

Green Bond
Framework
2023

tvo

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Supply of electricity in Finland

The electricity production capacity at Olkiluoto was nearly doubled when the Olkiluoto 3 (OL3) plant unit started regular electricity production. This means that the low-emission nuclear electricity produced at Olkiluoto will play a significant role in the economic development, electricity self-sufficiency, and general well-being of all of Finland for decades to come.

Electricity in every weather

The electrification of society and phasing out of fossil fuels will require increasingly larger amounts of emission-free electricity even in the future. The role of low-carbon energy, such as renewable energy and nuclear power, is crucial in the mitigation of climate change. One benefit that nuclear power provides is stable production independent of the weather conditions, which supports the more weather dependent renewable energy production forms in the electricity system.

In Finland, 72 percent of greenhouse gas emissions are generated in energy production, energy consumption, and traffic. 28 percent of the emissions are generated by the energy industry. Thus, any emission reductions in the energy industry significantly impact the total emissions in Finland.

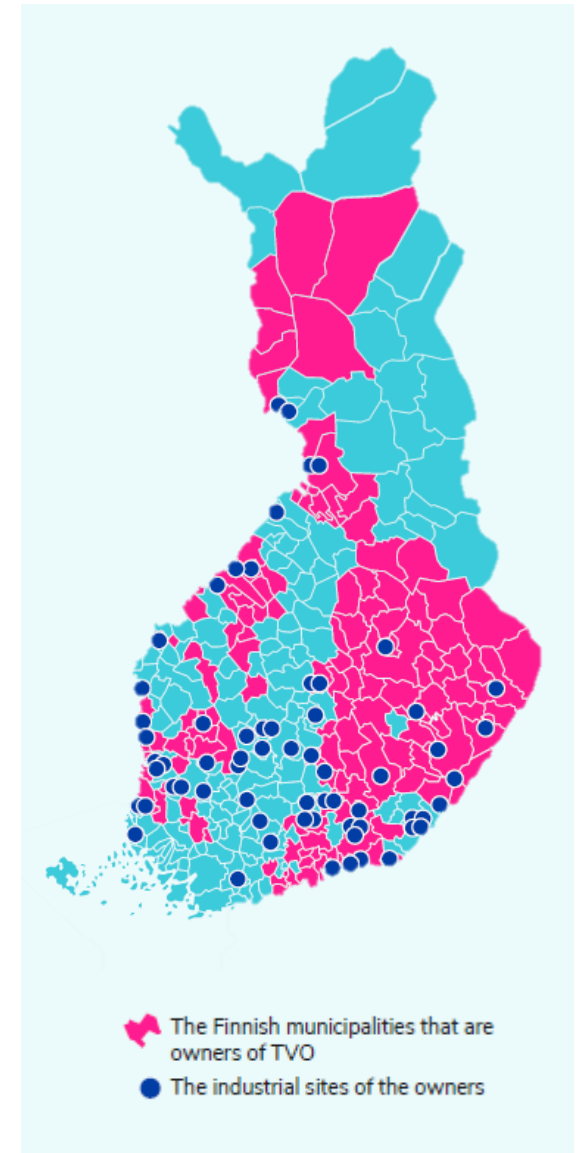
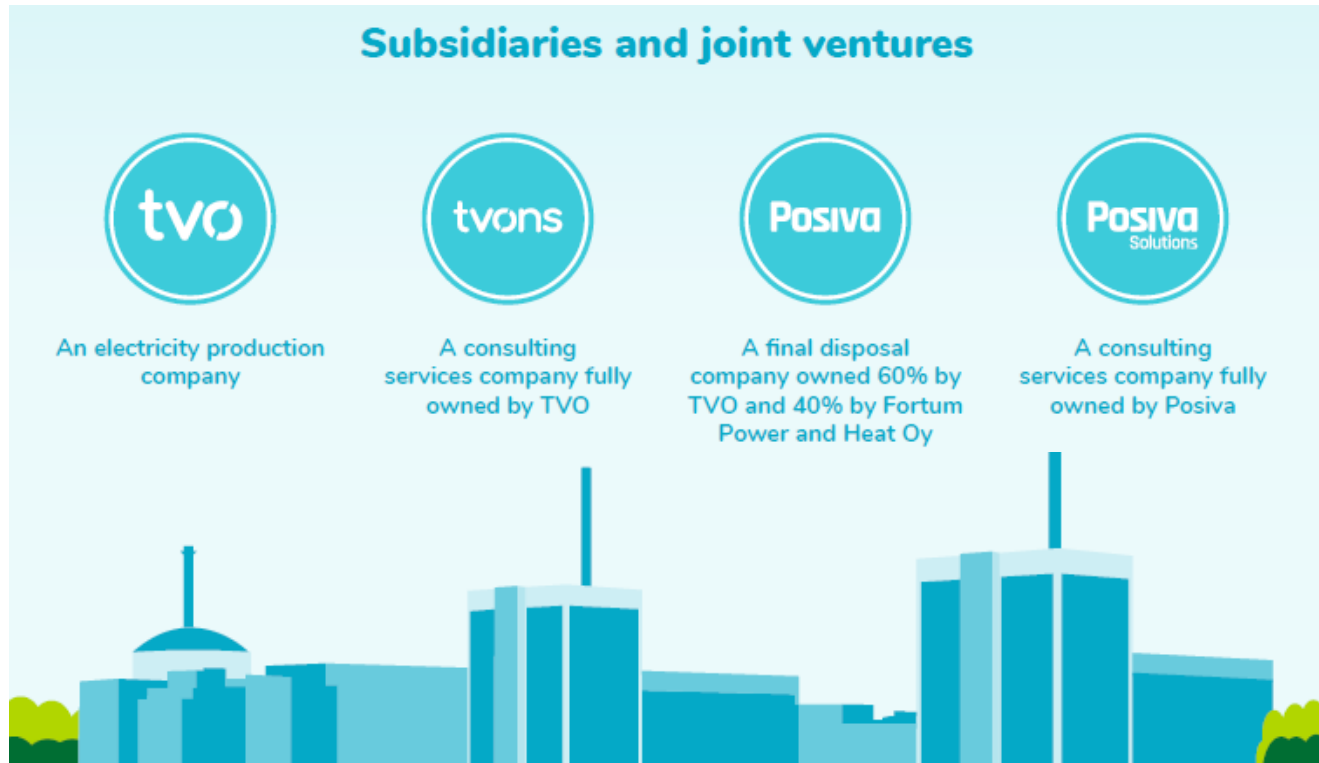


About TVO

Teollisuuden Voima Oyj (TVO) is a non-listed public limited liability company owned by Finnish industrial and energy companies. TVO's line of business is construction and procurement of power plants and power transmission equipment, as well as production, supply, and transmission of electricity, primarily to its shareholders.

TVO operates according to the cost-price principle (Mankala principle). TVO is owned by five shareholders, some of which – like TVO – operate according to the cost-price principle. TVO's shareholders are Finnish industrial and energy companies, whose owners include 131 Finnish municipalities.

TVO produces climate-friendly nuclear power at three plant units operating at Olkiluoto in Eurajoki: Olkiluoto 1 (OL1), Olkiluoto 2 (OL2), and the newest addition, Olkiluoto 3 (OL3). With OL3 in operation, approximately 30 percent of Finland's electricity is produced at Olkiluoto.



OL3 – Finland’s greatest climate act

The Olkiluoto 3 (OL3) plant unit, has been taken into use in Olkiluoto. With the commissioning of the most powerful nuclear power unit in Europe, approximately 30% of Finland’s electricity comes from one island, where the entire lifecycle of nuclear power is managed.

OL3 is a European Pressurized Water Reactor (EPR) plant unit with a net electrical output of approximately 1,600 MW. OL3 includes modern proven technology and advanced new safety features. Particular attention has been paid to factors that further increase the safety of the plant, such as the prevention and management of severe accidents, as well as to the efficiency, including cost-efficiency, of production.

Finland’s greatest climate act

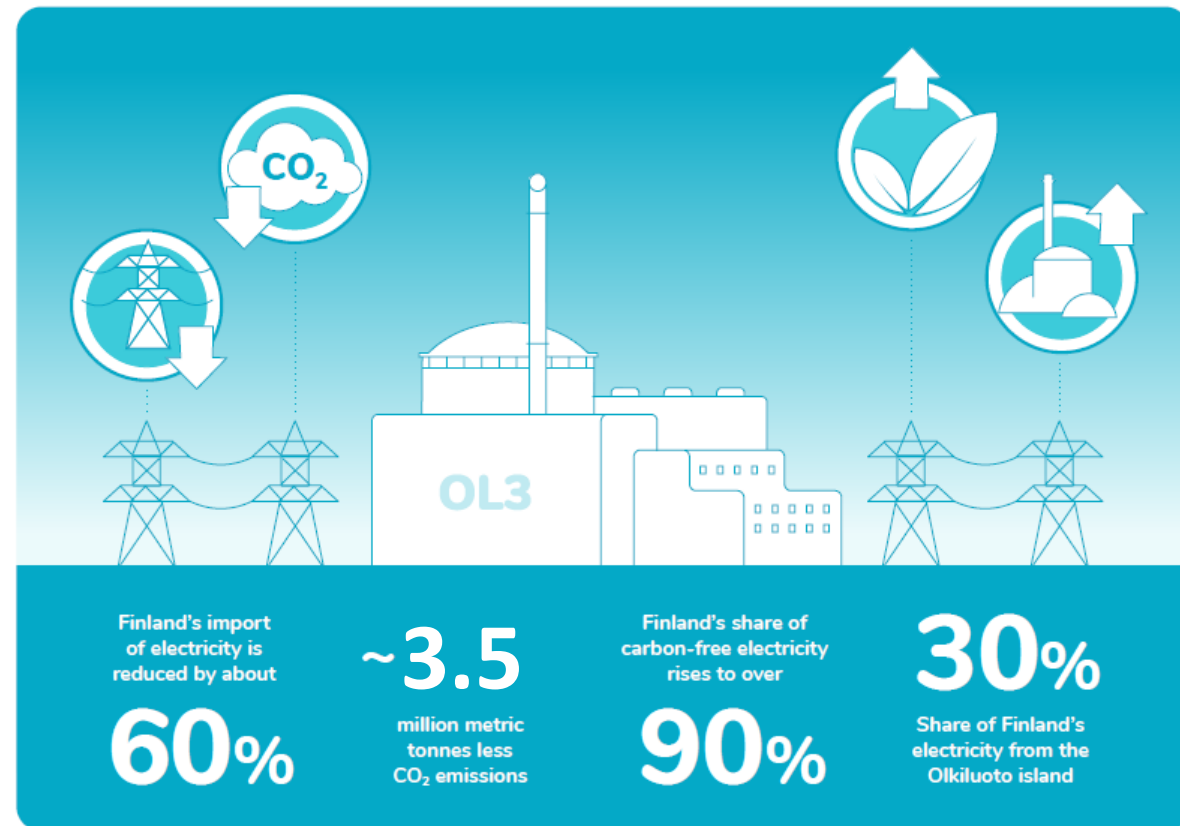
As a low-emission form of electricity production, nuclear power plays an important role in climate change mitigation. The regular electricity production of the OL3 plant unit enables significant leaps in advancing Finland’s climate goals.

The Finnish Government Programme (2019) aims for the carbon neutrality of Finland by 2035.

¹ [Greenhouse gas emission intensity of electricity generation - European Environment Agency](#)

Compared to the EU-27 average of greenhouse gas emission intensity of electricity generation¹, the OL3 plant unit’s production reduces annual CO₂ emissions by approximately 3.5 million metric tonnes. Simultaneously, Finland’s self-sufficiency in

clean electricity grows – the share of carbon-free electricity production will rise from 89 percent to approximately 92 percent. The electricity production of the OL3 plant unit reduces the import of electricity by about 60 percent.



Responsibility at TVO

Responsibility is an integral part of the TVO Group's strategy and one of its values. For the licensee of a nuclear power plant, a high level of responsibility is a prerequisite for operations at all organisational levels.

With the energy transition, society is becoming increasingly electrified, and the need for low-emission stable power grows. The TVO Group is committed to promoting both national and international climate goals by generating climate-friendly electricity at the Olkiluoto nuclear power plant safely and reliably.

TVO's spent nuclear fuel will be packed in copper canisters and placed in the Olkiluoto bedrock at an approximate depth of 430 metres. The disposal of spent fuel is scheduled to begin in the mid-2020s; it will continue for approximately one hundred years. The final disposal solution plays an important role in climate change mitigation as part of the lifecycle of nuclear power.

Responsible leadership

The cornerstones of responsible leadership and operating practices are the company's values, on which the Group-level policies and the Code of Conduct are based. TVO's objective is to operate in a responsible, transparent, proactive manner, and to continuously improve its operations.

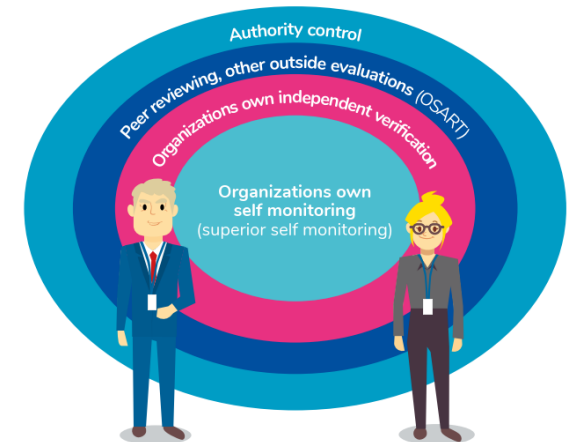
Regulatory control

The TVO Group complies with valid laws, regulatory guidelines, and principles of good governance in all its operations. The regulations by the Radiation and Nuclear Safety Authority (STUK) and requirements laid down in the nuclear power plant guides (YVL Guides) are also followed. Everybody working at the TVO Group is required to comply with the legislation as well as the regulatory guidelines and regulations, the principles of good governance, and the Group's voluntary commitments.

STUK performs the following inspections to ensure the operational safety of existing plant units:

- Periodic inspections that STUK has specified and recorded in the facility-specific periodic inspection program
- Inspections required by the YVL Guides that the licensee is obliged to request as part of the measures carried out at the facility or that STUK conducts at its discretion
- Regulation by local inspectors at nuclear power plants
- Safety assessment on the basis of operating experience and safety research as well as other information obtained after the granting of the operating license

In operating experience feedback activities, the focus is on plant events that have been reported to the authority with an operating event report which according to the reporting regulations is required to be submitted of all abnormal operating conditions. STUK reports on special cases to such an extent as it considers appropriate to the International Atomic Energy Agency (IAEA) and the OECD's Nuclear Energy Agency (NEA) via the IRS system (Independent Reporting System). Depending on the case, STUK decides on the classification of the seriousness of an event on the International Nuclear Event Scale (INES).



Environmental management

The TVO Group's operations are managed with a certified environmental management system that complies with the international standard ISO 14001:2015 and includes an integrated energy efficiency system ETJ+. TVO's environmental management system is also Eco-Management and Audit Scheme (EMAS) registered.

TCFD at TVO

Since 2020, TVO has been reporting in accordance with the TCFD (Task Force on Climate-related Financial Disclosures), an international reporting recommendation, which offers companies a framework for reporting on the financial risks and opportunities connected with climate change in relation to four thematic areas: governance, strategy, risk management, and metrics and targets.



Materiality analysis






With the help of a materiality analysis for sustainability, the impacts on the environment, people, and economy that are the most relevant for the TVO Group's stakeholders have been identified. In addition to its personnel, the TVO Group's most important stakeholders include its shareholders, the authorities, investors, decision-makers, the local community, subcontractors, the media, and the general public. The TVO Group's materiality analysis was updated in autumn 2022, and the guidelines in the Global Reporting Initiative (GRI) Standards (2021) were used as the basis in the definition of materiality.

The materiality analysis comprised various work stages: background research, stakeholder interviews, and a targeted online survey to the stakeholders.

The results from different stages were prioritised according to the significance of the impacts, and processed and verified in meetings by the Sustainability Team and the Board of Directors' Audit and Finance Committee. As a result of prioritising the different impacts, a list of material sustainability aspects was created, reflecting the Group's most significant impacts on the environment, people, and economy:

- Safe, climate-friendly, and stable electricity production
- Responsible final disposal of spent fuel and exporting competence
- Transparent and ethical business
- Responsibility in the supply chains and partnerships
- Creation of added economic value
- The support and development of employees' competence
- Healthy and equal work community
- Biodiversity and sustainable land use
- Minimising releases into the air, water, and soil
- Circular economy; energy and material efficiency

Sustainability Roadmap 2030

SDG	TARGET: CLIMATE-FRIENDLY ELECTRICITY FOR SOCIETY
	<p>Climate-friendly electricity production</p> <ul style="list-style-type: none"> In 2022, OL3 is in commercial use, which enables the production of about 30% of Finland's electricity in Olkiluoto, as well as the avoidance of about 23 million metric tonnes of CO₂ emissions annually (compared with coal).
	<p>Responsible nuclear waste management</p> <ul style="list-style-type: none"> Posiva's final disposal activities begin according to plan in the mid-2020s. Final disposal is carried out on an industrial scale – about 400 tU spent fuel is disposed safely and according to cost estimates by 2030.
	<p>Emissions</p> <ul style="list-style-type: none"> The TVO Group's operations are climate neutral by 2030. The thermal load of cooling water does not exceed 56.9 TWh annually. Radioactive emissions to air and water are kept clearly below authority limits (continual). 0 environmental accidents (in the serious/significant category) annually.
	<p>Biodiversity</p> <ul style="list-style-type: none"> Efficient land use: share of produced electricity with respect to the surface area of built environment ca. 15,647 GWh/km² from 2023 onwards. At least one voluntary project promoting biodiversity carried out annually.
	<p>Circular economy</p> <ul style="list-style-type: none"> Minimisation of waste volume and recycling waste as material, at least 55% annually by 2025 and 60% annually by 2030. 0 kg of landfill waste annually.
	<p>Energy efficiency</p> <ul style="list-style-type: none"> Commitment to the goals set out in the Energy Efficiency Agreement period 2017–2025, as well as the goals of the following period. Goals are advanced by carrying out at least four location reviews and one plant measurement annually in Olkiluoto.
SDG	TARGET: HIGH-CLASS SAFETY CULTURE
	<p>Safety culture</p> <ul style="list-style-type: none"> No deficiencies in IAEA's safety culture levels 1 and 2 (continual).
	<p>Occupational health & safety</p> <ul style="list-style-type: none"> No serious accidents in the TVO Group, including contractors (continual). The TVO Group's accident frequency (accidents per one million working hours) below 1, including contractors, by 2030.
	<p>Radiation protection</p> <ul style="list-style-type: none"> Individual radiation doses incurred in Olkiluoto below half of authority limit (continual).
	<p>Plant safety</p> <ul style="list-style-type: none"> No events at INES 1 or higher (continual).

SDG TARGET: ADDED ECONOMIC VALUE	
	<p>Customer-oriented & competitive activities</p> <ul style="list-style-type: none"> The load factor of the Olkiluoto plant units is 90–95% as a rolling three-year average (continual). The rolling three-year production cost average is below 20 €/MWh in 2022. Calculating from OL3's first full production year, the rolling three-year average is below 30 €/MWh. Reported for the first time in 2026.
	<p>Nuclear power as a desired production form</p> <ul style="list-style-type: none"> Reputation index over 75 (excellent) in the stakeholder survey (continual).
	<p>Funds ready for final disposal</p> <ul style="list-style-type: none"> The necessary funds for final disposal are secured through payments to the Finnish State Nuclear Waste Management Fund (continual).
SDG TARGET: WELL-BEING OF EMPLOYEES & STRONG NETWORKS	
	<p>Occupational health</p> <ul style="list-style-type: none"> Personnel survey (People Power Index) result at level AA (good) achieved by 2025. Sick leaves (% of working time) below 3% annually. Employees' pension insurance (TyEL) category below 4 (continual).
	<p>High-class expertise</p> <ul style="list-style-type: none"> Actualisation rate of competence surveying over 90% annually. Inspection rate of individual training plans over 90% annually.
	<p>Professional development</p> <ul style="list-style-type: none"> Employees' changes in position over 10% annually. Actualisation rate of navigation discussions over 90% annually.
	<p>Employer role</p> <ul style="list-style-type: none"> Recruiting over 100 students for internships annually.
	<p>Responsible supply chain</p> <ul style="list-style-type: none"> All suppliers of raw uranium and its conversion services are evaluated every 3–5 years depending on the supplier.
	<p>Stakeholder cooperation</p> <ul style="list-style-type: none"> The most important stakeholders feel that the TVO Group's activities can be trusted, and that the Group communicates transparently on its operations. The indicators measuring experiences on trust and transparency are over 75, i.e. excellent, in the stakeholder survey (continual).
SDG TARGET: TRAILBLAZER IN THE NUCLEAR INDUSTRY AND FINAL DISPOSAL	
	<p>Research & development</p> <ul style="list-style-type: none"> R&D operations advance the safety, business activities, and future technological solutions of the plant units and final disposal of spent fuel with the help of networks and research projects (continual).
	<p>Reliable use of the plant units</p> <ul style="list-style-type: none"> 0 unplanned automatic scrams (continual). Annual unplanned energy unavailability factor <0.4% (1.5 days/year) of total production by 2024.
	<p>Increasing final disposal expertise</p> <ul style="list-style-type: none"> Posiva has the best knowledge and expertise in the final disposal of spent nuclear fuel, and it is the most desired international reference and valued partner (continual).

Procurement of uranium

TVO has high-level in-house expertise regarding all the stages of the fuel procurement process. TVO procures its fuel mainly through a decentralised supply chain, entering into negotiations and making procurement contracts with each separate supplier at the various stages of the fuel production chain. There are several suppliers for each stage in the chain, and the procurement operations are regularly subjected to competitive bidding.

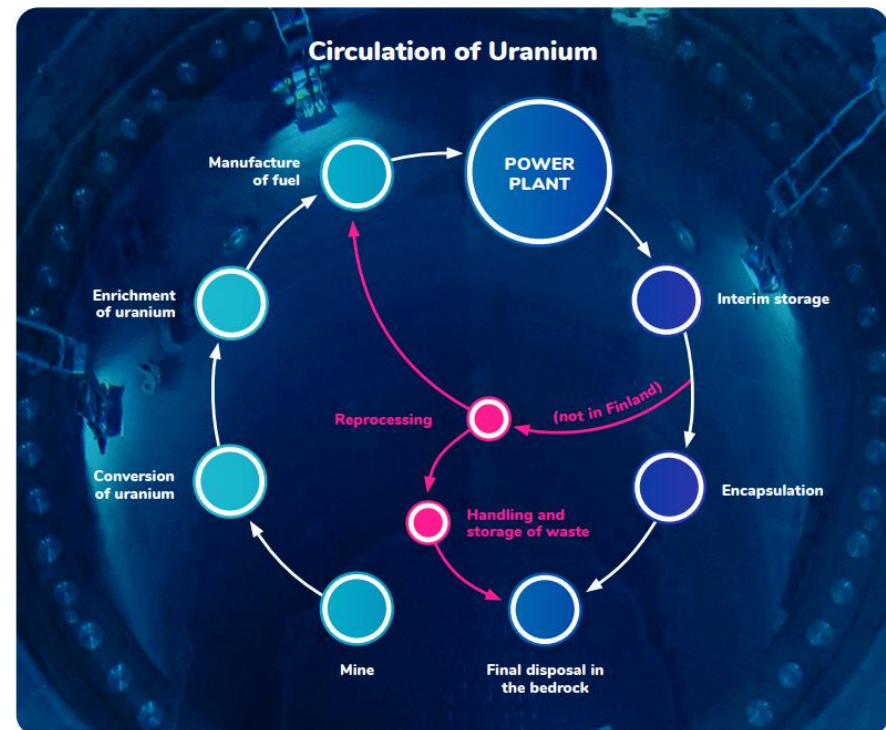
Furthermore, the composition of the fuel and the manner in which it is used are designed by TVO itself. The policy chosen by TVO clearly strengthens the Company's position as Finland's leading producer of nuclear power. Procurement operations are based on long-term contracts with leading suppliers. These companies have mining operations in many countries. If required, TVO also purchases additional batches and services from the market, the development of which is followed actively. Most of the uranium procured by TVO comes from Kazakhstan, Canada, and Australia. The fuel elements ordered by the Company are constructed and assembled in Germany, Spain, or Sweden.

TVO subjects fuel suppliers to strict evaluation

TVO employs a supplier evaluation process and only procures uranium and nuclear fuel refining services from suppliers who have passed the evaluation. A systematic evaluation process precedes the closure of each supply contract. In addition to the requirements set for the products, the process also considers the reliability and sustainability of the supplier.

TVO's supplier evaluation also includes active monitoring and evaluations at fixed intervals. Remote monitoring in Finland and visits to production sites both provide TVO with an opportunity to examine the suppliers' practices and to

intervene in their practices if necessary. The purpose of TVO's supplier evaluation is to ensure that suppliers pay appropriate attention to environmental issues, the well-being of personnel, and quality management. Special issues concerning mines are also considered, such as the impact of the mining operations on local people.



The environmental impacts of nuclear power

The production of nuclear power generates low carbon dioxide emissions – over the entire lifecycle of nuclear power, its total emissions remain on the same level as wind power and hydropower. The long service life of nuclear power plants and their small land use requirements make them even more environmentally friendly.

Nuclear power causes some negative environmental effects as well, such as slight warming of the surrounding sea areas, minor

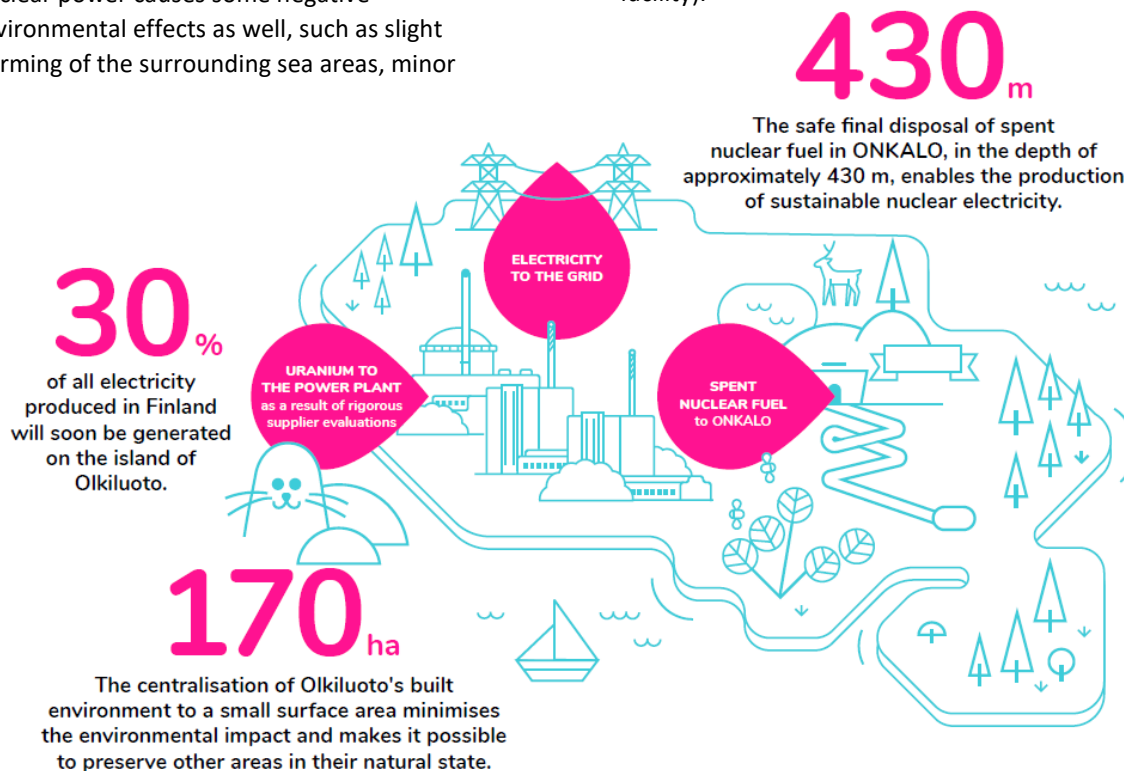
releases into the air, water, and soil, as well as nuclear waste consisting of spent nuclear fuel.

In particular, the final disposal of nuclear waste is a key question in the use of nuclear power. The TVO Group has a unique solution for the final disposal of nuclear waste that is even known all around the world: ONKALO (the name of the final disposal facility).

Nuclear power for a clean climate

According to IEA Net Zero by 2050 report, nuclear power is an important low-emission source of electricity, providing about 10% of global electricity generation. It can complement renewables in cutting power sector emissions while also contributing to electricity security as a dispatchable power source. It is also capable of producing low-emission heat and hydrogen. More efforts are needed to get nuclear power on track with the Net Zero Emissions by 2050 Scenario. Lifetime extensions of existing nuclear power plants are one of the most cost-effective sources of low-emission electricity, but further action is needed to take full advantage of these opportunities.

Nuclear power has been a part of electricity supply for more than 50 years, and over that period has avoided around 66 Gt of CO₂ emissions globally by reducing the need for coal, natural gas and oil. Without nuclear power, power sector CO₂ emissions in advanced economies would have been 20% higher over the past 50 years, led by the United States and European Union.



Final disposal of spent nuclear fuel

The types of nuclear waste generated at a nuclear power plant include waste exempted from control, low and intermediate level operating waste, and high-level spent nuclear fuel. Posiva is responsible for the final disposal of spent nuclear fuel generated at the power plants of its owners, TVO (Olkiluoto NPP) and Fortum (Loviisa NPP).

Compared to the amount of produced energy, the volume of waste and its space requirements are low. The principle of nuclear waste management is to isolate the waste from organic nature until the radioactivity of the waste has decreased to an insignificant level.

The responsibility for nuclear waste management lies with the nuclear power companies. They must carry out the necessary nuclear waste management measures for their own waste and cover their costs. According to the Finnish Nuclear Energy Act, nuclear waste generated in Finland must be treated, stored and placed in final disposal in Finland, and the import of nuclear waste into Finland is prohibited.

Responsibly from bedrock to bedrock

Spent nuclear fuel from the nuclear power plants of TVO and Fortum will be packed in copper canisters and placed in final disposal in Olkiluoto bedrock at a depth of approximately 430 metres. Posiva manages the research into the final disposal of spent nuclear fuel, the construction and operation of disposal facility and the eventual closure of the facility on behalf of its owner companies.

In 2019, Posiva started the EKA project, which aims at initiating final disposal operations in the mid-2020s. The project involves constructing an above-ground encapsulation plant and installing the systems for final disposal in the

underground ONKALO facility, obtaining the requisite operating licence for the final disposal concept, the facility complex and its systems, and preparing the supply chains needed for production before starting the actual final disposal of spent nuclear fuel.

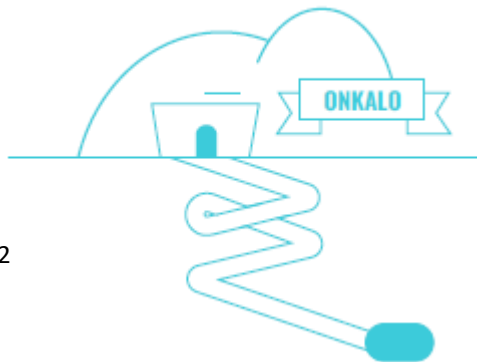
Finland is the only country to proceed to the implementation of final disposal, which makes the EKA project unique on a worldwide scale. Therefore, Posiva also plays an important role in the mitigation of climate change as part of the lifecycle of nuclear power. Several countries employing nuclear energy have disposal facilities for low and intermediate level waste, but the final disposal of high-level spent nuclear fuel has not been started anywhere else in the world.



Long-term safety is based on the multi-barrier principle

Final disposal is based on employing multiple release barriers. Release barriers ensure that the nuclear waste cannot be released into organic nature or become accessible to humans. A deficiency of a single barrier or a predictable geological or other change will not jeopardise the performance of the isolation. The release barriers include the physical state of the fuel, the final disposal canister, the bentonite buffer, the backfilling of the tunnels, and the surrounding rock.

The long-term safety of the solution is paramount in the final disposal of spent nuclear fuel. It is evaluated and demonstrated with the safety case. According to the international definition, a safety case refers to all of the technoscientific documentation, analyses, observations, examinations, tests, and other evidence for justifying the reliability of the assessments made on the long-term safety of final disposal. Plenty of time has been reserved for the preparation and practical execution of final disposal, and safety is evaluated at many stages. The final disposal of spent nuclear fuel will continue for approximately one hundred years.



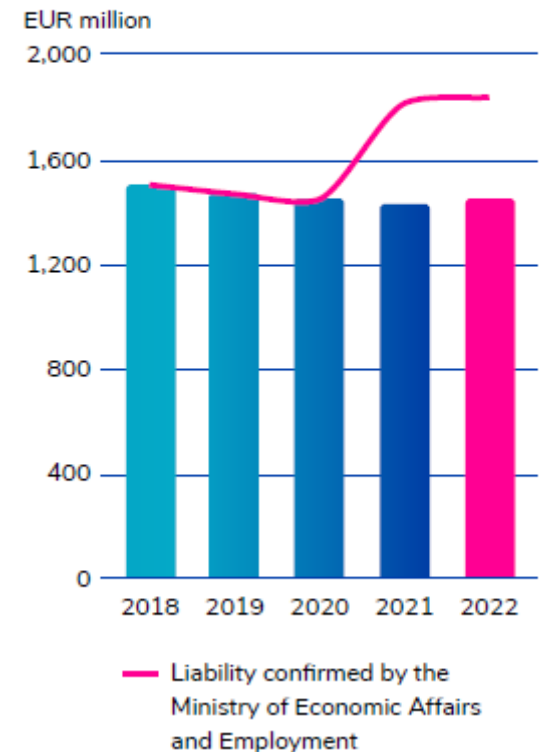
Advance collection of waste management funds

The costs of nuclear waste management and final disposal of spent fuel are collected in the price of nuclear electricity from shareholders into a fund for future use.

In Finland, nuclear power companies bear the costs of nuclear waste management, and the funds for that purpose are collected into the Finnish State Nuclear Waste Management Fund. Each year, the Ministry of Economic Affairs and Employment determines the share of each nuclear power company in the Fund as well as the waste management fee to be paid to the Fund. The liability share of the nuclear power companies in the Fund is decreased by the investments they make in final disposal.

The annual fee payable to the Fund is determined on the basis of the difference between the amount of accumulated nuclear waste for final disposal and the measures implemented for nuclear waste management. The fee is also increased or decreased on the basis of how well the Fund succeeds in its investments: if the investment profit of the Fund is higher than expected, the waste management fee is correspondingly reduced. The objective is to collect enough assets in the Fund for the final disposal of accumulated nuclear waste.

TVO's fund target in the Finnish State Nuclear Waste Management Fund confirmed by the Ministry of Economic Affairs and Employment



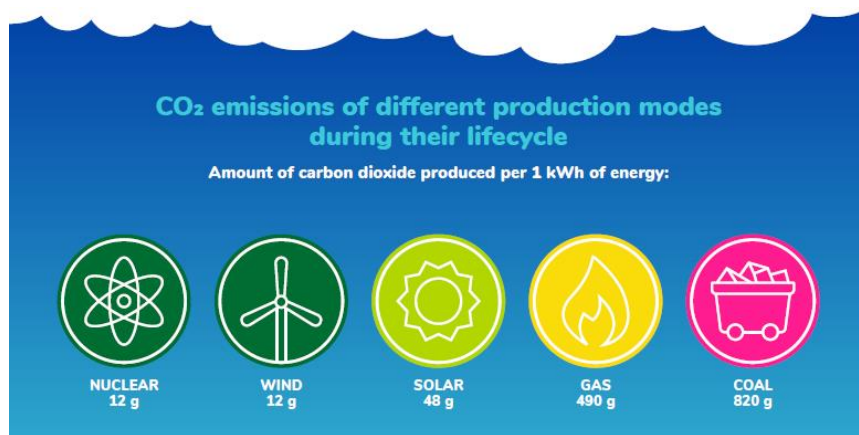
TVO Green Bond Framework

Rationale for Green Financing

The role of low-carbon energy, such as renewable energy and nuclear power, is crucial in the mitigation of climate change. 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 Celsius degrees. IEA predicts that meeting the target would require the doubling of existing nuclear capacity by 2050.

The nuclear electricity produced in Olkiluoto plays a significant role in the economic development, electricity self-sufficiency, and general well-being of the whole of Finland. Nuclear electricity also plays an important role in the reduction of greenhouse gas emissions and the achievement of climate targets.

The production of nuclear power is low in emissions. Over the entire lifecycle of nuclear power, its emissions remain on the same level as wind power and hydropower.



² Compared to the EU-27 average of greenhouse gas emission intensity of electricity generation in 2021.

TVO Green Bond Framework

By setting up this framework (the Green Bond Framework or the Framework), TVO aims to mobilize debt capital to support the production of climate-friendly nuclear power, and the avoidance of about 7.5 million metric tonnes of CO₂ emissions annually².

The Framework is developed to align with the International Capital Market Association's (ICMA) 2021 Green Bond Principles, including the June 2022 updated appendix I. Moreover, as TVO aims to follow best market practice, projects financed under the Framework shall align with the criteria of the Complementary Delegated Act for nuclear and gas activities that was accepted on 6 July 2022 by the European Parliament and entered into effect on 1 January 2023.

The four core components of the Principles along with the recommendation of External Review form the basis for this Framework, including:

- 1) Use of Proceeds
- 2) Process for Project Evaluation and Selection
- 3) Management of Proceeds
- 4) Reporting
- 5) External review

The Framework allows TVO to raise capital through Green Bonds. The terms and conditions of the underlying documentation for each Green Bond instrument issued by TVO shall provide a reference to this Framework. ISS Corporate Solutions has provided a second party opinion, which is publicly available at our website. TVO will assign an independent external party to review annually, until full allocation that an amount equal to the net proceeds has been allocated to green projects.

Use of Proceeds: Definitions

Allocation of net proceeds

An amount equal to the net proceeds of the Green Bonds issued by TVO will finance or refinance, in whole or in part, investments undertaken by TVO or its subsidiaries that are in accordance with the Green Project category defined under Use of Proceeds: Eligible Green Projects. The Eligible Green Projects will form a portfolio of assets eligible for financing and refinancing with Green Bonds. The overarching goal of the Eligible Green Projects is to contribute to climate change mitigation and the transition to a low carbon economy.

Financing and refinancing

An amount equal to the net proceeds can finance both existing and new Eligible Green Projects financed by TVO. New financing is defined as allocated amounts to Eligible Green Projects financed within the reporting year, and refinancing is defined as allocated amounts to Eligible Green Projects financed prior to the reporting year. The distribution between new financing and refinancing will be reported in TVO's Green Bond Reporting.

EU Taxonomy





The EU Taxonomy Regulation is a classification system establishing a list of environmentally sustainable economic activities with the aim of scaling up sustainable investments and implementing the European green deal. The first Delegated Act of the Taxonomy – the Climate Delegated Act – defines criteria related to two of the six environmental objectives: Climate Change Mitigation and Climate Change Adaptation. The Complementary Delegated Act which entered into effect on 1 January 2023, added nuclear and natural gas as sustainable economic activities.

To align with the Taxonomy, eligible economic activities must make a substantial contribution to at least one of the objectives, as defined in the Substantial Contribution (SC) criteria. In addition, the activity must comply with the criteria for not harming any of the other environmental objectives (the Do No Significant Harm criteria, DNSH) and be carried out in compliance with the Minimum Safeguards (MS) related to respecting human rights and following good business conduct rules.

With regards to nuclear power related economic activities the technical screening criteria is somewhat more extensive and comprises of 1) General criteria to SC and DNSH, 2) Additional criteria to SC and 3) Additional criteria to DNSH. The activities must also be carried out in compliance with the MS in order to be in alignment with the EU Taxonomy.



Use of Proceeds: Eligible Green Projects

Green project category and EU Taxonomy activities ²	Eligibility Criteria	SDG contribution
<p>Nuclear power generation</p> <p>4.27 Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including for hydrogen production, using best-available technologies</p> <p>4.28 Electricity generation from nuclear energy in existing installations</p>	<p>Investments in new build projects and existing works including:</p> <ul style="list-style-type: none"> • Projects authorized no later than 2045 by the competent authorities for the construction and safe operation of nuclear with Best Available Technologies. • Projects authorized no later than 2040 by the competent authorities to extend the operating life of existing reactors 	   

² As defined in the Complementary Delegated Act for nuclear and gas activities that was accepted on 6 July 2022 by the European Parliament and entered into effect on 1 January 2023

Use of proceeds: Approach to EU taxonomy alignment

Technical screening criteria

Alignment with the general criteria to SC and DNSH

The screening criteria for nuclear and gas activities include a considerable amount of legal compliance both at the operational and national level, and operational compliance with certain guidelines and standards.

Operational compliance has been determined by verifying that all relevant documentation is available and include the required information.

Member State compliance has been verified in dialogue with the Finnish Ministry of Economic Affairs and Employment.

An important aspect of compliance with the screening criteria is radioactive waste management and disposal, including availability of approved nuclear waste facilities that can manage low-level waste already now and high-level radioactive waste latest by 2050.

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

Low and medium level radioactive waste accumulated from the OL1 and OL2 plant units during their operation will be disposed of in the final repository for low and medium level waste (VLJ repository) in Olkiluoto.

The spent fuel will be stored in the fuel pools of the plant units and in an interim storage facility (the KPA storage facility) at Olkiluoto.

Posiva Oy is responsible for the final disposal of spent nuclear fuel generated at the TVO power plants in Olkiluoto.



In 2019, Posiva started the EKA project, which aims at initiating final disposal operations in the mid-2020s. The 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 operations.

Alignment with the additional criteria to SC

TVO has assessed that the lifecycle greenhouse gas (GHG) emissions from operations at all of its three plant units, OL1, OL2 and OL3, fall well below the maximum threshold of 100 gCO₂/kWh. In a transitional phase, TVO used existing lifecycle assessments (LCA) on nuclear power plants for estimating its lifecycle GHG emissions level.

The lifecycle GHG emissions at OL1 and OL2 were estimated to be 4-5 gCO₂/kWh based on an existing LCA analysis of the sister units operated by Vattenfall (Forsmark 1 and 2 plant units where emissions are 4.1 gCO₂/kWh).

The lifecycle GHG emissions at OL3 was estimated to be 4-4.5 gCO₂/kWh. This estimate is based on two sources. First, a lifecycle GHG emissions analysis carried out for EDF's existing nuclear fleet, where the result of the LCA is 4 gCO₂/kWh. The second source is a study by the European Commission's Joint Research Centre (JRC) that

estimated lifecycle GHG emissions for a future European Pressurised-water Reactor, using the centrifuge enrichment process, to be at 4.25 gCO₂-eq/kWh. The JRC report on the alignment of nuclear energy with respect to the DNSH criteria, stated that the lifecycle GHG emissions from nuclear electricity generation are comfortably within the 100 gCO₂-eq/kWh emissions intensity threshold.

In 2023, TVO will verify the alignment by assessing its own life-cycle GHG emissions level, and will use the result in the next EU Taxonomy disclosures covering the financial year 2023

Alignment with the additional criteria to DNSH

Environmental impacts of TVO's activities on water quality and temperature are monitored and are well below allowed thresholds.

TVO also monitors other aspects of environmental impacts of operations, such as efficient use of raw materials, emissions to air, water and soil, and waste management.

Details on how TVO manages environmental impacts can be found in the company's Environmental Report or the Annual and Sustainability Report.

TVO has identified and assessed material physical risks to activities at OL1, OL2, and OL3 under two Shared Socioeconomic Pathways (SSP) scenarios,

SSP 2-4.5 and 3-7.0. Climate risk management is described further in TVO's Annual and Sustainability Report.

Minimum Safeguards

TVO is committed to respecting internationally recognised human rights and principles and rights at work, in particular the International Bill of Human Rights and the UN Guiding Principles on Business and Human Rights, in addition to the OECD Guidelines for Multinational Enterprises and the fundamental ILO Principles and Rights at Work.

TVO ensures its compliance with the minimum safeguards as required in Article 18 of the Taxonomy Regulation through the Group-level policies and compliance with national labour legislation.



Project evaluation and selection process

The evaluation and selection process for Eligible Green Projects is a key component in ensuring that an amount equivalent to the Green Bond net proceeds is allocated to Eligible Green Projects under this Framework. To oversee this process, TVO has established a Green Bond Committee (GBC) comprising senior representatives from TVO's Finance, Sustainability and Treasury departments. The GBC will convene every 6 months or when otherwise considered necessary.

The evaluation and selection process is based on the following steps:

- i. From existing and new investments, sustainability experts and representatives within TVO evaluate potential Eligible Green Projects' compliance with the Green Project category presented in this Framework. Based on the analysis, the experts can nominate investments as potential Eligible Green Projects.

- ii. When potential Eligible Green Projects have been nominated, a list including their environmental and/or sustainability-related details will be reviewed by the GBC. The GBC is solely responsible for the decision to acknowledge the investment as eligible in line with the Framework. Eligible Green Projects will be tracked using an Eligible Green Project Portfolio. A decision to allocate net proceeds will require a consensus decision by the GBC, giving each committee member a veto power. Decisions made by the GBC will be documented and filed.

For the avoidance of doubt, the GBC holds the right to exclude any Eligible Green Project already funded by Green Bond net proceeds. If an Eligible Green Project is paid back or amortised, or for other reasons loses its eligibility, funds will follow the procedure under Management of Proceeds until reallocated to another Eligible Green Project.

Management of Proceeds

Tracking of net proceeds

The net proceeds from Green Bonds will be managed according to a portfolio approach. TVO will use an Eligible Green Project Portfolio to track the allocation of net proceeds from Green Bonds to Eligible Green Projects. The purpose of the Eligible Green Project Portfolio is to ensure that net proceeds from Green Bonds will only support the financing of Eligible Green Projects. It is TVO's intention to maintain an aggregated amount of assets in the Eligible Green Project Portfolio that will at least equal the aggregated net proceeds of all the outstanding Green Bonds.

Temporary holdings

Unallocated net proceeds from Green Bonds may temporarily be placed in the liquidity reserve and managed accordingly by TVO.

Reporting

To enable investors to follow developments and performance of the Eligible Green Projects, TVO will annually and until maturity of the Green Bonds issued, publish a report (Green Bond Report) that describes the allocation of proceeds and the environmental impact of the Eligible Green Projects. The report will be made available on TVO's website.

Allocation reporting

Allocation reporting will include the following information:

- Nominal amount of outstanding Green Bonds
- Amount allocated per each EU Taxonomy activity
- The amount of unallocated proceeds, if any
- Relative share of new financing versus refinancing
- Descriptions of selected Eligible Green Projects financed
- Alignment of the Eligible Green Project Portfolio with the EU Taxonomy

Impact reporting

The impact reporting aims to disclose the environmental impact of the Eligible Green Projects financed under this Framework.

The impact assessment will, if applicable, be based on the following impact indicators:

- Annual GHG emissions avoided in tonnes of CO₂e
- Annual low-carbon generation in MWh
- Installed capacity impacted by investments in MWh

External review

Pre-issuance review

Second Party Opinion

ISS Corporate Solutions has provided a second-party opinion to this Framework, verifying its credibility, impact and alignment with the ICMA Principles.

EU Taxonomy assessment

TVO reports on EU taxonomy alignment for its operations as a part of the annual report. For transparency, an EU taxonomy alignment assessment of the Framework has been conducted by ISS Corporate Solutions as a part of the second party opinion.

Post-issuance review

Verification report

An independent external party, appointed by TVO, will annually, until full allocation and in the event of material developments, provide a review confirming that an amount equal to the net proceeds has been allocated to Eligible Green Projects.

Publicly available documents

The Framework and the second party opinion will be publicly available on TVO's website, together with the Verification and Green Bond Reports, once published.

