

Sustainability Report 2023



TUUSULAN-
JÄRVEN LÄMPÖ



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Returning home

Vantaan Energia Keski-Uusimaa is now Tuusulanjärven Lämpö. We want to return to our roots and be an even more local heating company for our customers. While the name is changing, the most important thing will remain the same – our customers will continue to receive their heat through the familiar district heating network, heat produced in our own power plant.

This change will be reflected in a service that is more local and with better accessibility across all our customer service channels. Our most important task of all is to produce and supply heat to properties in the Tuusula and Järvenpää region.

Sustainable heat production is something we care deeply about. We produce heat close to our customers, and our heat production relies on sustainable bioenergy. What's more, we are constantly working to reduce emissions. In addition to localness and sustainability, reliable heat production is a matter of honor for us.

We ensure reliable heat distribution to homes and properties every day with an impressive delivery reliability of 99.99%.

Tuusulanjärven Lämpö is owned by Infranode (59%), Keva (31%) and Vantaa Energy (10%). Vantaa Energy will continue to provide the operational activities of the company as a service.

Tuusulanjärven Lämpö – Reliable local heat.



Sustainability review 2023



Reliable and responsible heat

In 2023, we focused on securing the uninterrupted supply of heat for the people of Järvenpää and Tuusula. Our aim is to move away from fossil fuels altogether.

Instability in the energy markets continued. As a result of the economic sanctions imposed by the European Union on Russia, imports of Russian timber to Finland have ended. This is reflected in the availability and price levels of wood chips, which are used as the main fuel for Tuusulanjärven Lämpö's power plant in Järvenpää.

"There isn't really a shortage of wood, but there is scarcity, and the chances of negotiating prices with sellers are quite small. Demand for energy wood clearly exceeds supply," says Kalle Patomeri, Business Director, Circular Economy, Vantaa Energy, which is responsible for Tuusulanjärven Lämpö's operational activities.

The rise in wood prices has slowed, but it hasn't stopped. The Finnish forestry and energy industry has lost access to a massive amount of raw material since the closure of the eastern border. Replacing this loss with domestic timber is not easy.

The Russian wood chips previously imported to our power plant have been replaced with Baltic wood chips. There was a slight increase in the imported wood share of our wood-based fuel, but it was still less than 10% in 2023. The share of domestic wood was thus more than 90%, and we sourced it from a radius of 100-200 km.

Although wood-based fuel has become more challenging to procure, its share of the fuels we used in 2023 was still the same as before the outbreak of the war in Ukraine, around 70%.

The share of recovered fuel was around 20%. Solid, baled recovered fuel is produced from municipal and commercial non-organic waste in compliance with European standards.

"There was also quite a shortage of recovered fuel in early 2023. We didn't get as much as we would have liked, but availability improved towards the end of the year," notes Patomeri.

Most of the recovered fuel was of domestic origin.

Sufficient supply of heat

The share of domestic peat, reintroduced for security of supply reasons, remained at around 9%. In 2024, there will still be some combustion of peat, but it is likely to be phased out completely in the next few years.

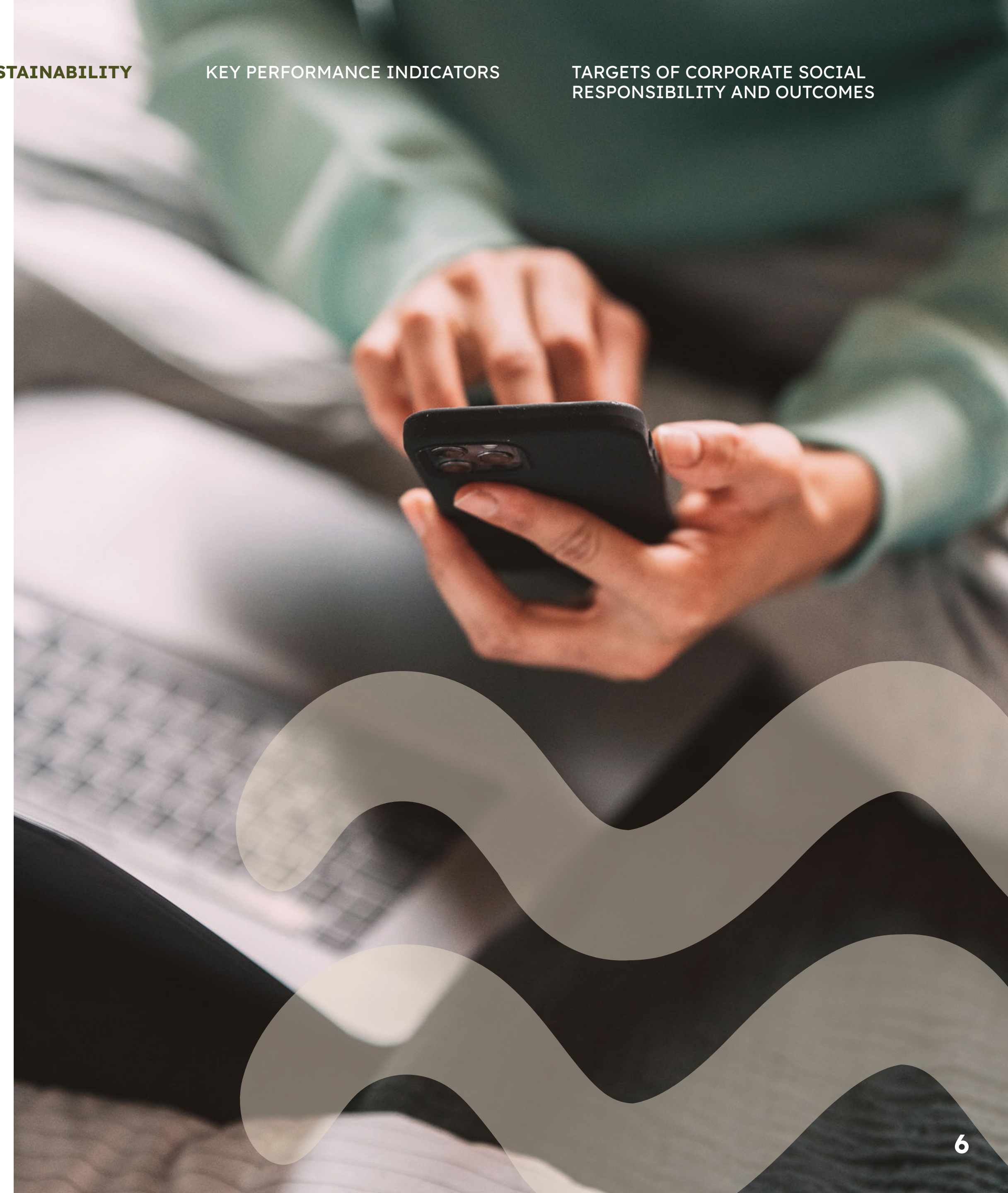
The rest of the fuel used in Järvenpää was natural gas, which we acquired from the Inkoo floating LNG terminal. The role of natural gas in heat production varies greatly depending on the winter weather.

“We can be satisfied with our heating and electricity production in the sense that we were always able to acquire a sufficient amount of fuel in challenging situations. At the same time, we were able to maximize the share of wood and recovered fuel in energy production,” the Business Director summarizes.

The district heating we supplied to the people of Tuusula and Järvenpää was largely based on renewable energy sources. Although we did not make any substantial changes in energy production or distribution, we are constantly refining and improving our processes. We also worked hard to create better heating and cooling solutions for our customers, solutions that are not only responsible but also flexible and competitively priced.

Production reforms are also on the horizon. In 2023, we launched a production development program to enable Vantaan Energia Keski-Uusimaa, now renamed Tuusulanjärven Lämpö, to make the transition first to fossil-free and then to carbon-neutral production.

“So, first we want to totally phase out the use of fossil fuels, peat and natural gas, and later eliminate all carbon emissions from production. The solutions are found in energy storage, waste heat recovery, electric heat generation, and cooperation with the energy companies of neighboring municipalities,” Kalle Patomeri envisions.



Key performance indicators





Financial indicators

Indicator	2023	2022	2021
Turnover, MEUR	37,5	42,5	33,0
Operating profit, MEUR	-8,7	-4,1	4,9
Return on equity, %	-4,7	-2,3	8,6
Equity ratio, %	66	67	51
Number of customers	1,367	1,361	1,345
Heat sales (GWh)	346	347	356
Electricity sales (GWh)	65	88	84
Gross investments, MEUR	2,5	3,1	4,1

Environmental indicators

Indicator	2023	2022	2021
Carbon dioxide emissions from production (CO ₂ t)	34 036	24 776	18 383
Exceedances of emission limit values (no.)	47	14	20
Environmental damages (no.)	0	0	0
Fuel consumption (GWh):			
Bio	337	376	409
Recovered fuels	94	79	64
Natural gas	30	29	62
Oil	0	5	0
Peat	45	21	0
Energian tuotannon päästöt (t):			
SO ₂	13	14	7
NO ₂	189	156	148
Particles	2	1	1

Indicator	2023	2022	2021
Waste:			
Ashes and slag, tonnes (t)	5 834	7 337	4 341
Environmental investments, MEUR	0,4	0,3	0,2
Specific emission factor of heat production (gCO ₂ /kWh)	52	53	41
Specific fossil CO ₂ emission factor of total production (gCO ₂ /kWh)	74	62	37
Specific emissions of total production (mg/kWh):			
SO ₂	28	35	14
NO ₂	414	389	295
Particles	4	2	2
Heat production (GWh)	392	401	417
Electricity production (GWh)	65	87	84



Targets of corporate social responsibility for 2026 and outcomes in 2023

Targets of corporate social responsibility for 2026 and outcomes in 2023

The target is to increase the share of renewable fuel to 90 percent in both electricity and heat production in 2026.

The share of renewable fuel was 78 percent in 2023 (83 percent in 2022).

The share of renewable energy fell slightly from the previous year because the war in Ukraine forced us to substitute some of the biofuels with recovered fuel and peat at the Järvenpää power plant to secure heat and electricity production.

The entire oil system of the Jamppa heating plant was replaced in 2023 to ensure environmental safety and security of supply.

We plan to discontinue the use of natural gas and oil from 2026 onwards.

Natural gas and oil accounted for 6 percent of fuel consumption in 2023 (7 percent in 2022).

Our aim is to strengthen heat transmission connections to neighboring municipalities and to acquire renewable heat through trading. The use of renewable gas and waste heat in energy production is also being advanced.

For example, there are plans to improve the transmission connection of district heat to the Vantaa network. This would allow the fossil-free heat stored in the seasonal thermal energy storage planned for Vantaa to be used also in the Järvenpää and Tuusula district heating networks.



We are reducing our own energy consumption by around 10 GWh per year, in line with the Energy Efficiency Agreement, and helping our customers to monitor their energy consumption and to save energy.

The Raportointikansio [Reporting Binder] service is used to monitor energy consumption and billing, and the number of users is constantly growing. The functionalities of the Raportointikansio service are being developed based on customer feedback.

Energy efficiency services are actively offered to customers. For example, in the Etevä Energiaetsivä [Smart Energy Detective] service, Tuusulanjärven Lämpö comprehensively surveys the energy efficiency of a property and compiles a report for a repair needs assessment.

In addition, we help our customers to keep their heat distribution equipment in good working order with the heat distribution center inspection and maintenance service, or customers can order a renovation service to replace the heat distribution center. Good, functioning and regularly serviced equipment helps customers to implement energy-saving measures.

We are planning the implementation of an electric boiler and district heat battery to reduce fossil fuel consumption and ensure reliable energy supply.

An electric boiler and a thermal battery can be used to balance the variations in heat production and demand on a daily basis. The aim is thus to reduce the use of fossil fuels. The design of the thermal battery is strongly linked to the improvement of heat transmission connections with neighboring municipalities.

The reliable supply of thermal energy is at a good level in industry-level comparisons. Our target is to limit supply disruptions due to faults and damages to less than 0.8 hours/customer/year during the heating season.

Actual downtime due to faults and damages during the 2023 heating season was 0.33 hours/customer (2022: 0.39 hours/customer).

We aim to sign new contracts every year to utilize our customers' waste heat with service concepts that contribute to the overall efficiency of the energy system.

We actively seek to identify waste heat sites both in the existing building stock and in future projects. We engage in an open dialogue with potential operators regarding projects, and we do our part to enable customer projects.

We aim to reduce tap water consumption by half by 2026.

Water consumption increased slightly from the previous year and was about 105,000 m³ in 2023 (102,000 m³ in 2022).

In order to reduce water consumption, a number of process changes are being studied at the Järvenpää power plant. In 2023, the condensate removal process was optimized and will help to reduce raw water consumption.

Working for the company is safe. Our safety target is zero accidents at work.

There was one work accident in the service Vantaa Energy provided to Tuusulanjärven Lämpö in 2023. The accident happened to another contractor. There were near five near-misses, two of them involved Vantaa Energy employees and three involved other contractors.

The company's business operations are economically profitable. A good result also enables responsible operations.

The company's operating profit was a loss of 8.7 million euros in 2023 (-4.1 M€ in 2022).

Customers are our most important stakeholders. To deliver an even better service experience, we will continue to develop our understanding of our customers' needs and expectations. Our target is to be at a very good level in customer satisfaction surveys.

In 2023, we measured customer satisfaction in the context of the customer experience. Customer satisfaction has remained at an excellent level.

For our part, we are involved in supporting the carbon neutrality targets of Järvenpää and Tuusula through a strategic partnership.

Within the framework of partnership agreements, we contribute to Järvenpää's and Tuusula's carbon neutrality targets and actively share our ideas and services, for example in regional development projects. By working in close collaboration already at the regional zoning stage, we are able to bring our expertise to the projects at a very early stage.

The responsibility aspect is taken into account in procurements. We require our suppliers to comply with ethical principles.

There were no deviations in compliance with the responsibility aspect in 2023.





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