuclear Energy Act Section 42 and profit as defined in the Nuclear Energy Act Section 51. In addition, a party with a nuclear waste management obligation shall supply the Finnish State Nuclear Waste Management Fund with collateral security fulfilling the conditions provided in Section 45, so that on the last day of March, the total amount of the collateral security corresponds with the protected portion for the part that is not covered by the transferred surplus and profit. Accordingly, the collateral security previously supplied by the party with a nuclear waste management obligation, which is not needed to cover the protected portion anymore, shall be returned to the party with a nuclear waste management obligation at the latest on the first business day of April in the same calendar year.

Taxes

The Group does not recognise 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 recognised 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 recognised 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). The OL3 plant unit was made critical on 21 December 2021, and a provision related to nuclear waste liability of EUR 367.9 million was recorded in the balance sheet.

Olkiluoto 3 EPR

OL3 is a nuclear power plant unit currently under the test production phase, which was procured as a fixed-price turnkey project.

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 project and related disputes entered into force late March 2018. In the GSA, the plant supplier consortium companies committed to ensuring that the funds dedicated to the completion of the OL3 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 project. During the accounting period, replenishing the trust was finished according to the terms of the 2018 GSA, but it was replenished according to the amendment agreement which entered into force in July 2021 (see further below).

TVO and the Areva–Siemens consortium negotiated since summer 2020 on the terms of the OL3 project completion. In addition, the Areva companies were preparing a financial solution which ensured the necessary funding for the companies to complete the OL3 project. The parties reached a consensus in their negotiations regarding the main principles of the OL3 project completion in May 2021, and the agreements regarding the amendments to the OL3 project 2018 GSA were signed in June 2021. Certain conditions had to be fulfilled in order for the agreements to enter into force, and all conditions were fulfilled on 13 July 2021.

Key matters of the agreement were:

- The Areva companies' trust mechanism, established in the GSA of 2018, was replenished in July with EUR 432.3 million.
- Both parties are to cover their own costs as of July 2021 until the end of February 2022.
- In the case that the plant supplier consortium companies were not to complete the OL3 project by the end of February 2022, they would pay an additional compensation to TVO for delays, depending on the date of completion.
- In connection with the agreement entering into force, the Plant Supplier paid EUR 206.9 million of the EUR 400.0 million delay compensation as agreed in the GSA 2018.

All payments related to the settlement compensations have been recorded in the consolidated balance sheet as property, plant and equipment. At the end of the accounting period, the current receivables from the Plant Supplier were EUR 193.1 million.

The Radiation and Nuclear Safety Authority granted a fuel loading permit for OL3 in March 2021, and the fuel loading was completed in April 2021. The completion of fuel loading meant that the OL3 plant unit is a nuclear power plant in use. The first criticality of the OL3 plant unit was achieved on 21 December 2021. Electricity production starts in March 2022, once the plant unit has been connected to the national grid. Regular electricity production starts in July 2022.

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 project will be approximately EUR 5.7 billion.

All the realised costs of the OL3 project that meet recognition criteria have been booked as acquisition costs of property, plant and equipment on the Group balance sheet. TVO's man-agement has estimated that there are no known technical or other issues that would prevent the completion of the OL3 project from the test production phase to regular electricity produc-tion. The recognition criteria of the acquisition costs of the OL3 project are realised 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 shareholders are obliged to pay all the expenses of the Company in electricity prices, including amortisation of property, plant and equipment. When assessing by means of recoverable amounts possible impairment of assets and subsequent need for recognition of impairment loss, the recoverable amounts always correspond, with some exceptions, to the carrying amount of the asset and thus, as a rule, no need for recognition of impairment loss arises.

3 Segment reporting

Segment structure in the TVO Group

The Group has one reportable segment; nuclear power.

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

The electricity of the coal-fired power segment was produced by TVO's 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

The 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 at group level.

Turnover by segments

EUR 1,000	2021	2020
Nuclear power	298,713	269,308
Coal-fired power	0	5,812
Total	**298,713**	**275,120**

Depreciation and impairment charges by segments

EUR 1,000	2021	2020
Nuclear power	-37,650	-38,627
Coal-fired power	0	0
Depreciation and impairment charges (FAS)	-37,650	-38,627
The impact of the nuclear waste management obligation	-5,791	-6,372
Other IFRS adjustments	-555	-462
Total (IFRS)	**-43,996**	**-45,461**

Finance income and expenses by segments

EUR 1,000	2021	2020
Nuclear power	-11	4,261
Coal-fired power	0	0
Finance income and expenses (FAS)	-11	4,261
The impact of the nuclear waste management obligation	-37,262	-28,857
The impact of financial instruments	-514	338
The impact of joint ventures	0	-4,270
Other IFRS adjustments	581	627
Total (IFRS)	**-37,206**	**-27,901**

Profit/loss for the financial year by segments

EUR 1,000	2021	2020
Nuclear power	-3,573	8,560
Coal-fired power	0	0
Profit/loss before appropriations (FAS)	-3,573	8,560
The impact of the nuclear waste management obligation	-17,424	-5,962
The impact of financial instruments	-514	338
Other IFRS adjustments	578	656
The impact of joint ventures	1,280	-3,138
Total (IFRS)	**-19,653**	**454**

Assets by segments

EUR 1,000	2021	2020
Nuclear power	7,155,886	6,995,740
Coal-fired power	0	0
Total (FAS)	7,155,886	6,995,740
The impact of the nuclear waste management obligation	1,478,313	1,156,968
The impact of financial instruments	11,113	6,586
The impact of finance leases	47,953	49,701
Other IFRS adjustments	-35,506	-31,163
The impact of joint ventures	4,504	3,225
Total (IFRS)	**8,662,263**	**8,181,057**

Trade receivables by segments

EUR 1,000	2021	2020
Nuclear power	10,183	2,939
Coal-fired power	0	0
Total (FAS)	10,183	2,939
Total (IFRS)	**10,183**	**2,939**

Group-wide disclosures

Turnover shared to production of electricity and services

EUR 1,000	2021	2020
Production of electricity	293,781	271,014
Services	4,932	4,106
Total	**298,713**	**275,120**

Trade receivables shared to production of electricity and services

EUR 1,000	2021	2020
Production of electricity	9,301	1,508
Services	882	1,431
Total	**10,183**	**2,939**

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	2021	2020
Personnel expenses related to OL3	25,036	21,217
Total	**25,036**	**21,217**

5 Other income

EUR 1,000	2021	2020
Rental income	1,101	1,121
Profits from sales of property, plant and equipment and shares	0	51
Sales of services	11,144	11,340
Other income	1,201	741
Total	**13,446**	**13,253**

6 Materials and services

EUR 1,000	2021	2020
Nuclear fuel	61,757	65,588
Coal	0	1,777
Materials and supplies	5,011	5,088
CO_2 emission rights	151	1,741
Nuclear waste management services [1)]	15,018	-1,008
Increase (-) or decrease (+) in inventories	-964	-4,729
External services	9,867	9,773
Total	**90,840**	**78,230**

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

7 Personnel expenses

Employee benefit costs

EUR 1,000	2021	2020
Wages and salaries	69,052	62,372
Pension expenses - defined contribution plans	10,616	8,117
Other compulsory personnel expenses	2,474	2,004
Total	**82,142**	**72,493**

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

	2021	2020
Office personnel	811	798
Manual workers	193	186
Total	**1,004**	**984**

Number of personnel on 31 December

	2021	2020
Office personnel	793	793
Manual workers	191	182
Total	**984**	**975**

8 Depreciation and impairment charges

EUR 1,000	2021	2020
Intangible assets		
ICT software	370	366
Other intangible assets	38	47
Total	**408**	**413**
Property, plant and equipment		
Buildings and construction	3,786	3,351
Machinery and equipment	33,359	34,280
Other property, plant and equipment	652	1,045
Decommissioning	5,791	6,372
Total	**43,588**	**45,048**
Total	**43,996**	**45,461**

9 Other expenses

EUR 1,000	2021	2020
Maintenance services	24,297	15,156
Regional maintenance and service	10,428	9,285
Research services	2,416	3,323
Other external services	30,602	25,364
Real estate tax	6,034	6,306
Rents	1,397	1,324
ICT expenses	6,079	6,300
Personnel related expenses	4,005	3,537
Corporate communication expenses	837	766
Other expenses	17,849	14,822
Total	**103,944**	**86,183**

Auditors' fees and non-audit related services PricewaterhouseCoopers Oy

EUR 1,000	2021	2020
Auditing	267	199
Tax services	28	8
Other services	70	33
Total	**365**	**240**

10 Finance income and expenses

Items included in the income statement

EUR 1,000	2021	2020
Interest income from loans and other receivables		
Nuclear waste management loan receivables from equity holders of the company	3,612	3,586
Other	494	127
Non-hedge accounted derivatives		
Change in fair value	127	483
Interest income from assets related to nuclear waste management	448	7,420
Finance income, total	**4,681**	**11,616**
Interest expenses and other finance expenses		
To the Finnish State Nuclear Waste Management Fund	3,612	3,586
To others	-76	-492
Hedge accounted derivatives [1)]		
Ineffective portion of the change in fair value in fair value hedge relationship	0	0
Non-hedge accounted derivatives		
Change in fair value	641	146
Interest expenses of provision related to nuclear waste management	37,710	36,277
Finance expenses, total	**41,887**	**39,517**
Total	**-37,206**	**-27,901**

[1)] In hedge accounting the change in fair value adjustment of the loan was EUR 5.6 million and the change of the fair value in hedging instruments was EUR -5.5 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	2021	2020
Cash flow hedges		
Changes in the fair value of which the following items have transferred	35,329	-26,261
Transfers to inventories	498	3,715
Transfers to the nuclear power plant under construction	-9,533	-7,982
Transferred items, total	**-9,034**	**-4,267**
Cash flow hedges, total	**44,363**	**-21,994**
Total other comprehensive items	**44,363**	**-21,994**

11 Income tax expense

EUR 1,000	2021	2020
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 consist of non-deductible expenses in taxation.

12 Property, plant and equipment

2021 **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	12,054	277,891	1,393,115	54,172	5,054,334	218,551	7,010,117
Increase	0	949	23,760	150	184,937	367,919	577,715
Decrease	0	-33	-59,532	0	-9,357	-11,632	-80,554
Transfer between categories	0	15,568	15,611	0	-31,179	0	0
Acquisition cost 31 Dec	12,054	294,375	1,372,954	54,322	5,198,735	574,838	7,507,278
Accumulated depreciation and impairment charges according to plan 1 Jan	0	226,006	979,628	48,729	0	91,105	1,345,467
Accumulated depreciation from deduction	0	0	-59,532	0	0	0	-59,532
Depreciation for the period	0	3,786	33,359	652	0	5,791	43,588
Accumulated depreciation and impairment charges according to plan 31 Dec	0	229,792	953,455	49,381	0	96,896	1,329,523
Book value 31 Dec 2021	**12,054**	**64,584**	**419,500**	**4,941**	**5,198,735**	**477,941**	**6,177,755**
Book value 1 Jan 2021	12,054	51,886	413,488	5,443	5,054,334	127,445	5,664,650

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

The costs for the plant unit currently under the test production phase (OL3) constituted EUR 5.1 billion of the advance payments in 2021 (EUR 5.0 billion in 2020). Nuclear fuel to be used during electricity production, totaling approximately EUR 250 million, will be part of current assets when the OL3 plant unit starts commercial operation.

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 2021	72,741	517	310
Increase	0	162	84
Decrease	0	-197	0
Depreciation for the period	0	-209	-182
Book value 31 Dec 2021	**72,741**	**273**	**212**

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**

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	2021	2020
Current	2,060	2,061
Non-current	47,350	49,416
Total	**49,410**	**51,477**

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	2021	2020
Buildings and construction	209	141
Machinery and equipment	182	208
Total	**391**	**349**
Interest expense (included in finance expenses)	179	173
Expenses relating to short-term leases (included in other expenses)	6	145
Expenses relating to leases of low-value assets that are not shown above as short-term leases (included in other expenses)	704	264

The total cash outflow for leases in 2021 was EUR 3,006 (2,634) 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. The holding period of these leases are based on the 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 incremental borrowing rate or average interest rate on the Group's loans and derivatives is used. For the average interest rate on loans and derivatives on 31 December, 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.

13 Intangible assets

2021 **EUR 1,000**	**CO_2 emission rights**	**Computer software**	**Other intangible assets**	**Advance payments**	**Total**
Acquisition cost 1 Jan	59	21,597	4,117	270	26,044
Increase	151	256	-63	69	413
Decrease	-51	0	0	0	-51
Transfer between categories	0	0	63	-63	0
Acquisition cost 31 Dec	159	21,853	4,117	276	26,406
Accumulated depreciation and impairment charges according to plan 1 Jan	0	19,827	3,628	0	23,455
Accumulated depreciation from deduction	0	0	0	0	0
Depreciation for the period	0	370	38	0	408
Accumulated depreciation and impairment charges according to plan 31 Dec	0	20,197	3,666	0	23,863
Book value 31 Dec 2021	**159**	**1,656**	**452**	**276**	**2,543**
Book value 1 Jan 2021	59	1,770	490	270	2,589

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

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

The borrowing costs of the power plant under test production phase (OL3) have been capitalised. Realised financial income and expenses have been divided by committed capital. The average share of capitalised borrowing costs in 2021 was 100.00 % (100.00 % in 2020). For the average interest rate on loans and derivatives on 31 December, see note 27.

Capitalised interest costs during construction

2021 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	1,548,448	1,674,533
Increase	0	0	0	0	90,049	90,049
Decrease	0	0	0	0	-2,408	-2,408
Acquisition cost 31 Dec	1,167	27,122	95,394	2,402	1,636,089	1,762,174
Accumulated depreciation and impairment charges according to plan 1 Jan	923	21,452	75,449	1,901	0	99,726
Depreciation for the period	13	283	997	25	0	1,318
Accumulated depreciation and impairment charges according to plan 31 Dec	936	21,735	76,446	1,926	0	101,044
Book value 31 Dec 2021	**231**	**5,387**	**18,948**	**476**	**1,636,089**	**1,661,131**
Book value 1 Jan 2021	244	5,670	19,945	501	1,548,448	1,574,808

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

14 Investments in joint ventures

EUR 1,000	2021	2020
Posiva Group	5,516	4,236
31 Dec	**5,516**	**4,236**

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 percent 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 the Articles of Association and Shareholders Agreement. TVO is liable for approximately 74 percent 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 the Finnish Radiation and Nuclear Safety Authority and approved by The Ministry of Economic Affairs and Employment.

Posiva Solutions Oy, a wholly-owned subsidiary of Posiva Oy, was founded on 20 May 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 the 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, the Posiva Group is accounted for according to the equity method of accounting.

Summarised balance sheet

EUR 1,000	Posiva Group 2021	Posiva Group 2020
Current		
Cash and cash equivalents	28,383	26,383
Other current assets (excluding cash)	7,599	6,545
Total current assets	35,982	32,928
Financial liabilities (excluding trade payables)	-334	-378
Other current liabilities (including trade payables)	-24,203	-23,145
Total current liabilities	-24,537	-23,523
Non-current		
Assets	117	531
Financial liabilities	-3,760	-3,872
Total non-current liabilities	-3,760	-3,872
Net assets	**7,802**	**6,064**

Summarised statement of comprehensive income	2021	2020
Turnover	130,124	115,975
Depreciation and impairment charges	-25	-33
Interest income	21	3
Interest expense	-105	-69
Pre-tax profit from continuing operations	**2,176**	**1,925**
Income tax expense	-438	-388
Post-tax profit from continuing operations	**1,738**	**1,537**

Reconciliation of summarised financial information	2021	2020
Operating net assets 1 Jan	6,064	10,327
Profit/loss for the period	1,738	1,537
Dividend distribution	0	-5,800
Closing net assets	**7,802**	**6,064**
Interest in joint venture	5,516	4,236
Carrying value	**5,516**	**4,236**

15 Book values of financial assets and liabilities by categories

2021 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			714,027	714,027	714,027	16
Share investments		1,935		1,935	1,935	17
Derivative financial instruments, no hedge accounting	4,639			4,639	4,639	20
Derivative financial instruments, cash flow hedge accounting		24,778		24,778	24,778	20
Derivative financial instruments, fair value hedge accounting	4,549			4,549	4,549	20
Current assets						
Trade and other receivables			261,834	261,834	261,834	16
Derivative financial instruments, no hedge accounting	4,132			4,132	4,132	20
Derivative financial instruments, cash flow hedge accounting		2,974		2,974	2,974	20
Derivative financial instruments, fair value hedge accounting	703			703	703	20
Cash and cash equivalents			172,318	172,318	172,318	18
Total by category	**14,023**	**29,687**	**1,148,179**	**1,191,889**	**1,191,889**	
Non-current liabilities						
Loan from the Finnish State Nuclear Waste Management Fund			711,266	711,266	711,266	22
Other financial liabilities			3,877,192	3,877,192	3,953,937	22
Derivative financial instruments, no hedge accounting	3,161			3,161	3,161	20
Derivative financial instruments, cash flow hedge accounting		7,580		7,580	7,580	20
Current liabilities						
Current financial liabilities			445,619	445,619	445,619	22
Trade payables			56,672	56,672	56,672	23
Other current liabilities			104,936	104,936	104,936	23
Derivative financial instruments, no hedge accounting	18			18	18	20
Derivative financial instruments, cash flow hedge accounting		3,250		3,250	3,250	20
Total by category	**3,179**	**10,829**	**5,195,685**	**5,209,693**	**5,286,439**	

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			52,231	52,231	52,231	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
Cash and cash equivalents			161,363	161,363	161,363	18
Total by category	**23,593**	**9,372**	**1,172,880**	**1,205,845**	**1,205,845**	
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**	

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

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

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

According to IFRS 9, all derivatives are classified as at fair value through profit or loss. In the table, derivatives subject to cash flow hedge accounting are presented according to the method of recognition, i.e. at fair value through other comprehensive income.

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

2021 EUR 1,000	Level 1	Level 2	Level 3
Financial assets at fair value			
Derivative financial instruments at fair value through profit or loss		8,771	
Derivative financial instruments designated as cash flow hedges		27,752	
Derivative financial instruments designated as fair value hedges		5,252	
Share investments			1,935
Total		**41,775**	**1,935**
Financial liabilities at fair value			
Derivative financial instruments at fair value through profit or loss		3,179	
Derivative financial instruments designated as cash flow hedges		10,829	
Total		**14,008**	

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**	

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 31 December 2021, TVO has unquoted shares worth EUR 1,935 (2020: 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

2021 EUR 1,000	Gross amounts	Related amount not set off	Net amount
Derivative financial assets	41,775	-9,977	31,798
Derivative financial liabilities	-14,008	9,977	-4,031

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

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	2021	2020
Nuclear waste management loan receivables	711,266	716,447
Loan receivables	2,761	2,839
Other receivables	0	240,000
Total	**714,027**	**959,286**

The loan receivables constitute mainly the loan receivables of Posiva Oy EUR 2,256 (2,335) thousand. Other receivables constitute of the OL3 project compensation EUR 0 (240,000) thousand.

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 percent 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. As a result of the amendment in the Nuclear Energy Act, which entered into force in May 2021, a company liable for nuclear waste management or its shareholder is entitled to borrow back a maximum of 60 percent of its share in the Nuclear Waste Management Fund as of 2022.

Nuclear waste management loan receivables are allocated as follows:

EUR 1,000	2021	2020
EPV Energia Oy	71,296	72,319
Fortum Oyj	289,209	293,356
Oy Mankala Ab	761	772
Pohjolan Voima Oyj	350,000	350,000
Total	**711,266**	**716,447**

Trade and other receivables (current assets)

EUR 1,000	2021	2020
Trade receivables	10,183	2,939
Loan receivables	212	240
Prepayments and accrued income	240,019	46,348
Other receivables	11,420	2,704
Total	**261,834**	**52,231**

During the accounting period, TVO has, according to the GSA, recorded receivables for the additional compensation from the Plant Supplier by the end of the accounting period. In connection with the agreement entering into force in July 2021, the Plant Supplier paid EUR 206.9 million of the EUR 400.0 million delay compensation as agreed in the GSA 2018. All payments related to compensation according to the settlement have been recorded in the consolidated balance sheet as property, plant and equipment. At the end of the accounting period, the current receivables from the Plant Supplier were EUR 193.1 million, which is included in the prepayments and accrued income. The prepayments and accrued income also include an estimate of EUR 24.2 million for the surplus of the Finnish State Nuclear Waste Management Fund, which, after the amendment to the Nuclear Energy Act (269/2021), has been used to cover the protected portion in accordance with Section 52 c of the Nuclear Energy Act. Other prepayments and accrued income include prepaid interests, accrued interest income from shareholders, other accrued income and other prepaid expenses.

The maximum credit loss risk of trade and other receivables corresponds to their book value. On 31 December 2021 the Group had EUR 814 (182) 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	2021	2020
Share investments	1,935	1,934
Total	**1,935**	**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	2021	2020
Raw uranium and natural uranium		,
Replacement cost	133,705	90,702
Book value	99,268	96,673
Difference	**34,437**	**-5,971**
Raw uranium and natural uranium	99,268	96,673
Nuclear fuel	166,681	168,906
Materials and supplies	8,540	8,636
Total	**274,489**	**274,215**

20 Derivative financial instruments

Nominal values of the derivative financial instruments

2021 EUR 1,000	Maturity structure < 1 year	1-3 years	3-5 years	5-7 years	> 7 years	Total
Interest rate swaps	359,117	265,000	400,000	220,000	700,000	1,944,117
Forward foreign exchange contracts and swaps [1]	27,594	24,598	13,958	3,447		69,597
Cross-currency swaps		153,678	224,900			378,577
Total	**386,711**	**443,276**	**638,857**	**223,447**	**700,000**	**2,392,291**

2020 EUR 1,000	Maturity structure < 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**

[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

2021 EUR 1,000	Positive	Negative	Total
Interest rate swaps			
Cash flow hedges	16,641	-10,842	5,799
Fair value hedges	5,252		5,252
Non-hedges		-3,065	-3,065
Forward foreign exchange contracts and swaps			
Cash flow hedges	11,111		11,111
Non-hedges	1,020	-95	925
Cross-currency swaps			
Non-hedges	7,752	-7	7,745
Total	**41,775**	**-14,008**	**27,767**

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**

The effect of hedge accounting in financial position and result

The interest rate hedging in fair value hedge accounting

EUR 1,000	2021	2020
The book value of the derivative financial instruments, receivables	5,252	10,709
Nominal value	273,000	423,000
Due date	12/2022 - 02/2025	03/2021 - 02/2025
The book value of the hedged item, liabilities	273,000	423,000
The degree of hedging	1:1	1:1
The change of the basic value in valid hedging instruments since 1.1.	-5,457	-1,613
The effectiveness of the hedge used to determine the change of value for the hedged item	5,621	1,679
The weighted average interest rate during the year	1.51 %	1.34 %

In fair value hedge accounting, the accumulated amount of the fair value adjustment of the loan is EUR 5.4 (11.0) million.

The interest rate hedging in cash flow hedge accounting

EUR 1,000	2021	2020
The book value of the derivative financial instruments, liabilities	5,799	33,649
Nominal value	1,521,117	1,301,117
Due date	09/2022 - 02/2031	12/2021 - 11/2030
The degree of hedging	1:1	1:1
The change of the basic value in valid hedging instruments since 1.1.	39,448	-13,051
The effectiveness of the hedge used to determine the change of value for the hedged item	-39,448	13,183
The weighted average interest rate during the year	1.21 %	1.24 %

The currency hedging in cash flow hedge accounting

EUR 1,000	2021	2020
The book value of the derivative financial instruments, receivables	11,111	7,324
The book value of the derivative financial instruments, liabilities	0	1,218
Nominal value	69,597	85,753
Due date	01/2022 - 01/2028	01/2021 - 01/2028
The degree of hedging	1:1	1:1
The change of the spot value in valid hedging instruments since 1.1.	5,516	-10,278
The effectiveness of the hedge used to determine the change of value for the hedged item	-5,516	10,278
The weighted average of protected rate (inc. forward points) during the year (USD)	1.39	1.36
The weighted average of protected rate (inc. forward points) during the year (SEK)	10.20	10.10
The weighted average of protected rate (inc. forward points) during the year (GBP)	0.87	0.00

21 Equity

Share capital

The registered share capital of the Company according to the Articles of Association was EUR 600,365 thousand on 31 December 2021. TVO does not have a maximum or minimum limit for the share capital. The number of the shares on 31 December 2021 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 2020	1,394,283,730	600,365	242,383	3
31 Dec 2020	1,360,000,000	600,365	242,383	0
31 Dec 2021	**1,360,000,000**	**600,365**	**242,383**	**0**

On 31 December 2021, the company has two registered share series: A and B.

Share number

	31 Dec 2021	31 Dec 2020
A series	680,000,000	680,000,000
B series	680,000,000	680,000,000
Total	**1,360,000,000**	**1,360,000,000**

Share premium reserve

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

Statutory reserve

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

Fair value and other reserves

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

Subordinated shareholder loans (hybrid equity)

The carrying value of the interest-bearing subordinated shareholder loans in the balance sheet 31 December 2021 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 subordinated shareholder loans have 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. The interests of the subordinated shareholder loans (hybrid equity) is recorded to Retained earnings.

22 Interest-bearing liabilities

EUR 1,000	2021	2020
Non-current interest-bearing liabilities		
Loan from the Finnish State Nuclear Waste Management Fund	711,266	716,447
Bonds	2,811,264	2,720,218
Loans from financial institutions	962,461	983,308
Loans from others	56,117	59,326
Lease liabilities	47,350	49,416
Derivative financial instruments	10,740	40,413
Total	**4,599,198**	**4,569,128**
Current interest-bearing liabilities		
Current portion of long-term bonds	306,675	153,781
Current portion of loans from financial institutions	44,698	74,698
Current portion of loans from others	3,386	0
Current portion of lease liabilities	2,060	2,061
Other interest-bearing liabilities	88,800	196,671
Derivative financial instruments	3,268	1,598
Total	**448,887**	**428,809**
Total	**5,048,085**	**4,997,937**

TVO has on 31 December 2021 issued EUR-denominated Private Placement loans amounting to EUR 336.0 million and loans denominated in GBP and SEK, amounting to EUR 378.6 million. Foreign currency floating rate and fixed rate loans are translated into EUR at the official exchange rate of the ECB on the balance sheet date. The Private Placements have been swapped by using cross-currency swaps. In 2021, the effect of foreign exchange hedges was negative amounting to EUR 3.1 million and correspondingly, the effect of foreign currency denominated loans was positive amounting to EUR 3.1 million.

23 Trade payables and other current liabilities

EUR 1,000	2021	2020
Advances received	21,218	19,789
Trade payables	56,672	8,330
Accruals and deferred income and other liabilities	104,936	82,530
Total	**182,826**	**110,649**

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

EUR 1,000	2021	2020
Finnish State Nuclear Waste Management Fund	13,312	3,484
Accrued interests	40,481	42,868
Accrued personnel expenses	23,830	19,019
Accruals related to CO_2 emission rights	159	59
Others	27,154	17,100
Total	**104,936**	**82,530**

24 Assets and provision related to nuclear waste management obligation

Effects of making the OL3 plant unit critical on the Financial Statements

The OL3 plant unit's nuclear waste liability calculation according to IAS 37 starts and the related provision is recorded in the balance sheet once the plant unit is made critical and operations producing nuclear waste begin. When the plant unit is made critical, it is contaminated, which commences a constructive obligation (a cleansing obligation). The OL3 plant unit was made critical on 21 December 2021, and a provision of EUR 367.9 million was recorded in the balance sheet. The current value of the provision related to the OL3 plant unit's decommissioning has been recorded as an investment in the balance sheet. No items recognised in profit or loss have been recorded from criticality during the accounting period 2021.

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 next update will be in 2022. The technical plans, timing and cost estimates are approved by governmental authorities.

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

EUR 1,000	2021	2020
The carrying value of TVO's share in the Finnish State Nuclear Waste Management Fund (non-current assets)	1,010,071	1,029,522
Provision related to nuclear waste management (non-current liabilities)		
Beginning of the year	1,029,522	1,040,826
Increase/decrease in provision	366,354	8,899
Used provision	-65,295	-56,479
Changes due to discounting	37,710	36,276
End of the year	1,368,291	1,029,522
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	2021	2020
Liability for nuclear waste management according to the Nuclear Energy Act	1,816,100	1,450,600
TVO's funding target obligation 2022 (2021) to the Finnish State Nuclear Waste Management Fund	1,436,100	1,450,600
TVO's share in the Finnish State Nuclear Waste Management Fund 31.12.2021 (31.12.2020)	1,450,600	1,478,800
Difference between the liability and TVO's share of the fund 31.12.2021 (31.12.2020)	365,500	-28,200

The OL1/OL2 plant units' and the OL3 plant unit's liabilities and shares in the Fund are calculated and recorded separately, as the corresponding total cost estimates are prepared separately for the plant units. The legal liability calculated according to the Nuclear Energy Act in Finland and decided by the supervising authority (Ministry of Economic Affairs and Employment) is EUR 1,816.1 (1,450.6) million on 31 December 2021 (31 December 2020), of which EUR 1,426.4 million belongs to OL1/OL2 and EUR 389.7 million belongs to OL3. The carrying value of the liability in the balance sheet calculated according to IAS 37 is EUR 1,368.3 (1,029.5) million on 31 December 2021. 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 change in the discount rate has an effect on the provision. The provision increases, when the discount rate used is lowered.

According to Section 40 Clause 1 of the Nuclear Energy Act, the Fund target for each calendar year shall be equal to the liability of the previous calendar year. In order to balance the effects of nuclear waste management costs on several operating years of the nuclear plant, the Fund target is however lower than the liability, while the preconditions stipulated in Section 40 are fulfilled. Time-based periodisation (40 years) is used to calculate the OL3 plant unit's Fund target, according to Section 40 Clause 2 of the Nuclear Energy Act and the Government Decree (991/2017) Section 5.

TVO's share in the Finnish State Nuclear Waste Management Fund is EUR 1,450.6 (1,478.8) million on 31 December 2021. The carrying value of the TVO's share in the Fund in the balance sheet is EUR 1,010.1 (1 029.5) 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 the actual value of the Fund increases more than the provision. On 31 December 2021 the OL1/OL2 plant units' share in the Fund is higher than the provision according to IFRS, due to which above-mentioned adjustment is recorded for the OL1/OL2 plant units' nuclear waste management IFRS calculation. The OL3 plant unit's share in the Fund is in turn lower than the provision according to IFRS, and therefore above-mentioned adjustment is not recorded.

The difference between the funding target and the share in the Finnish State Nuclear Waste Management Fund at the end of each year is due to the funding target being completed by paying the nuclear waste management fee only during the first quarter of the following year. The surplus will not be refunded from the Nuclear Waste Management Fund to TVO in respect of 2021 after the amendment to the Nuclear Energy Act (269/2021), even though the funding target of TVO is lower in 2022 than the share in the Fund in 2021. An estimate for the refund is recorded in the financial statements as EUR 14.5 million, which will be used according to the law amendment first to cover the protected portion in accordance with Section 52 c in the Nuclear Energy Act. According to the implementing provision of the law amendment, a profitable result of the Finnish State Nuclear Waste Management Fund for 2021 will not be used to refund TVO's share in the Fund, but it will also be used to cover the protected portion.

TVO has issued to the State the shareholders' absolute 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 utilises 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	2021	2020
Pledged promissory notes to the Finnish State Nuclear Waste Management Fund	711,266	716,447
Guarantees given by shareholders related to the nuclear waste management obligation	480,670	95,880

The Company under the nuclear waste management obligation is entitled to borrow an amount equal to 75 percent 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. As a result of the amendment to the Nuclear Energy Act which entered into force in May 2021, a company liable for nuclear waste management or its shareholder is entitled to borrow back a maximum of 60 percent of its share in the Nuclear Waste Management Fund as of 2022.

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. According to Section 44 of the Nuclear Energy Act, a party with a waste management obligation shall supply the State with collateral security fulfilling the conditions provided in Section 45 before commencing waste-generating operations and otherwise always by the end of June so that the total of collateral equals the difference between the liabilities for the calendar year and the Fund target. At the start of the OL3 plant unit's operations, the Ministry of Economic Affairs and Employment has approved TVO's equity holders' absolute guarantees as collateral security supplied to the State.

Commitments

Contingent liabilities given on own behalf

EUR 1,000	2021	2020
Bank guarantees	550	550

Investment commitments

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

EUR 1,000	2021	2020
OL1 and OL2	84,700	88,600
OL3	401,500	433,900
Total	**486,200**	**522,500**

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 the 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 cost exceedings and project delays, and 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.

TVO received in July 2021 Wärtsilä's counterclaim in the pending arbitration proceedings. Wärtsilä's monetary claim of additional costs is approximately EUR 40 million. TVO submitted its response to Wärtsilä's claims to the court of arbitration in the beginning of November 2021. TVO considers claims made by Wärtsilä to be without merit and demands for them to be overruled and for TVO's legal costs to be compensated.

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

CO_2 emission rights

TVO's CO_2 emissions are generated by the releases of the reserve boilers and the emergency diesel generators. In principle TVO has, on 31 December, emission rights at least the same amount as the actual annual emissions are. If the actual emissions exceed the amount of the emission rights that TVO possesses, TVO has booked the expense for exceeding emission rights at the market value on 31 December.

	2021 t CO_2	2021 EUR 1,000	2020 t CO_2	2020 EUR 1,000
Total annual emissions from production facilities	2,435		74,074	
Possessed emission rights	2,740		1,991	
Emission rights bought [1]	2,500	151	72,300	1,741

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.

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

26 Related party

The Group's related parties include parent company Teollisuuden Voima Oyj and its subsidiary and joint 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

2021 EUR 1,000	Sales	Purchases	Receivables	Liabilities
Posiva Group	11,835	87,865	5,144	1,018

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

Teollisuuden Voima Oyj's shareholders

Related parties according to the IAS 24 standard are also two of TVO's biggest shareholders, Pohjolan Voima Oyj (PVO) and Fortum Power and Heat Oy (FPH), which have significant authority, as well as PVO's biggest owner UPM-Kymmene Oyj (UPM) and FPH's owner Fortum Oyj.

Transactions with related parties are as follows

2021 EUR 1,000	Sales	Purchases	Receivables	Liabilities
PVO, Fortum Oyj, Fortum Power and Heat Oy	245,011	27,421	649,847	824,403

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

Senior management's employee benefits

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

EUR 1,000	2021 Senior management	2020 Senior management
Wages, salaries and other short-term benefits	2,463	2,344
Total	**2,463**	**2,344**

27 Financial risk management

Financing and financial risks are centrally managed by the finance operations of the 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. The 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).

The 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, the 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 the TVO Group, the maturities and refinancing of long-term loans are planned so that no more than 25 percent 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.

The 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 corresponding to the funding needs of the Company for the following 12 months.

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

Undiscounted cash flows of financial liabilities

2021 EUR 1,000	2022	2023	2024	2025	2026–	Total
Loans from financial institutions [1]	48,258	50,608	426,104	426,104	64,026	1,015,100
Financing costs [2]	7,313	4,344	4,038	488	775	16,958
Loan from the Finnish State Nuclear Waste Management Fund [3]					711,266	711,266
Financing costs	3,612	3,556	3,556	3,556	3,841	18,122
Bonds [4]	250,561	311,777	644,900	500,000	1,413,000	3,120,238
Financing costs	55,975	52,545	43,046	32,223	59,198	242,987
Loans from others [4]		56,117				56,117
Financing costs	577					577
Lease liabilities	2,060	1,948	1,848	43,552	1	49,410
Commercial papers	85,240					85,240
Other liabilities	107,815					107,815
Interest rate derivatives	11,211	8,234	7,618	8,089	22,536	57,687
Total	**572,623**	**489,128**	**1,131,111**	**1,014,012**	**2,274,642**	**5,481,516**

EUR 1,000	2022	2023	2024	2025	2026–	Total
Forward foreign exchange contracts	72	14	2	1	0	89

[1] Repayments in 2022 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.

The cash flows from shareholder loans consist of interest payments, which for 2022 are estimated EUR 4.3 million.

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–	Yhteensä
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.

Market risk

Currency risk

The 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 43 months.

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

The average interest rate on loans and derivatives on 31 December 2021 was 1.52 % (2020: 1.56 %).

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

2021

EUR 1,000	2022	2023	2024	2025	2026–	Total
Interest rate swaps						
Cash flows	-9,604	-6,610	-6,002	-5,810	-22,536	-50,561

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

Sensitivity to market risks

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

		2021		2020
EUR 1,000	**Income statement**	**Equity**	**Income statement**	**Equity**
+ 10% change in EUR/USD and EUR/SEK exchange rates		-6,960		-8,575
- 10% change in EUR/USD and EUR/SEK exchange rates		6,960		8,575
1% upward parallel shift in interest rates	-7,639	66,639	-6,717	59,087
1% downward parallel shift in interest rates	7,459	-62,056	6,386	-65,093

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 recognised in equity. The gain or loss is recognised in profit or loss, except when they relate to the construction of OL3 and are capitalised in the balance sheet.

Bonds

Euro Medium Term Note Programme EUR 4.000.000.000

EUR 1,000		**2021**		**2020**		
Currency	**Nominal amount**	**Carrying amount**	**Nominal amount**	**Carrying amount**	**Interest rate %**	**Maturity date**
EUR			153,781	155,678	2.50	17.3.2021
EUR	30,000	29,999	30,000	29,995	3.88	9.5.2022
EUR	100,000	99,989	100,000	99,974	Euribor 6M + 1.58	12.9.2022
EUR	23,000	23,000	23,000	23,000	4.08	1.12.2022
EUR	20,000	19,984	20,000	19,977	2.80	8.5.2024
EUR	75,000	74,652	75,000	74,594	3.60	14.12.2027
EUR	23,000	23,741	23,000	24,630	3.50	3.5.2030
EUR	45,000	44,872	45,000	44,859	3.90	31.3.2032
EUR	20,000	19,830	20,000	19,815	3.88	8.11.2032
EUR	500,000	502,397	500,000	505,388	2.13	4.2.2025
EUR	311,777	311,695	500,000	499,557	2.63	13.1.2023
EUR	400,000	398,001	400,000	397,152	2.00	8.5.2024
EUR	650,000	646,577	650,000	645,759	1.13	9.3.2026
EUR	600,000	596,508			1.38	23.6.2028
SEK	1,000,000	97,555	1,000,000	99,608	Stibor 3M + 1.17	15.2.2022
SEK	500,000	48,779	500,000	49,829	Stibor 3M + 1.78	15.2.2024
SEK	850,000	82,805	850,000	84,526	2.38	15.2.2024
SEK	500,000	48,779	500,000	49,829	Stibor 3M + 1.42	29.10.2024
SEK	500,000	48,779	500,000	49,829	1.56	29.10.2024
Total		**3,117,942**		**2,873,998**		

The presentation of the bonds has been changed to the 2021 financial statements. From 2021, bonds will be presented at amortised cost.
The comparison figure for 2020 is presented in accordance with the new calculation method.

TVO Group debt structure by maturity

31 December 2021

EUR 1,000	2022	2023	2024	2025	2026	2027	2028	2029	2030–	Total
Loans from financial institutions	48,258	50,608	426,104	426,104	26,104	26,104	11,818			1,015,100
Bonds	250,561	311,777	644,900	500,000	650,000	75,000	600,000		88,000	3,120,238
Loans from others	56,117									56,117
Lease liabilities	2,060	1,948	1,848	43,552	1					49,410
Commercial papers	85,240									85,240
Total	**442,236**	**364,333**	**1,072,852**	**969,656**	**676,105**	**101,104**	**611,818**		**88,000**	**4,326,105**

TVO Group credit commitment by maturity

31 December 2021

EUR 1,000	2022	2023	2024	2025	2026	2027	2028	2029	2030-	Total
Syndicated revolving credit facility			1,000,000							1,000,000
Bilateral revolving credit facility										
Bilateral bank loan										
Total			**1,000,000**							**1,000,000**

On 31 December 2021, the Group had undrawn credit facilities amounting to EUR 1,000 million (2020: EUR 1,270 million).
In addition, the Group had subordinated shareholder loan (hybrid equity) commitments totalling EUR 400 million (2020: EUR 400 million) and cash and cash equivalents amounting to EUR 172 million (2020: EUR 161 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 the 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.

The 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.

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

Capital risk management

The 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 aims to have a minimum equity ratio (IFRS) of 25 percent 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 the TVO Group's equity ratio (IFRS) falls below 25 percent. There are no other key ratio-related covenants in the loan contracts.

The equity ratio monitored by the TVO Group's management

	2021	2020
Equity ratio, % (IFRS, Group) [1]	31.3	31.7
Equity ratio, % (Parent company) [2]	30.8	31.7

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

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

Net debt reconciliation

EUR 1,000	2021	2020
Cash and cash equivalents	172,318	161,363
Non-current interest-bearing liabilities (excluding loan from VYR)	3,877,192	3,812,269
Current interest-bearing liabilities	445,619	427,211
Net debt	**4,150,493**	**4,078,117**

	Liabilities from financing activities			Other assets	
EUR 1,000	**Liabilities**	**Leases**	**Sub-total**	**Cash and cash equivalents**	**Total**
Net debt 1 Jan 2020	**-4,269,169**	**-52,839**	**-4,322,008**	**237,832**	**-4,084,176**
Cash flows	102,356	2,052	104,408	-76,469	27,939
Acquisitions - leases	0	-361	-361	0	-361
Other non-cash flow expenses	-21,189	-329	-21,518	0	-21,518
Net debt 31 Dec 2020	**-4,188,002**	**-51,477**	**-4,239,479**	**161,363**	**-4,078,116**
Cash flows	-96,717	2,117	-94,600	10,955	-83,645
Acquisitions - leases	0	-251	-251	0	-251
Other non-cash flow expenses	11,319	200	11,519	0	11,519
Net debt 31 Dec 2021	**-4,273,400**	**-49,411**	**-4,322,811**	**172,318**	**-4,150,493**

28 Events after the balance sheet date

TVO announced in a stock exchange release published on 26 January 2022, that the OL3 plant unit's electricity production starts in the first half of February, instead of the previously estimated start at the end of January. The main reason for the postponement of the start of electricity production was an unplanned automatic trip, which occurred on 14 January 2022. In a stock exchange release published on 3 February 2022, TVO announced that the OL3 plant unit's electricity production starts at the end of February 2022, and regular electricity production starts in July 2022. The schedule was updated once more on 12 February 2022, according to which electricity production starts in March 2022, and regular electricity production starts in July 2022 as previously communicated. During the OL3 plant unit's test production phase, it was observed that there is a need for modifications in the plant unit's automation, especially turbine island related control functions, as well as further testing related to the modifications. The modifications and the tests are taking longer than previously estimated, which is why the schedule was updated.

On 2 February 2022, the European Commission proposed the inclusion of nuclear energy in the EU Taxonomy. The Commission's proposal will next be addressed by the European Parliament and the Council of the European Union. They have four months to review the proposal, after which they may receive an additional two months for the review, should they so wish. Provided that neither turns down the proposal, it will enter into effect. The Commission's proposal on the inclusion of nuclear power in the Taxonomy is welcome. However, the lack of clarity in the taxonomy criteria makes the evaluation of the taxonomy eligibility of TVO's business activities challenging. Therefore, clarifying instructions are awaited from the Commission.

Teollisuuden Voima Oyj

Income statement

EUR 1,000	Note	1 Jan-31 Dec 2021	1 Jan-31 Dec 2020
Turnover	2	293,781	271,014
Work performed for own purpose	3	25,036	21,217
Other income	4	16,434	16,599
Materials and services	5	-115,198	-107,233
Personnel expenses	6	-81,961	-72,382
Depreciation and impairment charges	7	-37,650	-38,627
Other expenses	8	-104,509	-86,710
Operating profit/loss		**-4,067**	**3,878**
Financial income and expenses	9	-8	4,261
Profit/loss before appropriations and taxes		**-4,075**	**8,139**
Appropriations	10	4,075	-3,869
Profit/loss for the financial year		**0**	**4,270**

Balance sheet

EUR 1,000	Note		31 Dec 2021		31 Dec 2020
Assets					
Non-current assets					
Intangible assets	11		2,543		2,589
Tangible assets	11		5,709,057		5,527,099
Investments					
Holdings in group companies	12	8		8	
Holdings in joint ventures	12	1,011		1,011	
Other receivables	12	718,247	719,266	963,505	964,524
Total non-current assets			**6,430,866**		**6,494,212**
Current assets					
Inventories	13		274,421		274,044
Current receivables	14		278,208		66,010
Cash and cash equivalents			172,134		160,954
Total current assets			**724,763**		**501,008**
Total assets			**7,155,629**		**6,995,220**

EUR 1,000	Note	31 Dec 2021	31 Dec 2020
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
Retained earnings (loss)	15,16	18,730	14,460
Profit (loss) for the financial year	15,16	0	4,270
Total equity		**861,478**	**861,478**
Appropriations		**193,326**	**196,898**
Liabilities			
Non-current liabilities	17,18	3,836,518	3,754,827
Shareholders' loans	17	929,300	929,300
Loan from the Finnish State Nuclear Waste Management Fund	17	711,266	716,447
Current liabilities	19	623,741	536,270
Total liabilities		**6,100,825**	**5,936,844**
Total equity and liabilities		**7,155,629**	**6,995,220**

Cash flow statement

EUR 1,000	2021	2020
Operating activities		
Operating profit/loss	-4,067	3,878
Adjustments to operating profit /loss [1)]	37,650	38,576
Changes in working capital [2)]	-4,257	7,747
Interest paid and other financial expenses	-4,114	-3,723
Dividend received	0	4,270
Interest received	3,977	3,217
Cash flow from operating activities	**29,189**	**53,965**
Investing activities		
Acquisition of shares	-1	0
Acquisition of non-current assets	-322,051	-280,884
OL3 project compensation	206,875	0
Proceeds from sale of intangible and tangible assets	0	127
Loan receivables granted	-105	-125,138
Repayments of loans granted	5,392	240
Cash flow from investing activities	**-109,889**	**-405,655**
Financing activities		
Acquisition of own shares	0	-3
Withdrawals of long-term loans	800,000	478,715
Repayment of long-term loans	-571,683	-255,481
Increase (-) or decrease (+) in interest-bearing receivables	0	2,030
Increase (+) or decrease (-) in short-term interest-bearing liabilities	61,630	349,415
Repayment of short-term interest-bearing liabilities	-198,410	-300,000
Group contribution received	343	670
Cash flow from financing activities	**91,880**	**275,346**

EUR 1,000	2021	2020
Change in cash and cash equivalents	**11,180**	**-76,344**
Cash and cash equivalents 1 Jan	160,954	237,298
Cash and cash equivalents 31 Dec	**172,134**	**160,954**
[1)] Adjustments to operating profit/loss		
Depreciation and write-downs	37,650	38,627
Gain (-) or loss (+) from divestment of non-current assets	0	-51
Total	**37,650**	**38,576**
[2)] Changes in working capital		
Increase (-) or decrease (+) in inventories	-376	-4,465
Increase (-) or decrease (+) in non-interest-bearing receivables	-17,617	21,701
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	13,736	-9,489
Total	**-4,257**	**7,747**

Notes to the parent company's financial statements

1 Accounting principles

Valuation principles

Non-current assets and their depreciation
Non-current assets have been capitalised in the 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 modernisation programme	17–35 years
• Automation investments associated with the modernisation	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 recognised at historical cost. The current liability for returning emission rights is recognised at the carrying value of possessed emission rights. If there is a shortfall, a current liability is recognised 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 recognised 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 realised 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

The nuclear waste management obligation is provided for in the Nuclear Energy Act. The obligation covers all future costs from nuclear waste handling, including the 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 Economic Affairs and Employment annually confirms 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.

According to the Nuclear Energy Act Section 52 c, which entered into force on 1 May 2021, a three percent protected portion shall be added to the Fund target of the calendar year for a party with a nuclear waste management obligation. The protected portion shall primarily be covered by the surplus as defined in the Nuclear Energy Act Section 42 and profit as defined in the Nuclear Energy Act Section 51. In addition, a party with a nuclear waste management obligation shall supply the Finnish State Nuclear Waste Management Fund with collateral security fulfilling the conditions provided in Section 45, so that on the last day of March, the total amount of the collateral security corresponds with the protected portion for the part that is not covered by the transferred surplus and profit. Accordingly, the collateral security previously supplied by the party with a nuclear waste management obligation, which is not needed to cover the protected portion anymore, shall be returned to the party with a nuclear waste management obligation at the latest on the first business day of April in the same calendar year.

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.

The nuclear waste management liability and 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 percent of the company's share in the Fund. TVO uses the right to borrow funds back, and lends them further to its shareholders. As a result of the amendment to the Nuclear Energy Act which entered into force in May 2021, a company liable for nuclear waste management or its shareholder is entitled to borrow back a maximum of 60 percent of its share in the Nuclear Waste Management Fund as of 2022.

2 Turnover

EUR 1,000	2021	2020
Olkiluoto 1 and Olkiluoto 2	293,781	265,202
Meri-Pori	0	5,812
Total	**293,781**	**271,014**
Electricity delivered to equity holders of the company (GWh)		
Olkiluoto 1	7,393	7,299
Olkiluoto 2	7,021	7,264
Total Olkiluoto	14,414	14,563
Meri-Pori	0	82
Total	**14,414**	**14,645**

3 Work performed for own purpose

EUR 1,000	2021	2020
Personnel expenses related to OL3	25,036	21,217

4 Other income

EUR 1,000	2021	2020
Rental income	1,101	1,121
Sales profit of tangible assets and shares	0	51
Sales of services	14,132	14,686
Other income	1,201	741
Total	**16,434**	**16,599**

5 Materials and services

EUR 1,000	2021	2020
Purchases, accrual basis		
Nuclear fuel	61,757	65,588
Coal	0	1,777
Materials and supplies	5,011	5,088
Increase (-) or decrease (+) in inventories	-964	-4,729
Total	**65,804**	**67,724**
CO_2 emission rights	151	1,741
Nuclear waste management		
Contribution to the Finnish State Nuclear Waste Management Fund [1)]	-24,648	-28,219
Nuclear waste management services	65,295	56,479
Total	**40,647**	**28,260**
External services	8,596	9,508
Total	**115,198**	**107,233**

[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	61,387	61,865
Coal	0	1,777
Materials and supplies	4,417	4,082
Total	**65,804**	**67,724**

6 Notes concerning personnel and members of administrative bodies

Average number of personnel

	2021	2020
Office personnel	809	797
Manual workers	193	186
Total	**1,002**	**983**

Number of employees 31 Dec

	2021	2020
Office personnel	791	791
Manual workers	191	182
Total	**982**	**973**

Personnel expenses

EUR 1,000	2021	2020
Wages and salaries	68,898	62,273
Pension expenses	10,592	8,107
Other compulsory personnel expenses	2,471	2,002
Total	**81,961**	**72,382**
Salaries and fees paid to management		
President and members of the Board of Directors	716	739

7 Depreciation and impairment charges

EUR 1,000	2021	2020
Depreciation according to plan		
Other capitalised long-term expenses	408	413
Buildings and construction	3,577	3,210
Machinery and equipment	33,013	33,959
Other tangible assets	652	1,045
Total	**37,650**	**38,627**

8 Other expenses

EUR 1,000	2021	2020
Maintenance services	24,297	15,156
Regional maintenance and services	10,428	9,285
Research services	2,416	3,323
Other external services	30,638	25,410
Real estate tax	6,034	6,306
Rents	1,948	1,815
ICT expenses	6,078	6,299
Personnel related expenses	4,001	3,533
Corporate communication expenses	836	764
Other expenses	17,833	14,819
Total	**104,509**	**86,710**

Auditors' fees and non audit-related services PricewaterhouseCoopers Oy

EUR 1,000	2021	2020
Auditing	260	193
Tax services	28	8
Other services	70	33
Total	**358**	**234**

9 Financial income and expenses

EUR 1,000	2021	2020
Dividend Income		
From joint ventures	0	4,270
Total	**0**	**4,270**
Interest income on long-term investments		
From joint ventures	11	15
From others	3,612	3,586
Total	**3,623**	**3,601**
Other interest and financial income		
From others	483	112
Total	**483**	**112**
Interest income on long-term investments and other interest and financial income, total	**4,106**	**7,983**
Interest expenses and other financial expenses		
To the Finnish State Nuclear Waste Management Fund	3,612	3,586
To others	96,321	88,758
Capitalised interest costs	-95,819	-88,622
Total	**4,114**	**3,722**
Total financial income (+) and expenses (-)	**-8**	**4,261**
Financial income and expenses include exchange rate gains (+) and losses (-) (net)	439	92

10 Appropriations

EUR 1,000	2021	2020
Group contribution	503	418
The difference between depreciation according to plan and tax depreciation, increase (-) or decrease (+)	3,572	-4,287
Total	**4,075**	**-3,869**

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 2021	54,011	59	26,378	270	80,718
Increase	0	151	194	69	414
Decrease	0	-51	0	0	-51
Transfer between categories	0	0	63	-63	0
Acquisition cost 31 Dec 2021	54,011	159	26,635	276	81,081
Accumulated depreciation according to plan 1 Jan	54,011	0	24,119	0	78,130
Accumulated depreciation from deduction	0	0	0	0	0
Depreciation according to plan	0	0	408	0	408
Book value 31 Dec 2021	**0**	**159**	**2,108**	**276**	**2,543**
Accumulated depreciation difference 1 Jan	0	0	1,594	0	1,594
Change in depreciation difference	0	0	-162	0	-162
Accumulated depreciation difference 31 Dec	0	0	1,432	0	1,432
Undepreciated acquisition cost in taxation 31 Dec 2021	0	159	676	276	1,111

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 2021	12,054	274,820	1,389,486	53,506	5,049,917	6,779,783
Increase	0	949	22,500	150	195,601	219,200
Decrease	0	0	-59,532	0	0	-59,532
Transfer between categories	0	15,568	15,611	0	-31,179	0
Acquisition cost 31 Dec 2021	12,054	291,337	1,368,065	53,656	5,214,339	6,939,451
Accumulated depreciation according to plan 1 Jan	0	225,734	978,886	48,064	0	1,252,684
Accumulated depreciation from deduction	0	0	-59,532	0	0	-59,532
Depreciation according to plan	0	3,577	33,013	652	0	37,242
Book value 31 Dec 2021	**12,054**	**62,026**	**415,698**	**4,940**	**5,214,339**	**5,709,057**
Accumulated depreciation difference 1 Jan	0	-4,353	197,196	2,461	0	195,304
Change in depreciation difference	0	2,601	-5,860	-151	0	-3,410
Accumulated depreciation difference 31 Dec	0	-1,752	191,336	2,310	0	191,894
Undepreciated acquisition cost in taxation 31 Dec 2021	12,054	63,778	224,362	2,630	5,214,339	5,517,163
Share of machinery and equipment from book value 31 Dec 2021			398,574			
Share of machinery and equipment from book value 31 Dec 2020			393,978			

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 2021	11,046	1,167	27,122	95,394	2,402	1,593,224	1,730,355
Increase	0	0	0	0	0	95,797	95,797
Acquisition cost 31 Dec 2021	11,046	1,167	27,122	95,394	2,402	1,689,021	1,826,152
Accumulated depreciation according to plan 1 Jan	11,046	924	21,452	75,449	1,900	0	110,771
Depreciation according to plan	0	12	283	997	25	0	1,317
Book value 31 Dec 2021	**0**	**231**	**5,387**	**18,948**	**477**	**1,689,021**	**1,714,064**
Accumulated depreciation difference 1 Jan	0	244	5,671	19,945	502	0	26,362
Change in depreciation difference	0	-13	-284	-997	-25	0	-1,319
Accumulated depreciation difference 31 Dec	0	231	5,387	18,948	477	0	25,043
Undepreciated acquisition cost in taxation 31 Dec 2021	0	0	0	0	0	1,689,021	1,689,021

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 2021	8	1,011	4,218	2,335	716,951	240,000	964,523
Increase	0	0	1	134	0	0	135
Decrease	0	0	0	-212	-5,180	-240,000	-245,392
Acquisition cost 31 Dec 2021	8	1,011	4,219	2,257	711,771	0	719,266
Book value 31 Dec 2021	**8**	**1,011**	**4,219**	**2,257**	**711,771**	**0**	**719,266**
Loan from the Finnish State Nuclear Waste Management Fund lent further to the equity holders of the company					**711,266**		**711,266**

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	2021	2020
Raw uranium and natural uranium		
Replacement cost	133,705	90,702
Book value	99,268	96,673
Difference	**34,437**	**-5,971**
Raw uranium and natural uranium	99,268	96,673
Nuclear fuel	166,681	168,906
Supplies	8,472	8,465
Total	**274,421**	**274,044**

14 Current receivables

EUR 1,000	2021	2020
Receivables from group companies		
Accrued income	1,245	1,588
Total	**1,245**	**1,588**
Receivables from joint ventures		
Loan receivables	212	240
Prepayments and accrued income	2,669	5,893
Total	**2,881**	**6,133**
Receivables from others		
Trade receivables	9,301	1,508
Other receivables	11,420	2,736
Total	**20,721**	**4,244**
Prepayments and accrued income		
Prepaid interests	16,456	15,261
Accrued interest income	3,612	3,484
Other accrued income	231,141	34,168
Other prepaid expenses	2,151	1,132
Total	**253,361**	**54,045**
Total	**278,208**	**66,010**

15 Equity

EUR 1,000	2021	2020
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
Retained earnings/loss 1 Jan	14,460	14,460
Change	4,270	0
Retained earnings/loss 31 Dec	18,730	14,460
Profit/loss for the financial year	0	4,270
Total	**861,478**	**861,478**

16 Distributable equity

EUR 1,000	2021	2020
Retained earnings	18,730	14,460
Profit/loss for the financial year	0	4,270
Total	**18,730**	**18,730**

17 Non-current liabilities

EUR 1,000	2021	2020
Bonds	2,813,560	2,708,460
Loans from financial institutions	966,841	986,540
Other loans	56,117	59,827
	3,836,518	**3,754,827**
Shareholders' loans [1]	929,300	929,300
Loan from the Finnish State Nuclear Waste Management Fund [2]	711,266	716,447
Total	**5,477,084**	**5,400,574**

[1] Subordinated loans.

[2] Lent further to the shareholders.

Bonds

Euro Medium Term Note Programme EUR 4.000.000.000

Currency	Capital 2021	EUR 1,000 2021	Capital 2020	EUR 1,000 2020	Maturity date
EUR			153,781	153,781	17.3.2021 [1]
EUR	30,000	30,000	30,000	30,000	9.5.2022 [1]
EUR	100,000	100,000	100,000	100,000	12.9.2022 [1]
EUR	23,000	23,000	23,000	23,000	1.12.2022 [1]
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	311,777	311,777	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
EUR	600,000	600,000			23.6.2028
SEK	1,000,000	97,561	1,000,000	97,561	15.2.2022 [1]
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	46,624	500,000	46,623	29.10.2024
SEK	500,000	46,568	500,000	46,568	29.10.2024
Total		**3,120,238**		**2,862,241**	
Current portion of long-term bonds [1]		**306,678**		**153,781**	
Total		**2,813,560**		**2,708,460**	

Other loans

US Private Placements

Currency	Capital 2021	EUR 1,000 2021	Capital 2020	EUR 1,000 2020	Maturity date
GBP	0	0	50,000	56,117	15.11.2022 [1]
Total		**0**	**50,000**	**56,117**	
Current portion of other loans [1]		56,117		0	
Total		0		56,117	
Collateral received		0		3,710	17.3.2021 [1]
Total		**0**		**59,827**	

18 Debts due in more than five years

EUR 1,000	2021	2020
Debts due in more than 5 years	1,250,922	1,327,026

19 Current liabilities

EUR 1,000	2021	2020
Liabilities from group companies		
Accruals	1	0
Total	**1**	**0**
Liabilities from joint ventures		
Accruals	1,018	1,359
Total	**1,018**	**1,359**
Liabilities from others		
Advances received	21,218	19,789
Trade payables	56,671	9,410
Total	**77,889**	**29,199**
Interest-bearing liabilities		
Bonds	306,678	153,781
Loans from financial institutions	48,258	79,499
Commercial paper program	85,240	191,870
Total	**440,176**	**425,150**
Accruals and deferred income		
Finnish State Nuclear Waste Management Fund	13,312	3,484
Accrued interests	40,481	42,867
Accrued personnel expenses	23,792	18,996
Accruals related to CO_2 emission rights	159	59
Other accruals and deferred income	26,913	15,156
Total	**104,657**	**80,562**
Total	**623,741**	**536,270**

20 Commitments

Leasing liabilities

EUR 1,000	2021	2020
Leasing liabilities falling due in less than a year	2,466	2,511
Leasing liabilities falling due later	47,557	49,425
Total	**50,023**	**51,936**

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	2021	2020
Bank guarantees	550	550

Nuclear waste management

EUR 1,000	2021	2020
Liability for nuclear waste management according to the Nuclear Energy Act [1)]	1,816,100	1,450,600
TVO's funding target obligation 2022 (2021) to the Finnish State Nuclear Waste Management Fund	1,436,100	1,450,600
Collateral for nuclear waste management contingencies	480,670	95,880
Nuclear waste management loan receivables pledged to the Finnish State Nuclear Waste Management Fund	711,266	716,447

[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	2021	2020
Interest rate derivatives		
Interest rate swaps (nominal value)	1,944,117	2,024,117
Fair value	7,987	-29,400
Forward foreign exchange contracts		
Forward foreign exchange contracts (nominal value)	69,597	85,753
Fair value	12,035	7,532
Cross-currency swaps		
Cross-currency swaps (nominal value)	378,577	378,585
Fair value	7,745	10,888

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 2021	Number 2020	EUR 1,000 2021	EUR 1,000 2020
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
Total	**1,360,000,000**	**1,360,000,000**	**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

TVO's CO_2 emissions are generated by the releases of the reserve boilers and the emergency diesel generators. 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.

	2021		2020	
	t CO_2	EUR 1,000	t CO_2	EUR 1,000
Total annual emissions from production facilities	2,435		74,074	
Possessed emission rights	2,740		1,991	
Emission rights bought [1]	2,500	151	72,300	1,741

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.

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

Proposals to the Annual General Meeting

Teollisuuden Voima Oyj's distributable equity as of 31 December, 2021 amounted to EUR 18,729,960. 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 17, 2022

Ilkka Tykkyläinen	Tiina Tuomela	Hannu Jokinen
Esa Kaikkonen	Tapio Korpeinen	Petra Lundström
Seppo Parvi	Anders Renvall	Rami Vuola
Juha-Pekka Weckström	Jarmo Tanhua CEO	

The auditor's note

Our auditor's report has been issued today.

Helsinki, February 17, 2022

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 2021. 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 plant unit in the test production phase
- 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 (2020: € 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 plant unit in the test production phase	
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 plant unit in the test production phase (OL3 project), which has been ordered under a turnkey contract. Delivery of the plant has been significantly delayed from the original schedule. The plant unit's reactor criticality was achieved for the first time in December 2021, but the plant investment is still incomplete. During the OL3 project, € 5,1 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 project. We also tested the internal controls relating to approval, monitoring and reporting of expenses capitalised on the OL3 project. We tested purchase invoices and company's own expenses relating to the OL3 project to ascertain the costs capitalised on the incomplete plant investment meet the recognition criteria. During our audit we reviewed that the borrowing costs capitalised on the OL3 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 1, 12 and 24 in the consolidated financial statements. Provision related to nuclear waste management obligation € 1,4 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. During the financial year the provision related to the nuclear waste management obligation increased, as the reactor criticality of the OL3 plant unit in the test production phase was achieved in December 2021 and operations producing nuclear waste began. 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 assessed particularly the accounting principles of the provision for the OL3 plant unit in the test production phase. 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 and consistently for all the plant units. 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 17 February 2022

PricewaterhouseCoopers Oy
Authorised Public Accountants

Niina Vilske
Authorised Public Accountant (KHT)

Financial information in 2022

In 2022, Teollisuuden Voima Oyj will publish the interim reports as follows:

Interim Report for January-March 2022
on April 22, 2022

Interim Report for January-June 2022
on July 14, 2022

Interim Report for January-September 2022
on October 14, 2022

ESEF-report: Basic company information

Name of reporting entity or other means of identification	Teollisuuden Voima Oyj
Domicile of entity	Finland
Legal form of entity	Public Limited Company
Country of incorporation	Finland
Address of entity's registered office	Töölönkatu 4, 00100 Helsinki
Principal place of business	Olkiluoto, 27160 Eurajoki
Description of nature of entity's operations and principal activities	Production of electricity with nuclear power
Name of parent entity	Teollisuuden Voima Oyj
Name of ultimate parent of group	Teollisuuden Voima Oyj