



2024

GREEN BOND
AND NOTES
REPORT

tvo

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As a low-emission form of electricity production, nuclear power has a significant role in achieving climate targets such as the Paris Agreement. 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. TVO's vision is to be Finland's most significant producer of electricity.

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.



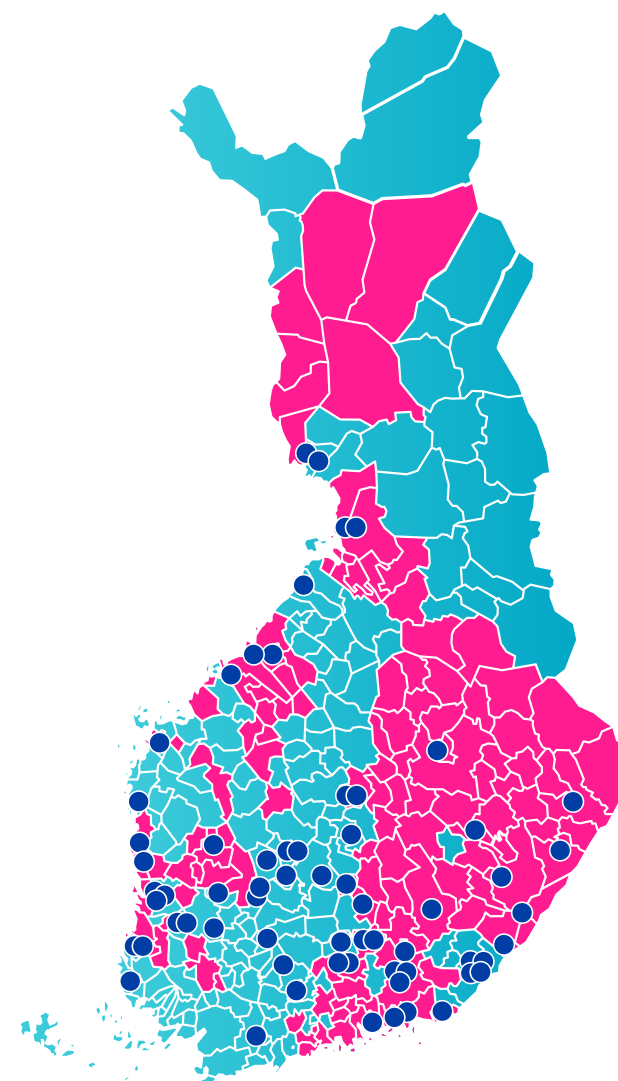
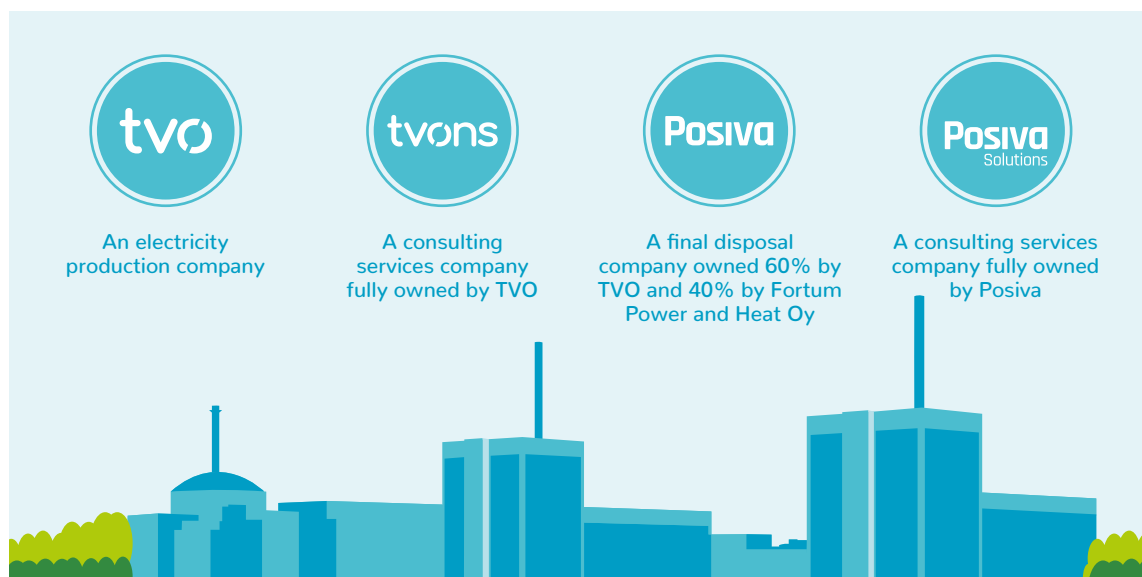
About TVO

Teollisuuden Voima Oyj (TVO) is a non-listed public limited liability company owned by Finnish industrial and energy companies.

TVO's core business is the construction and operation of nuclear power plant. TVO supplies the electricity to its shareholders. TVO is also responsible for the electricity transmission in part of the Olkiluoto island.

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 Olkiluoto 3 (OL3). TVO generates approximately one third of the electricity consumed in Finland.

Subsidiaries and joint ventures



📍 The Finnish municipalities that are owners of TVO

● The industrial sites of the owners

Finland's most significant producer of electricity

Matters concerning energy continue to take centre stage in decision-making and discussions concerning society, both in Finland and at the European level. They play a key role in reaching climate goals and improving competitiveness. Sustainable and clean energy production lays the foundation for the industrial green transition and new investments. In Finland, electricity consumption has remained at the same level, but clean production has grown. Plenty of new

weather-dependent production capacity has been added. Nuclear power production also increased substantially as the Olkiluoto 3 (OL3) plant unit's regular production started in the spring of 2023. Production from OL3 has been an extremely important and welcome addition to weather-dependent production. 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. OL3 production is flexible and the output power is adjusted regularly based on the market situation.

Thankfully we have Olkiluoto

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 New Climate Change Act came into force in July 2022. It sets emission reductions targets for 2030, 2040 and 2050. Now the target of a carbon-neutral Finland by 2035 has been laid down by law.

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 million metric tonnes. Simultaneously, Finland's self-sufficiency in clean electricity grows – the share of carbonfree electricity production rised to approximately 95 percent in 2024. The electricity production of the OL3 plant unit reduced the need to import electricity and the share of domestic production accounted for approximately 96 percent of total consumption.



Sustainability highlights for 2024

7 Feb

TVO committed itself to the **UN Global Compact initiative** for corporate social responsibility.

26 Feb

Calculations demonstrated that **electricity produced at Olkiluoto has a small life cycle carbon footprint.**

22 May

TVO issued a **green bond of EUR 600 million.**

23 May

Fish monitoring analysis was completed for the cooling water used at Olkiluoto.

5 Sep

TVO's first **Green Bond report** was published.

5 Dec

The EIA report concerning the service life extension and power uprating of the OL1 and OL2 plant units was submitted to the Ministry of Economic Affairs and Employment.

12 Dec

TVO committed itself to the **Science Based Targets initiative (SBTi)** for its climate goals.

2024

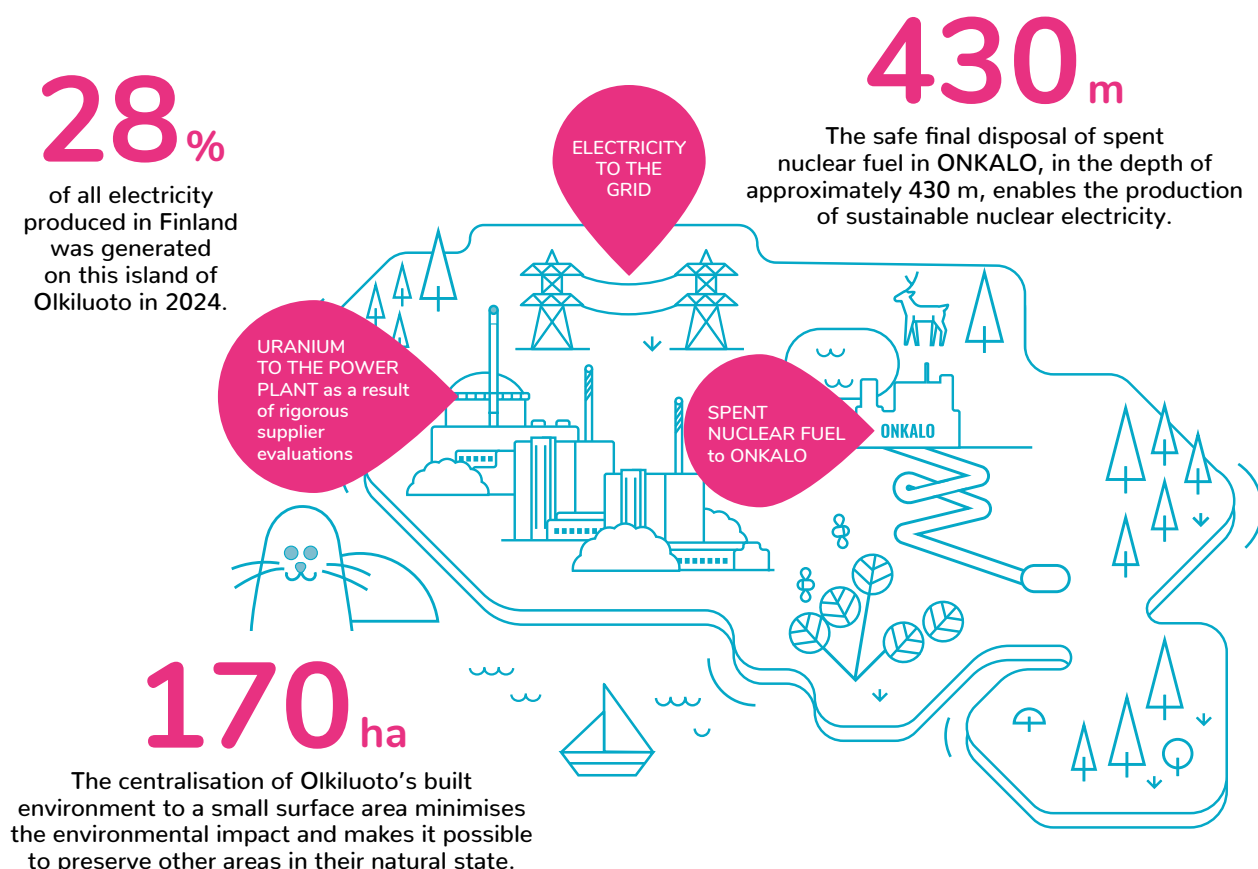
Approximately 28 per cent of all electricity consumed in Finland was produced at Olkiluoto in 2024.

The environmental impacts of nuclear power

The production of nuclear power generates only small amount of 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. In Finland, the power companies have solved this matter by arranging final disposal for spent nuclear fuel. At Olkiluoto, the disposal facility constructed by Posiva Oy (Posiva), a company jointly owned by TVO and Fortum Power and Heat Oy, is already in its test operation phase and is well on way towards starting actual final disposal operations. TVO can confidently state having a responsible solution for the final disposal of spent fuel.



Nuclear power for the 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 of existing nuclear power plants are one of the most cost-effective sources of low carbon electricity, but further action is needed to take full advantage of these opportunities.

During 2024 TVO committed to setting short-term science-based emission reduction targets (Science Based Targets initiative, SBTi). By committing to these targets, TVO supports the target of the Paris Climate Agreement to halve greenhouse emissions by the year 2030 and to reach the net-zero target by the year 2050.

Nuclear power as a carbon neutral electricity production mode plays a significant role in the battle against climate change. The minor greenhouse emissions related to electricity production in Olkiluoto are primarily caused by the procurement of materials and fuels, equipment manufacture, transports, and the construction and demolition of the plant

Science-based climate targets help TVO to set ambitious targets for the reduction of emissions. This means concrete actions, not only in our own operation but also in cooperation with suppliers and partners. TVO encourages its partners to set their own science-based emission reduction targets.



Green Bond and Private Placement under the Green Bond Framework

During 2024, TVO made two new green financing arrangements. In May, TVO issued a EUR 600 million seven-year green bond under the it's Euro Medium Term Note (EMTN) programme. In October, TVO issued a five-year EUR 90 million green Private Placement.

100 per cent of the proceedings received from the issues during 2024 totalling EUR 690 million have been allocated to EU Taxonomy category 4.27*, and 100 per cent of the funds have been used for refinancing the OL3 plant investment. Allocation of funds comply with the Green Bond

Framework of TVO, based on environmentally friendly electricity production at the TVO's three nuclear power plant units in Olkiluoto, as well as on the responsible arrangement of nuclear waste management and Alignment of the Eligible Green Project Portfolio with the EU Taxonomy being 100%.

* Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including for hydrogen production, using best-available technologies.



Allocation reporting, as of 31.12.2024









TVO **Green Bond Framework** determines the evaluation and selection process for Eligible Green Projects and the eligibility criteria are set out in the framework.

Nominal amount of outstanding Green Bonds and Notes	Type of Instrument	ISIN Code	Issue Date	Maturity Date	EU Taxonomy activity	The amount of allocated proceeds EUR million	Relative share of new financing versus refinancing	Descriptions of selected Eligible Green Projects finance	Alignment of the Eligible Green Project Portfolio with the EU Taxonomy
EUR 90 million	Green EMTN PP		October 2024	October 2029	4.27	90	100% refinancing	OL3 Nuclear Power Plant construction Capital Expenditure	100%
EUR 600 million	Green EMTN public	XS2823931824	May 2024	May 2031	4.27	600	100% refinancing	OL3 Nuclear Power Plant construction Capital Expenditure	100%
EUR105 million	Green EMTN USPP		December 2023	December 2033	4.27	105	100% refinancing	OL3 Nuclear Power Plant construction Capital Expenditure	100%
EUR 85 million	Green EMTN USPP		December 2023	December 2035	4.27	85	100% refinancing	OL3 Nuclear Power Plant construction Capital Expenditure	100%
EUR90 million	Green EMTN USPP		December 2023	December 2038	4.27	90	100% refinancing	OL3 Nuclear Power Plant construction Capital Expenditure	100%
Total						970			

Financial year 2024	Total EUR milloin	Taxonomy aligned %	Non-taxonomy eligible %	Total balance 31.12.2024	EUR million
Turnover	897	99.8	0.2	Outstanding Green Bond and Notes	970
Operating expenditure	110	100	0.0	Eligible Green Project Portfolio (4.27)	5,241
Capital expenditure	91	100	0.0		

Based on the alignment assessments and KPI allocation in year 2023, 99.6% of the TVO Group's consolidated turnover is taxonomy-aligned and 100% of the taxonomy-relevant CapEx and OpEx is taxonomy-aligned.

Impact Reporting, as of 31.12.2024

	Annual GHG emissions avoided in tonnes of CO ₂ e ^{*)}	Annual low-carbon generation in GWh	Installed capacity impacted by Investments in MW	OL3 Property, Plant and Equipment 31.12.2024 EUR million	Green notes allocated EUR million	Share of OL3 PP&E financed by Green Bond and Notes %	SDG contribution
OL3 Power plant unit	2 033 091	9 681	1 570	5 241	970	18.5%	   
Impact of issued Green Bond and Notes	376 259						   

*)European Environment agency is publishing total gCO₂e/kWh figures related to greenhouse gas emission intensity of electricity generation. Greenhouse gas emission intensity (gCO₂e/kWh) is calculated as the ratio of CO₂e emissions from public electricity production (as a share of CO₂ equivalent emissions from public electricity and heat production related to electricity production), and gross electricity production. TVO has calculated Annual GHG emissions avoided in tonnes of CO₂e by multiplying the share of OL3 PP&E financed by Green Notes (KWh) by Greenhouse gas emission intensity of electricity generation figure.



