
vantaa
energy
A carbon-negative circular economy
energy company by 2030

Contents

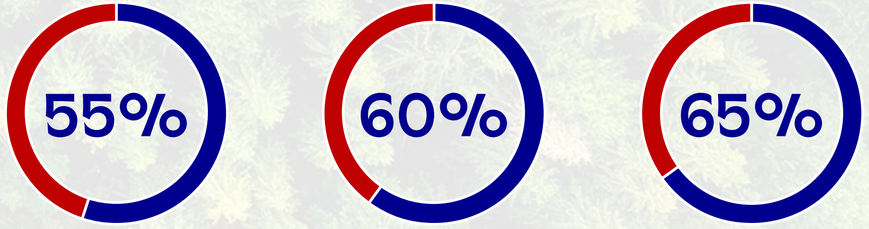
We are solving global challenges

Vantaa Energy is a local operator solving global challenges innovatively. We want to set an example for bigger cities and companies in the sector.

55%

The EU is committed to reducing greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels.

Recycling obligations in the EU Waste Directive:



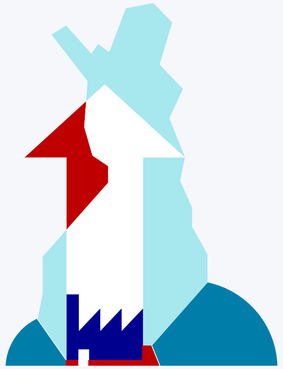
in 2025 in 2030 in 2035

Vantaa Energy’s vision

We are a resolutely growing circular economy energy company.
We develop smart and sustainable solutions to enable a smooth everyday life for our customers.

We ensure operational responsibility and competitiveness.

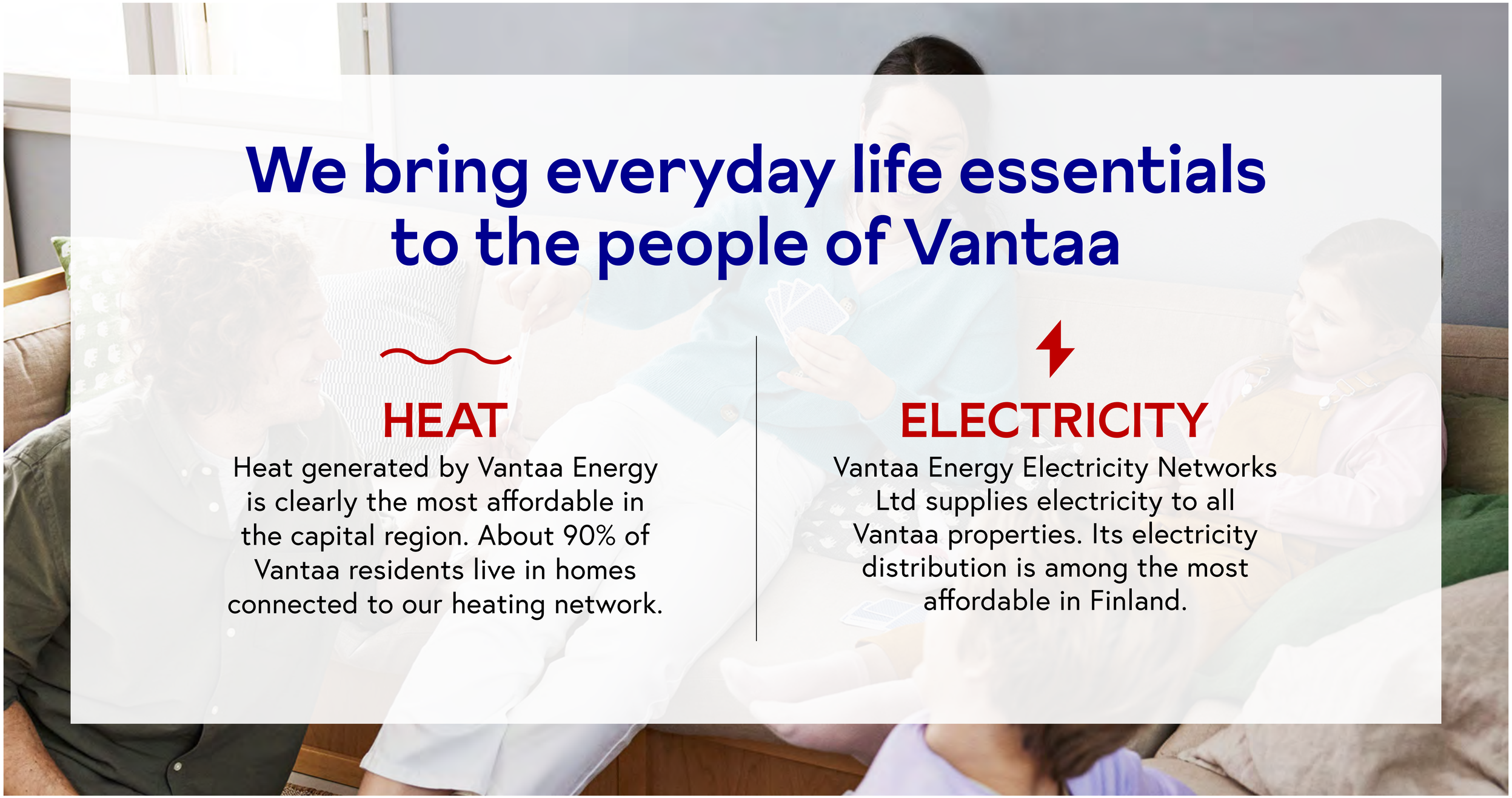
We invest in customer loyalty and in customer-centric service development.



We pursue national growth.

We grow the circular economy business.

We strengthen capacity for renewal and expertise.



We bring everyday life essentials to the people of Vantaa

HEAT

Heat generated by Vantaa Energy is clearly the most affordable in the capital region. About 90% of Vantaa residents live in homes connected to our heating network.

ELECTRICITY

Vantaa Energy Electricity Networks Ltd supplies electricity to all Vantaa properties. Its electricity distribution is among the most affordable in Finland.

Energy to Vantaa for 113 years

1910

Malmin Sähkölaitos Oy

In the 1910s, the electricity network extends from Malmi to Tikkurila, bringing power to 2,000 light bulbs and 11 motors.

1971

Vantaan Sähkölaitos Oy

In the 1960s, the company changes its name to Helsingin Ympäristön Sähkölaitos, and, following Vantaa becoming a market town, the name was changed to Vantaan Sähkölaitos Oy.

1996

Vantaan Energia Oy

Vantaan Sähkölaitos changes its name to Vantaa Energy. In 2007, Vantaa Energy Electricity Networks Ltd is established.

2030

Towards a carbon-negative circular economy energy company

Our vision is for our operations to sequester more CO2 than is released into the air by using circular economy means.

Our key figures in 2022

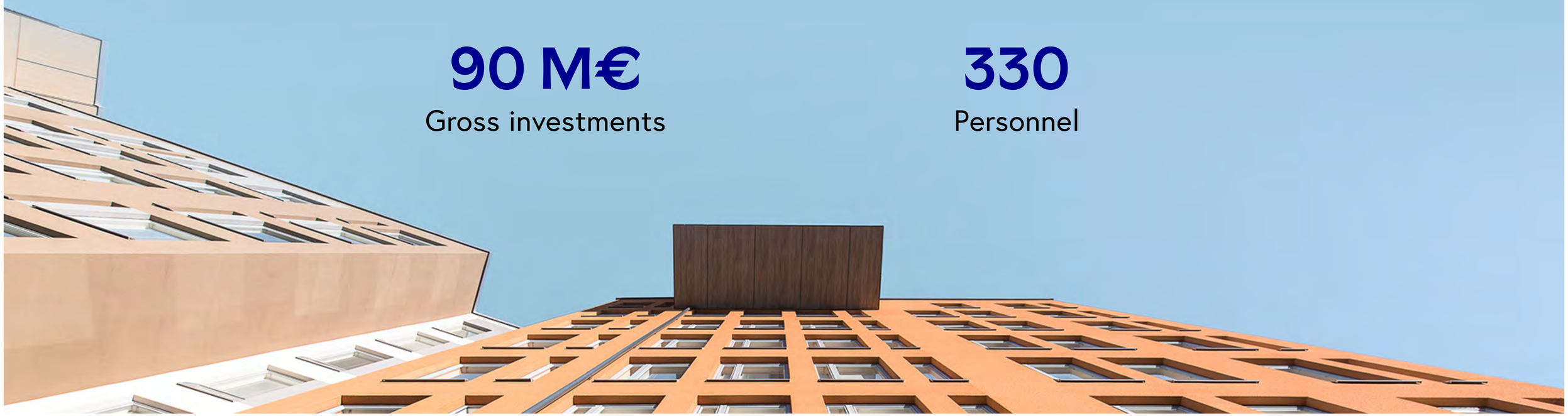
300 M€
Turnover

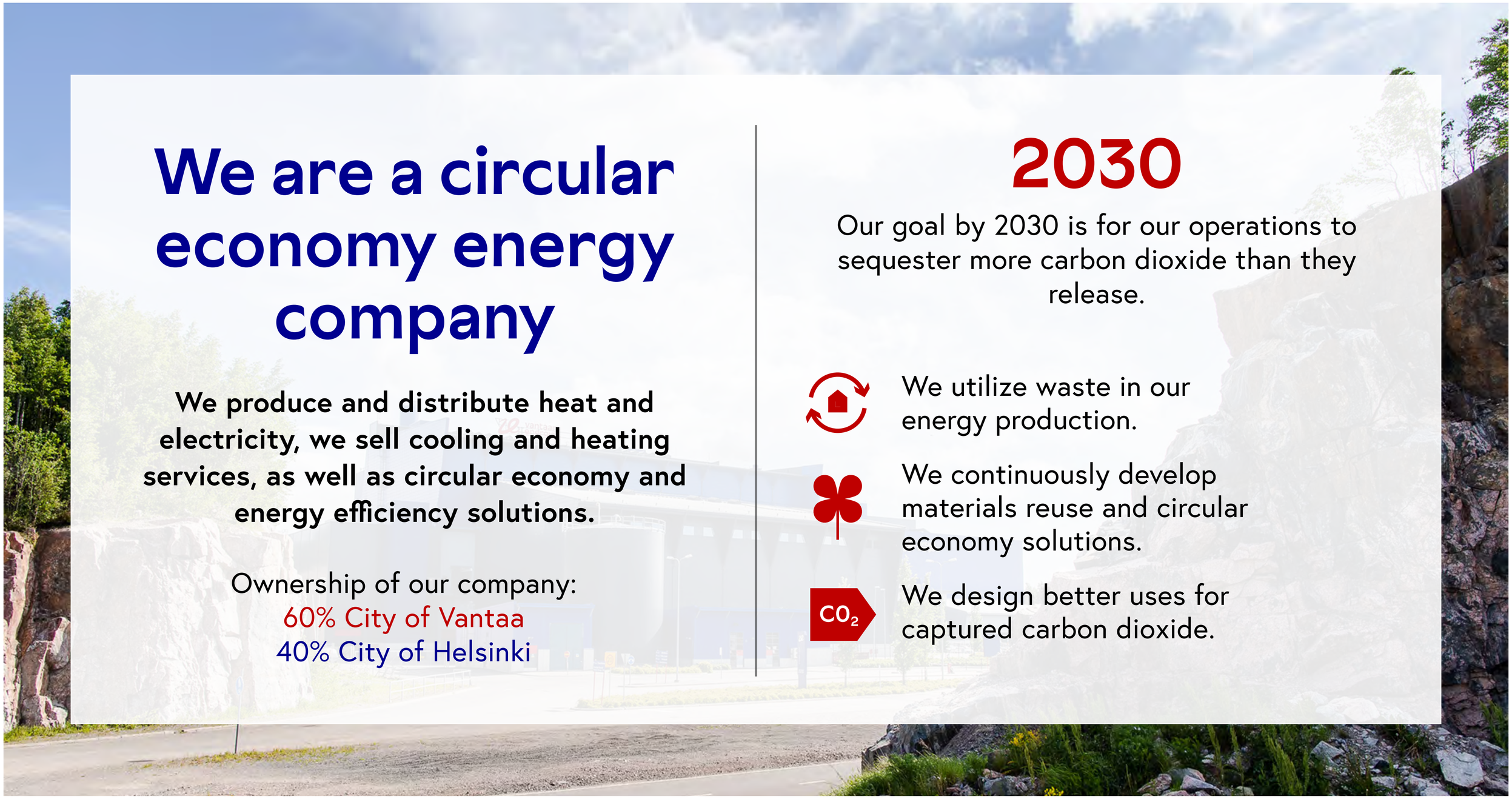
57 M€
Operating profit

914 M€
Balance sheet total

90 M€
Gross investments

330
Personnel





We are a circular economy energy company

We produce and distribute heat and electricity, we sell cooling and heating services, as well as circular economy and energy efficiency solutions.

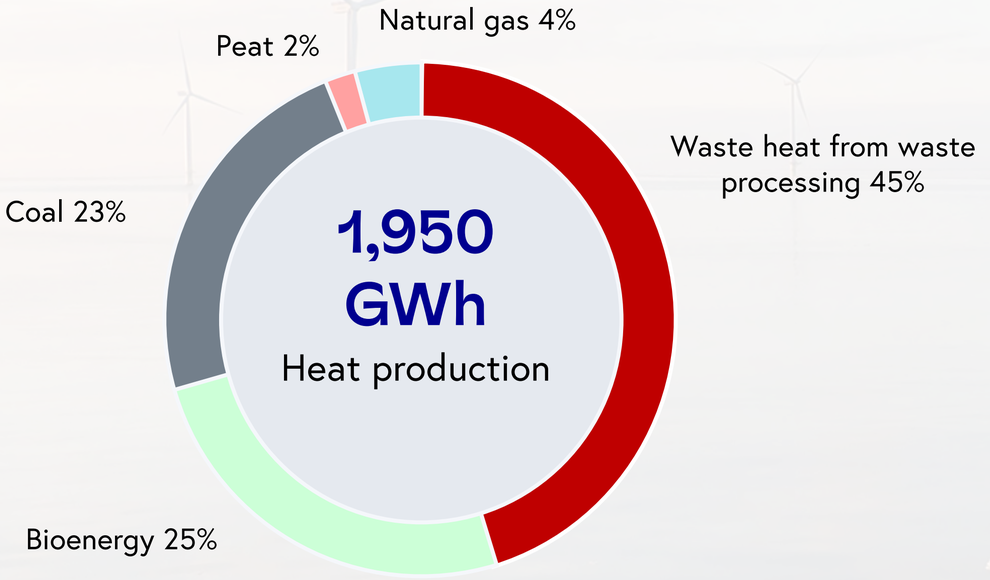
Ownership of our company:
60% City of Vantaa
40% City of Helsinki

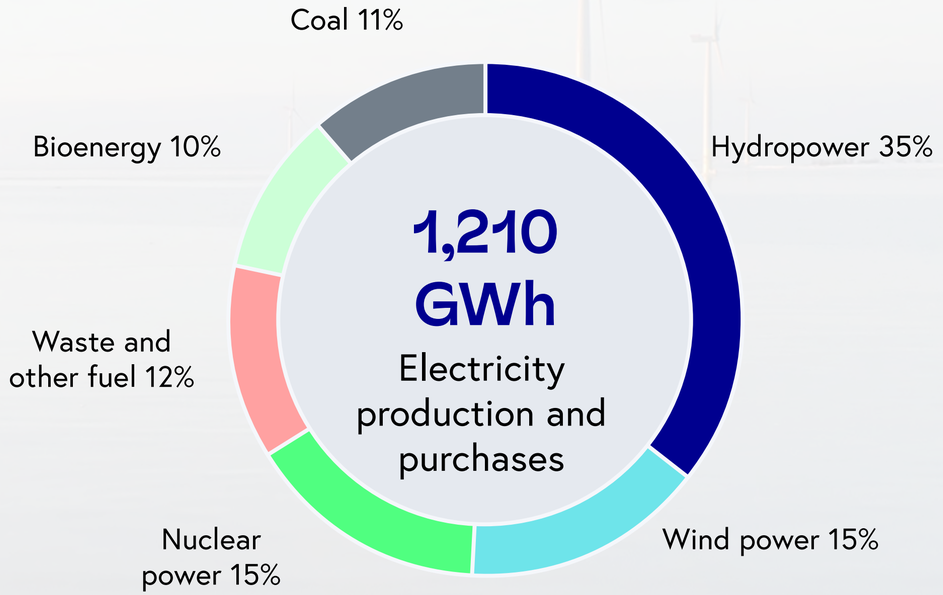
2030

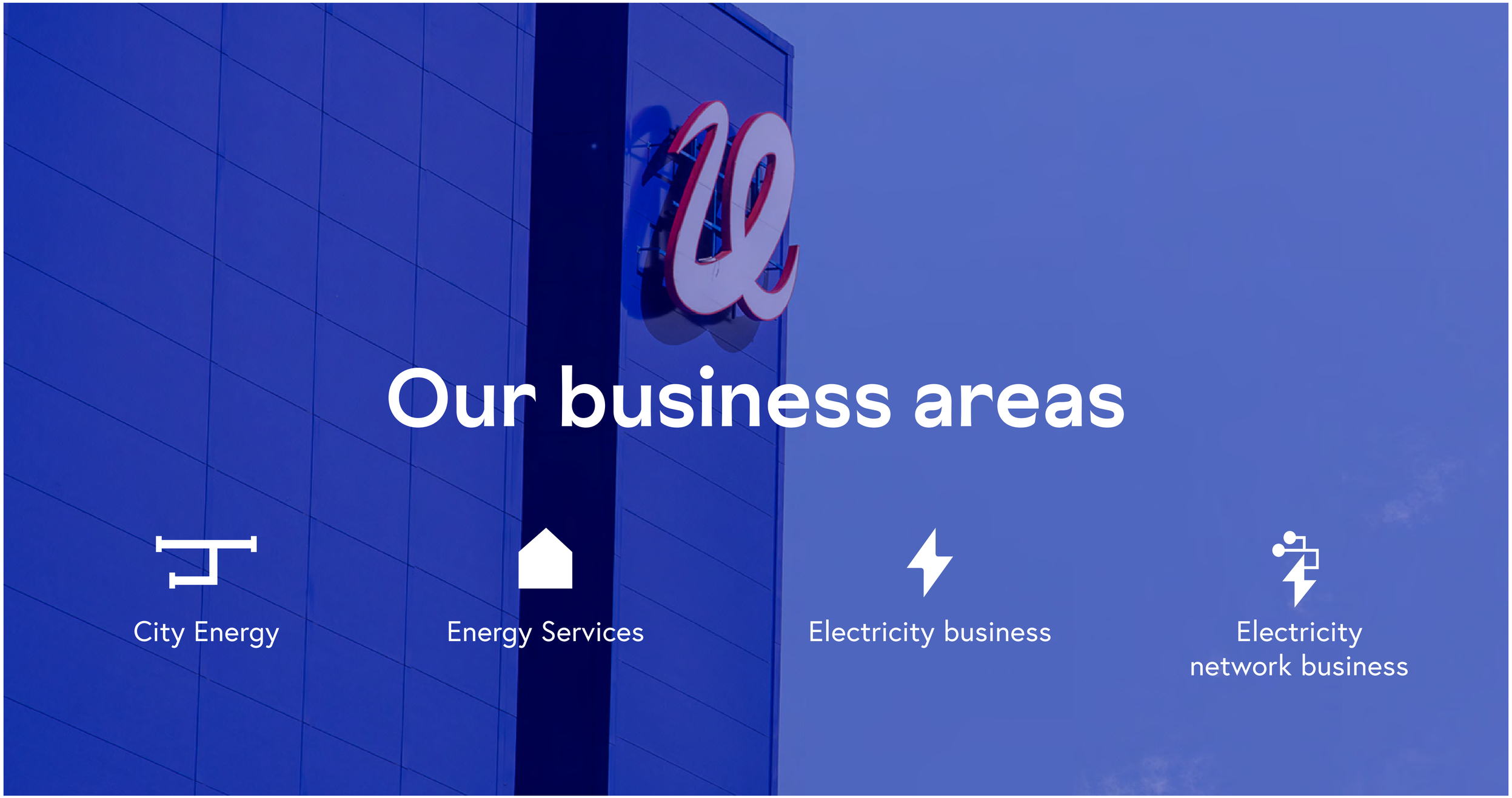
Our goal by 2030 is for our operations to sequester more carbon dioxide than they release.

- We utilize waste in our energy production.
- We continuously develop materials reuse and circular economy solutions.
- We design better uses for captured carbon dioxide.

Origin of energy we produced and purchased in 2022







Our business areas

City Energy

Energy Services

Electricity business

Electricity network business

City Energy

City Energy handles Vantaa Energy's local, climate-friendly electricity production using innovative technologies. Our customers and collaboration partners include many waste and environmental service sector companies.

7

Two main sites for energy production: Uusiola Waste-To-Energy Plant and Martinlaakso Biopower Plant. Additionally, five heat plants secure the distribution of heat through the heating network.

1.5 million

households in the Uusimaa region provide the mixed waste used to produce electricity and heat at the Uusiola Waste-To-Energy Plant. Commerce and industry's non-recyclable waste is converted into heat in the Waste-To-Energy Plant's expansion.

600 km

long and circulating 42 million liters of water, the district heating network covering the Vantaa region brings energy to the daily lives of residents in the form of hot showers and warm homes.

200

people work at the City Energy plants and offices.

Uusiola – the biggest waste-to-energy complex in the Nordic countries

Waste-To-Energy Plant (2014) produces energy from the mixed waste of 1.5 million households in the Uusimaa region.

- Waste capacity 320,000 t/y
- Heat output 128 MW
- Electricity output 84.5 MW

Office and showroom space

Waste-To-Energy Plant expansion (2022) utilizes mixed waste from commerce and industry to produce energy.

- Waste capacity 200,000 t/y
- Heat output 80 MW

High-Temperature Incineration Plant (planned completion in 2025)

- Waste capacity 40,000 t/y
- Heat output 24 MW

High-Temperature Incineration Plant turns hazardous waste into heat – in a safe and climate-friendly way

The most common household and industrial hazardous wastes that are separately collected, such as paints, glues and varnishes, are safely recovered as energy at the plant.

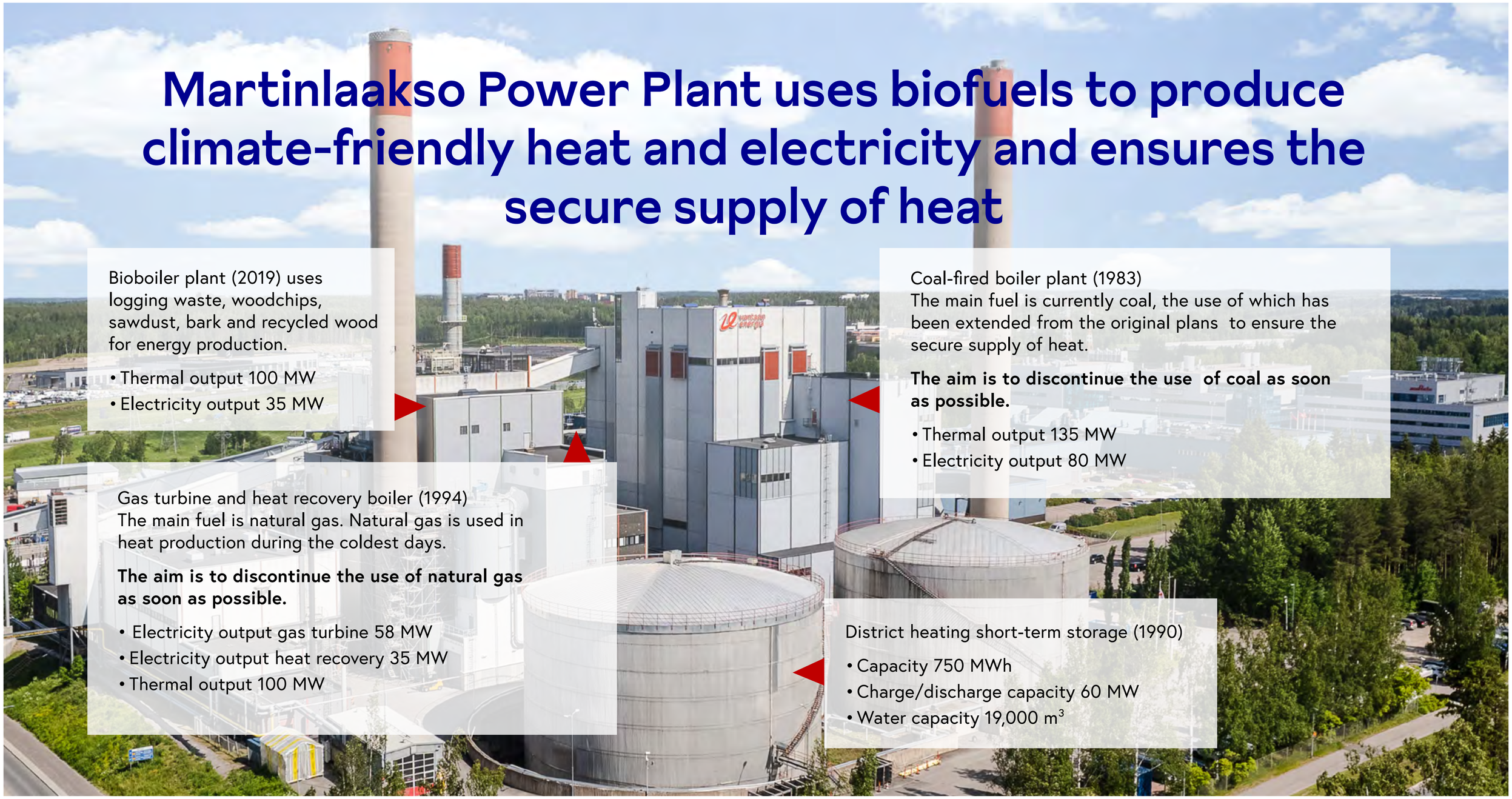
When the waste is received, its quality is carefully checked to ensure compatibility with other waste being processed.

The plant safely recovers non-recyclable waste as heat, supporting the phase-out of fossil fuels as well as Finland's self-sufficiency in treating hazardous waste.

Combustion products harmful to people and the environment are removed from the flue gases.

The heat generated in the process is used to heat the homes of Vantaa residents.

Martinlaakso Power Plant uses biofuels to produce climate-friendly heat and electricity and ensures the secure supply of heat



Bioboiler plant (2019) uses logging waste, woodchips, sawdust, bark and recycled wood for energy production.

- Thermal output 100 MW
- Electricity output 35 MW

Coal-fired boiler plant (1983)
The main fuel is currently coal, the use of which has been extended from the original plans to ensure the secure supply of heat.

The aim is to discontinue the use of coal as soon as possible.

- Thermal output 135 MW
- Electricity output 80 MW

Gas turbine and heat recovery boiler (1994)
The main fuel is natural gas. Natural gas is used in heat production during the coldest days.

The aim is to discontinue the use of natural gas as soon as possible.

- Electricity output gas turbine 58 MW
- Electricity output heat recovery 35 MW
- Thermal output 100 MW

District heating short-term storage (1990)

- Capacity 750 MWh
- Charge/discharge capacity 60 MW
- Water capacity 19,000 m^3

Energy Services

Energy Services offers heating and cooling solutions – from district heating to hybrid solutions.

Additionally, we offer services related to energy efficiency, property technology and the efficient use of heat. We aim to be the preferred energy partner for all property-related energy issues, offering property owners a carefree service for a smoother everyday life.

Our customer promise: Vantaa Energy is the best energy decision of your life.

In the customer satisfaction survey conducted by EPSI Rating in 2022, Energy Services' heat customers ranked Vantaa Energy's operations among the top three companies in Finland. In the energy sector's sustainability ranking, Vantaa Energy was rated the number one district heating company in customer satisfaction.

Energy Services customers

- Property owners and investors
- Resident-owned housing companies
- Businesses, municipalities and consumers

90%

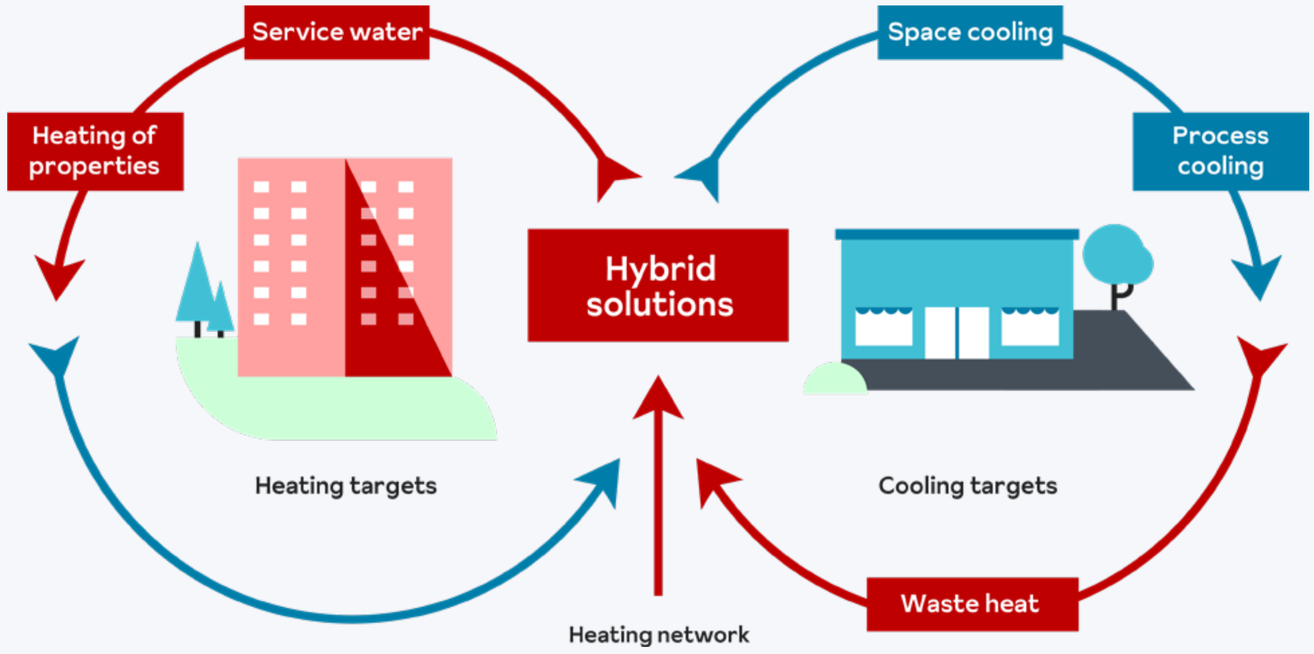
of Vantaa properties from homes to schools and businesses are warmed by district heating. It is the Helsinki metropolitan area's most affordable, stable-priced and eco-friendly choice.

Efficient use of energy streams

We implement innovative, optimized energy and circular economy solutions for our customers regionally and at the property level.

Connection to the city's extensive district heating network enables overall efficiency. We are the energy partner for projects in the region and we take care of the design, construction, maintenance and optimization of the system.

The customer gets the benefits of a centralized and decentralized system in a single package.



Electricity business

The Electricity business is responsible for Vantaa Energy's co-owned electricity production in Finland and Norway.

We invest in renewable electricity production, wind and solar power, and electricity storage through smart partnerships.

We are co-owners in companies producing wind, hydro, and nuclear power: Svartisen Holding, Kolsin Voima, EPV Energia, Pohjolan Voima and Suomen Hyötytuuli.

We operate in the electricity wholesale markets:

Development and management of electricity procurement and co-owned production	Electricity trading and balance management	Market risk management

Vantaa Energy’s electricity networks

Vantaa Energy's subsidiary Vantaa Energy Electricity Networks Ltd is responsible for electricity distribution in the Vantaa region.

1,960 GWh
Electricity distribution to customers in 2022

7.5 min.
average annual power distribution outage

3,500 kilometers
of electricity network

132,000 customers
in the network area

vantaan energia sähköverkot

Electricity Networks' customer promise

We keep the power on – also today.

Our pricing is fair and transparent.

We take care of our social responsibilities.

We can be reached every day at any time.

We take care of business in a friendly way and we get it right the first time.

Electricity Networks' vision

Vantaa Energy sells electricity only to the wholesale markets

Vantaa Energy discontinued retail sales of electricity in 2020 when Oomi was established. We sell the electricity we produce to the wholesale markets from which Oomi acquires the electricity it sells. We are one of Oomi's nine founding members.

28.3%

Vantaa Energy's ownership in Oomi Oy.

Oomi sells electricity throughout Finland.

- Finland's third largest retailer of electricity in terms of customer base.
- Finland's biggest provider of solar power systems.
- EV charging services is a robustly growing market and business for Oomi.

oomi

Responsibility

We are continuously innovating new so that the people of Vantaa have an affordable, climate-friendly and secure supply of energy today and in the future.

We are a responsible, active and focused corporate citizen with specific targets:

Mitigating climate change

Our target in reducing emissions is carbon negativity by 2030.

Promoting a resource-smart economy

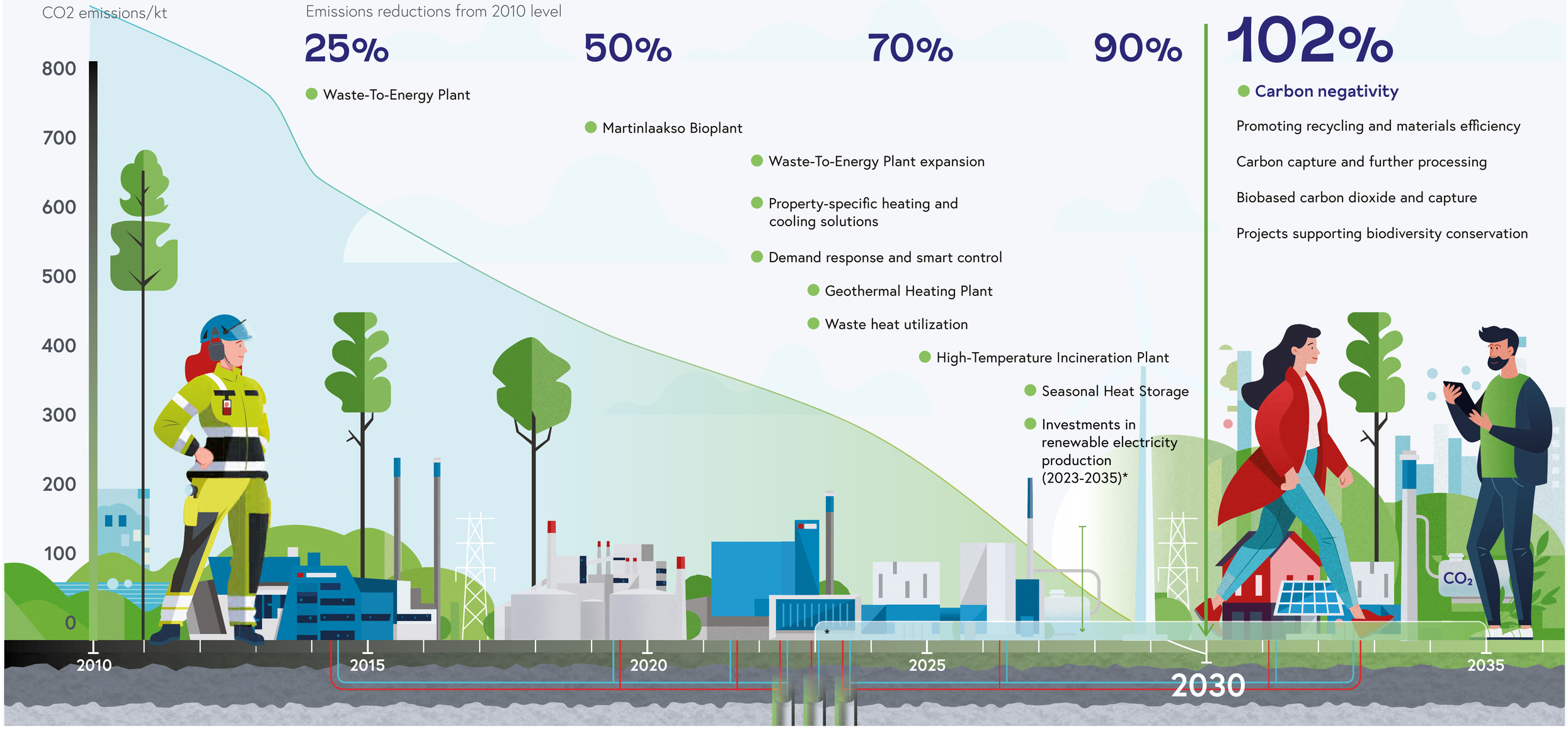
We promote circular economy solutions by developing ways to reuse energy and materials.

Strengthening biodiversity

Target-setting to be completed in 2023.

We make sure there's enough electricity and heat where it is needed – even in exceptional situations.

We aim to be a carbon negative circular economy energy company by 2030

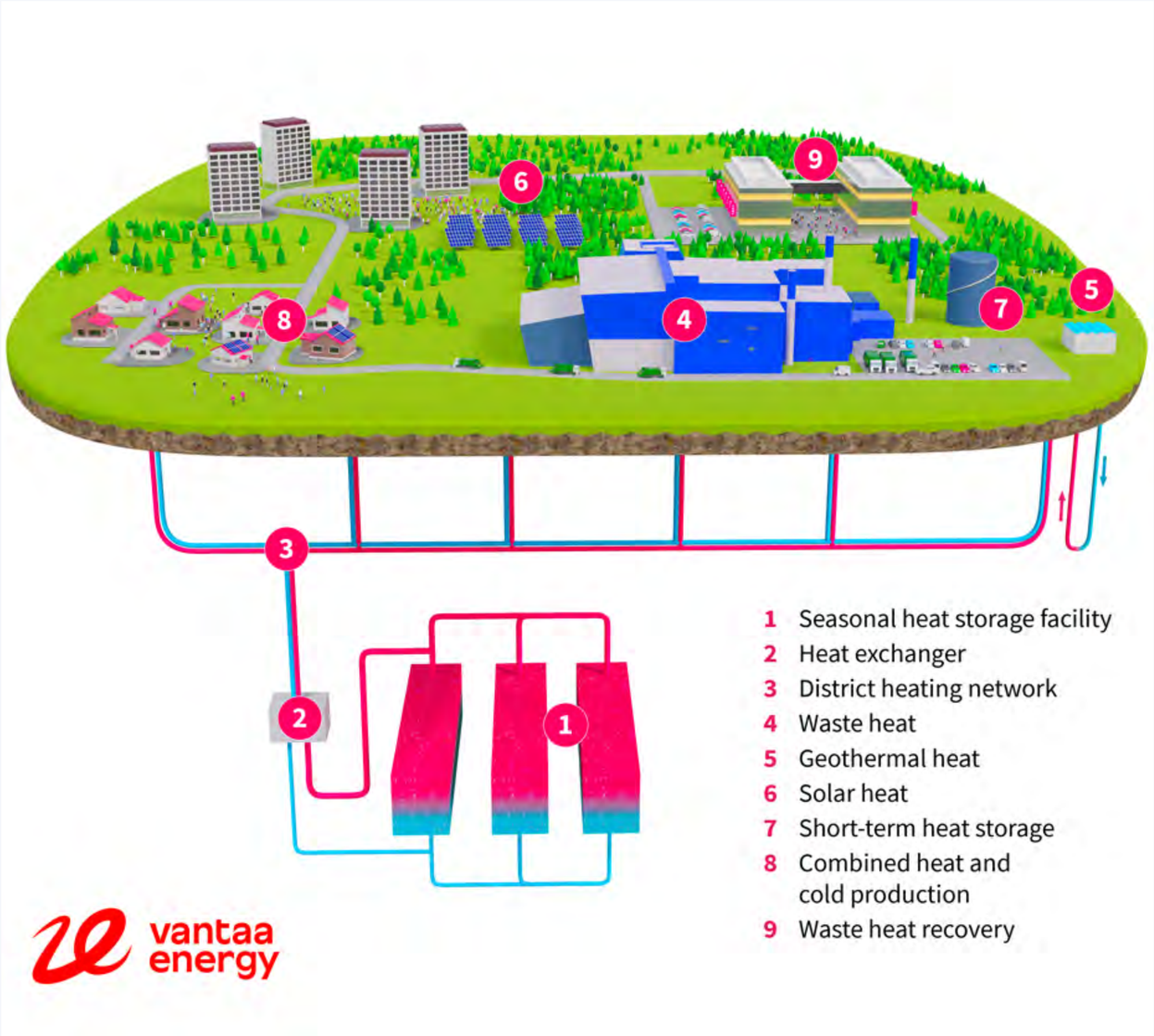


Towards carbon negativity with innovative solutions 1/4

We design and implement long-term solutions for more sustainable energy production.

Seasonal Thermal Energy Storage

Seasonal storage would enable the storage of summer's excess heat and the surplus heat from the energy recovery of waste during periods of low heating demand. The seasonal storage is the world's largest in terms of capacity: it corresponds to the annual heat consumption of a medium-sized city.

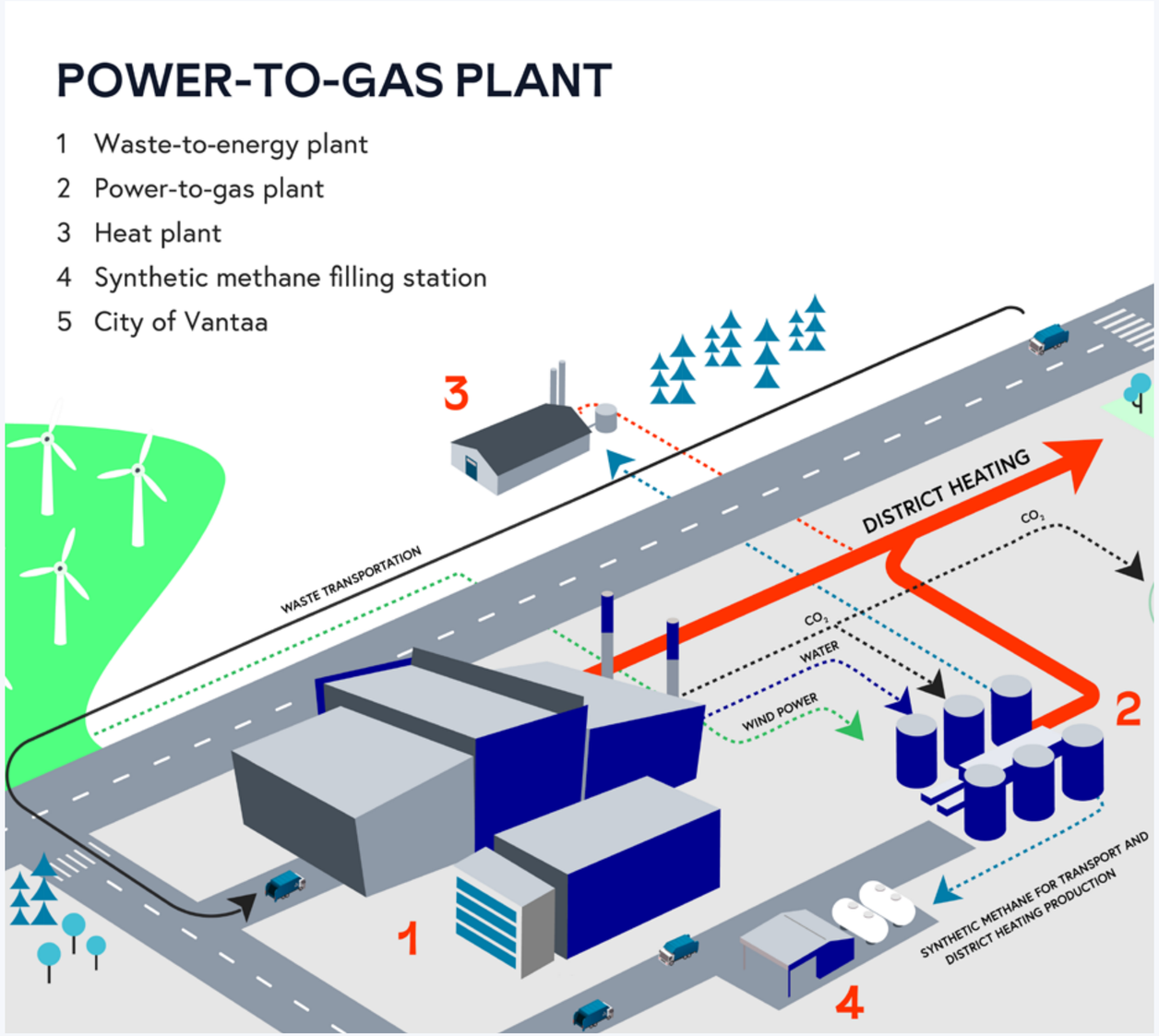


Towards carbon negativity with innovative solutions 2/4

Power-To-Gas Plant

The plant would produce synthetic methane from the carbon dioxide captured from the Waste-To-Energy Plant's flue gases and from hydrogen produced with renewable energy.

The Ministry of Economic Affairs and Employment granted the project EUR 30 million in investment aid in 2022.

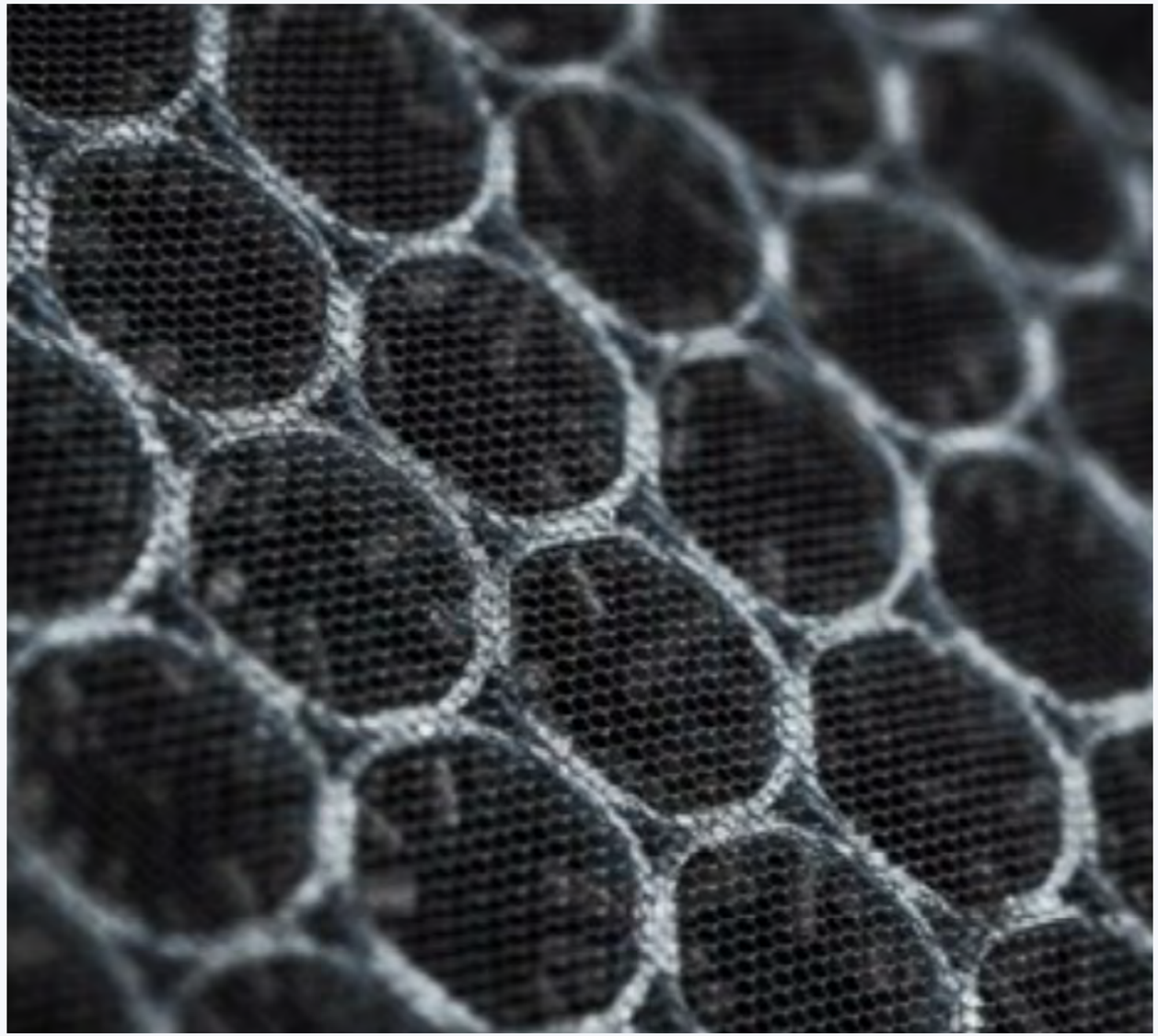


Towards carbon negativity with innovative solutions 3/4

Activated Biochar Plant

Recycled wood would be processed in an oxygen-free pyrolysis process, producing bio-based activated biochar and process heat as an end product.

The plant would produce about 8,000 tonnes of activated biochar a year, using about 60,000 tonnes of non-recyclable wood waste as raw material. The recycling rate of non-recyclable wood waste would increase, and the carbon-neutral heat produced by the plant would be utilized by city residents through our heating network.



Towards carbon negativity with innovative solutions 4/4

Accelerating a circular economy, carbon capture and use

Together with our partners, we are exploring opportunities to increase the recycling rate of municipal waste. We are developing the capture and further processing of carbon dioxide emissions from the Waste-To-Energy Plant. Business Finland granted EUR 500,000 for research and development work on solutions for the recovery and utilization of carbon dioxide.

Vantaa Energy

330

employees

> 4

Vantaa Energy's rating as a recommended workplace (on a scale 1–5)

0

Vantaa Energy's target is to be a zero-accident workplace by 2025 – guaranteeing a safe workplace is a priority for us.

40

40

Summer workers and trainees annually

Global changemakers

Vantaa Energy Group has more than 330 energy sector professionals. The long employment relationships indicate that people like working here.

Vantaa Energy is a progressive and well-managed workplace that cares about its employees:

- Wide range of duties
- Opportunities for professional development and career advancement
- Enthusiastic, inspiring and collaborative work community
- Clear shared goals
- Excellent working conditions and equipment
- Contemporary employee benefits

Strengthening the capacity for renewal and expertise is part of our strategy.

A healthy return home after the workday

Occupational safety is of utmost importance to us. We want everyone to get back home healthy – every day.

We invest in safety management and supervisory work, we continuously develop expertise through training and we invest in a safe working environment, equipment and guidance.

By operating in line with the targets of our occupational safety strategy, we will achieve

0 accidents

in 2025:

Safe workplace

Our way of working
#observe #anticipate #learn #develop

Our promise
Work safety is for everyone and is part of my job

We want to be an energizing part of society

5,000

We have as many as 5,000 visitors to our Waste-To-Energy Plant every year.

We energize local hobby and cultural activities, and we provide opportunities for physical activity.

We actively engage in dialogue with nature conservation organizations to increase understanding and debate on environmental issues in energy and circular economy topics.