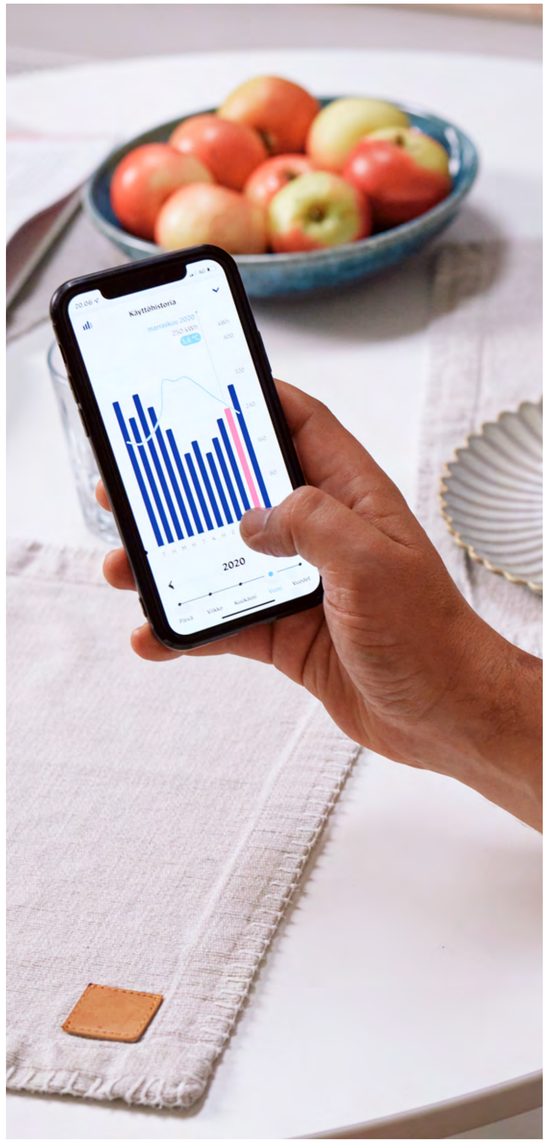
HELEN

Year of action

ANNUAL REVIEW 2023



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Helen's Annual Review consists of the Annual Report and the Sustainability Report. It describes the development of our business and sustainability work in 2023. The Annual Review is published in Finnish and English.

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ANNUAL REPORT

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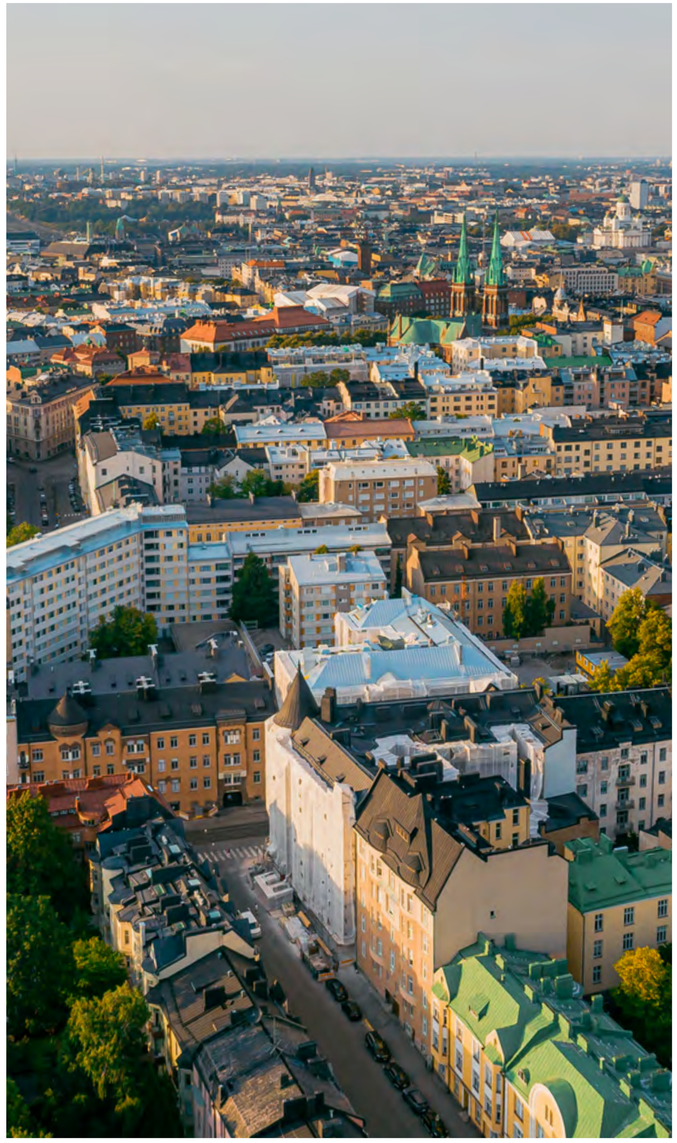
Helen in brief

Helen helps to make everyday life easier for over 560,000 customers in Finland.

In addition to electricity, heating and cooling, we offer solutions for regional and renewable energy and electric transport.

We are building a smarter, sustainable energy system that enables everyone to produce, use and save energy with respect for the environment.

We have set a target of making our energy production carbon neutral by 2030. Additionally, we plan to phase out combustion-based energy production by 2040. Let's join forces and turn the opportunities of a new energy era into reality.



Net sales
1,826
EUR, million

Operating profit
93
EUR, million

Electricity production
4,686
GWh

Heat production
6,673
GWh

Tax footprint
388
EUR, million

Employees
786

Carbon neutral energy
55%

Reduction of direct CO_2 emissions
38%

CEO's review

In 2023, electricity was a frequently discussed topic. Finns compared their electricity contracts and the price they paid for electricity and were concerned about the sufficiency of electricity. To reduce energy-related concerns in the long run, we continued to invest in sustainable and reliable production of electricity, heating and cooling. The share of carbon neutral energy in our production rose to more than 50%.

I started as Helen's CEO in January 2023, at a time when the energy sector was undergoing extremely interesting changes. The share of renewable energy is growing rapidly as digital solutions and new opportunities in fields such as hydrogen and small modular nuclear reactors (SMRs) offer new ways to accelerate the green transition. We are witnessing a turning point where the old laws of consumption no longer apply and we are learning to live according to the Earth's carrying capacity. Helen is transforming into a renewable and carbon neutral energy company. It is a revolutionary change towards a more sustainable world.

Electricity defined consumers' lives

In 2023, the average prices of electricity and fuels decreased when compared to the previous, exceptional year and the electricity shortage anticipated for winter 2022–2023 did not take place. However, the price sensitivity in the market is higher than ever. The long sub-zero temperature period at the turn of the year 2023–2024 and the subsequent increase in electricity consumption showed that price fluctuations caused by weather-dependent production will continue to be part of the Finnish energy system.

In the future, peak consumption situations will require increasingly more flexibility. Helen's customers took their electricity savings seriously during the year. In January 2023, our customers reduced their consumption by a staggering 15% on average, while the decrease was only 5% in Finland as a whole.

We want to encourage our customers to think about their electricity consumption as eliminating unnecessary consumption is the most effective way to ensure that society has enough electricity in all situations. To support this development, we launched new products, such as the Valtti Electricity contract, which helps our customers shift their electricity consumption to hours that make most sense from the perspective of the price and sufficiency of electricity.

Our updated strategy boosts the green transition

During 2023, we worked on our new strategy. It supports our long-term competitiveness and the green transition, which we will carry out with a special focus on flexibility and profitability.

We will implement the green transition in the short term by giving up the use of coal with the decommissioning of the Salmisaari power plant in 2025. In the medium term, we will electrify our heat production, use sustainable biomass as a transition-phase fuel and seize new growth opportunities offered by hydrogen and SMRs. In the long term, we will invest in the extensive electrification of heat production and phase out all combustion-based energy production by 2040.

The implementation of the strategy requires new capabilities in order to accelerate the development of digitalisation and new technologies. For this reason, we adopted an organisational structure based on business units that are accountable for their results and Group functions that support the business units. The new organisation and Management Group started on 1 January 2024.

We finetuned the targets of our sustainability work
In 2023, we prepared for the requirements of the EU's Corporate Sustainability Reporting Directive by updating our sustainability programme and conducting a double materiality analysis. In the analysis, we considered both the impacts of our business operations on the environment and people and the risks and opportunities sustainability creates for our business.

As an outcome of the materiality analysis, we adopted an updated sustainability programme, which includes targets for safeguarding biodiversity, strengthening the sustainable supply chain and maintaining compliance. In particular, safeguarding biodiversity has emerged alongside climate change mitigation as a significant factor determining the future of the planet.

Our investments in a sustainable energy system yielded concrete results
As the operating environment changes, we are constantly developing more efficient ways to produce, store and recycle energy. The energy transition took concrete form when the Hanasaari power plant that served the residents of Helsinki for nearly 50 years was decommissioned in April. With the decommissioning, our coal consumption was halved and our energy production took a major leap in a greener direction. At the same time, our emissions fell by nearly 40% and those of Helsinki by approximately 20%.

In the future, we will continue to replace coal-based electricity and heat production with diverse solutions: heat pumps, electric boilers and bioenergy. By 2025, we will build more than 2,000 MW of electricity and heat capacity to replace fossil energy production.

"We are witnessing a turning point where the old laws of consumption no longer apply.

In 2023, a concrete example of the change could be seen at the Katri Vala heat pump plant, where the seventh and last heat pump was deployed in the spring. The plant produces over 1,000 GWh of heat per year – enough to cover the majority of central Helsinki's heating needs during the summer season.

In addition, we focused on implementing our wind power investments by having wind farms built in different parts of Finland. By 2025, the amount of our annual wind power production will exceed the amount of electricity previously produced with coal as the wind farms under construction will add almost 800 MW to our production capacity. The commissioning of the Olkiluoto 3 nuclear power plant unit, owned partly by us, in spring 2023 was an additional balancing factor in electricity production.

Despite rising costs and uncertain economic conditions in Finland, it is important to ensure that investments in a carbon neutral energy system can be implemented in a timely manner. The new supervision method for the electricity network business, which entered into force at the turn of the year 2023–2024, significantly reduces network companies' ability to invest in electricity transmission connections. However, investments in increasing transmission capacity are currently at a very critical stage as society becomes reliant on electricity.

Our hydrogen and SMR projects moved forward
The year 2023 saw significant progress in our hydrogen business as the pilot plant project planned in Vuosaari moved on to the design phase. With this project, our aim is to create the necessary capabilities for large-scale Power-to-X production. In addition, we started, together with our partners, preliminary studies on the development of an industrial hydrogen valley in the Uusimaa region. The joint project is a step forward in driving Finland towards becoming a leading hydrogen economy in Europe.

SMR-based energy production also took a concrete step forward when we signed a related Letter of Intent. Its aim is to enable an investment in a small-scale nuclear power plant for heat production. SMRs are one of the most promising solutions for rapidly and cost-efficiently reducing the emissions of energy production and balancing the production and price fluctuations caused by the increasing amount of wind power. In practice, the construction of small modular nuclear reactors still requires legislative reforms. I hope that the Finnish government's commitment to the deployment of heat-producing SMRs will take concrete form as a legislative proposal.

Our skilled personnel enables the energy transition
Building a sustainable energy system requires a new mindset not only from decision-makers but also from energy companies. At Helen, we have continued to develop our organisation and capabilities.

Despite the slowdown in economic growth and uncertainties in the operating environment, we have maintained our course and made significant progress on our path towards carbon neutrality. Without our skilled and ambitious employees, the green transition of the energy sector would remain just a dream. We will turn it into reality.

Olli Sirkka
CEO

Business year

We updated our strategy and continued to make significant investments in a sustainable energy system. We decommissioned the Hanasaari power plant that served the residents of Helsinki for nearly 50 years, which resulted in a historic reduction in our emissions. We developed our digital services and introduced services that support our customers' smart energy usage.

The market prices of electricity took a downward turn after an exceptional year characterised by Russia's war of aggression and the resulting energy crisis. However, significant price fluctuations have continued and both extremely high and negative prices were seen in 2023.

Inspired by a national awareness-raising campaign, consumers reduced their electricity consumption with unprecedented determination in winter 2022–2023. Although the extensive construction of wind power capacity and the commissioning of the Olkiluoto 3 nuclear power plant unit during 2023 improved the sufficiency of electricity in Finland, the significance of consumer and business demand response will increase as the green transition progresses.

Financial performance

Helen Group's* net sales increased by 2% to EUR 1,826 (2022: 1,785) million. A significant factor behind the increase was the higher demand for heating, particularly in the latter part of the year, which led to the net sales of heat exceeding the previous year's level. The average spot price of electricity in 2023 was EUR 57 (154) per MWh, which is significantly lower than the average price of the previous year. Net sales derived from electricity production were lower than the previous year due to the low market prices and low production volume. Net sales from electricity retail, in turn, were higher than in the previous year.

Operating profit amounted to EUR 93 (142) million. Operating profit was negatively affected by, among other things, the accelerated depreciation recognised in connection with the discontinuation of coal-based production in Hanasaari and Salmisaari. Comparable operating profit was 12% (11%), which was better than the previous year.

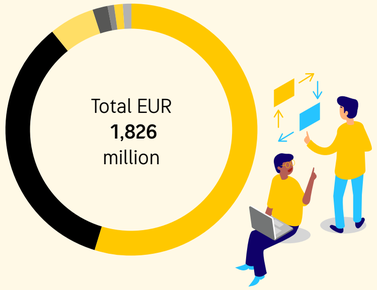
* Helen Group consists of the parent company, Helen Ltd, and the subsidiaries, Helen Electricity Network Ltd (ownership 100%), Oy Mankala Ab (100%), Helsingin Energiatunnelit Oy (90%), Geonova Oy (about 58%), Tuulipuisto Lakiakangas 3 Oy (100%), Kristinestad Tupaneva Ltd (100%), Helen Solarpark Kalanti Ltd (100%), Kalanti GridCo Ltd (100%), Kalistanneva Wind Farm Ltd (60%), Karahka Wind Farm Ltd (51%), Juurakko Wind Farm Ltd (51%), Niinimäki Wind Farm Ltd (51%) and Niinimäki Grid Oy (about 46%). The associated companies consolidated in the Group accounts are Voimapiha Oy (about 33%), Liikennevirta Oy (about 23%), Pjelax Vindkraft Ab/Oy (40%), &charge GmbH (24%) and Viiatti GridCo Ltd (30%).

Our net sales were

1,826

million.

Distribution of net sales



- Electricity 56%
- Heat 34%
- Electricity transmission 6%
- Cooling 2%
- Gas 0.4%
- Solutions 1%
- Other 0.7%

Strategy

In late 2023, we published a new strategy, which lays out the foundation for our business operations and supports our long-term competitiveness. As part of the changes brought about by the new strategy, we adopted an organisational structure based on business units that are accountable for their results and Group functions that support the business units. As the world changes around us, we want to do more than simply change with it: we want to anticipate the changes and lead the transformation of the energy sector as a trailblazer of the green transition. Our strategic choice is green flexibility.

The core aspects of our strategy are the green transition, flexibility and profitability. Profitable business enables significant investments in green transition projects, which we implement by increasing the flexibility of the energy system.

We have set a target of making our energy production carbon neutral by 2030. Additionally, we plan to phase out combustion-based energy production by 2040. We respond to increasing electricity price fluctuations with superior flexibility. New business models based on flexibility deliver significant benefits to our customers and protect our profitability. Clarifying our service offering and optimising our energy system enables us to strengthen our financial performance.

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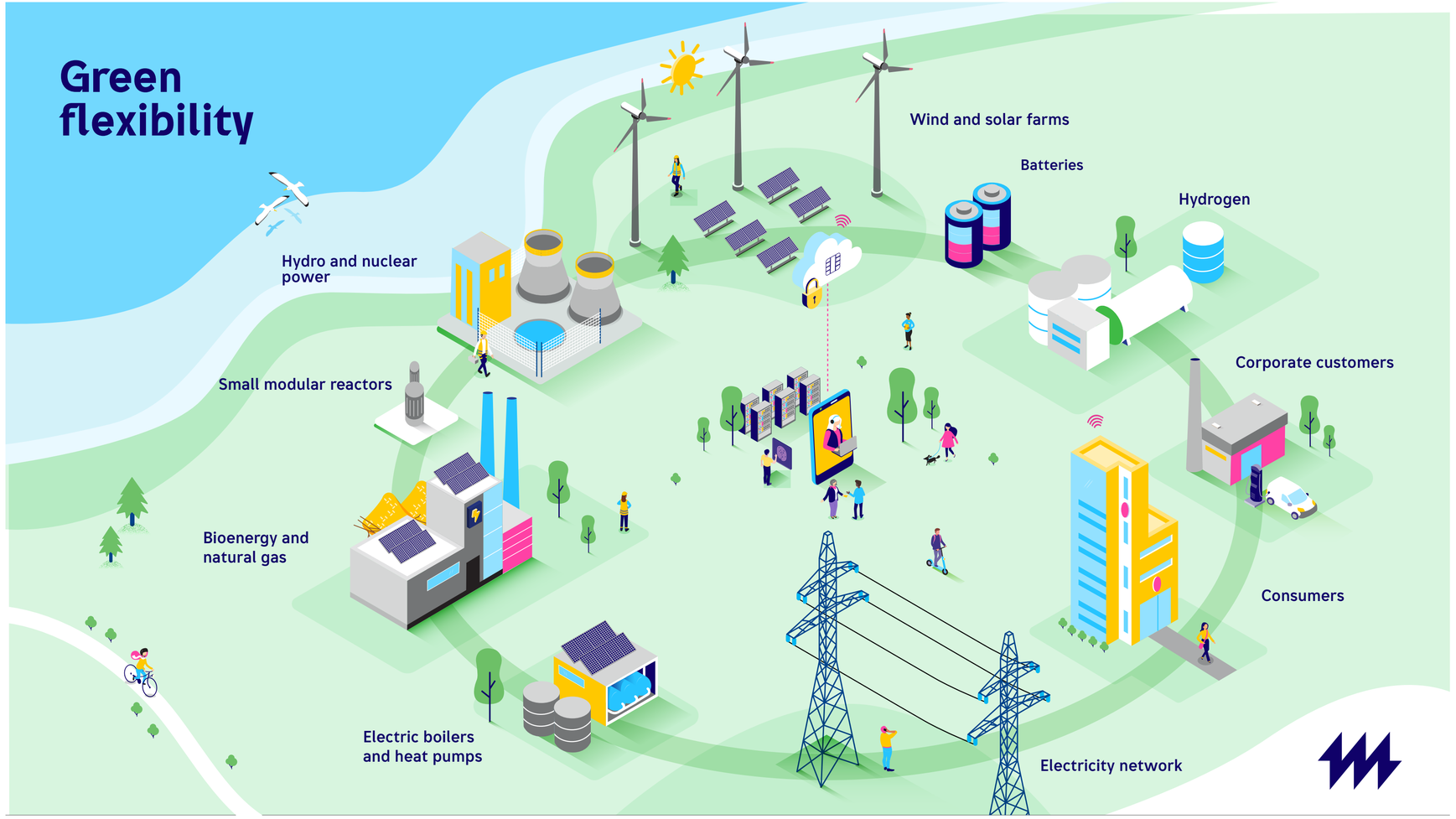
Our strategic choice is green flexibility.



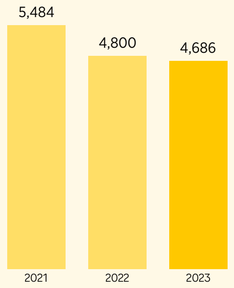
Energy production

The transition to a sustainable energy system became concrete in 2023 with the closure of the coal-burning Hanasaari power plant and the deployment of new heat sources to replace it, such as the seventh and last heat pump at the Katri Vala heat pump plant. We invested EUR 421 (221) million in carbon neutral energy and, at the end of the year, 55% (36%) of our energy production was carbon neutral.

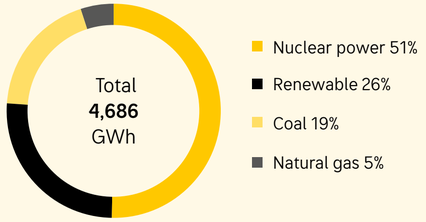
The total amount of electricity and heat production in 2023 was at the same level as in 2022. At the same time, the amount of electricity we produced with fossil fuels decreased by nearly half. The decrease mainly resulted from the decommissioning of the Hanasaari power plant, which reduced our use of coal by nearly 50%.

Our district heating production with heat pumps increased by approximately 35% from the previous year. The amount of electricity we produced with wind power increased by more than 20%, although we focused primarily on the construction of the wind power investments made in the previous year by us and by our partners. The concrete results of the projects can be seen in 2024–2025 when the farms will move into production. The amount of electricity we produced with nuclear power increased by more than 50% as the Olkiluoto 3 nuclear power plant unit, owned partly by us, was commissioned.

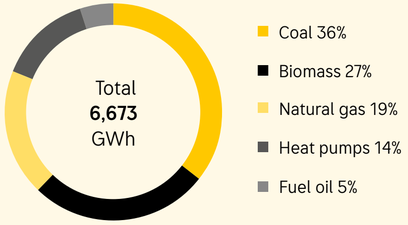
Electricity production for the wholesale market, GWh



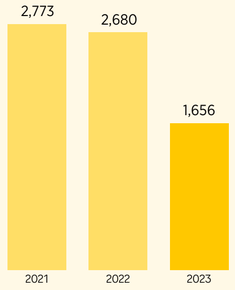
Electricity production



Heat production



Direct GHG emissions (Scope 1), $ktCO_2e$



We continued the alterations at the Salmisaari production site and the construction of the Eiranranta heat pump plant. Both projects are estimated to be completed in 2025. We invested in a solar farm to be built in Lohja and our first industrial-scale solar farm, located in Nurmijärvi, started to produce electricity. We proceeded to basic engineering in our hydrogen production pilot plant project and continued to explore opportunities for small modular nuclear reactor cooperation.

Our direct greenhouse gas emissions (Scope 1) were 1.66 (2.68) million tCO_2e, a reduction of approximately 38% from 2022. Specific emissions from our energy production decreased by 33% to 156 (232) gCO_2e/kWh. The significant emissions reduction is mainly attributable to the considerable decrease in the use of coal as the Hanasaari power plant was decommissioned.

Our emissions decreased by 38%.

Personnel

At the end of the year, the Group had 786 (701) employees. The parent company had a total of 683 (601) employees, of whom 638 (577) were permanent and 45 (24) were fixed-term. The average number of employees was 654 (841). The average age of the parent company's employees was 42.3 (44.1) years and the average duration of employment was 8.8 (12.4) years. Wages and salaries amounted to EUR 53.0 (64.9) million.

Helen Electricity Network Ltd had 92 (96) employees at the end of the year. In addition, there were employees in Geonova Oy, a joint venture established by Helen Ltd and LämpöYkkönen Oy in 2022: 13 (7) employees. Other subsidiaries did not have employees at the end of 2023.

We monitor the development of our employee experience with an employee survey, which we conducted more frequently than before. The commitment indicator used in the survey is the international eNPS (Employee Net Promoter Score) scoring, in which a proportionate percentage of detractors is subtracted from that of promoters. In 2023, our personnel's employee experience improved significantly. The eNPS rose to 27 (2021: 5) in the spring and to 33 in the autumn pulse survey. Our employees are clearly more committed than energy sector employees on average (13).

Customers

The energy crisis triggered by Russia's war of aggression made the monitoring of electricity consumption and prices a part of consumers' daily lives and interest in energy issues remained high. Maintaining consumers' interest in energy consumption will be important in the future, too.

Increased customer interest and legislative changes caused occasional congestion in our customer service during the year. However, customer satisfaction improved in almost all areas when compared to the previous year. We also maintained our position as Finland's best-known, most widely considered and best-liked energy company in Nepa's brand survey.

> **"Our employees are more committed than energy sector employees on average.**

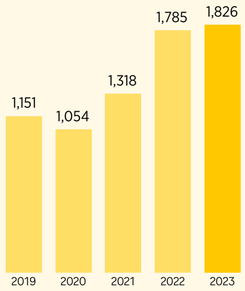
We continued to develop our digital Oma Helen and Yritys Helen services with new features, such as better tools to enable our customers to schedule their electricity consumption. By the end of the year, 520,000 customers had started to use Oma Helen and Yritys Helen.

In the early part of the year, we launched the Valtti Electricity contract, which encourages customers to shift their electricity consumption to hours that make most sense from the perspective of the sufficiency of electricity. If the customer consumes relatively more electricity during hours when the price of electricity is lower, they will benefit from this with lower energy costs. At the turn of the year 2023–2024, we announced a district heating product renewal. Its aim is to better respond to the changing needs of our customers and to increase the transparency and consistency of the pricing of district heat.

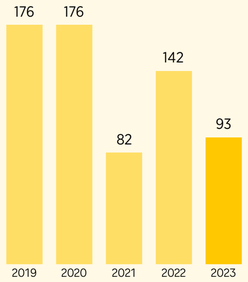
To support energy education in Finland, we published the Ellen's Energy Adventure children's book, which allows both children and adults to learn more about energy and the energy transition. In addition to the children's book, we produced learning materials based on the book and organised a wide variety of events.

Key figures

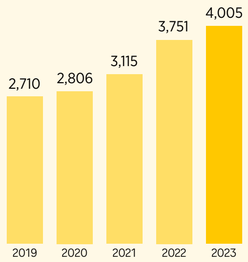
Net sales, EUR million 1,826



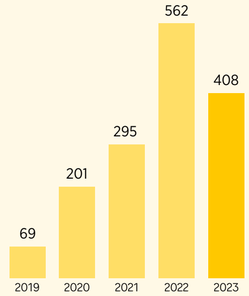
Operating profit, EUR million 93



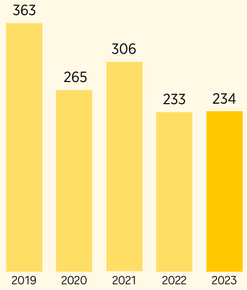
Balance sheet, EUR million 4,005



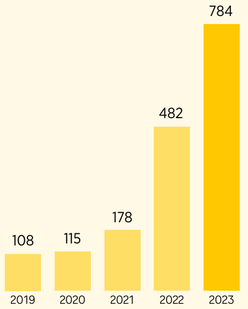
Investments, EUR million 408



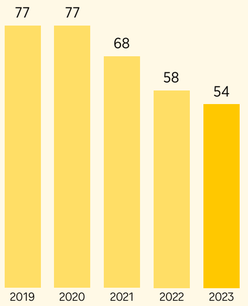
Cash flow, EUR million 234



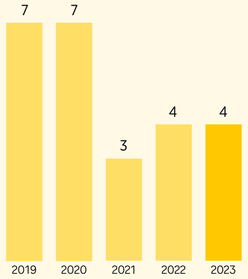
Net debt, EUR million 784



Equity ratio, % 54



Return on capital employed, % 4



Highlights of the year

Our new strategy boosts the green transition

We published our new strategy, with the green transition, flexibility and profitability as its priorities. Our goal of carbon neutral energy production by 2030 remains unchanged, but we also aim to phase out combustion-based energy production by 2040. We determined the material impacts of our operations, taking into account the principles of double materiality, and updated our sustainability programme, the backbone of our sustainability work, to align it with our new strategy.

2040

we will phase out combution-based energy production

38%

emissions reduction

A historic reduction in emissions

On 1 April 2023, we took the biggest leap in our history towards carbon neutrality when we decommissioned the Hanasaari power plant that served the residents of Helsinki for nearly 50 years. The decommissioning of the coal-powered CHP plant reduced our emissions by 38%.

Increase in renewable and carbon neutral electricity capacity

Our first industrial-scale solar farm, located in Nurmijärvi, started to produce electricity. Moreover, we focused on implementing new solar and wind power investments. The commissioning of the Olkiluoto 3 nuclear power plant unit, which we partly own, brought stability and self-sufficiency to the Finnish electricity system, but as weather-dependent production capacity increases, there will be stronger fluctuations in the supply of electricity. This requires demand response and electricity storage.

Building blocks for a sustainable energy system

Our heat production will be profoundly transformed in the coming years as we move from fossil fuel-based CHP plants to solutions that use waste and environmental heat and bioenergy. We deployed the seventh – and last – heat pump at the Katri Vala heat pump plant, and announced new heat pump and electric boiler investments. We will build more than 2,000 MW of renewable, emission-free power generation capacity by 2025.

Electricity networks are becoming increasingly important

As a result of the energy transition, electricity production will move away from Helsinki and, at the same time, electricity consumption will increase throughout society. For example, heat production relying on heat pumps and electric boilers will require an increasing amount of electricity. To prepare for the change, we signed a cooperation agreement with the City of Helsinki and Fingrid Oyj on the construction of a 400-kilovolt electricity transmission link to Helsinki. The new cable link will be completed in 2026.

400-kilovolt

electricity transmission link to Helsinki

Electricity price fluctuations are here to stay

The market prices of electricity took a downward turn after an exceptional year characterised by the energy crisis, but significant price fluctuations continued. During the year, customers had to get used to both extremely high and negative electricity prices. In the new situation, we introduced a new product, the Valtti Electricity contract, which provides security against price fluctuations but still encourages customers to shift their electricity consumption to hours that make most sense from the perspective of the sufficiency of electricity.

Rise of hydrogen

In 2023, Finnish hydrogen projects truly got off the ground and brought new perspectives to the green transition. We announced that we are planning large-scale hydrogen production in the Vuosaari power plant area and the waste heat generated there could be used in our district heating network. In addition, we proceeded to the design phase in our pilot plant project and, together with three other companies, started preliminary studies on the development of an industrial hydrogen valley in the Uusimaa region.

Energy education is for everyone

In the middle of the energy transition, we want to make energy understandable to people of all ages as well as to mitigate concerns related to this subject matter. To increase energy education in Finland, we published a children's book called Ellen's Energy Adventure, which talks about energy and the energy transition in the form of a story. In addition to the book, we produced learning materials, which help teachers and early childhood educators talk about energy issues also in schools and kindergartens.

SUSTAINABILITY REPORT

Actions that make a difference

Management of sustainability

The management of our sustainability issues is based on our values, Code of Conduct, strategy, sustainability policy and corporate governance.

As sustainability is a key part of our strategy, the company's Board of Directors has the ultimate decision-making authority in sustainability issues. The Management Group is responsible for securing the preconditions for our sustainability work, which is coordinated by the Sustainability and Public Affairs function. We carry out practical sustainability work in our daily work in all our operations.

The priorities of our sustainability work are defined in the sustainability programme approved by the Management Group, which supports the implementation of the Sustainable Development Goals (SDGs) of the UN 2030 Agenda. Our owner, the City of Helsinki, uses these targets as a basis for its reporting on the entire Helsinki City Group.

Our sustainability targets are part of the set of strategic management indicators and the performance bonus system for the personnel and the management. One of the indicators applicable to the entire personnel is the indicator for the climate target tied to the Science Based Targets initiative. We monitor the achievement of the targets set in Helen's Management Group and in the management groups of our different functions. In addition, Helen's Board of Directors monitors, in particular, strategically key safety issues, the achievement of the carbon neutrality target and sustainability issues related to fuel procurement.

Practical sustainability and environmental management is also supported by operations-related systems as well as environmental and other guidelines. In addition, the following standards are applied in our operations:

Our sustainability targets are part of the set of strategic management indicators and the performance bonus system for the personnel and the management.

ISO 14001 standard on environmental management systems

Helen Ltd's electricity production, the production and distribution of heating and cooling as well as fuel procurement are certified in accordance with the ISO 14001 standard on environmental management systems.

ISO 45001 standard on occupational health and safety management systems

Helen Ltd's and Helen Electricity Network Ltd's occupational health and safety management system is certified in accordance with the ISO 45001 standard on occupational health and safety systems.

Read more: Corporate governance

Code of Conduct
Helen Group's Code of Conduct is the basis for all our operations and the most important commitment guiding the work of Helen's employees. All Group personnel must adhere to it. In addition, we require our partners to commit to the Code of Conduct. Helen's Code of Conduct is described more extensively in the section focusing on ethical conduct and compliance.

In addition, our work is guided by the policies that apply to the entire Helen Group:

- Code of Conduct
- Risk management policy
- Procurement policy
- Sustainability policy
- Competition law policy
- Financing and investment policy
- Personnel policy
- Helen Ventures' investment policy
- Internal audit guidelines

Helen's Board of Directors approved the policy package on 27 March 2023. The policies are complemented by operating principles and guidelines. Helen's policies are reviewed and, if necessary, updated annually in the constitutive meeting of the Board of Directors.

Read more: International initiatives and frameworks that guide our operations

Management of sustainability

Helen Ltd's Board of Directors
Sets requirements for sustainability work, monitors the achievement of strategic sustainability targets and approves the Sustainability Policy and the Code of Conduct.

Helen Ltd's Management Group
Is responsible for allocating resources for sustainability work, monitors the achievement of sustainability targets by quarter and approves the sustainability programme and sustainability report. Sustainability is included in the Management Group's agenda by the VP, Sustainability and Public Affairs.

Helen Group's functions
Carry out sustainability work and implement the sustainability programme in their daily work.

Helen Ltd's Extended Management Group
Handles sustainability issues that apply to the entire Group. The Extended Management Group consists of the members of Helen Ltd's Management Group, Helen Electricity Network Ltd's CEO and Helen Ltd's chief union representatives.

SUSTAINABILITY AND PUBLIC AFFAIRS FUNCTION
Coordinates the implementation of the sustainability programme under the leadership of the VP, Sustainability and Public Affairs and develops sustainability work together with Helen Group's functions.

SUSTAINABILITY TEAM
Carries out sustainability work in a network as part of the Group and its own operations. The Sustainability Team consists of designated experts from the Sustainability and Public Affairs function, the parent company and the subsidiaries.

Materiality analysis

With the aid of the materiality analysis, we have identified our most significant impacts on the environment and people as well as the key risks and opportunities for Helen's financial value creation. External and internal stakeholders play a critical role in the identification process.

In autumn 2023, we updated our materiality analysis, taking the principles of double materiality into account. The update process involved an external partner and was driven by the changing operating environment in the energy sector, the renewal of our strategy and the need to prepare for reporting in accordance with the EU's Corporate Sustainability Reporting Directive (CSRD).

Update process

The materiality analysis update started with collecting background materials and analysing existing information. As background materials, we used Helen's previous materiality analysis, personnel survey, customer satisfaction surveys and feedback as well as the results of the Reputation&Trust survey. Other input data included an operating environment analysis, risk assessments, Helen's review of the Task Force on Climate-related Financial Disclosures (TCFD) and materiality analyses conducted by other parties operating in the energy sector.

In the next phase, we sent an electronic survey to Helen's employees to find out our personnel's views on material topics and updates needed in the sustainability programme. We received 180 responses, with the response rate being 24%. On the basis of the survey results, we organised three workshops to review the most material impacts on sustainability and their prioritisation. The workshops reviewed and scored Helen's key positive and negative impacts on society as well as the financial risks and opportunities resulting from sustainability-related matters. Our Sustainability Team, which consists of experts from the parent company and subsidiaries and supports the entire Group's sustainability efforts, participated in these workshops.

After the background work, we prepared the first version of the materiality analysis together with our sustainability and risk management experts. We collected feedback from Helen's business functions on the first version and conducted stakeholder interviews, focusing on persons responsible for the City of Helsinki's ownership steering, Helen's largest customers as well as unions and associations that are critical from the point of view of impacts.

On the basis of the interviews and the feedback, we prepared the final version of the materiality analysis, which was approved by Helen's Management Group as part of the new sustainability programme.

> **"A sustainable energy system and climate change mitigation are still clearly the most material sustainability issues.**

Outcome

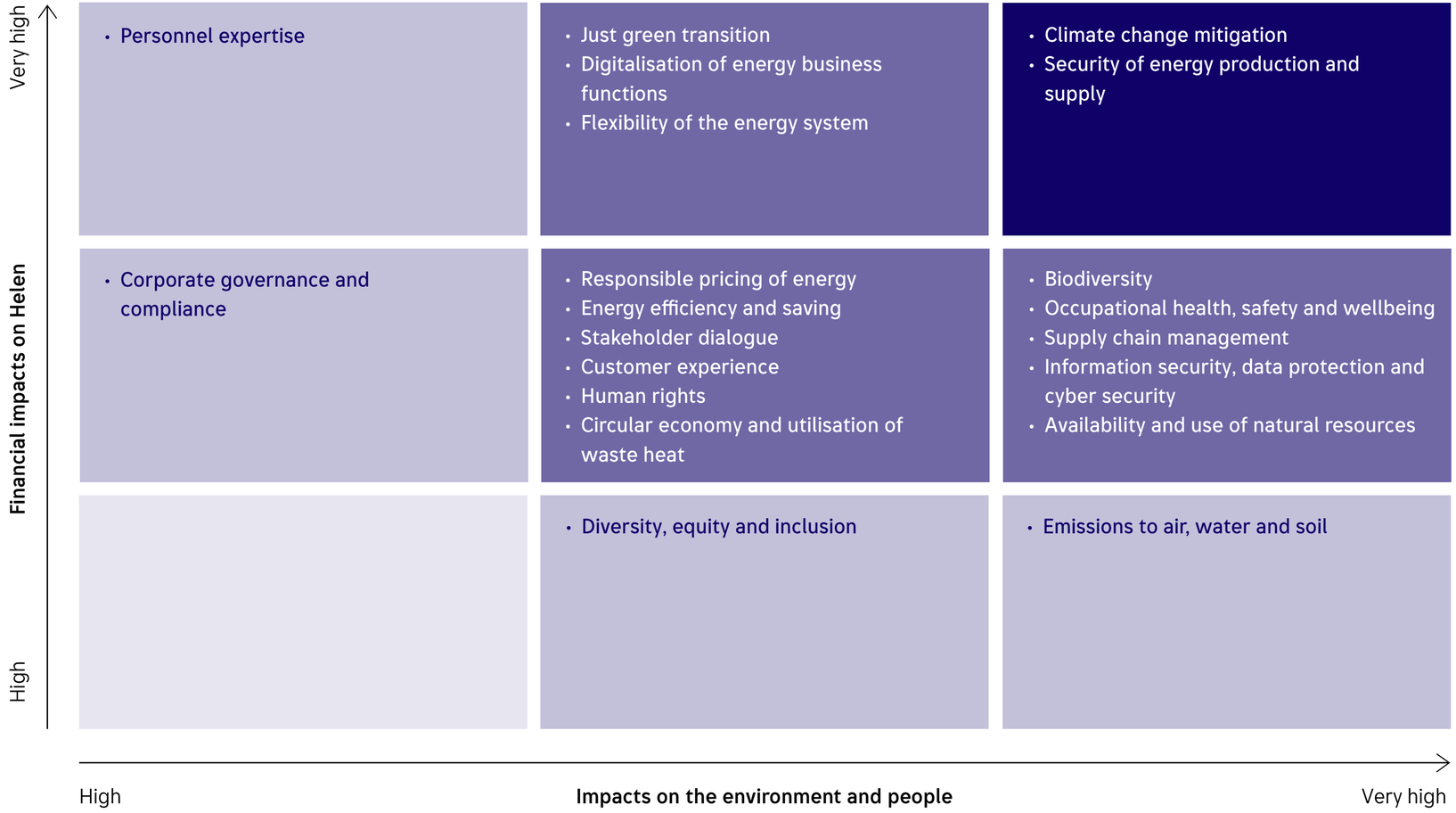
We present the results of the materiality analysis in the table on the right, which shows impacts from the double materiality perspective, prioritised in nine different fields. We provide verbal descriptions of the content of the material impacts on the next page.

For Helen Group, a sustainable energy system and climate change mitigation are still clearly the most material sustainability issues. This was also highlighted in the stakeholder interviews. Next in the order of materiality were security of supply and matters related to green transition and energy prices.

For Helen Ltd, the most material issues were the sustainability of the raw materials supply chain and carbon neutral energy production. Helen Electricity Network Ltd plays a key role in ensuring the security of supply and leading its partners' safety, security and sustainability efforts. In addition to the above, stakeholder cooperation and local influencing were emphasised in other subsidiaries.

In 2024, we will take a deeper look into material impacts in accordance with the requirements of the CSRD. We will analyse in further detail the disclosure requirements and related data points applicable to our future sustainability reporting and continue to collaborate with our stakeholders. In addition, we will integrate the materiality analysis more clearly into risk management.

Material impacts



Material sustainability impacts, risks and opportunities

ESRS*	Material themes	Material negative (↓) and positive (↑) impacts	Material financial risks (↓) and opportunities (↑)
Climate change	Climate change mitigation	↓ Direct and indirect CO_2 emissions from energy production accelerate climate change. ↑ Cleaner energy solutions reduce CO_2 emissions and thus mitigate climate change.	↓↑ The green transition has cost implications. The impact can be either positive or negative depending on the choices made and the success of their implementation. ↓ More frequent and intensive extreme weather phenomena damage infrastructure and cause interruptions in energy production. ↑ Emission-free forms of energy production and technological innovations improve competitiveness, create business opportunities, increase demand and improve Helen's financial position. Read more: Task Force on Climate-related Financial Disclosures (TCFD)
Pollution	Emissions to air, water and soil	↓ Flue gas emissions from energy production degrade air quality. ↑ Cleaner energy solutions reduce flue gas emissions and thus improve air quality. ↓ Energy production may impact the thermal balance and chemical state of bodies of water.	↓ Energy production can cause environmental damages, which result in pollution of soil and the related decontamination measures incur costs. ↓ Failure to comply with the limits of environmental permit regulations can cause reputational damage and costs.
Water and marine resources	Biodiversity	↓ Energy production transforms ecological corridors, aquatic ecosystems and species in bodies of water.	↓ Fishery obligations reduce the acceptability, continuity and profitability of hydropower use. ↑ Hydropower provides regulation capacity as weather-dependent production increases and ensures supply reliability as well as profitability.
Biodiversity and ecosystems	Biodiversity; Availability and use of natural resources	↓ The construction, operation and maintenance of energy production and distribution reduce biodiversity (e.g. the fragmentation of ecosystems and ecological corridors). ↓ The green transition multiplies the demand for critical raw materials and thus accelerates biodiversity loss. ↓ Biomass combustion influences land use and forest ecosystems.	↓ The increasing demand and limited supply of raw materials critical to the green transition increase prices and reduce availability.
Resource use and circular economy	Energy efficiency and saving; Circular economy and utilisation of waste heat	↓ Energy production generates by-products and waste. ↑ Waste heat is used in own heat production and energy production by-products are used in industry and earthworks.	↑ The circular economy creates new business opportunities and improves the cost efficiency of business operations.

* European Sustainability Reporting Standard

ESRS	Material themes	Material negative (↓) and positive (↑) impacts	Material financial risks (↓) and opportunities (↑)
Own workforce	Occupational health, safety and wellbeing; Human rights; Diversity, equity and inclusion; Personnel expertise	↓↑ The manner in which occupational health, safety and wellbeing are managed influences employees' wellbeing and private life. ↑ Business operations provide employment for people and have indirect financial impacts on the surrounding society through own employees. ↑ Competent employees promote Helen's and Finland's green transition.	↓↑ The availability and training of the personnel influence business growth and development.
Workers in the value chain	Supply chain management; Human rights	↓ The manner in which partners are managed influences the occupational health, safety and wellbeing of employees in the supply chain as well as their human rights. Negative impacts are more prominent in countries where working conditions are poor. ↑ Good supply chain management increases the supply reliability of energy production and promotes the supply chain's occupational safety practices and the realisation of human rights. ↑ Business operations provide employment for people and have indirect financial impacts on the surrounding society through the supply chain's employees.	↓↑ The overall efficiency of the supply chain and the manner in which partners are managed influence the availability and production costs of products and services. ↓ Unsafe working conditions and human rights violations among the supply chain's employees result in legal proceedings, reputational damage and costs. Availability-related challenges increase purchases from high-risk countries.
Affected communities	Stakeholder dialogue	↓ The construction, operation and maintenance of energy production and distribution have negative impacts on the residential and recreational use of living environments. ↑ Business operations provide employment for people and increase municipal tax revenue.	↓ Poor stakeholder dialogue increases resistance to energy production and distribution projects, thereby slowing down the progress of the projects and increasing their costs.
Consumers and end-users	Security energy production and supply; Just green transition; Responsible pricing of energy; Energy efficiency and saving; Stakeholder dialogue; Customer experience	↓↑ Supply reliability influences the outage times and number of outages experienced by customers. ↑ Helen's energy solutions improve customers' energy efficiency and save energy.	↓↑ Customers' perceptions of pricing and of the functionality of energy solutions influences the number of customers and the customer experience. ↓ Bottlenecks in the energy production and distribution infrastructure limit the ability to serve existing and new customers, thereby slowing down business growth.
Business conduct	Information security, data protection and cyber security; Corporate governance and compliance; Flexibility of the energy system; Digitalisation of the energy system	↓ Possible information security, data protection and cyber security incidents can cause energy supply disruptions to customers and functions critical to society. ↑ The digitalisation and flexibility of the energy system make it possible to provide customers with cost-efficient and emission-free energy and to help customers save energy and money.	↓↑ The digitalisation and flexibility of the energy system influence competitiveness and profitability. ↓ Inadequate information security, data protection, and cyber security management practices can result in legal proceedings, reputational damage and costs.

Material sustainability issues in our value chain

	SUPPLY CHAIN AND PROCUREMENT • Fuels and raw materials • Energy infrastructure • Transportation	ENERGY PRODUCTION • Fossil fuels • Renewables	ENERGY TRANSMISSION AND DISTRIBUTION • Transmission grid • Transmission network • District heating network • District cooling network	ENERGY SOLUTIONS CUSTOMERS AND USERS • Electricity, heating and cooling • Energy solutions
Climate change mitigation	■	■	■	■
Security of energy production and supply	■	■	■	▪
Biodiversity	■	■	▪	
Occupational health, safety and wellbeing	■	■	■	
Supply chain management	■	■	■	
Information security, data protection and cyber security		■	■	■
Availability and use of natural resources	■	■	▪	
Just green transition	▪			■
Digitalisation of energy business functions		■	▪	■
Flexibility of the energy system		■	▪	■
Responsible pricing of energy				■
Energy efficiency and saving		■	▪	■
Stakeholder dialogue	▪	▪	▪	■
Customer experience				■
Human rights	■			

■ Very significant ▪ Significant Not significant

	SUPPLY CHAIN AND PROCUREMENT • Fuels and raw materials • Energy infrastructure • Transportation	**ENERGY PRODUCTION** • Fossil fuels • Renewables	**ENERGY TRANSMISSION AND DISTRIBUTION** • Transmission grid • Transmission network • District heating network • District cooling network	**ENERGY SOLUTIONS CUSTOMERS AND USERS** • Electricity, heating and cooling • Energy solutions
Circular economy and utilisation of waste heat				
Emissions to air, water and soil				
Personnel expertise	Helen must have sufficient expertise to implement its strategy.			
Diversity, equity and inclusion	Helen's internal practices may have spillover effects on our stakeholders.			
Corporate governance and compliance	Good governance and compliance are the foundation of all our operations.			

■ Very significant ■ Significant ■ Not significant

Sustainability programme

THEME	TARGET	METRIC	PROGRESS IN 2023		SDG
Sustainable energy system We are leading the energy transformation as a trailblazer of the green transition. Our target is to make our energy production carbon neutral by 2030 and to phase out combustion-based energy production by 2040.	We will discontinue the use of coal in 2025 and seek to phase out combustion-based energy production in 2040	%	ϟϟϟ	**The Hanasaari coal power plant was closed, and the use of coal decreased by 46% compared to the previous year. The share of carbon neutral energy production is 55%.**	7, 9, 13
	We will reduce our Scope 1 emissions by 80% by 2025 from a 1990 base year	%	ϟϟϟ	**-51%**	
	We will reduce our Scope 1 and Scope 2 emissions by 77% per MWh of electricity and heat produced by 2030 from a 2019 base year	%	ϟϟϟ	**-25%**	
	We will reduce our Scope 1 and Scope 3* emissions by 77% per MWh of electricity and heat sold by 2030 from a 2019 base year	%	ϟϟϟ	**-39%**	
Biodiversity We operate on the terms of biodiversity, aiming for long-term net positivity.	We only use sustainability-certified biomass or biomass sourced from controlled origins	%	ϟϟϟ	**100%**	
	We conduct a biodiversity survey in all our new energy infrastructure projects that exceed EUR 10 million and in smaller projects that are located near identified sensitive natural areas	%		**We will report on our progress against the target for the first time in 2024**	
	We launch at least 5 projects annually to protect biodiversity	**number**		**We will report on our progress against the target for the first time in 2024**	
Attractive employer We promote occupational wellbeing and safety. We build an inclusive work community and guarantee our employees equal opportunities. We offer meaningful tasks and growth paths.	We manage and report on our strategic partners' occupational safety with the target of zero accidents	**LTIF, TRIF**	ϟ	**LTIF including main partners: 1.80**	
	Our employee Net Promoter Score is at level 37 at a minimum	**eNPS**	ϟϟ	**33**	
	100% of our personnel will have completed sustainability training in 2024	%		**We will report on our progress against the target for the first time in 2024**	
	We take diversity into account in our supervisor training and measure the realisation of diversity in our personnel survey	**eNPS**	ϟϟ	**Personnel survey: I am content with how Helen Group supports diversity and equality: 24**	
Sustainable supply chain We ensure that our operating methods are sustainable for people and the environment. We are a reliable partner.	We audit 80% of the value of purchases from our strategic and key suppliers by 2024	%		**We will report on our progress against the target for the first time in 2024**	8
	100% of our strategic and key suppliers have filled in our sustainability survey	%		**We will report on our progress against the target for the first time in 2024**	
	80% of our strategic and key suppliers have set an emissions reduction target	%		**We will report on our progress against the target for the first time in 2024**	
Customer-driven products and services We take care of the maintenance of energy infrastructure that is critical to society and ensure security of supply. We provide sustainably produced and responsibly priced energy. We increase the flexibility of the energy system in cooperation with our customers.	Our average annual outage time is				12
	• electricity: < 5 min	**min**	ϟϟϟ	**3.7 min**	
	• heat: < 2 h	**h**	ϟϟ	**2.2 h**	
	• cooling: < 2 h	**h**	ϟ	**3.8 h**	
	We maintain our B2C customers' Net Promoter Score at 20 at a minimum	**NPS**	ϟ	**10.1**	
	We rank at least 2nd in sustainability in the Brand Tracking measurement in the entire market	**Brand Tracking**	ϟϟϟ	**2nd place**	
	Our customers increasingly choose clean energy	%		**We will report on our progress against the target for the first time in 2024**	
Compliance We comply with laws and regulations and train our personnel and partners regularly. We report on deviations and provide information about our operations transparently.	We operate in compliance with requirements and annually, we have zero of the following: confirmed cases of bribery or corruption; legal actions related to anti-competition practices; fatalities or serious accidents; confirmed cases of discrimination; confirmed cases of child, forced or compulsory labour; breaches of regulations related to product and service information and labelling; breaches of marketing communications regulations; and confirmed complaints related to breaches of customer privacy and losses of customer data	**number**	ϟϟ	**Zero accidents at Helen, but two serious accidents in the supply chain**	

* The Scope 3 emissions target includes greenhouse gas emissions from the energy production of associated companies as well as emissions related to the production of purchased and sold electricity and heat.

ϟϟϟ On target ϟϟ Close to target ϟ Far from target

Value creation

Capitals

Employees

- 786 energy professionals

Partner network

- Fuel suppliers, contractors and service providers
- Project partners and growth companies

Energy sources

- Water
- Uranium
- Wind
- Sun
- Biomass
- Coal
- Natural gas
- Fuel oil
- Waste heat and environmental heat
- Geothermal heat

Infrastructure

- Electricity network
- District heating network
- District cooling network
- Wind and solar farms
- Power plants
- Heating plants
- Heat pumps
- Energy storage

Financial capital

- Investments in carbon neutral energy: EUR 421 million
- Purchases: EUR 1 314 million
- Balance sheet: EUR 4 005 million

Intellectual capital

- Attractive corporate culture
- Strong brand
- Active product development
- Certified environmental and safety systems

Business operations

Our target is to make our energy production carbon neutral by 2030 and to phase out combustion-based energy production by 2040.

Strategic priorities

- **Green transition:** We are a trailblazer of the green transition
- **Flexibility:** We respond to increasing electricity price fluctuations with superior flexibility
- **Profitability:** With profitable business, we enable investments in the green transition

Values

World-class expertise

Champions of cooperation

From people to people

Make it happen

Outputs and impacts

Products and services

- Electricity production: 4 686 GWh
- Electricity transmission: 4 387 GWh
- Heat production: 6 673 GWh
- Cooling production: 205 GWh
- E-mobility: 1,300 charging points sold
- Public charging network: 850 charging points
- Solar power plants: 5,885 kW

Customers

- More than 560,000 customers
- Customer experience (EPSI Rating): 66.3
- Electricity supply reliability: 99.9993%
- Average outage time per customer
  - Electricity: 3.7 minutes
  - Heating: 2.2 hours
  - Cooling: 3.8 hours

Environmental impacts

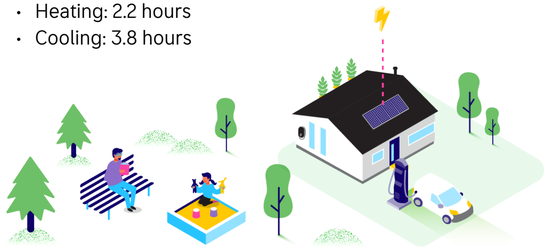
- CO_2 emissions: 2.41 million tCO_2e
- Direct CO_2 emissions (Scope 1): 1.66 million tCO_2e
- Specific emissions: 156 gCO_2e/kWh
- Carbon neutral energy: 55%

Social impacts

- Lost-time incident frequency (LTIF): 1.8
- Employee experience (eNPS): 33
- Societal influencing
- Energy education

Financial impacts

- Net sales: EUR 1,826 million
- Operating profit: EUR 93 million
- Wages and salaries: EUR 54 million
- Taxes: EUR 133 million



Risk management

For us, risk management is a systematic and proactive approach to identifying, analysing and managing the uncertainties related to our operations.

Our work is guided by Helen Group's risk management policy, which defines the targets, procedures, responsibilities and reporting methods related to risk management. In accordance with the policy, we regularly identify and assess the key risks and uncertainties in our operating environment. Aspects taken into account in our risk management include, for example, the uncertain geopolitical situation in Europe.

We assess the likelihood of risks and their impacts on business operations from five points of view: economy, customer experience, sustainability, supply reliability and employees. We have identified risks that we estimate to have at least a moderate impact on the sustainability of our operations.

Read more: Helen Group's financial statements and the report of the Board of Directors

Safety and security

Safety and security risks may be associated with our basic functions, our employees or city residents, among other things. Our energy system is constantly a target for potential hybrid operations. Our infrastructure may be subject to hostile cyber or physical interference by a third party that obstructs or disrupts the company's operational activities. The consequences would be immediately visible to our customers as distribution disruptions in the electricity, district heating or district cooling network.

We prevent safety and security risks by taking care of our energy production and distribution systems and by providing a safe work environment. In addition, we constantly assess and develop the level of cyber security and the related capabilities. The safety and security practices and the related risk management methods are regularly audited as part of our quality and environmental certificates.

Supply reliability

Energy supply reliability ensures that customers get energy reliably under all circumstances. Risks to energy supply reliability include, among other things, weather conditions, disruptions in information networks, changes in the sustainability and acceptability of different forms of production, energy price fluctuations and equipment failure. If these risks are realised, they may affect our energy system's ability to provide energy reliably to our customers. We consider it possible that one of these risks may be realised in the near future.

We manage risks related to supply reliability by measures such as strengthening the operation of energy distribution and transmission networks, maintaining the information network and equipment, investing in the development of a versatile energy system and implementing our sustainability programme.

Security of supply

Security of supply refers to safeguarding, during serious disruptions and exceptional circumstances, critical production, services and infrastructure that are indispensable in terms of the livelihood of people, the economic life and the defence of the country. Helen ensures energy supply in the Helsinki metropolitan area and our energy production, transmission and distribution systems are part of Finland's critical infrastructure. The risk of being influenced by parties outside our energy system has increased due to the geopolitical situation.

We are constantly cooperating with the authorities by participating in drills that improve security of supply in both the Helsinki metropolitan area and the entire Finland. In this way, we ensure seamless cooperation during disruptions and exceptional circumstances. Alternative fuels and energy production methods, reserve stockpiles of fuel, improvement of energy efficiency and energy storage are a few examples of the means by which we guarantee the security of energy supply during disruptions.

Supply chains

Supply chain sustainability risks can be complex and managing them requires cooperation between different parties. Sustainability risks in supply chains include, for example, shortcomings related to the human rights, health and safety of employees, the use and sufficiency of critical raw materials and natural resources, the availability of fuels, fair competition and compliance with legislation.

The possibility that supply chain sustainability risks are realised increases as the energy markets become more complex and the political environment is more unpredictable. The importance of biodiversity will increase in the coming years and the impacts of this on the biofuels we use may include higher taxes and other fees. If realised, risks related to the availability of critical raw materials may affect

energy production and the availability of green transition technology.

We manage risks related to supply chains by requiring our partners to comply with our Supplier Code of Conduct, supporting socially sustainable practices, promoting openness and transparency in supply chains, conducting background checks on suppliers, performing supplier audits and using certified supply chains in the procurement of biofuels and other products and materials. We prepare for risks associated with fuels and raw materials in our production plans, which include a reserve fuel for each fuel.

Climate change and biodiversity

Risks related to climate change include, for example, changing weather conditions, greenhouse gas emission restrictions or the impacts of Helen's own operations on climate change. If realised, these risks may affect our operations and financial performance. Extreme weather phenomena and temperatures may have negative impacts on the functioning of the energy production and distribution infrastructure and affect procurement chains and the availability of raw materials.

We manage risks associated with climate change by taking climate change into account in our strategy and decision-making, participating in international climate agreements, implementing carbon neutrality projects, optimising and securing energy procurement and maintaining plant-specific operating guidelines related to weather conditions.

We have also identified risks that may have impacts on the implementation of Helen's carbon neutrality programme and its measures to combat climate change. We manage these risks by establishing possible scenarios and further boosting the related risk management measures.

Risks related to climate change are described in more detail in the TCFD (Task Force on Climate-related Financial Disclosures) table. TCFD is an international reporting framework focused on threats and opportunities related to climate change. With it, we have identified the key risks and opportunities influencing our business as well as the associated measures.

Our energy production and distribution and investments in renewable energy production may have impacts on biodiversity. We manage biodiversity-related risks with our biodiversity strategy, which aims at net positivity with regard to environmental impacts. In addition, we are creating a roadmap to protect biodiversity.

Competence

Helen's goal is a sustainable energy system, the achievement of which requires competence and new capabilities. Deficiencies in the necessary competence and capabilities can slow down the green transition and the achievement of our targets. We manage these risks by systematically developing our personnel's competence and by offering meaningful tasks and growth paths.

Code of Conduct

The Code of Conduct is the basis for our operations. Failure to comply with the Code of Conduct may lead to reputational risks, for example. We manage these risks by training our personnel to adhere to the Code of Conduct in their work. It is also part of the orientation programme for new employees. We monitor compliance with the Code of Conduct.

Services and solutions

In our development work, we invest in sustainable solutions that enable carbon neutral energy production and green flexibility. Risks related to the development of solutions for the green transition and sustainably produced energy include an increase in consumer prices, which may influence the demand for Helen's services and solutions. We manage this risk by monitoring cost efficiency to maintain competitive prices.

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We regularly identify the key risks in our operating environment.

Task Force on Climate-related Financial Disclosures (TCFD)

Climate-related risks

Category	Sub-category	Risk	Risk level	Term	Risk management measure
Legislation	EU	The EU's future energy and climate policy influences the profitability of the energy companies' current and planned investments. Environmental aspects associated with biomass are re-examined.	High	Medium	Anticipating future legislative changes and influencing them by highlighting Helen's points of view.
Legislation	National	The national interpretation of the EU directives does not support the profitable business of energy companies. For example, additional fees are imposed on renewable energy production forms and a potential bioenergy tax is introduced. The lack of a long-term policy in decision-making can lead to energy companies' uncertainty regarding investments in renewable energy production. Legislation does not support the deployment of new technology.	High	Medium	Anticipating future legislative changes and influencing them by highlighting Helen's points of view.
Legislation	Zoning and land use	New renewable energy cannot be built cost-efficiently on a short schedule, due to reasons such as the zoning of the wind and solar farm locations or the routes of transmission connections.	Moderate	Medium	Influencing zoning and having open discussions with local communities.
Technology	Electricity network connections	Emission-free energy production, especially wind and solar power, increases so significantly that connection lines to the main grid cannot be built quickly enough.	Moderate	Medium	Good interactive partnership with the transmission system operator.
Technology	New technologies	New technology does not function as expected in commercial use. The operational challenges of new technology in continuous production use complicate the transition to emission-free energy production.	High	Medium	Good understanding of technological development and solutions and risk diversification with partners, for example.
Technology, Market	New technologies, Financing	It is difficult to obtain necessary financing for product development. New technology does not attract investors to invest as it is considered too uncertain.	High	Medium	Good understanding of technological development and solutions, describing them to providers of financing and risk diversification with partners, for example.
Climate	Extreme weather phenomena and temperature fluctuations	Extreme weather phenomena and temperatures have negative impacts on the functioning of the energy production and transmission infrastructure, resulting in reduced usability of energy production plants. In addition, they influence the operation of procurement chains, which delays the delivery of goods.	Moderate	Medium	Taking major temperature fluctuations and extreme weather phenomena into account in the placement and planning of production plants and energy transmission lines.
Climate	Permanent rise in temperature or water level	Restrictions are placed on the location of production sites or there are challenges in energy distribution.	Low	Long	Considering the location of production plants in relation to bodies of water, seas and protected areas.

Climate-related risks

Category	Sub-category	Risk	Risk level	Term	Risk management measure
Reputation	Targets	Helen's carbon neutrality target does not meet the expectations of stakeholders or customers. EU taxonomy requirements cannot be met, which can make it more difficult to get financing.	Moderate	Medium	Transparent reporting and communications, SBTi-compliant climate targets and EU taxonomy-aligned activities and reporting.
Reputation	Procurement chain	Sustainability in the procurement chain cannot be fully ensured.	Moderate	Medium	Ensuring the sustainability of the supply chain in all procurement.
Reputation	Forms of production	The sustainability and acceptability of different forms of production change. Not all forms of production correspond to the customers' view of respon-sible and acceptable energy production.	High	Medium	Transparent reporting and communications, SBTi-compliant climate targets and EU taxonomy-aligned activities and reporting.
Reputation	Forms of production	It becomes more difficult to combine affordable energy production and the green transition.	High	Medium	Detailed validation of investment calculations and monitoring of the profitability of investments.
Market	Price	Volatility in the fuel and energy markets increases. Renewable energy is guiding the formation of electricity prices to an increasing extent.	High	Short	Utilisation of financing mechanisms to strengthen the company's liquidity.

Climate-related opportunities

Category	Sub-category	Opportunity	Opportunity level	Term	Opportunity promotion measure
Resource efficiency	Energy efficiency	New emission-free forms of energy production increase energy efficiency. The efficiency of energy production and transmission improves.	High	Medium	Investments in emission-free energy production.
Emissions reduction	Products and services	The energy partnership with the customer becomes deeper. Customer dialogue enables the innovation of new product and service opportunities.	Moderate	Medium	Customer engagement and a deep understanding of their needs.
Technology	Innovations	Technological energy production innovations create competitive advantage in the market, which increases net sales.	High	Medium	Customer engagement and a deep understanding of their needs.
Technology	Innovations	Technological energy production innovations improve the company's financial position.	High	Short	Giving providers of financing a clear and transparent description of the threats and opportunities of investments and realistic return expectations.
Technology	Products and services	The energy transition makes it possible to develop new products and services. A good reputation increases the demand for low-emission products.	Moderate	Medium	Stakeholder engagement and a deep understanding of their needs.

Sustainable energy system

We are building a sustainable energy system based on carbon neutral electricity, heat and cooling production. As the operating environment changes, we are constantly developing more efficient ways to produce, store and recycle energy. At the same time, we are making determined progress towards our emissions reduction targets.

For decades, our energy production has been based on energy- and cost-efficient combined heat and power generation. Producing power and heat in the same process requires significantly less fuel than when they are produced separately. However, as the operating environment is changing, the foundation for combined heat and power generation has crumbled and the transition to carbon neutral energy production has accelerated.

The energy transition took concrete form in April when the Hanasaari power plant that served the residents of Helsinki for nearly 50 years was decommissioned. As the power plant used coal as its main fuel, its decommissioning cut our CO_2 emissions significantly, enabling us to take a major leap towards carbon neutral energy production. The impacts of the decommissioning are not negligible at the national level either as, in its final years, the power plant produced about 2% of Finland's emissions.

Due to the uncertainties caused by Russia's war of aggression and the subsequent energy crisis, we made the decision to continue production at the Salmisaari power plant for one more year, the 2024–2025 heating season. With the decision, we secure heat supply reliability and security of supply in Helsinki. It does not, however, influence our carbon neutrality target. The plant's coal-based production will end in April 2025, at which point we will abandon the use of coal altogether.

In 2023, we produced a total of 4,686 (2022: 4,800) GWh of electricity, which is 2% less than in the previous year. Electricity transmission in Helsinki was 4,387 (4,351) GWh. Due to warm weather, our heat production decreased by 3%, totalling 6,673 (6,854) GWh. The amount of purchased heat (136 GWh) is included in the heat production figure. Our cooling production amounted to 205 (207) GWh.

In

2023

the share of carbon neutral energy production was 55%.

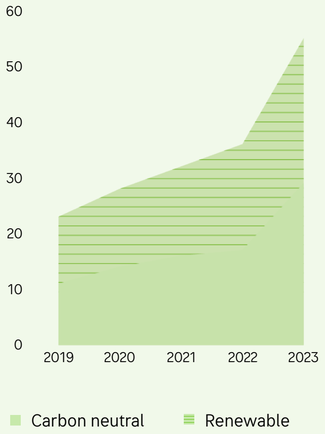
The share of renewable energy in our production increased to 26% (19%). The increase was primarily attributable to the commissioning of the Vuosaari bioenergy heating plant at the turn of the year 2022–2023. The share of carbon neutral energy production was 55% (36%). In addition to renewable sources of energy, we produce carbon neutral energy with nuclear power. Nuclear power capacity increased significantly with the commissioning of the Olkiluoto 3 nuclear power plant unit, owned partly by us, in spring 2023.

Use of fuels

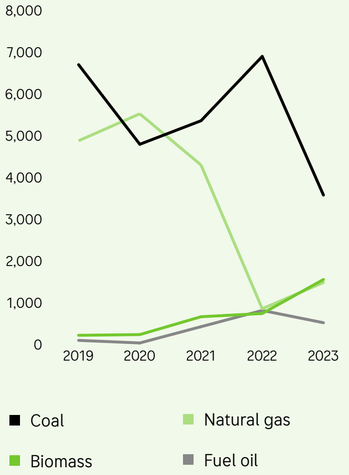
We used a total of 7,156 (9,323) GWh of fuels in our energy production. As fuel, we use coal, natural gas, fuel oil, wood chips and pellets. The Vuosaari combined power plants use natural gas as their main fuel and the Salmisaari power plant uses coal. We are increasingly using pellets, in Salmisaari, for example, and biomass in the Vuosaari bioenergy heating plant. In addition, small amounts of fuel oil are used in heating plants that support heat production in different parts of the city.

Our use of coal decreased by nearly 50% compared to the previous year as a result of the decommissioning of the Hanasaari power plant. At the same time, our use of biofuels doubled with the commissioning of the Vuosaari bioenergy heating plant. The use of natural gas increased by 73% and the use of fuel oil decreased by 36%. The increase in natural gas is explained by the exceptional previous year, during which our use of natural gas collapsed due to the price increase and the cessation of Russian imports.

Carbon neutral and renewable energy production, %



Use of fuels, GWh*



* The energy content of fuels has been calculated on the basis of measured amounts used and heat values.

The overall efficiency of our use of fuels was record-breaking: 99.30% (96.13%). This improvement can be primarily attributed to the increased use of natural gas and energy-efficient heat pumps. In line with the Energy Efficiency Act, we carried out the company-level energy audit, to be conducted every four years, as well as a related site audit. The site audit focused on the lowering of the supply and return temperatures of the district heating network, which, on the basis of the audit, has a significant impact on network losses and costs.

The energy intensity of energy production was 1.01 (1.04). The energy intensity indicates how much energy (fuels and electricity) we have consumed in relation to the energy (electricity and heat) we produce. The lower the number, the better the energy efficiency of the energy system.

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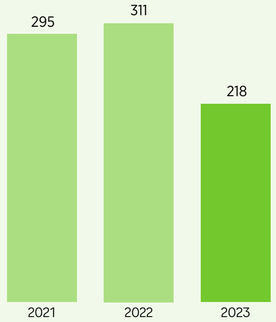
We will discontinue the use of coal in 2025.

Emissions intensity, kgCO_2e per MWh*



* Total emissions (Scope 1, 2 and 3) per energy sold.

Emissions reduction

In 2022, we became the first Finnish energy company to receive approval for our emissions reduction targets from the Science Based Targets initiative (SBTi). The targets are based on a scientific calculation method, which aims to ensure consistency with the Paris Agreement's target of limiting global warming to below 1.5°C.

SBTi provides indicators that help boost our emissions reductions, increases the transparency of our sustainability work and shows our progress in reducing emissions. By 2030, we are committed to reducing:

- our Scope 1 and Scope 2 greenhouse gas emissions by 77% on the 2019 level, per MWh of electricity and heat produced
- our Scope 1 and Scope 3 greenhouse gas emissions by 77% on the 2019 level, per MWh of electricity and heat sold

The year 2019 has been chosen as the reference year for the calculation as the emissions for that year represent the Group's typical emissions. In terms of emissions, 2020 was an exceptional year due to the global COVID-19 pandemic.

For Scope 3 emissions, the target encompasses greenhouse gas emissions from our associated companies' energy production as well as emissions related to the production of purchased and resold electricity and heat. The emissions calculation principles are described in more detail in the report appendices.

Our direct greenhouse gas emissions (Scope 1) were 1.66 (2.68) million tonnes of CO_2e, a reduction of approximately 38% from 2022. Specific emissions from our energy production decreased by 33% to 156 (232) gCO_2e/kWh. Specific emissions from energy production include Helen's electricity and heat production (including associated companies) resulting in Scope 1 and Scope 2 emissions, as well as purchased heat emissions. Scope 2 emissions also account for emissions from the pumping and heat transfer stations for district heating.

GHG emissions, tCO_2e

	2023	2022	2021
Total emissions (Scope 1, 2 and 3)	2,410,074	3,421,457	3,643,549
Direct GHG emissions (Scope 1)	1,656,084	2,680,478	2,773,101
Direct biogenic CO_2 emissions (Scope 1)	622,756	296,636	267,485
Indirect GHG emissions of energy (Scope 2) – Market-based emissions	118,542	23,847	7,970
Indirect GHG emissions of energy (Scope 2) – Location-based emissions	17,572	22,872	40,004
Other indirect GHG emissions (Scope 3)	635,448	766,750	862,187

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Our direct greenhouse gas emissions (Scope 1) were 1.66 million tCO_2e.

The denominator for specific emissions is the electricity and heat produced by Helen. The significant emissions reduction is mainly attributable to the considerable decrease in the use of coal as the Hanasaari power plant was decommissioned.

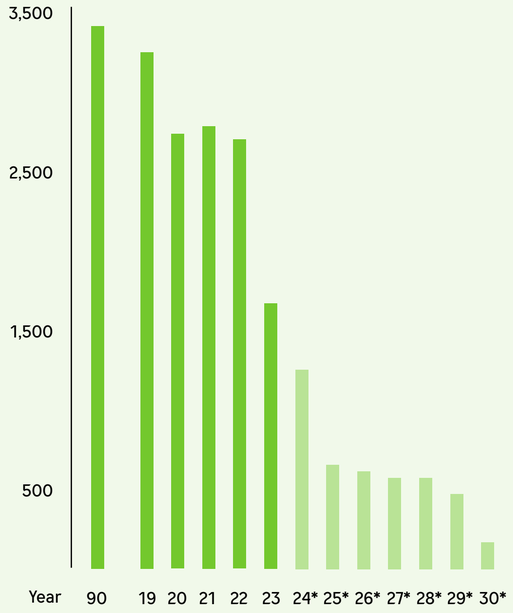
Strong greenhouse gases (F-gases) that we use in cooling and electrical equipment as insulant and refrigerant can end up in the atmosphere as a result of a leak. We keep a record of the amount of strong greenhouse gases and prevent leakage in the equipment with appropriate maintenance and inspections. In addition, we prepared for the EU's F-gas Regulation by, among other things, conducting a technology analysis on SF6-free electricity network equipment. In 2023, leakages totalled 0 (13) kg.

Carbon neutrality programme

We have set a target of making our energy production carbon neutral by 2030. In addition, we aim to phase out combustion-based energy production by 2040. Our carbon neutrality programme describes our emissions reduction journey and the actions for reaching our target, reducing our dependence on imported fossil energy and increasing our energy self-sufficiency.

We will build more than 2,000 MW of capacity to replace fossil energy production by 2025. By that same year, we will abandon the use of coal. Our electricity production already consists mainly of wind, solar, hydro and nuclear power. In heat production, we are constantly increasing the use of sustainable bioenergy, electric boilers and heat pumps utilising waste and environmental heat. In 2023, we invested EUR 421 (221) million in carbon neutral energy production.

Direct GHG emissions (Scope 1), $ktCO_2e$



* Forecast

In our new strategy, we have defined green flexibility as our strategic choice: we combine carbon neutrality with flexible production and consumption. We will turn the green transition into reality together with our customers and partners.

Our emissions reduction schedule

2024: at least 60% on the 1990 level

We will move towards distributed heat production and a sustainable energy system. We will replace fossil energy production with sustainable bioenergy, heat pumps, electric boilers, energy storage and wind, solar and nuclear power.

2025: at least 80% on the 1990 level

Our heat production will mainly consist of heat pumps utilising waste and environmental heat, electric boilers, energy storage and sustainable bioenergy. We will produce electricity mainly with wind, solar, hydro and nuclear power.

2030: at least 95% on the 1990 level

We will further increase wind and solar power and the amount of non-combustion heat production especially with heat pump solutions. We will offset the remaining emissions, which are mainly caused by natural gas and fuel oil used in heating plants and the Vuosaari power plants.

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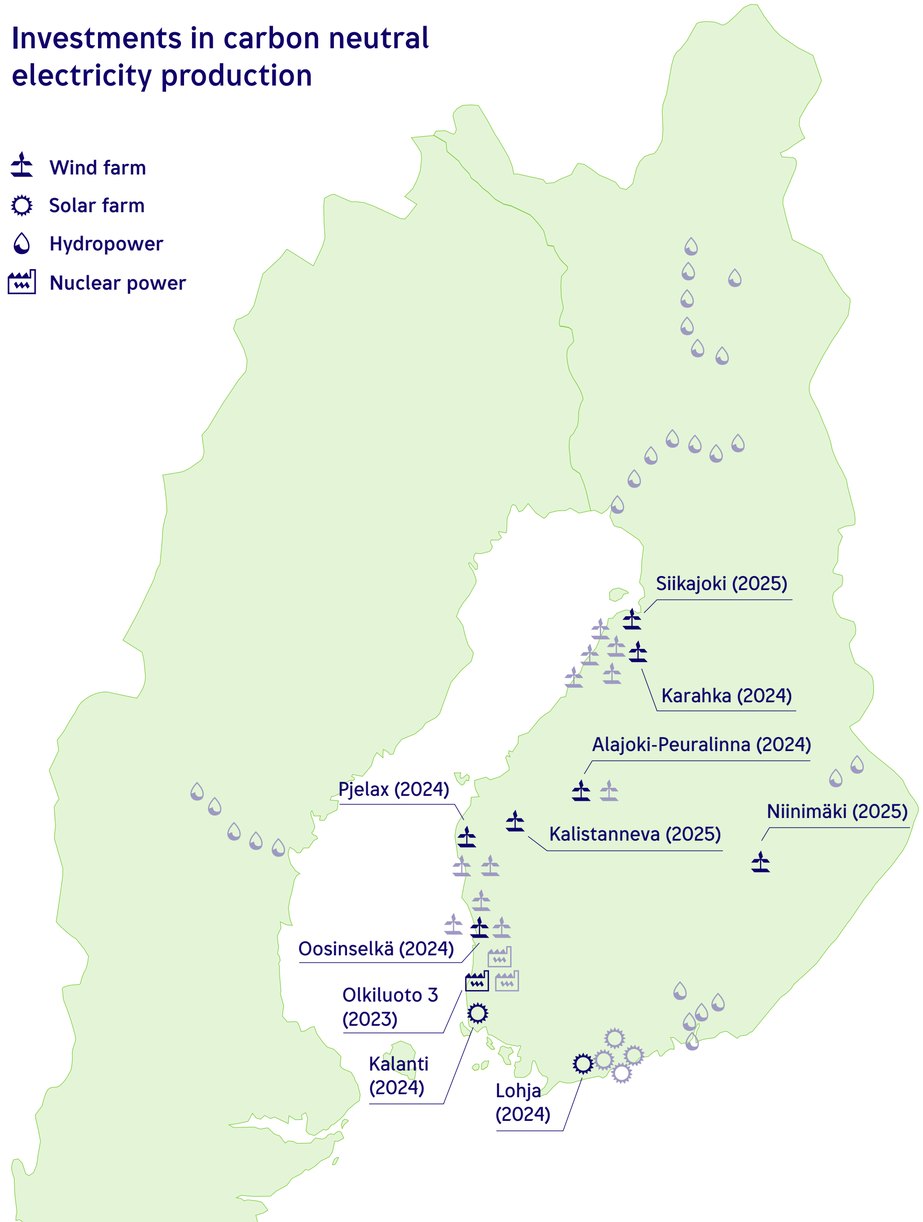
We will build more than 2,000 MW of capacity to replace fossil energy production by 2025.

Hydropower and nuclear power
We own hydropower capacity through our subsidiaries and associated companies by River Kymijoki and River Kemijoki and in Sweden. Hydropower plays a key role in balancing the electricity system as it helps in adjusting electricity production according to consumption. In 2023, we carried out hydropower-related renovation and started the construction of a hydraulic fishway at the Ahvenkoski hydropower plant, located by the River Kymijoki. We procure nuclear energy from the Olkiluoto nuclear power plant through our subsidiary Oy Mankala Ab.

Wind power
Our wind power capacity currently consists of the Lakia-kangas 3 wind farm, which we own completely, and the Juurakko wind farm, which we own together with the Bank of Åland Wind Power Special Investment Fund. Their total capacity is 126 MW. The amount of electricity we produce with wind power is also increased by the wind farms owned by Suomen Hyötytuuli Oy, with our subsidiary Oy Mankala Ab as one of the company's shareholders. At the end of the year, our total wind power capacity in production was 154 MW.

In 2023, we focused on implementing the wind power investments made in the previous year by us and by our partners, by building wind farms in different parts of Finland. The concrete results of the projects can be seen in 2024–2025 when the farms will move into production. The wind farms under construction will bring an increase of 782 MW in our wind power capacity and in 2025, the amount of our annual wind power production will exceed the amount of electricity previously produced with coal.

Investments in carbon neutral electricity production



The 381 MW Pjelax wind farm and the 148 MW Karahka wind farm will start regular electricity production in 2024. It is estimated that the 165 MW Kalistanneva wind farm and the 145 MW Niinimäki wind farm will be completed in 2025. When completed, the Niinimäki wind farm in Pieksämäki will be the largest wind farm in Eastern Finland.

Suomen Hyötytuuli Oy's 93 MW Oosinselkä wind farm and 92 MW Alajoki-Peuralinna wind farm will be completed in 2024 and the 243 MW Siikajoki wind farm in 2025.

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The wind farms under construction will bring an increase of 782 MW in our wind power capacity.

Solar power
Solar farms are still rare in Finland, but they will be part of the renewable electricity production palette in the future. In Finland, the production of solar energy takes place during the bright summer months and it supplements wind power. We produce solar energy at the Nurmijärvi solar farm and at the Suvilahti, Kivikko and Messukeskus solar power plants. In addition, two new solar farms are under construction in Kalanti and Lohja.

It is estimated that the Kalanti solar farm will start production in 2024. When completed, it will be Finland's largest solar farm, with a capacity of 206 MW. The farm's annual production of 200 GWh corresponds to the annual electricity consumption of 34,000 two-bedroom apartments.

In 2023, we invested in a solar farm to be built in Lohja, with a capacity of 8.5 MW and an annual production of 8,500 MWh, corresponding to the annual electricity consumption of 4,000 two-bedroom apartments. The construction of the farm began in November and the farm is due to be completed in 2024.

Energy storage
We increased our flexibility with the 5 MW storage built at Helen's Lakiakangas 3 wind farm. It contributes to balancing the electricity system by acting as a source of power in both the electricity and reserve markets. We are building electricity storages also in Lohja and Nurmijärvi.

The construction of the Kruunuvuorenranta seasonal heat storage facility and the related heat pump plant is in the final stages. The seasonal storage facility contributes to heat production by utilising sun-heated seawater and the recycled heat of residential buildings.

SOLAR ENERGY FROM NURMIJÄRVI

Our first industrial-scale solar farm, located in Nurmijärvi, started to produce electricity in March. The total capacity of the farm is 1.5 MW and its annual production of 1,500 MWh corresponds to the annual electricity consumption of 750 two-bedroom apartments. Finland's climate is proven to be very suitable for the efficient use of solar panels, and the total annual production of solar farms is similar to that of Northern Germany.

The need for electricity and heat storage is growing every year as the green transition requires more flexibility from the energy system. In the autumn, we launched the Battery Yield service to our customers. The service focuses on operating megawatt-scale electricity storage and promotes the storage facilities' contribution to the market.

Heat pumps and electric boilers
The district heating network is a critical part of a sustainable energy system as it makes it possible to replace fossil fuels with a diverse selection of emission-free heat sources. For Helen, waste and environmental heat are a significant source of district heat and an opportunity to develop solutions that support the circular economy.

One of the cornerstones of our heat production is the heat pump plants located under the Katri Vala park and the Esplanadi park, which produce emission-free heat and cooling for the needs of the residents of Helsinki. The seventh – and last – heat pump at the Katri Vala heat pump plant was deployed in spring after an expansion project of three and half years. In total, the amount of energy produced with heat pumps was 36% higher than in the previous year.

The Salmisaari production site is undergoing extensive renewal with a pellet boiler, two electric boilers and an industrial-scale air-to-water heat pump plant being built there. They will be deployed in heat production during the 2024–2025 heating season. There will also be major changes in Hanasaari, where we will continue our operations in the area of the energy block that has been zoned next to the power plant that was decommissioned in the spring. We will build three electric boilers in the premises

"The district heating network is a critical part of a sustainable energy system.

WE ARE PLANNING FINLAND'S FIRST NUCLEAR HEAT PLANT

We signed a Letter of Intent with the Finnish company Steady Energy Oy with the aim of enabling an investment in a small-scale nuclear heat plant. The launch of cooperation would enable Helen to procure up to ten reactor units from Steady Energy Oy. Small modular nuclear reactors are one of the most promising solutions for rapidly and cost-efficiently decreasing the emissions of both electricity and heat production. However, their construction still requires legislative reforms.

of the heating plant located in the area, with boiler power corresponding to the annual heat consumption of more than 40,000 two-bedroom apartments. In addition, we are planning a new air-to-water heat pump plant in the Patola heating plant area.

Construction continued throughout the year at the Eiranranta heat pump plant, which is estimated to be completed in 2025. The plant will produce emission-free district heating and cooling from purified wastewater that has already been used for the production of district heating at the Katri Vala heat pump plant. In addition to heat pumps, the plant will also have an electric boiler.

Data centres are also a significant source of waste heat. In the spring, we started to use waste heat generated by Telia Finland Oyj's data centre located in Pitäjänmäki, Helsinki, in our district heating network. A similar solution is being built for Equinix Oy's data centre in Viikinmäki. We are exploring ways to increase the use of data centre waste heat.

Sustainable bioenergy

The Vuosaari bioenergy heating plant, which started producing heat at the end of 2022, replaced a significant part of the district heating production of the Hanasaari power plant, which was decommissioned in April 2023. The district heat output of the Vuosaari bioenergy heating plant is over 260 MW and it accounted for approximately 33% of our total heat production in 2023. The main fuel used at the plant is wood chips, a by-product of forestry that cannot be used otherwise.

At the Salmisaari heating plant, we started alterations that will allow the plant to use pellets instead of coal. The modified plant will start to produce heat during the 2024–2025 heating season. The coal-based CHP production at the Salmisaari power plant will end and the plant will be decommissioned in April 2025, at which point we will abandon the use of coal altogether.

Electricity network

Heat production relying on heat pumps and electric boilers will require an increasing amount of electricity, which require extensive changes and investments in the electricity network. At the same time, electricity consumption will increase in society as a result of the green transition. In 2023, we invested approximately EUR 33 (25) million in expanding the electricity network in Helen Electricity Network Ltd's operating area, renewing the aging electricity network, and improving the reliability of the electricity network through automation. Over the next 10 years, we will invest EUR 410 million in the electricity network in Helen Electricity Network Ltd's operating area to respond to the growing need for electricity.

The fact that Helen's electricity production is moving from local CHP plants to wind and solar farms around Finland also poses challenges to electricity transmission outside Helsinki. Strengthening the main grid is vital for a successful transition to a sustainable energy system. In spring, we signed a cooperation agreement with the City of Helsinki and the transmission system operator Fingrid Oyj on the construction of a 400-kilovolt electricity transmission link to Helsinki.

Customers

We enable our customers' participation in building a sustainable energy system by offering solutions related to regional and renewable energy, smart properties and electric transport, among other things. In addition, we invest in digital services that support our customers in saving energy.

During the year, we introduced the Valtti Electricity contract that offers price stability and allows customers to influence their electricity bills by adjusting their own consumption. Due to the energy crisis, this new type of product became more common in the product ranges of other electricity suppliers, too. The further the energy transition proceeds, the more critical the flexible consumption by electricity users becomes.

Research and development

We invested in diverse research and development activities and studied, among other things, the utilisation of waste and environmental heat and the use of electric boilers in heat production. With regard to geothermal heat and air-to-water heat pumps, we continued to explore new kinds of utilisation concepts. In addition, we continued to investigate the prerequisites for lowering the temperature of water in the district heating network. Helen Ventures' project with the portfolio company Gradyent Holding B.V. for developing a digital twin of the district heating network proceeded as planned. The digital twin allows the smart control of the district heating network.

In hydrogen-related projects, we proceeded to basic engineering in the 3H2 – Helsinki Hydrogen Hub pilot plant project. With the hydrogen refuelling station being planned in Vuosaari, our aim is to create the necessary capabilities for large-scale Power-to-X production. In addition, we started, together with three other companies, preliminary studies on the development of an industrial hydrogen valley in the Uusimaa region and participated in the EU-funded BalticSeaH2 project. The aim of the project is to establish the foundations for Europe's first cross-border hydrogen valley in the Baltic Sea Region.

Our analyses on carbon capture, use and storage progressed. We deepened our insight into carbon sequestration technologies and studied technologies suitable for the Vuosaari bioenergy heating plant. We continued discussions on the transportation and storage of CO_2 with various parties.

We continued to explore opportunities for small modular nuclear reactor cooperation with Fortum Oyj and signed a Letter of Intent on planning cooperation with Steady Energy Oy. Thanks to serial production, in the future, small modular reactors can be a competitive source of carbon neutral energy and a significant contributor to Helen's aim to phase out combustion-based energy production by 2040. Decisions on possible investments and cooperation models will be made at a later stage.

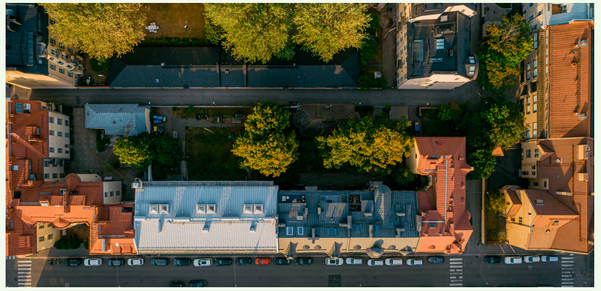
CASE

HELEN ELECTRICITY NETWORK LTD

Helen Electricity Network Ltd is one of the most reliable electricity transmission companies in Europe and it safeguards the security of supply and supply reliability in the Helsinki region. The electricity network plays a significant role in the energy transition and contributes to enabling the green transition. The company invests in building new network sections, replacing the ageing network and increasing automation, and seizes the new opportunities offered by digitalisation.

In 2023, Helen Electricity Network Ltd calculated its carbon footprint and used it as a basis for creating an action plan to reduce emissions. The company also included sustainability development targets in new contracts with its key service provider. Helen Electricity Network Ltd joined, as part of Helen Group, emission-free construction sites' green deal agreement, according to which the company commits to reducing emissions from heavy machinery used on its sites. In addition, it replaced 50,000 end-of-life electricity meters with new generation meters that provide customers with the possibility to connect to home automation and more real-time monitoring of electricity consumption.

CASE



GEONOVA OY

Established in 2022, Geonova Oy works to ensure the realisation of its customers' sustainable energy solutions and the green transition. The company promotes carbon neutral heating and cooling solutions by offering businesses and housing companies the opportunity to switch to renewable geothermal heat without major initial investment.

Geonova Oy helps its customers use energy more efficiently and reduce their energy costs and CO_2 emissions. The company complies with Helen Group's sustainability policy and its operations are reported as part of the Group's annual sustainability reporting. Geonova Oy is also currently developing its own supplementary practices for managing and measuring sustainability.

CASE

OY MANKALA AB

Oy Mankala Ab produces renewable low-emission electricity with hydropower and, through its holdings, with wind and nuclear power.

Thanks to its diverse production portfolio, Oy Mankala Ab plays a significant role in turning the green transition into reality. Nuclear and hydropower also bring stability to the energy system. In addition to Helen's carbon neutrality target, the company's focus areas include in particular biodiversity strategy measures related to hydropower and wind power projects. Measures taken by Oy Mankala Ab in 2023 included, among other things, starting the construction of a hydraulic fishway at the Ahvenkoski hydropower plant, located by the River Kymijoki, and renovating the dam in connection with the plant.

Biodiversity

We have identified the key ecological impacts of our operations in our biodiversity strategy. Our actions focus on bioenergy procurement, hydropower production and energy infrastructure development.

Our goal is to understand the ecological impacts of our energy production throughout its life cycle and to adapt our operations to maintain biodiversity. Our biodiversity work is based on our biodiversity strategy drawn up in 2022 and the related action plan created in 2023.

The aim of our biodiversity strategy is long-term net positivity, which means that, as a whole, our operations have more positive than negative ecological impacts. Our updated sustainability programme also includes new targets for safeguarding biodiversity and conducting infrastructure project analyses. We will report on these targets for the first time in 2024.

Managing biodiversity work

We carry out an ecological impact assessment as part of the planning of new projects and identify biodiversity-related risks as part of environmental impact assessments. Risk management takes place in projects, in other words, potential harm to biodiversity is minimised or offset in connection with the implementation of each project. In projects, we also identify opportunities to protect different habitats, such as natural meadows.

Our biodiversity action plan integrates preparedness for ecological risks into the day-to-day work in our business operations. Our goal is that, in the future, we will assess our ecological impacts not only in individual projects but also at the Group level.

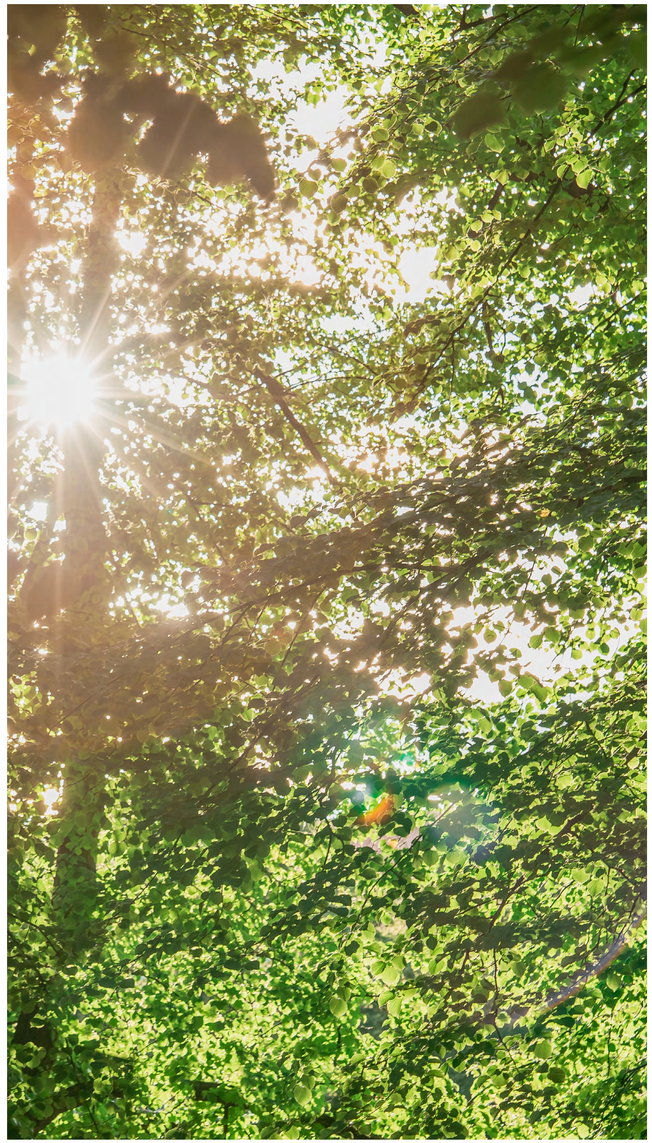
Priority areas

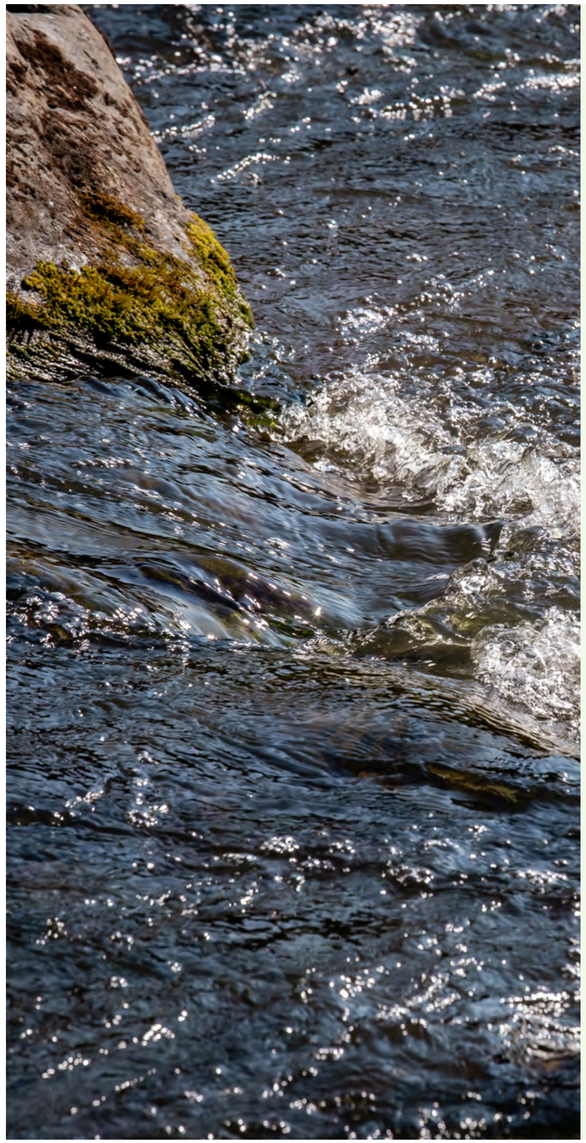
Climate change is one of the most significant factors that impair biodiversity. That is why we prefer non-combustion solutions when building a sustainable energy system. As we are phasing out combustion-based energy production, the geographical focus of ecological impacts is shifting from abroad to Finland. The energy transition poses new challenges for biodiversity, and we develop solutions for the challenges on the basis of our biodiversity strategy and action plan. We focus on safeguarding biodiversity in our priority areas:

- bioenergy procurement
- hydropower production
- energy infrastructure development
  - construction of solar and wind power
  - biodiversity actions in urban areas
  - construction of electricity networks and their maintenance and operation plans

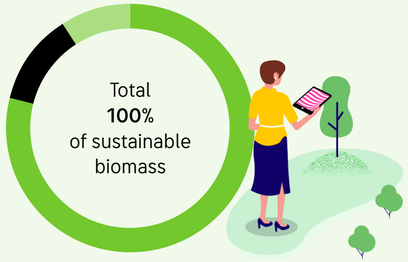
We have defined the priority areas on the basis of the most significant impacts of our operations. These include the extensive land use needs caused by energy production and distribution as well as changes in terrestrial and aquatic ecosystems, such as the fragmentation of habitats and the spread of invasive alien species.

> **Our aim is long-term net positivity.**





Use of biomass



- PEFC 79%
- SBP 12%
- FSC 9%

RESTORATION OF THE AHVENKOSKI AQUATIC ECOSYSTEM

The hydraulic Fishheart fishway of the Ahvenkoski hydropower plant will be completed in spring 2024. The project enables migratory fish, such as salmon and trout, to reach their natural spawning areas and supports the biodiversity of the local environment. Fishheart is a Finnish innovation that takes fish safely over the dam. It has been tested in power plant conditions and the condition of the fish after they have passed through the fishway has been proven good.

We pay special attention to the locations of wind and solar power plants and minimising and offsetting the plants' ecological impacts. The decision on their location is made after the natural values of the area and existing protected areas have been analysed. If a project poses a risk to a valuable natural area, we reconsider it and explore alternative methods of implementation.

For us, using biomass is a transition phase solution that ensures heat supply reliability during the coldest sub-zero temperature periods before we can stop combustion-based energy production altogether. Excessive harvesting of wood chips to obtain biomass for energy use causes biodiversity loss in forests.

Actions

We only use biomass that meets sustainability criteria. In bioenergy procurement, we require our suppliers to take sustainable forestry and biodiversity into account. In 2023, we achieved our target, and 100% (2022: 100%) of the biomass we purchased was sustainable. In practice, this means that wood fuels come from certified suppliers (e.g. PEFC, SBP or FSC*) and are sourced from controlled origins.

We are developing a fuel management system to ensure the sustainability of the production and supply chain in the future, too. Our target is to audit two to three fuel suppliers per year. In 2023, we achieved this target as we audited three (2) biofuel suppliers. We also participated in environmental training focusing on energy wood procurement, organised by Finnish Energy, where we learnt more about forest biodiversity as part of biomass procurement processes. In addition, we organised a practical learning tour in the forest for our employees.

In 2023, we started the construction of a hydraulic fishway at the Ahvenkoski hydropower plant, located by the River Kymijoki. The solution allows migratory fish, such as salmon and trout, to pass the dam and reach their natural breeding areas. We also participated in the restoration of the River Mätäjoki in Helsinki as part of Helen's corporate charity day.

Our first industrial-scale solar farm, located in Nurmijärvi, was completed in April. In connection with the construction, we drew up a supplementary ecological impact assessment to minimise the environmental impacts.

We do our best to identify the ecological impacts of our operations and identify best practices in active cooperation with the City of Helsinki, the scientific community, organisations and local residents and companies. An example of cooperation is the establishment of a dry and sunny meadow in the Ruskeasuo heating plant area, together with the Helsinki Nature Conservation Association and the Uusimaa section of the Finnish Association for Nature Conservation. The establishment of a meadow rich in species contributes to the implementation of the Finnish Environment Institute's national pollinator strategy as the meadow's seed bank was placed in our lawn area. Our intention is to extend the project to our other sites as well.

Our primary goal is to minimise ecological impacts. Thus far, we have not yet offset our ecological impacts.

* PEFC = Programme for the Endorsement of Forest Certification, SBP = Sustainable Biomass Program, FSC = Forest Stewardship Council

Environmental impacts

For us, taking the environment into account means not only climate change mitigation but also the protection of air, water and soil, the efficient use of natural resources and the safeguarding of biodiversity.

Water is an essential factor for our environmental impacts as we use seawater in our energy production as cooling water for production plants. In addition, our operations use tap water as process and sanitary water and purified tap water runs in our district heating network and in the water-steam cycle of our production plants. The environmental and water permits of the production plants contain regulations on, among other things, the amount of seawater used as cooling water, the temperature of the water returned to the sea and the quality of the purified wastewater conducted into the sea. We comply with these regulations.

Our energy production's impacts on bodies of water mainly result from conducting the seawater used as cooling water back into the sea at a higher temperature than what it was originally. In 2023, we used 95 (2022: 85) million m^3 of seawater as cooling water. In addition to cooling waters, we conducted into the sea small amounts of waste and washing waters from production plants as well as approximately 65,823 (17,133) m^3 of neutralised washing water from wastewater treatment plants and laboratories. Condensation water from the flue gas heat recovery plant of the Vuosaari bioenergy heating plant, commissioned in late 2022, is primarily re-used in the district heating network. The part that cannot be utilised in this manner is conducted into the sea.

The heat ending up in the sea along with cooling waters may increase eutrophication of the sea, in other words, the growth of algae. Warming of bodies of water also creates better conditions of survival for invasive alien species. Most of the heat we produce is utilised as district heat, which considerably diminishes the volume of heat conducted into the sea and, that way, our impacts on bodies of water. We also utilise heat of purified wastewater at the Katri Vala heat pump plant and the Eiranranta heat pump plant, still under construction, which further reduces the volume of heat ending up in the sea along with wastewater.

We monitor the impacts of our operations on bodies of water by taking part in the joint monitoring programme of the Helsinki and Espoo sea areas. We monitor the flow rate, temperature, temperature rise, acidity and hydrocarbon, i.e. oil contents, of the waters we conduct into the sea and report them to the authorities. The leaking of oil into bodies of water is prevented with oil separation pools equipped with alarm systems. Facilities' sanitary and household wastewater as well as a small part of industrial wastewater, such as various types of leakage and drainage water, are conducted into the sewage network maintained by the Helsinki Region Environmental Services Authority (HSY). Based on the monitoring, the impacts of energy production on water bodies have been found to be very minor.

Hydropower

We own hydropower capacity through our subsidiaries and associated companies by River Kymijoki and River Kemijoki and in Sweden. Hydropower is a renewable energy form, but it alters the ecosystems of local bodies of water and restricts the migration of fish. In addition, hydropower production requires water regulation, which also has an impact on the recreational use of bodies of water.

The process to change the fishery obligations of our hydropower plants located in the western branch of the River Kymijoki is in progress. We started the construction of a hydraulic fishway at the Ahvenkoski hydropower, located by the River Kymijoki, enabling migratory fish to reach their natural spawning areas. In addition, the Natural Resources Institute Finland's Sateenvarjo III project, aimed at restoring migratory fish stocks in regulated rivers, continued until the end of the year.

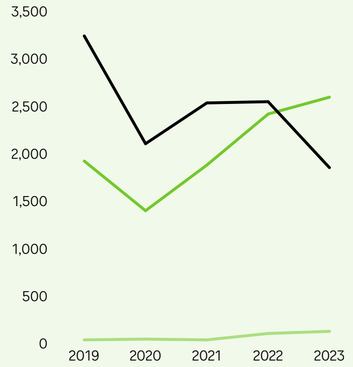
Air quality

Depending on the fuel used, both greenhouse gases and other impurities, such as nitrogen oxides (NO_x), sulphur dioxide (SO_2), particulates (PM) and small amounts of heavy metals, also end up in the atmosphere with the flue gases of production plants. In the environmental permits of the plants, limit values have been set for emissions affecting air quality.

We monitor the emissions of the plants according to the monitoring plans approved by the authorities. At the power plants, the monitoring of emissions is based on real-time flue gas concentration measurements, on the basis of which the emissions are determined. The accuracy of the measurements is verified annually by an external expert. Emissions from heating plants are calculated on the basis of emission factors obtained from one-off measurements and fuel consumption data. In heating plants, the emissions are measured annually by an external expert. Any exceeding of emission limits is reported to the environmental authorities and emissions are reported annually.

For decades, we have invested in reducing emissions that affect air quality. In addition to technology investments, we

Flue gas emissions, tonnes*



* The decommissioning of the Hanasaari power plant reduced our nitrogen oxide emissions. We stopped using Russian coal in spring 2022 and switched to acquiring coal from other sources. The quality of coal has deviated significantly from the previously used coal in terms of sulphur content.

EMISSION-FREE CONSTRUCTION SITES

We signed the Ministry of the Environment's voluntary green deal agreement aimed at reducing construction site emissions. The agreement seeks solutions to climate challenges, biodiversity loss, overconsumption of natural resources and the promotion of the circular economy in Finland. In practice, the city residents notice the results as less noise, cleaner air and a healthier environment.

"

Phasing out the use of coal will significantly reduce our emissions that affect air quality.

can influence emissions with fuel choices. We abandoned the use of heavy fuel oil in heating plants in late 2023. In addition, the decommissioning of the Hanasaari power plant reduced our nitrogen oxide emissions. Sulphur dioxide and particulate emissions increased due to the equipment failure at the Salmisaari power plant. Phasing out the use of coal will reduce our emissions in the future.

The impacts of emissions from energy production on the air quality in the Helsinki metropolitan area are monitored as part of the air quality monitoring carried out by the Helsinki Region Environmental Services Authority (HSY). Flue gases from energy production are directed into the atmosphere via high stacks and they disperse over a greater area and therefore do not result in high concentrations at the breathing level. In addition to constant monitoring, the spread and impacts of emissions on the natural environment are studied. As part of the air quality monitoring carried out by HSY, a bioindicator study has been conducted every five years, in which especially lichen on Scots pine trunks has been examined as an indicator of air quality.

Environmental deviations

In 2023, there were a total of four environmental deviations at the Hanasaari, Salmisaari, Vuosaari and Katri Vala plants.

We stopped using Russian coal in spring 2022 and switched to acquiring coal from other sources. The quality of coal has deviated significantly from the previously used coal, in terms of sulphur content, for example. In late 2022, this led to problems in the operation of the flue gas cleaning equipment at the Salmisaari power plant, as a result of which the emission limit values could not be adhered to.

Problems continued in 2023. For seven months, the Salmisaari power plant exceeded the emission limit defined as an annual average of sulphur dioxide as well as the emission limit defined as a monthly average. The sulphur dioxide emission limit defined as a daily average was exceeded for 59 days. The emission limit defined as a daily average of nitrogen oxides was exceeded for fourteen days. The emission limit defined as a monthly average of particulate emissions was exceeded once. In December 2022 and again in autumn 2023, we submitted an application to the environmental authority for an exemption permit to continue production in Salmisaari in order to secure the supply of district heat, despite exceeding the emission limits.

Due to problems with the availability of natural gas, we had to replace some natural gas with light fuel oil in the Vuosaari power plants and heating plants. When using oil, it is not possible to fully comply with the environmental permit regulations regarding emission limits and usage hour restrictions. For this reason, in autumn 2022 and again in autumn 2023, we submitted an application to the environmental authority for an exemption permit to increase the use of oil in order to secure the supply of district heat.

Emission limit values were also exceeded at the Hanasaari power plant. The limit defined as a monthly average of sulphur dioxide was exceeded once and the limit value defined as a monthly average of particulate emissions was exceeded three times. The limit values defined as daily averages were exceeded for eight days for sulphur dioxide, two days for nitrogen oxides and 56 days for particulates.

Ground-borne noise from the Katri Vala heat pump plant was detected in some local apartments in 2021 and we carried out extensive noise reduction measures at the plant. In 2022, we continued to monitor the measures with noise level measurements. The investigation of the occurrence and extent of noise with the aid of noise level measurements continued in 2023.

In addition to the environmental deviations, we have investigated the causes of sound nuisance in a private residence and suitable remedies together with other parties. On the basis of an external analysis that we commissioned, we received recommendations on measures to resolve sound nuisance. We have taken these measures.

PUTTING THE HEAT OF WASTEWATER INTO GOOD USE

The seventh – and last – heat pump at the Katri Vala heat pump plant was deployed in spring 2023. The plant is a prime example of the circular economy: it recovers the heat in purified wastewater and uses it to heat homes and other properties in Helsinki. In addition to wastewater, the plant uses district cooling return water in heat production.

Circular economy

The circular economy is a key way to mitigate climate change and resolve global sustainability challenges. We promote circular economy solutions by investing in clean energy production, smart solutions, efficient materials use and new technologies.

The energy sector plays an important role as a builder of a circular economy society. We also need cooperation between different sectors to preserve the value of energy, materials and products in value chains for as long as possible. For Helen, the circular economy means the production of renewable and carbon neutral energy, the use of waste and environmental heat and storage in heat production, the utilisation of energy networks as circular economy platforms, energy efficiency, energy savings and the use and recycling of waste and by-products.

Energy production by-products and waste

Our energy production generates by-products, mainly ashes from solid fuel combustion and end products of desulphurisation. In addition, the Vuosaari bioenergy heating plant, commissioned in late 2022, generates used bed sand and fly ash as end products. Decommissioning the Hanasaari power plant and phasing out the use of coal will reduce the total amount of by-products generated by our production.

In 2023, the total amount of by-products was 116,374 (2022: 162,000) tonnes. The quantities of reported by-products and desulphurisation end products are based on weighing carried out at our production plants.

As well as the by-products of energy production, the operation and maintenance of production plants and distribution networks produce scrap metal and other normal industrial waste as well as smaller amounts of waste oils and other hazardous waste.

In 2023, waste amounted to a total of 9,676 (5,293) tonnes, of which hazardous waste accounted for 2,098 (428) tonnes. The reported waste amounts are based on the information received from waste management companies.

Use of by-products

Our goal is to ensure that by-products are put into further use as efficiently as possible. In 2023, 86% (97%) of by-products were utilised.

Our partners use the by-products of coal combustion for purposes such as cement manufacturing and earthworks. This reduces the use of virgin mineral aggregates and soil. Fly ash from biofuel combustion is used as a forest fertiliser raw material.

In 2023, fly ash from coal combustion, desulphurisation end products and ash from biofuel combustion could be utilised almost completely. As activity in the construction sector slowed down, bottom ash from coal combustion could not be utilised and was taken to a temporary storage to wait for suitable earthworks. We are also looking for areas of application, such as in earthworks, for used bed sand from the Vuosaari bioenergy heating plant.

Waste handling

Our primary aim is to prevent the production of waste in all our operations. We sort all the waste we produce and recyclable waste, such as metal, is directed to appropriate recycling. In 2023, 62% (83%) of the waste was utilised as material and 5% (16%) as energy.

We keep precise waste records and hand over waste only to transport companies that are in the waste management register and to parties authorised to receive the waste in question. Hazardous waste is delivered to licensed hazardous waste processing plants.

> **”**
> **Our primary aim is to prevent the production of waste.**

CASE

JARMO HAGSTRÖM WITNESSED THE ENERGY TRANSITION IN HANASAARI

A significant era came to an end as the Hanasaari power plant that served the residents of Helsinki for nearly 50 years was decommissioned in April 2023. The decommissioning of Hanasaari ended a significant era also in the life of the power plant manager Jarmo Hagström.

Jarmo Hagström has worked almost his entire career in Hanasaari. In the last few years, he worked as a power plant manager responsible for the day-to-day operation of the power plant. Originally, Jarmo came to Hanasaari through the Helsinki University of Technology's traineeship.

"Even though Hanasaari was an old power plant, it was a very interesting place to work. We renewed turbines and flue gas cleaning processes, we researched and developed. You were not tied to your position and I have advanced in my career one step at a time," Hagström says.

The Hanasaari power plant produced heat and electricity for Helsinki residents in an effective and reliable manner. Its main fuel was coal, which was brought to the plant on ships via the port. After the turn of the millennium, the reduction of CO_2 emissions and the replacement of fossil fuels became an even hotter topic in societal debate.

"Coal seemed blacker and blacker. We started experimenting with wood pellets in order to reduce the use of coal. At that time, pellets were a new thing in Finland and attracted a lot of interest."

As an energy company, Helen began to prepare for the green transition. At the Hanasaari power plant, the personnel knew to expect the decommissioning decision, but for long-time Hanasaari employees, it was still a sad moment.

"We had a strong Hanasaari spirit. We thought of Hanasaari as our own power plant, which we wanted to take care of and operate optimally. This team spirit was reflected in everything we did and certainly in the results, too," Hagström notes.

The power plant was decommissioned on 1 April 2023. The decommissioning had a concrete impact on Helen's emissions: our CO_2 emissions decreased by more than 38% compared to the previous year.

We have set a target of making our energy production carbon neutral by 2030. A significant number of homes in Helsinki are already heated by the Vuosaari bioenergy heating plant, whose main fuel is wood chips obtained as a by-product of forestry. In heat production, we are also increasingly concentrating on utilising different waste and environmental heat with heat pumps. We produce clean electricity with hydropower, wind power and solar power, in which we have been investing heavily in recent years.

> **"We started experimenting with wood pellets in order to reduce the use of coal.**

Work community

We offer meaningful work tasks and growth paths at the vanguard of the green transition. We take care of our personnel's occupational wellbeing and guarantee equal opportunities because the wellbeing of our personnel is the foundation of our operations.

Our personnel consist of experts who work in electricity production, energy system optimisation, heating and cooling, hydrogen business, marketing, customer service, sales, finances and digital solutions, for example.

At the end of the year, Helen Ltd employed 683 (2022: 601) professionals in different fields. Most of the work is carried out in permanent employment relationships and the number of permanent employees was 638 (577). There were 45 (24) fixed-term employees and for the summer season, we hired 41 (56) summer employees. In addition, 161 (165) new employees were hired. The average number of employees was 654 (841), the average duration of employment was 8.8 (12.4) years, and the average age of employees was 42.3 (44.1) years. In 2023, Helen Ltd paid EUR 47.0 (57.2) million in salaries.

Helen Electricity Network Ltd had 92 (96) employees at the end of the year. There were 87 (87) permanent employees and 3 (6) fixed-term employees. The average number of employees was 94 (95). A total 10 (15) new employees were hired. The average age of employees was 45.7 (44.9) years, and the average duration of employment was 14.2 (14.3) years. In 2023, Helen Electricity Network Ltd paid EUR 6.2 (6.0) million in salaries.

In addition, there were employees in Geonova Oy, a joint venture established by Helen Ltd and LämpöYkkönen Oy in 2022: 13 (7) employees at the end of the year. The company's entire personnel were permanent employees, and the average age of employees was 38.2 (39.3) years. The salaries paid by Geonova Oy amounted to EUR 903,859 (37,473).

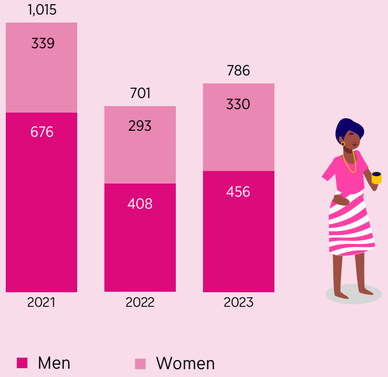
Other subsidiaries did not have employees at the end of 2023. The total number of employees in Helen Group was 786 (701).

In

2023

we employed
786 employees.

Number of employees



Our employee experience improved significantly.

Organisational restructuring

In late 2023, we published a new strategy. To implement it, we held change negotiations and adopted an organisational structure that is based on business units that are accountable for their results and on Group functions that support the business units. The new organisation entered into effect on 1 January 2024.

As part of the change process, Helen Electricity Network Ltd's control centre personnel were transferred to Helen Ltd as an internal transfer on 1 January 2024. This enabled us to merge the Energy Control Room and the Electricity Network Control Centre in order to ensure the security of supply and make the centralised management of renewable energy sources possible.

In addition, we started the design of our new premises by analysing how we work. We organised a survey about the premises as well as a workshop, in which every Helen employee could have their say on the design of the premises. We informed about our new office spaces in early 2024. Helen Electricity Network Ltd moves to the same premises from the Käpylä office.

Management

In a rapidly changing operating environment, good management and supervisory work are important for ensuring the personnel's wellbeing, job satisfaction and commitment. In 2023, we updated our value-driven management principles, with which we ensure coherent management in different roles.

We support the development of our supervisors with a 360-degree evaluation organised every other year. Good management is a prerequisite for the employee experience we are aiming for and with long-term management development, we have improved the results of our 360-degree evaluations.

In 2023, we conducted a 360-degree pulse survey focusing on management and achieved a result of 1.37 (scale: -2...+2). The overall result of the previous survey in 2022 was 1.34.

We will continue our work to develop management also in the coming years. For example, a management-related goal is set for each supervisor and monitored as part of the 360-degree evaluation.

Employee experience

We monitor the development of the employee experience with regular biannual surveys. In 2023, we organised an extensive personnel survey in the spring and a more compact pulse survey in the autumn. The commitment indicator used in the surveys is the international eNPS (Employee Net Promoter Score) scoring, in which a proportionate percentage of detractors is subtracted from that of promoters.

In 2023, our personnel's employee experience improved significantly. The personnel's eNPS rose to 27 (2021: 5) in the spring and to 33 in the autumn pulse survey. Our employees are clearly more committed than energy sector employees on average (13).

On the basis of the personnel survey, the most important things in our workplace are development opportunities and sufficiently challenging tasks. The results reflect our long-term work to support our employees' career development as the same themes also rose to the top in the 2021 survey. From the surveys, we identified four development areas, through which we can further improve the employee experience: supporting goal setting, developing diversity and inclusion, reducing mental workload and improving the systems used at work.

As part of our strategy work, we also started change pulse surveys towards the end of the year, in order to provide optimal support to our employees in the middle of changes. We will continue our eight-weekly surveys in 2024.

Inclusion

As “From people to people” is one of Helen’s values, it is important for us that our structures and ways of working support an equal, inclusive and non-discriminatory work culture. We follow Helen Group’s personnel policy to provide a safe workplace for all our current and future employees.

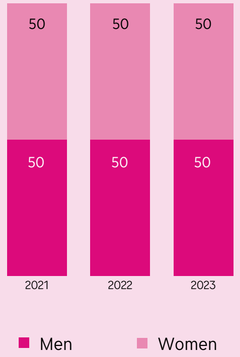
In accordance with our personnel policy, we treat all our employees equally and value everyone’s competence regardless of their gender, background or characteristics. An equality and non-discrimination plan has been created as part of Helen Group’s work community development plan. We actively oppose all discrimination and do not tolerate harassment or inappropriate conduct in any shape or form. We also require this of our partners.

The results of our salary survey, that was conducted towards in the end of 2023, showed that gender pay equality is generally well-implemented at Helen, with salary differences within different employee groups being at most four percent. However, in one job category according to the IPE system for senior salaried employees, the difference was 4.46%, and in another, it was 6.24%. Corrective measures will be taken in these categories during the next salary increase round.

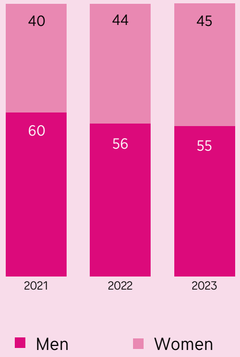
In line with the principles of inclusion, our employees are actively involved in the planning and decision-making related to our operations. As a basis for our work, we annually prepare a work community development plan in cooperation with the personnel and the personnel’s representatives. We also analyse the realisation of non-discrimination and equality annually with the help of personnel statistics and surveys.

In 2023, we updated our policy on bullying, discrimination and inappropriate conduct. In addition, we supplemented our personnel survey with questions related to diversity,

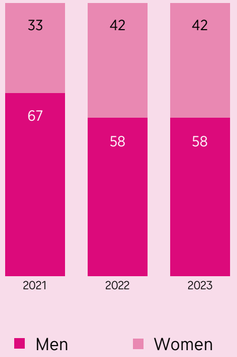
Board of Directors’ gender distribution, %



Management Group’s gender distribution, %



Personnel’s gender distribution, %



PROUDLY PROMOTING DIVERSITY, EQUITY AND INCLUSION

It is important for us to promote diversity, equity and inclusion in the entire society. In 2023, we were an official partner of Helsinki Pride. As a partner, we participated in the Pride parade and the official park party in July. In addition, we participated in training sessions organised by Helsinki Pride.

THE HELEN TRAINEE PROGRAMME OFFERS A PATH TO THE ENERGY SECTOR

We want to increase the attractiveness of the energy sector and people's awareness of its diverse career opportunities, to ensure that there are enough experts in the sector in the future, too. To this end, we launched the Helen Trainee programme, which offers extensive insight into the energy sector and a sector-specific competence development path during a six-month traineeship period. The programme is intended for people from different educational and work backgrounds who are completing their higher education studies or who have just graduated. Each trainee received their own mentor, a fixed monthly salary and Helen Group's employee benefits.

discrimination and equal treatment of employees, in accordance with the comment received from the Regional State Administrative Agency in 2022. We also organised a DEI workshop, where we defined development measures to promote diversity. We have improved psychological safety and created conditions for carrying out one's duties regardless of language skills.

We ensure that our management methods are fair and inclusive and take everyone into account. In their daily work, our supervisors are supported by our HR Business Partner model, with which we enable continuous support and proactively prevent various forms of discrimination and bullying. In addition, we support inclusion by ensuring that our supervisory coaching includes regular training on topics such as an inclusive corporate culture.

We started to develop a due diligence process for both our own operations and our procurement chain. The aim of the process is to ensure even more carefully that human rights are realised in all parts of the procurement chain and to increase our personnel's competence in human rights issues.

Competence development

As an expert organisation, we invest in the development of our personnel's competence and encourage learning. We regularly assess our personnel's competence needs and aim to constantly develop arenas of learning and sharing knowledge. We build competence paths and offer various training models, such as Helen Talent Hub, a strategic competence development programme tailored for Helen's employees. In addition, we encourage our personnel to take the initiative to actively develop their own expertise and to participate in the development of their work and work community.

Our entire personnel is covered by performance and development reviews. In the reviews, performance in the previous performance and development review period is assessed, personal, strategy-based targets are set and a development plan is created. With personal, strategy-based targets, we ensure that everyone understands the significance of their work in the achievement of common targets.

At the end of 2023, we introduced new role maps to support equal and employee-centric career development. The aim of the role maps is to describe and offer a tool for identifying career development directions and to support the business-oriented management of competence. We use role maps in performance and development reviews and as support for personal growth paths.

Occupational health and wellbeing

Taking care of the personnel's occupational health and wellbeing is important to us. We provide our personnel with more extensive occupational health care services than required by law and we work closely with occupational health care services to enhance occupational wellbeing. The goal of our occupational health activities and cooperation is to take preventive action, to manage work ability risks as well as to support employees' occupational well-being, adjustability to change and coping with psychosocial workload.

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Helen Group's sick leave rate as a percentage of theoretical working time was 1.9 in 2023. There were no confirmed cases of occupational disease.

In addition to extensive occupational health services, we offer our personnel a wide range of employee benefits, including flexible working hours, opportunities for remote work abroad and a commuting benefit. In 2023, we supplemented our employee benefits with a bicycle benefit and a corporate charity day. In addition, we prepared for the introduction of the personnel fund in 2024.

Occupational safety

Structured, systematic and long-term safety work is an essential part of our work culture and we are committed to the vision zero principle. We always act in accordance with the laws and decrees, the provisions and contracts concerning the industry and our own safety guidelines and expect our partners and service providers to do the same.

Our occupational safety activities are guided by the ISO 45001-certified occupational health and safety system. The system covers Helen Ltd's and Helen Electricity Network Ltd's personnel, in other words, more than 98% of the entire Group's personnel. We maintain and promote the health, safety and work ability of the employees in cooperation with the management, the personnel, the occupational health care and the occupational safety and health cooperation organisation. Reports on the occupational safety situation are submitted monthly to the Management Group and regularly to the Board of Directors.

With the organisational restructuring carried out in 2022, the focus of our occupational safety work shifted to supporting the occupational mental wellbeing of our experts and managing the occupational safety of our partners and service providers. We are responsible for the occupational safety of our supply chain's employees in energy production and distribution and in the construction and maintenance of new infrastructure. Occupational safety also encompasses our operations at our customer sites as well as taking care of the safety of city residents near our worksites.

We promote a good occupational safety culture by providing thorough orientation to our employees and partners. Both our own personnel and our partners' employees must complete an online occupational safety course, which ensures that they have a command of the basics of occupational safety and working at the workplace is as safe as possible. In addition, Helen Group has various company-specific orientation courses on occupational safety as well as the regularly distributed safety session video recording that provides information on topical safety-related issues.

Our goal is that everyone is involved in the development of occupational safety. In order to develop safety, it is important that hazard identification and risk assessment are performed continuously and that safety deviations are reported and investigated appropriately to avoid similar situations. We offer our service providers digital tools for taking proactive measures. The main objective of the investigation is to determine the root causes and identify actions that are needed to prevent similar situations. In addition, every employee can take part in reporting occupational safety observations and submitting development ideas through the EHSQ system.

Statutory occupational safety and health committees are a common forum for the personnel and the employer, consisting of both employer and employee representatives. In addition to its statutory tasks, the occupational safety and health committee grants the annual "Occupational safety and health deed of the year" award to a person or group that has shown particular merit in improving occupational safety and preventing accidents during the year. We believe that emphasising positive safety issues is an excellent way to boost the safety culture.

More detailed operating models, responsibilities and targets related to occupational safety are presented as part of our occupational health and safety system and in the occupational safety and health action plan, which is updated annually. In addition, we perform regular internal and external audits on our operations and look for lessons to be learnt from outside Helen.

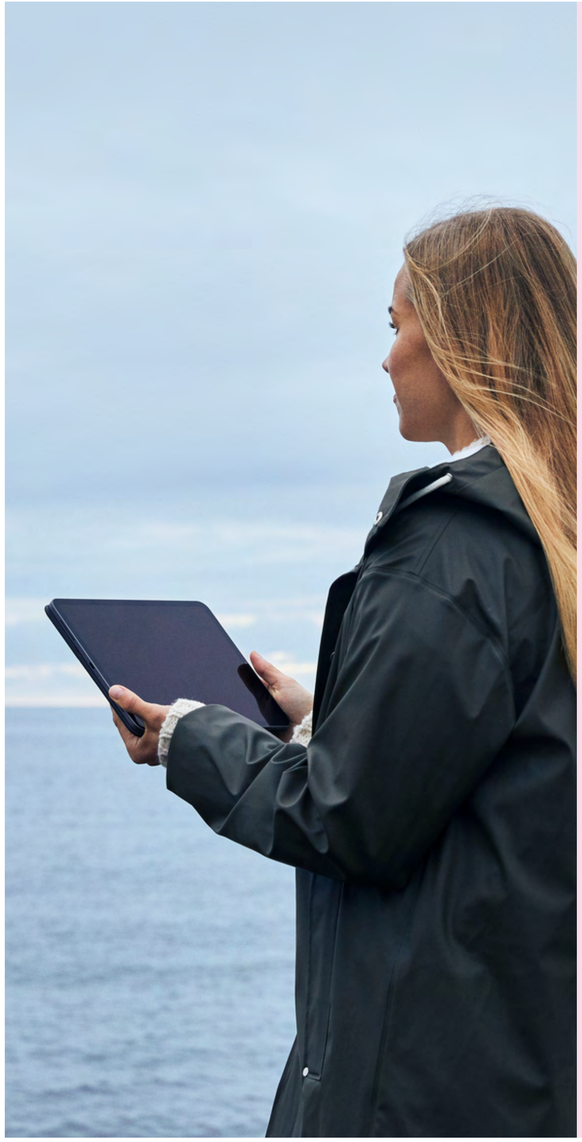
Occupational accidents

We monitor occupational accidents that have occurred both to Helen Group's employees and the employees of our partners and service providers and record these accidents in our reporting system. All accidents are investigated, their root causes are determined, and it is ensured that sufficient corrective measures are taken.

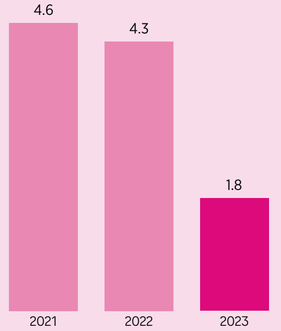
Helen's own employees did not have any accidents resulting in absence during the year. In the entire supply chain, there were a total of 39, 14 of which resulted in absence. During the year, there were no fatal occupational accidents, but there were two serious accidents. Both accidents involved an injury to a limb that required surgical treatment.

We annually monitor the lost-time incident frequency (LTIF), which includes accidents resulting in absence that have occurred to Helen's employees and key partners. We are currently developing the LTIF calculation and will include our entire supply chain more broadly within its scope in the future. In 2023, the lost-time incident frequency was 1.80. We have previously reported solely on Helen's own staff incident frequency. Now, reporting has been retroactively expanded to include the personnel of key partners.

The most common reason for accidents was falling or slipping, accounting for about third of all accidents.



Lost-time incident frequency, LTIF*



* LTIF = number of accidents resulting in absence from work per 1,000,000 working hours. The figure includes the employees of the companies of Helen Group, as well as the most significant partners.

Supply chain

With supply chain management, we enable stable and reliable energy production and distribution as we move towards a sustainable energy system. Careful selection of suppliers and close cooperation with our strategic partners will help us achieve our sustainability targets.

In 2023, Helen had a total of 1,960 (2022: 1,735) suppliers, from whom we purchased products and services for a total of EUR 1 314 (1,177) million.

We categorise our suppliers into strategic, key and routine suppliers. In 2023, we identified three strategic Group-level partners and 65 key suppliers. From these suppliers, we purchase fuels, solar panels, electricity storage solutions, strategic operation and maintenance services and design and construction services that support our carbon neutrality target. In addition, Helen Electricity Network Ltd purchases services related to electricity network design, construction, operation and maintenance and energy measurement from a few strategic partners as turnkey services. The rest of our nearly 2,000 suppliers were defined as routine suppliers.

A total of 99% of our purchases were from companies registered in EU countries. Less than 0.01% of our direct procurement was from amfori BSCI high-risk countries. The majority of this procurement consisted of solar panels sourced from China.

In 2023, we purchased products and services from 217 new suppliers. We used ESG criteria in the selection process for each new supplier. We use the same criteria in the daily monitoring of all strategic, key and routine suppliers.

Supply chain management

We invest in supply chain management to ensure that we source products and services from responsible suppliers. Our supply chain management tools include background checks, contracts, assessments, audits and certifications.

In 2023, we defined an annual supplier management plan for our strategic, key and routine suppliers. In addition, we enhanced our personnel's sanctions monitoring competence.

Background checks

We register all our new suppliers through the supplier opening request process. As part of this process, we review the potential supplier's economic and social sustainability information, among other things. We order products and services only from approved suppliers and monitor their economic and social sustainability performance with the aid of a report produced by an external partner. We prevent bribery and corruption by ensuring financial control and implementing sanctions control.

Supplier management

RESPONSIBILITIES

For Helen, supplier management means daily cooperation with suppliers. The Category Manager is responsible for the management of strategic and key suppliers. The management of potential and approved suppliers is the responsibility of the Buyer in cooperation with the Category Manager.

BASIC REQUIREMENTS

All suppliers must meet the legislative requirements regarding the contractor's obligations. Possible deviations are checked regularly. For Finnish suppliers, they are checked automatically once a day. In addition, we conduct regular sanctions list checks.

SUPPLIER CODE OF CONDUCT

We require all suppliers to commit to our Supplier Code of Conduct. The Supplier Code of Conduct is available on our website and in the supplier portal, which we will be deploying more widely during 2024.

SUSTAINABILITY SURVEY

We assess suppliers with the help of a sustainability survey based on the identification of risks. In addition, the Category Manager or the Buyer assess supplier-related sustainability risks based on their own expertise. The sustainability survey is sent to strategic and key suppliers every three years as well as to suppliers participating in public competitive tendering. The survey will be developed during 2024.

AUDITING

We perform audits with the HSEQ cluster and our audit process is in line with the cluster's model. Fuel suppliers are subject to more specific audit practices than normal. The Category Manager is responsible for evaluating the need for an audit. Helen is responsible for the planning of the audit and it is carried out by an external party.

Contracts
We require our suppliers to commit to our Supplier Code of Conduct, which contains sustainability criteria related to ethical business practices, the environment and human and labour rights. Our procurement contracts also require our suppliers to commit to combating the grey economy and corruption. In 2023, we added sanctions clauses to Helen Group's competitive tendering documents and contracts.

Read more: Helen Group's Supplier Code of Conduct

Assessments
When procurement exceeds the EU threshold value or when we are selecting suppliers that are strategically important or operating in high-risk countries, we use the sustainability survey to analyse the supplier's environmental and social sustainability. We assess the survey results as part of the procurement process. If the survey reveals deviations in the operations of our strategic and key suppliers, we handle these deviations and monitor the measures taken to correct them. In 2023, 73 (30) suppliers responded to the sustainability survey.

Audits
We perform supplier audits and participate in the HSEQ cluster as part of supplier sustainability monitoring. In the audits, we assess our suppliers' occupational health and safety issues, environmental sustainability and quality. In 2023, we conducted four audits on solar panel and biofuel suppliers, among others, and used information provided by nine HSEQ cluster audits.

Read more: HSEQ cluster

Operations-related systems and certificates
We require that our suppliers have reliable and efficient operating models. Biofuel suppliers are required to have a sustainability certificate (such as PEFC, SBP or FSC) and solar panel suppliers are required to have valid ISO 9001, ISO 14001 and ISO 45001 certificates. With regard to other procurement, we may require the supplier to provide a description of their quality and environmental plan.

Supply chain impacts and their monitoring
The key environmental impacts of our supply chain are related to fuel procurement. Significant impacts include greenhouse gas emissions from fuel production and impacts on biodiversity. In addition, the production of raw materials for solar panels and electricity storage solutions involves environmental threats, such as soil and water pollution. Of the suppliers who responded to the sustainability survey, three (3) suppliers were identified as having current or potential negative environmental impacts, such as lack of an official environmental policy or an environmental action plan.

The most significant social sustainability aspects are related to the realisation of human rights and working conditions in high-risk countries. Notable examples of this include risks related to human rights and forced labour in the supply chains of minerals needed for solar panels and battery technology. Occupational health and safety aspects are prominent in both international and local supply chains. Of the suppliers who responded to the sustainability survey, three (2) suppliers were identified as having current or potential negative social sustainability impacts, such as deficiencies in taking into account the special needs of expectant mothers at the workplace.

The development areas identified in the sustainability survey are submitted to Category Managers who are responsible for monitoring corrective actions. In 2023, no supplier relationships ended due to the identification of negative impacts or inadequate measures. We continue to develop our supply chain's sustainability together with our suppliers.

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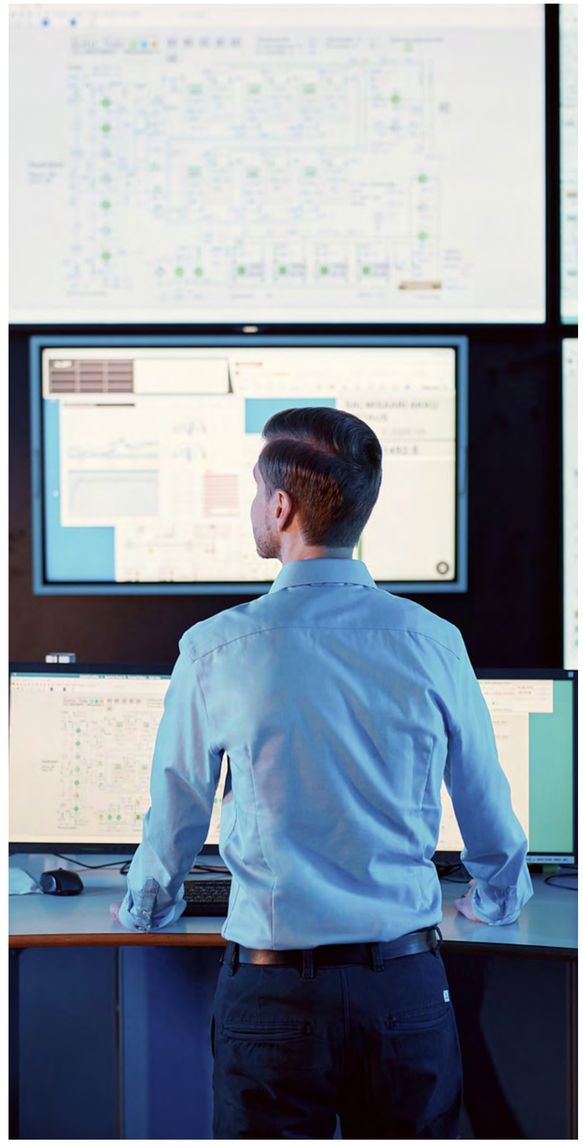
99% of our purchases were from companies registered in EU countries.



Respect for human rights

We are committed to the UN Principles on Business and Human Rights and the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work. To prevent the use of forced labour, our solar panel suppliers are committed to the Solar Energy Industries Association's (SEIA) Solar Industry Forced Labor Prevention Pledge.

We ensure the realisation of human rights in our supply chain as part of supplier management, with tools such as background checks, the sustainability survey and audits. Potential human rights violations can be reported through Helen Group's reporting channel and the reports made are processed as part of supplier management. We did not receive any reports of human rights violations through the reporting channel in 2023.

There were no cases during the year where there would have been suspicions or evidence of the use of child, forced or compulsory labour in our supply chain. Less than 0.01% of our direct procurement was from high-risk countries, such as China. Procurement from these countries focused on a few categories (e.g. solar panels). As the most significant social sustainability aspects of our supply chain are related areas such as the realisation of human rights and working conditions in high-risk countries, we commissioned a separate external audit on our Chinese solar panel suppliers in autumn 2023. In addition, we use our sustainability survey to find out whether our suppliers employed people under the age of 15 or 17. According to the results of the survey, our suppliers did not have any such employees in 2023. According to our current assessment, our own operations' risks related the use of child, forced and compulsory labour are small.

In the near future, we will further develop our concrete human rights activities as we prepare for reporting in accordance with the EU's sustainability reporting standards. Future actions include the more detailed specification of our human rights due diligence process.

Fuel procurement

In euros, fuels account for the majority of our procurement. Fuel procurement chains were significantly affected by Russia's war of aggression. Since we stopped purchasing Russian natural gas in March 2022, we have purchased natural gas through our partner from the Balticconnector gas pipeline and LNG terminals.

Coal procurement also continued through new channels opened in 2022, from countries such as the United States and Australia. In addition to direct deliveries, we receive small quantities of mixed batches where suppliers blend carbon lots from different countries before delivery to improve coal quality.

In 2023, our main source of pellets and wood chips continued to be Finland, in addition to which we imported biofuels from the Baltic countries and other parts of Europe. The availability of biofuel from Finland and nearby regions has decreased, which is why we are exploring alternative procurement channels. Future sourcing countries could include the United States, Canada or Indonesia, for example. We have started auditing new suppliers and carried out import-related assessments together with our partners.

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We will further develop our concrete human rights activities as we prepare for reporting in accordance with the EU's sustainability reporting standards.

Safety and security

As a security of supply company, we are prepared for exceptional situations. For us, safety and security mean determined work to ensure supply reliability, information security and cyber security.

Over a long term, we have developed our operating model and ability to react to various safety and security situations. We keep a particularly close eye on the security situation and take global uncertainty into account in our preparedness activities. To guarantee the continuity of operations, we ensure that the processing of situation-related information and the management of operations can be carried out successfully under all circumstances. We keep our preparedness and contingency plans up to date, maintain operational capacity and organise regular training and drills for our personnel.

We build responsible cooperation with our partners and service providers and make determined efforts to manage their safety. We require that our service providers comply with the requirements related to Helen's safety and security principles and monitor how the safety and security criteria are met.

The health security practices we developed during the COVID-19 pandemic are still in use. We apply a flexible hybrid model to minimise the risk of infection. In 2023, we continued to monitor COVID-19 infections to ensure the security of supply and the continuity of operations.

Energy supply reliability

The reliability of electricity, district heating and district cooling networks in Helsinki is at an excellent level. Our versatile energy system has been built over a long period of time to ensure that it can withstand different disruptions. We are committed to maintaining supply reliability also in the future.

We look after 6,540 kilometres of electricity network, 1,420 kilometres of district heating network and 98 kilometres of district cooling network. We take supply reliability into account in all stages of the planning, operation and maintenance of energy production and distribution systems as well as in all stages of asset management. We step up the measures and methods that reduce the outage time and the number of outages even further and explore new solutions in this field. We always plan work on a case-by-case basis to ensure that an outage can be either minimised or avoided altogether through advance preparation.

Getting prepared for electricity shortages is part of our normal preparedness activities. The topic emerged in societal debate in autumn 2022 and the discussion continued throughout the winter. In the event of an electricity shortage, customers that are critical to the functioning of society, such as hospitals, have priority in electricity supply. In 2023, we actively communicated to our customers how to prepare for an electricity shortage.

During the year, we developed the smartness of our district heating and cooling networks. We use data in the optimisation of network maintenance and the long-term planning of investments as part of the life cycle management of district heating and cooling networks. In the future, we will use even more AI solutions to plan network optimisation, maintenance and investments.

In 2023, we launched a customer experience improvement project, in which we develop customer communications about distribution interruptions and worksites. In 2024, we will plan the introduction of new customer communications channels and develop our digital customer communications in general.

Electricity supply reliability

In 2023, the average annual outage time of our electricity transmission customers was 3.7 (2022: 4.0) minutes. In February, there were two major outages, contributing almost 2.4 minutes to the average outage time. Our aim is to keep the average outage time below five minutes, in which we succeeded well.

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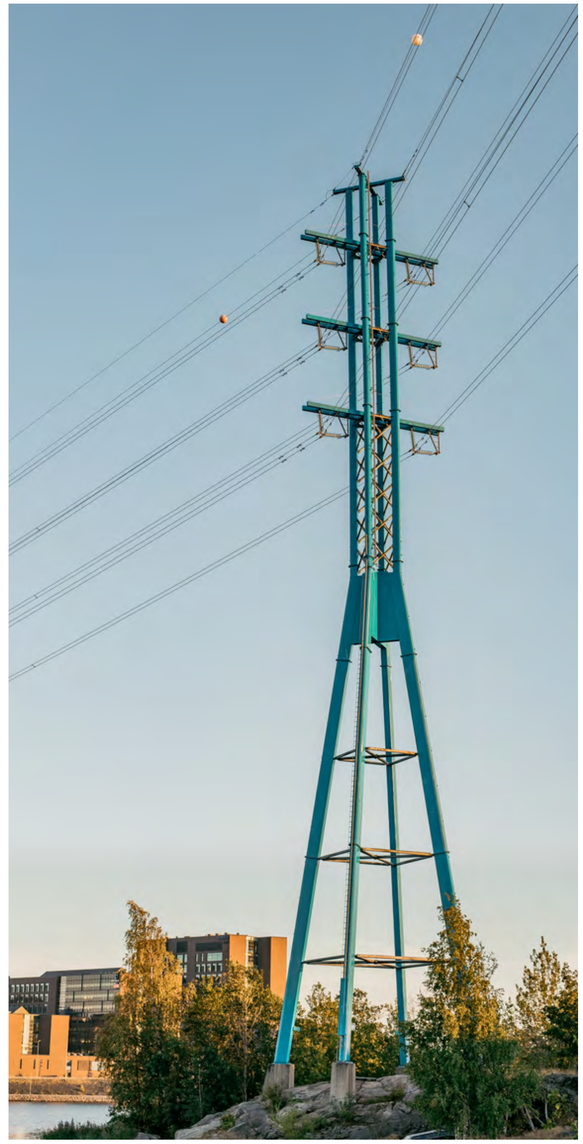
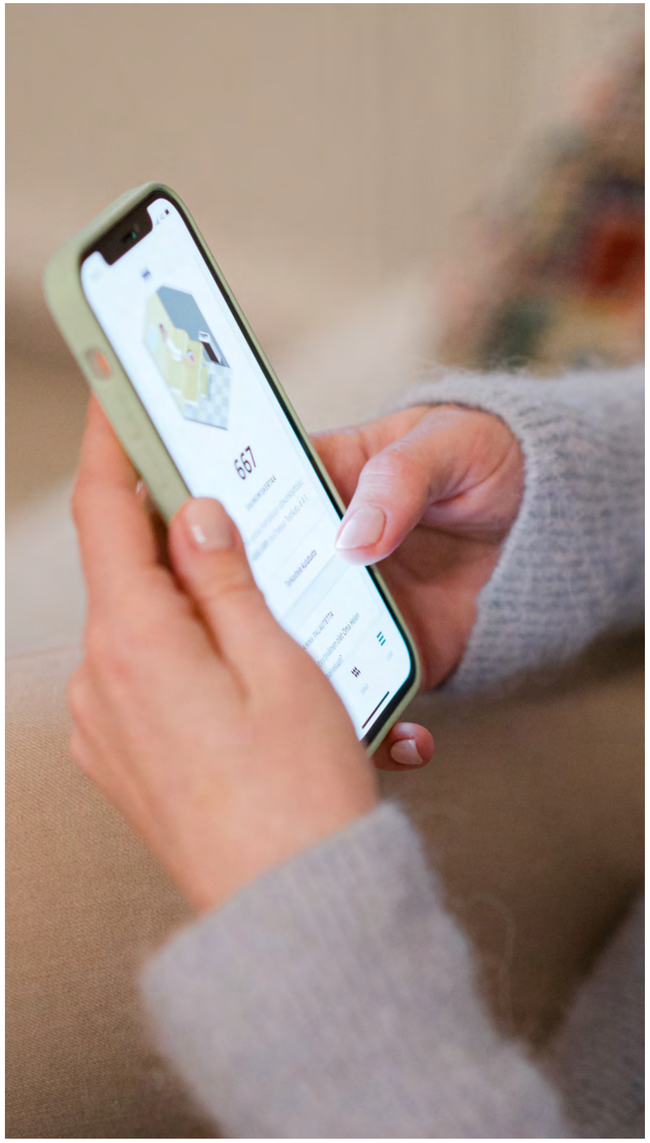
> **We look after over 6,500 kilometres of electricity network.**





The excellent reliability of electricity distribution is the result of our determined work over the years. We have invested in weather-proofing our electricity network: more than 99% of the low- and medium-voltage network is underground cabling and extreme weather phenomena have been taken into account in the design of the high-voltage network. The network is meshed, making it possible to quickly disable a defective part with protection systems and to feed electricity from the other direction with the help of automation. In addition, we have invested in advanced systems that allow us to detect some faults at an early stage, thus eliminating the outage entirely.

Heating and cooling supply reliability

In 2023, the average outage time of our district heating customers was about 2.2 (1.8) hours, which is slightly more than the target of less than two hours we had set for 2023. The total number of outages was 449 (443), of which 80 (43) were unplanned, unexpected repairs. Factors contributing to the increase in the number of outages and the average outage time included, among other things, cable transfer work caused by the City of Helsinki's large projects, such as the construction of the Crown Bridges, as well as phased network maintenance work.

The average outage time of our district cooling customers was approximately 3.8 (1.3) hours. There were a total of 28 (20) outages. The number of outages and the average outage time increased from the previous year, but the outage time target of less than 4.2 hours was achieved.

Information security and cyber security

Information security refers to administrative and technical measures that ensure the confidentiality, integrity and availability of information. Cyber security refers to the protection of the digital environment, information networks and systems. As an organisation vital for the security of supply, we take cyber security seriously. When identifying and monitoring information security risks, we take into account Helen's high-profile visibility and role as well as the effects of the changes taking place in the sector. Our long-term information security and cyber security work provides a solid foundation, on which we constantly evaluate and develop our response capacity.

As part of the continuous operational development, we conducted an internal information security audit. On the basis of the audit, we created a cyber strategy aimed at supporting our business and the implementation of the digital strategy. We have started to draw up an action plan to implement the cyber strategy. The cyber strategy is one component in meeting the requirements of the NIS2 Directive, which will enter into force in autumn 2024 and aims to harmonise the level of cyber security in the EU.

We prevent information security risks by continuously developing our capabilities. In 2023, we analysed our suppliers' information security in a supply chain audit project. We started conducting continuous auditing as part of our supply chain management.

We work consistently to raise awareness about information security and cyber security. Related practices are taken into account in procurement processes and the supply chain, for example. Information security and cyber security are also important starting points in the development of digital services that we offer to our customers.

We provide various forms of coaching to our personnel to ensure they take information security into account in their work. For example, new employees attend information security orientation sessions and complete related online training. We regularly provide information about topical information security issues to Helen's employees and organise micro-training sessions. Furthermore, our personnel take a basic information security course at regular intervals.

Data protection

The protection of customers' and other stakeholders' personal data is important for us. The purpose of data protection is to ensure the appropriate processing of personal data, to protect personal data from unauthorised access and other processing and to provide the opportunity to monitor and use one's own personal data. Helen Group's data protection principles define a common approach and procedures for organising, implementing, assessing and reporting on personal data protection. In all processing of personal data, we comply with appropriate safeguards and the principles of data protection legislation.

Helen has a Data Protection Group tasked with preparing data protection guidelines and internal procedures to ensure data protection. Other tasks of the Data Protection Group include, for example, coordinating the consistency of data protection practices, supporting the training of the personnel and monitoring and developing data protection activities at Helen and providing instructions for them. All of our employees must complete the online training in data protection and then renew it regularly.

We are not aware of any personal data breaches in 2023 where the targeted individual's rights and freedoms would have been at high risk. There were also no significant incidents related to leaks, theft or loss of customer data in 2023. However, we reported three personal data breaches to the Office of the Data Protection Ombudsman. The Data Protection Ombudsman has not requested Helen to provide further information regarding these breaches. We are also not aware of any breaches of customers' privacy related to previous years' events.

Energy prices and responsible products and services

As we move towards a sustainable energy system, we want to offer our customers energy products and services that suit different needs as well as smart solutions that make it possible to anticipate consumption and manage costs.

The price of electricity continued to fluctuate dramatically in 2023. One of the background factors was Russia's war of aggression, which increased prices especially at the beginning of the year. Another reason for price fluctuations was the increase in renewable energy production capacity. Especially in the summer, prices were low, even negative, whereas on weak-wind autumn days, they rose sharply. Price fluctuations caused by weather-dependent production will continue to be an element of the energy system. Our goal is to enable our customers to anticipate their energy consumption and manage costs. We do this through versatile energy production and sustainable products and services.

In all our operations, our leading guideline is to secure our customers' energy supply while we continue to invest in renewable and carbon neutral energy. We allocate a lot of investments in areas such as cost-efficient wind power and the utilisation of waste heat. In addition, we balance weather-dependent production of renewable energy with nuclear power.

Price of electricity

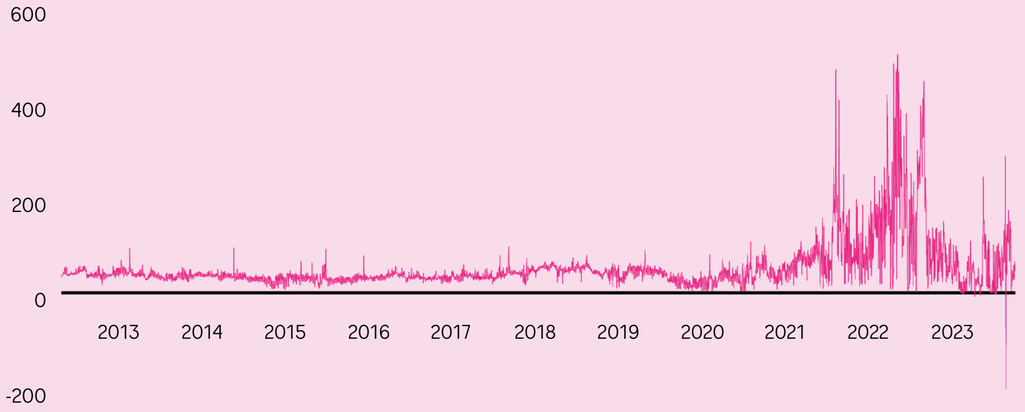
The hourly price of electricity is formed on the Nord Pool power exchange on the basis of demand and supply. When there is a lot of supply, the price is lower, and when there is little supply, the price is higher. Supply consists of different forms of production: wind, hydro and nuclear power and fossil-based production. Demand, on the other hand, depends on factors such as weather conditions and consumption behaviour.

Electricity producers offer the electricity they produce to the exchange, where electricity suppliers operating in the consumer market buy it. Helen both produces and sells electricity, in other words, we operate on the power exchange as both a seller and a buyer.

Consumers can protect themselves from fluctuations in the price of electricity with a fixed-price contract, in which the price of electricity is fixed either in full or in part. In this case, the price of electricity is influenced by the price level of the derivatives market at the time when the contract is concluded. The total price of electricity for the consumer consists of the selling price of electricity, the transmission of electricity, value added tax and electricity tax.

The Oma Helen service helps our customers monitor electricity price peaks and manage their own energy consumption. The service enables the monitoring and scheduling of electricity consumption on an hourly, daily,

Spot price for electricity, EUR per MWh



Source: Nord Pool

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The number of monthly visits to Oma Helen is approximately 2.3 million.

weekly and annual basis as well as over a longer term. The number of monthly visits to Oma Helen is approximately 2.3 million.

Price of district heat

During 2023, the total price of district heat still consisted of the fixed contracted water flow fee and the seasonal energy fee. Cost pressure was mainly on the energy fee, which is based on fuel prices, energy taxes, emission allowances and electricity consumption. The energy fee is updated four times a year: in January, March, May and October.

In 2023, we had to increase the energy fees for district heating from the previous year. However, we did not pass the increased costs in full to customer prices. Because we wanted to create stability and help our customers anticipate costs, we published the winter and spring 2023 prices already in August 2022. In 2023, the total price of district heat for consumer customers increased on average by approximately 12%. The contracted water flow fees were not changed.

Towards the end of the year, we launched a district heating product renewal based on customer feedback. The change came into effect at the beginning of 2024 and its goal is to make pricing easier to understand and more transparent for both consumers and companies. Furthermore, we are developing demand response solutions not only for electricity products but also for heat products.

Read more: District heating product renewal

Products and services

Our goal is to offer safe products and services that meet the needs of both consumer and business customers, support carbon neutrality and enable balanced energy consumption and savings. With our new services and various flexibility solutions, our customers can more efficiently shift their consumption to hours when the price of electricity is lower. This reduces the overall production need and is often more environmentally sustainable.

We continuously develop current electricity, district heating and district cooling services together with our customers. In 2023, we launched eight new electricity products and two new heat products.

Consumer services

An example of our new services offered to consumers is Valtti Electricity. The service combines the benefits of a fixed-price and hourly-priced electricity contract. It enables our customers to influence the total amount of their electricity bill by shifting their consumption to hours when the price of electricity is lower.

In addition, we launched renewable origin products, such as the Hohde Solar Power Plant solution, which enables our customers to acquire more efficient solar panels. We also offer renewable district heating through the Eco Heat service, in which the origin of the heat is certified with guarantees of origin issued by the Energy Authority.

Business services

For business customers, we offer turnkey solutions aimed at improving the predictability to electricity prices by means such as various forms of demand response.

The new Optimi product is aimed at small and medium-sized companies. The product consists of a fixed-price component and a flexible component that is based on the customer's consumption profile and priced as exchange electricity. Optimi's goal is to make electricity costs more transparent and predictable.

In the property sector, we are piloting the Carbon Neutral Residential Property service, which aims to provide investors with ways to reduce the emissions of their real estate portfolio and improve energy efficiency in order to achieve carbon neutrality targets.

We also develop digital services that provide our customers with more detailed information, enabling them to manage their energy consumption.

Services for housing companies

Ease of use and cost management are still important themes for housing companies. We have continued to offer the Energy Renovation turnkey solution to housing companies to improve energy efficiency and save costs. The Energy Renovation service is tailored to the needs of the housing company and consists of heating solutions, solar power production and electric vehicle charging solutions. These different elements are combined into a package according to each housing company's needs. As costs in general have risen, housing companies have become more aware of different solutions. In 2023, there was an increase in the demand for the Energy Renovation service and the monitoring and maintenance services and leasing models included in it.

Electricity price fluctuations have increased housing companies' interest in self-sufficient solar power production and the fact that electric vehicles have become more common has increased the need for housing company charging solutions. However, rising interest rates and costs as well as general economic uncertainty reduced demand towards the end of the year.

LYYRA IS ENTIRELY CARBON NEUTRAL POST CONSTRUCTION

Helen was responsible for the energy solutions of the Lyyra block completed in spring 2023 in Hakaniemi, Helsinki. The outcome is a property which is entirely carbon neutral when it comes to the actual use of the space and which uses innovative energy recycling and carbon neutral district heating and cooling. The property is also partially energy self-sufficient, thanks to the local energy recycling centre and the heat pump. A LEED Platinum certification – the highest level of certification available in the internationally recognised system – will be sought for Lyyra. In addition, the facilities are aiming for energy class A, the Ministry of the Environment's highest energy-efficiency classification.

CASE

ELLEN'S ENERGY ADVENTURE TAKES CHILDREN AND YOUNG PEOPLE ON A JOURNEY INTO THE FUTURE OF ENERGY

In recent years, energy has been a frequently discussed topic, both in the media and in many Finnish homes. Helen has a long track record in energy education. In 2023, we invested in energy education to a particularly significant extent. Our goal is to make energy understandable to people of all ages, as well as to mitigate concerns related to this subject.

In the spring, we published Ellen's Energy Adventure, a children's book which talks about energy and the energy transition in the form of a story. The first step towards the creation of the book was our workshop with the pupils of Munkkiniemi primary school, in which we learned how much children understand about energy and how the topic should be discussed with them. We distributed the book to our customers in printed form and as an e-book and also published it as an audiobook. The book is available in Finnish and English.

As well as the book, we produced related learning materials, which provide early childhood educators and teachers with a way to talk to children about energy and the energy transition. We have now published three editions of the materials and, by the end of 2023, approximately 20,000 copies had been ordered.

In Rauma, learning materials have been used in the multidisciplinary learning modules for pupils in grade 2. Teacher Johanna Saarela is happy that the learning materials support the current national curriculum.

"Teachers need support material for teaching that contain current and up-to-date information. Energy is a difficult and technical topic and there is scarcely any child-oriented material available. The learning materials helped me teach topics included in the current national curriculum in a manner that was meaningful for the children," says Saarela.

Aimed at pre-primary education and grades 1–6 in basic education, the learning materials include the book, a workbook and teacher's materials.

"The world of school has changed in such a way that we need more diverse teaching methods and especially material that supports visual learning more than before. Ellen's Energy Adventure engaged the pupils deeply and the topic was addressed in a way that was simple and suitable for children, and even climate change was approached gently."

In addition to producing the learning materials and the children's book, we organised two children's events open to the public in the spring and summer. The events attracted a total of 5,300 visitors interested in energy. We brought the main character of the children's book to life with an AI-generated virtual influencer. We also organised a Minecraft Energy Village challenge.

The Ellen's Energy Adventure children's book received the Energy Genius of the Year 2023 award from the Energy Authority, the Ministry of Economic Affairs and Employment and Motiva.

Read more: Ellen's Energy Adventure

"The story engaged the pupils deeply.

Ethical conduct and compliance

Our work is guided by the policies that apply to the entire Helen Group as well as international commitments.

In our business operations, we are committed to good governance, sustainability and compliance. Helen Group's Code of Conduct is the basis for all our operations and the most important commitment guiding the work of Helen's employees.

The Code of Conduct is based on our values and aligned with the ethical principles of our owner, the City of Helsinki. The Code of Conduct sets out how we conduct our business and how we treat each other, our business partners and other stakeholders.

In accordance with the Code of Conduct, we do not tolerate bribery in any shape or form. We do not accept any personal benefits, gifts or similar that would deviate from normal hospitality nor do we offer them to stakeholders. We do not provide direct or indirect financial support to political parties, organisations or individual politicians. Moreover, we do not use any operator, representative or other third party to carry out measures that are in conflict with the Code of Conduct. The Code of Conduct is reviewed and, if necessary, updated annually in the constitutive meeting of the Board of Directors.

We also adhere to ethical principles in our supply chain management. We inform our partners of the Code of Conduct and require our suppliers to commit to the Supplier Code of Conduct.

Read more: Helen Group's Code of Conduct

In addition to the Code of Conduct, our work is guided by the policies that apply to the entire Helen Group as well as international commitments.

Read more: Corporate governance

Compliance

For us, compliance means acting in accordance with the laws, regulations and environmental permits that apply to our operations. We comply with legislation and regulations and train our personnel and partners regularly. We report on deviations and provide information about our operations transparently.

Due to exceptional changes in the operating environment, more requests for decision were being processed at the Consumer Disputes Board in 2023 than usual: 59 in total. The requests mainly concerned the pricing of electricity contracts valid until further notice. In accordance with the Energy Authority's decision, we updated the prices of all our basic electricity products on our website. Other cases being processed were related to issues such as the entry into force of a contract, contractual penalties related to the termination of the contract, the consumer's right of withdrawal, the promised energy production of a solar power plant, the costs of disconnection from district heating and the verification of electricity consumption. We received two decisions from the Consumer Disputes Board, in neither of which was Helen found to have acted in violation of consumer protection legislation. The rest of the cases are still pending.

After congestion in our customer service, the Consumer Ombudsman commented on customer service availability and processing times. From now on, we are committed to ensuring that customer service intended for contract customers can be reached efficiently and through multiple channels.

In 2023, Southwest Finland's Centre for Economic Development, Transport and the Environment (ELY Centre) applied for a change of the fishery obligations and fishery management fees of our subsidiary Oy Mankala Ab's hydropower plants located in the western branch of the River Kymijoki. There was an immediate response to the application, but the matter is still being processed. For Helen, it is important to comply with the requirements and to maintain biodiversity.

In 2023, Helen had no

- confirmed cases of bribery or corruption
- legal actions related to anti-competition practices
- fatalities
- confirmed cases of discrimination
- confirmed cases of child, forced or compulsory labour
- breaches of regulations related to product and service information or markings
- breaches of marketing communications regulations
- confirmed complaints related to violating the customers' privacy or losing customer data

Helen had zero accidents, but there were two serious accidents in the supply chain.

In 2023, there were no significant violations of laws and regulations that would have resulted in fines or other, non-monetary penalties for Helen, neither were we a party to any disputes processed in court.

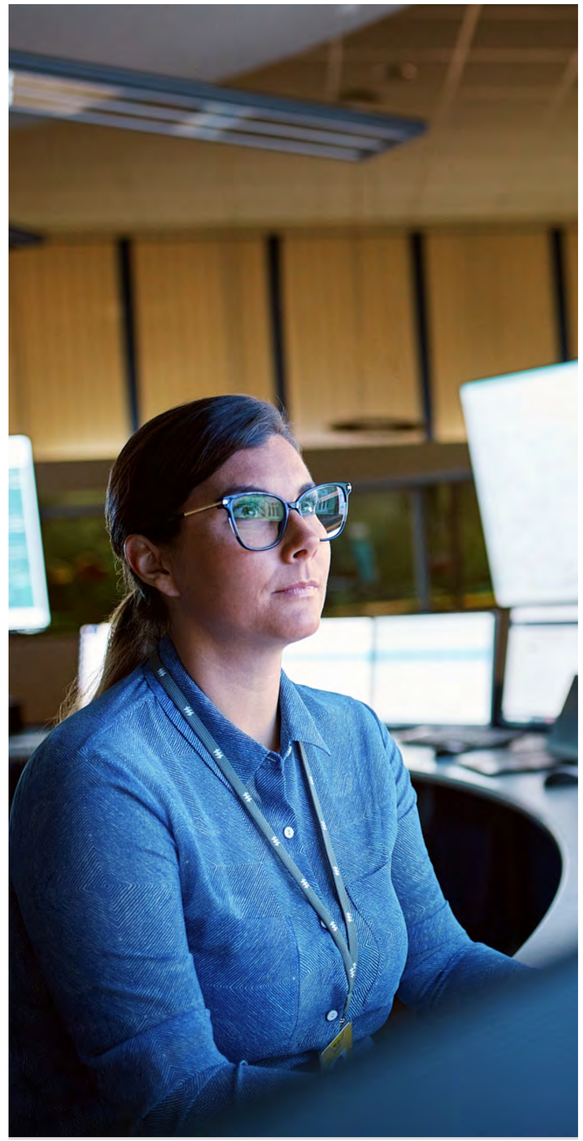
Training on business practices

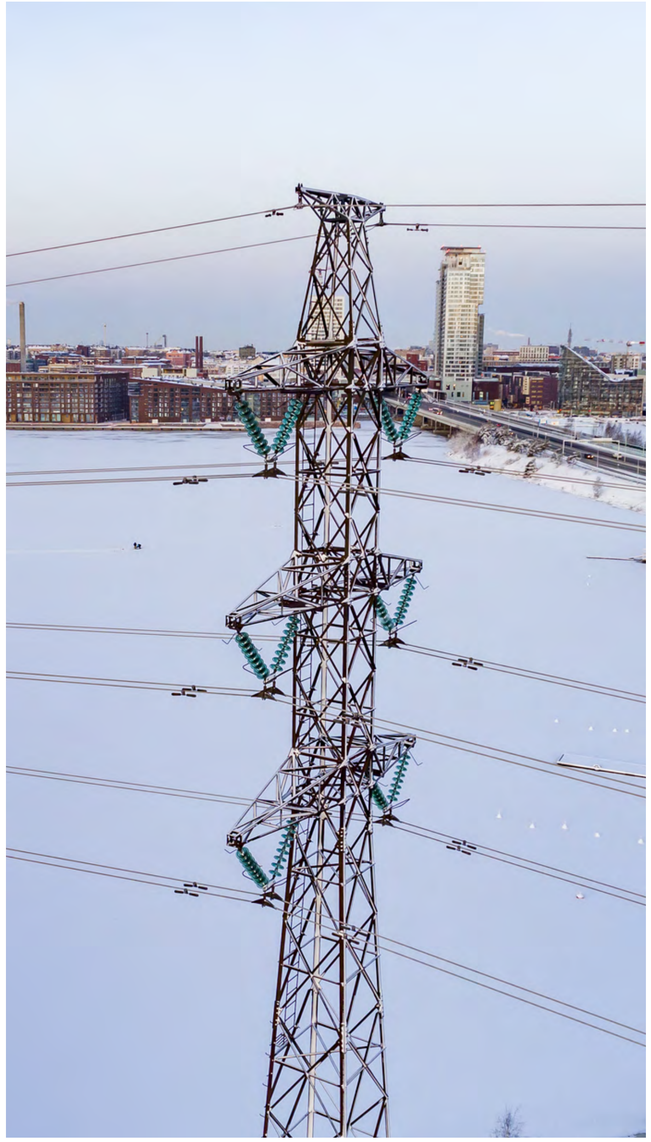
Our supervisors are responsible for ensuring that the personnel are familiar with the Helen Group's Code of Conduct. The Code of Conduct has so far been part of the orientation training. At the moment, we are creating a separate online module to supplement the orientation. In case of doubt, the employees can contact their supervisor, the HR department or Helen Group's lawyer to verify the correct procedure to be followed.

In addition to online training, we organise targeted training related to the Code of Conduct on topics such as data protection, competition law, occupational safety and the REMIT Regulation (Regulation (EU) No 1227/2011 of the European Parliament and of the Council on wholesale energy market integrity and transparency). We continued the sustainability training started in the previous year, focusing especially on the Management Group and sales personnel. Furthermore, we are planning extended sustainability training and coaching for the personnel, the Management Group and the Board of Directors for 2024.

Taking care of data protection is a crucial part of our operations. In 2023, Helen's key data protection documentation was updated, the online course on data protection was revamped and a two-day targeted data protection training was organised for application developers. In addition, an external partner performed a data protection audit for our digital channels and the internal audit team carried out an information security audit in accordance with the decision of the Board of Directors. Measures derived from the results and findings of both audits have been planned and scheduled and they are currently being implemented.

To ensure compliance, we also monitored laws, decrees and regulations more closely and communicated this actively through our internal communications channels. In addition, we organised a training session on hydrogen-related legislation in cooperation with a law firm.





Identification of misconduct

In accordance with the Directive on the protection of persons who report breaches of Union law, the so-called Whistleblower Directive, and the national Whistleblower Protection Act that entered into force on 1 January 2023, Helen Group has a channel for reporting suspected misconduct. The ethical reporting channel can be used anonymously by both our own personnel and external stakeholders. In addition, employees may report suspected misconduct to supervisors. The channel instructions were updated in 2023 and are available on the intranet as well as on our website.

Read more: Helen Group's ethical reporting channel

The ethical reporting channel is managed by an independent party. Reports made to the channel are processed confidentially by two designated persons. At Helen, they are the General Counsel and the SVP, Employee experience. The team processing the reports determines whether the reports fall within the scope of the Whistleblower Protection Act. If necessary, external experts are used in the assessment and a more detailed investigation is initiated.

Helen Group's General Counsel reports on any reports received via the reporting channel, measures related to them and compliance with laws and regulations to the company's Board of Directors and the Board's Audit Committee in connection with the annual risk management report.

In 2023, two reports were submitted via the channel. One of the reports concerned suspected misconduct in our associated company's subcontracting chain. The corrective measures taken as a result of the report were found to be sufficient and no additional measures were required. The other report is still being processed.

Advocacy

As a company, we participate in the energy and climate policy debate and influence the preparation and implementation of legislation. Through our advocacy activities, we aim to ensure that energy and climate policies serve customers, businesses, the environment and society in the best possible way.

Helen's advocacy principles are:

- Our advocacy is open and transparent and decision-makers can trust in our expertise.
- We are a prominent and active energy company that represents the interests of our customers.
- Advocacy seamlessly supports our business operations.

We influence the development of the energy sector through various organisations in Helsinki, other parts of Finland and the entire Europe. Our primary advocacy organisation is Finnish Energy. In 2023, we paid a total of some EUR 351,000 (2022: 480,000) in membership fees to different organisations.

We have regular discussions with political decision-makers and officials on the political themes and legislative projects that are most significant for Helen. We are committed to openness and transparency in all our communications, and we are registered in the Finnish and EU transparency registers.

In our public affairs work, we anticipate and manage political risks and create preconditions for growth and new business operations. The most important social themes for our business are low-emission energy production, taxation, energy system regulation and the acceptability of different forms of energy.

We have regular discussions with political decision-makers and officials.

Helen's perspectives on regulatory development are:

- Legislation and taxation must be as predictable as possible to enable investments in cost-efficient and sustainable energy production and services.
- New technology is rapidly being turned into commercial applications, but public support is needed for piloting new solutions and investing in major projects. Technological neutrality must be a guiding principle in supporting low-emission solutions.
- The impacts of legislation must be carefully assessed during the legislative drafting process. Impact assessments must take into account the price of energy, supply reliability and sustainability.

Read more: Public affairs

Economic value creation and tax footprint

Economic sustainability is a basic prerequisite for our business and an enabler of goal-oriented work for environmental and social sustainability.

Our business operations create jobs and economic added value in Finnish society. In 2023, we invested EUR 421 (2022: 221) million in the green transition. Our goal is to increase economic value sustainably. Well-managed finances ensure the continuation of green transition investments, the maintenance of modern production plants and investments in research and development, which is a prerequisite for building a carbon neutral energy system.

Sustainable financing

To implement our investment programme, we want to secure and expand our sustainable financing. This means both arranging long-term financing for investments in the green transition and securing short-term working capital financing for the needs of cash management.

Going forward, our financing will be even more strongly linked to our sustainability targets and especially targets tied to the Science Based Targets initiative. An example of this is the EUR 150 million sustainability-linked loan with the Nordic Investment Bank (NIB), which we drew in January 2023. We will continue to diversify our sustainable financing by agreeing with providers of financing on both bilateral and multilateral financing arrangements linked to sustainability targets.

Grants

In 2023, we received a total of EUR 1.7 (18.7) million in government grants. Grants were allocated to several projects promoting the green transition.

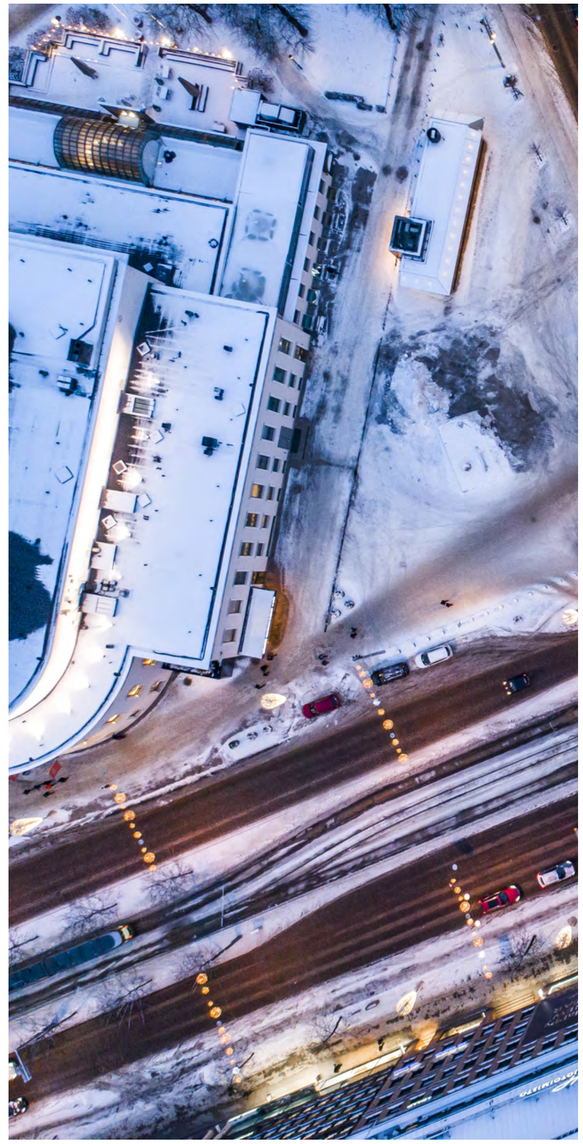
Other financial impacts

As we have a major role and are a significant employer in the energy sector, our operations also have indirect financial impacts on society. By employing 786 (701) people, we have indirect impacts at the local, regional and national level, creating wealth and generating added value for our owner, the City of Helsinki, as well as our various stakeholders. We also create jobs and added value indirectly through our supply chain.

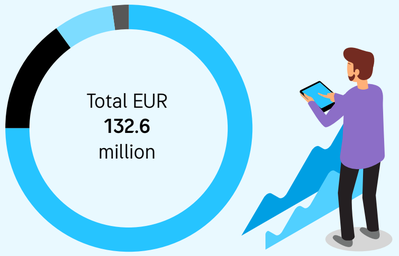
> **We invested EUR 421 million in the green transition.**

Economic added value, EUR million

Direct economic added value generated	2023	Economic added value distributed	2023
Net sales	1,826	Dividends	62
Gains from sales of assets	0	Taxes and tax-like charges	143
Return on investments	0	Wages and salaries	54
Other income	6	Suppliers of goods and services	1,314
Total	**1,832**	**Total**	**1,573**

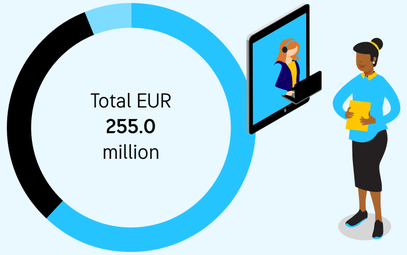


Taxes paid



- Fuel tax 76%
- Corporation tax 13%
- Employer's contributions 8%
- Property tax 2%

Taxes remitted



- Value added tax 62%
- Electricity tax 32%
- Withholding taxes 6%

Tax footprint

Helen is a significant and responsible taxpayer. Our tax footprint describes our impact on society. The tax footprint refers to the direct and indirect taxes that we pay to society. By paying taxes, we support the functioning of society and the arrangement of the services provided by society.

We are committed to managing our tax-related legal obligations in a responsible and timely manner. In accordance with the guidelines approved by Helen's Board of Directors, we comply with the legislation in force in Finland in the payment, collection, remittance and reporting of taxes in all the Group companies. The responsibility for tax-related administration and compliance with the guidelines is centralised to the organisation of the CFO. In this way, we ensure that material tax-related issues are dealt with consistently in accordance with the tax administration's guidelines and the Group's internal policies.

Read more: Corporate governance

As a Finnish company, Helen pays all its taxes in Finland. In 2023, we paid a total of EUR 143 (181) million in taxes and statutory payments and collected and remitted a total of 255 (281) million euros in taxes. The taxes paid include fuel, property, and corporate taxes as well as employer contributions. The taxes collected and remitted include taxes of an indirect nature, such as electricity tax, value added tax, and withholding taxes on wages.

The majority of our tax footprint comes from the electricity tax collected from customers, which we remitted to the state a total of 82.4 (94.1) million euros in 2023. The collection of electricity tax is mandated by law as the responsibility of electricity distribution companies, and the amount of the tax is determined by the Finnish Parliament. Regarding value added tax, we remitted the net amount, which is the difference between the taxes paid and invoiced.

Tax risks

We regularly assess our tax risks as part of the risk management process and update the guidelines in cooperation with the finance department. The CFO is responsible for managing tax risks. If necessary, we turn to external experts in special issues. Our main tax risks are related to changing legislation and energy sector taxes.

In March 2023, the act on the windfall tax on electricity companies entered into force. This results from an EU regulation adopted as an emergency measure, the aim of which is to cut the profits made by electricity companies as a result of an increase in the price electricity by having the companies pay a temporary tax to the state. The amount of the windfall tax is 30% of the company's electricity business profit that exceeds the calculated 10% return on the equity tied to the electricity business. The act applies to the result of Helen's electricity business for 2023 and the tax will be payable in 2024. We recorded a total of EUR 3.5 million in windfall tax for 2023.

CASE

SMART ELECTRICITY STORAGE INCREASES THE FLEXIBILITY OF THE ENERGY SYSTEM

The increasing energy system flexibility required by the green transition will increase the need for electricity storage year after year. Battery electricity storage systems (BESS) can balance the demand and supply of electricity as weather-dependent electricity production is becoming the main form of production.

In the energy sector, the green transition means moving to carbon neutral energy production, where the amount of weather-dependent production, such as wind and solar power, increases. Electricity production must at all times equal energy consumption: on windless or cloudy days, other energy sources and flexibility are needed to cover demand for electricity. Battery electricity storage systems contribute to the transition to carbon neutral energy production by bringing flexibility and stability to the electricity grid, enabling the energy system to withstand the fluctuations caused by weather-dependent production.

”Battery electricity storage systems are a versatile tool in the electricity market but, to function optimally, flexibility needs to be managed smartly. To this end, we started to develop a smart energy management system that will provide electricity storage owners with new opportunities to earn with the flexibility of their electricity storage,” says Kristiina Siilin, Team Lead, Optimisation Development.

In the autumn, we launched the Battery Yield service for our business customers, which helps customers earn with their flexibility, while the customer’s electricity storage contributes to turning the energy transition into reality. In the service, we operate the battery electricity storage system owned by the customer, optimise their yield and ensure safe trading for the customer’s electricity storage in the electricity market around the clock.

”Maintaining the balance between the demand and supply of electricity requires the quick regulation of power and energy and the parties that can offer regulation capacity are compensated for this. The Battery Yield service helps to ensure sufficient regulation capacity and offers companies that invest in electricity storage a route to the market and return on investment,” Siilin adds.

The first electricity storage utilising the Battery Yield service is the 5-MW storage built at Helen’s Lakiakangas 3 wind farm. We will continue storage investments at the Lohja solar power plant where we will build Helen’s first electricity storage that is connected to a solar power plant. The plant is under construction and will be complemented with the battery electricity storage system during 2024.

”

Battery electricity storage systems are a versatile tool in the electricity market.

Description of the report

This Sustainability Report describes sustainability in the entire Helen Group as well as its management and key events during 2023. The scope of the Sustainability Report corresponds to Helen Group's financial statements and the Report of the Board of Directors.

The reporting period of the Sustainability Report is 1 January–31 December 2023. It is part of Helen's Annual Review, which also includes the Annual Report. The financial statements and the Report of the Board of Directors have been published separately. The Annual Review has been approved by Helen's Management Group and the financial statements and the Report of the Board of Directors have been approved by Helen's Board of Directors. The key figures of the Annual Report have been discussed at Helen's Audit Committee.

Read more: Helen Group's financial statements and the report of the Board of Directors

The Annual Review in Finnish and its English translation were published on 14 March 2024. They are available on our website. The previous Annual and Sustainability Report was published on 16 March 2023.

The Sustainability Report is drawn up according to the GRI Universal Standards 2021 update. In addition, selected complementary indicators have been used in the reporting. These include, for example, G4 Electric Utilities indicators as well as Helen's own indicators to describe the development of sustainability.

Certain environmental information in the report has been assured by an independent party at the level of limited assurance. Assured information is marked in the GRI index and the appendices with the following symbol: ◯

The assurance assignment was commissioned by Maiju Westergren, Helen's SVP, Sustainability and Public Affairs. The assurer was KPMG Oy Ab. The assurance report can be found in the report appendices. The bases of the emissions calculations are also described in more detail in the appendices.

The Sustainability Report is based on the materiality analysis and sustainability programme which were updated and approved by Helen's Management Group in 2023. For the first time, the principles of double materiality have been taken into account in the materiality analysis. In the report, we focus on the sustainability issues that are the most material for our operations, in accordance with our sustainability programme. This encompasses the key areas of environmental and social sustainability and good corporate governance. The sustainability programme is based on the key themes in terms of our key impacts, stakeholder expectations and business targets.

The report is linked to the context of sustainable development through the UN Sustainable Development Goals (SDGs), among other things. In addition, we have already taken into account some of the requirements of the EU's Corporate Sustainability Reporting Directive and sustainability reporting standards, in order to prepare for reporting in the coming years.

The Sustainability Report aims to cover Helen's operations in Finland, including subsidiaries in which the Group has controlling interest. The figures for power generation and capacities also include figures from Helen's share in associated companies and joint ventures that sell their production to the owners at cost. Possible deviations to these principles are reported in conjunction with information applying different reporting boundaries. If a figure has not been fully available, this has been mentioned separately in the item in question or in the GRI index.

GRI index

◯ Information assured.

Disclosure number	Disclosure name	Location	Further information
	GRI 2: GENERAL DISCLOSURES 2021		
	The organisation and its reporting practices		
2-1	Organisational details	Annual Report	
2-2	Entities included in the organisation's sustainability reporting	Annual Report, Description of the report	
2-3	Reporting period, frequency and contact point	Description of the report	
2-4	Restatements of information	Description of the report, GRI index	No significant changes. Any adjustments have been reported in the appendices.
2-5	External assurance	Description of the report, Assurance report	
	Activities and workers		
2-6	Activities, value chain and other business relationships	Annual Report, Value creation, Supply chain	
2-7	Employees	Work community, Appendices	
2-8	Workers who are not employees	Work community	26 people
	Governance		
2-9	Governance structure and composition	helen.fi | helen.fi	
2-10	Nomination and selection of the highest governance body	helen.fi	
2-11	Chair of the highest governance body	helen.fi	
2-12	Role of the highest governance body in overseeing the management of impacts	Management of sustainability, helen.fi	
2-13	Delegation of responsibility for managing impacts	helen.fi	
2-14	Role of the highest governance body in sustainability reporting	Management of sustainability, helen.fi	
2-15	Conflicts of interest	helen.fi	
2-16	Communication of critical concerns	helen.fi	
2-17	Collective knowledge of the highest governance body	helen.fi	
2-18	Evaluation of the performance of the highest governance body	helen.fi	
2-19	Remuneration policies	helen.fi	
2-20	Process to determine remuneration	helen.fi	
2-21	Annual total compensation ratio	helen.fi	Ratio 5.08

Disclosure number	Disclosure name	Location	Further information
	Strategy, policies and practices		
2-22	Statement on sustainable development strategy	CEO's review	
2-23	Policy commitments	Management of sustainability, helen.fi	
2-24	Embedding policy commitments	helen.fi	
2-25	Processes to remediate negative impacts	Management of sustainability, Safety and security	
2-26	Mechanisms for seeking advice and raising concerns	Management of sustainability	
◯ 2-27	Compliance with laws and regulations	Ethical conduct and compliance, GRI index, Appendices	No significant instances
2-28	Membership associations	Ethical conduct and compliance, Appendices, helen.fi	
	Stakeholder engagement		
2-29	Approach to stakeholder engagement	helen.fi	
2-30	Collective bargaining agreements	Appendices	
	GRI 3: MATERIAL TOPICS 2021		
3-1	Process to determine material topics	Materiality analysis	
3-2	List of material topics	Materiality analysis	
3-3	Management of material topics	Materiality analysis	
	ECONOMIC IMPACT		
	GRI 201: Economic Performance 2016		
201-1	Direct economic value generated and distributed	Economic value creation and tax footprint, Appendices	
201-4	Financial assistance received from government	Economic value creation and tax footprint	
	GRI 203: Indirect Economic Impacts 2016		
203-1	Infrastructure investments and services supported	Sustainable energy system	Includes investments in green transition as well as investments by Helen Electricity Network Ltd
203-2	Significant indirect economic impacts	Value creation, Economic value creation and tax footprint	

Disclosure number	Disclosure name	Location	Further information
	GRI 205: Anti-corruption 2016		
205-2	Communication and training about anti-corruption policies and procedures	Management of sustainability, Ethical conduct and compliance	
205-3	Confirmed incidents of corruption and actions taken	GRI index	No incidents
	GRI 206: Anti-competitive Behavior 2016		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	GRI index	No legal actions
	GRI 207: Tax 2019		
207-4	Country-by-country reporting	Economic value creation and tax footprint, Appendices	
CLIMATE AND RESOURCES			
	GRI 301: Materials 2016		
◯ 301-1	Materials used by weight or volume	Sustainable energy system, Appendices	We report fuel data
	GRI 302: Energy 2016		
◯ 302-1	Energy consumption within the organisation	Appendices	We report the fuels used as energy (GWh) instead of reporting energy consumption
◯ 302-3	Energy intensity	Sustainable energy system, Appendices	
◯ 302-4	Reduction of energy consumption	Appendices	We report the data as annual calculated reductions in accordance with the energy efficiency agreement and in MWh
	GRI 303: Water and Effluents 2018		
303-1	Interactions with water as a shared resource	Environmental impacts	
303-2	Management of water discharge related impacts	Environmental impacts	Our production facilities operate under environmental and water permits. We adhere to the standards set by these permits regarding water quality.
◯ 303-3	Water withdrawal	Environmental impacts	We report only the consumption of seawater in cubic meters. The seawater we use comes from the Gulf of Finland, which has been assessed as a low water stress area in the World Resources Institute's Aqueduct Water Risk Atlas tool.

Disclosure number	Disclosure name	Location	Further information
	GRI 304: Biodiversity 2016		
304-2	Significant impacts of activities, products, and services on biodiversity	Biodiversity	
	GRI 305: Emissions 2016		
◯ 305-1	Direct (Scope 1) GHG emissions	Sustainable energy system, Appendices	
◯ 305-2	Energy indirect (Scope 2) GHG emissions	Sustainable energy system, Appendices	
◯ 305-3	Other indirect (Scope 3) GHG emissions	Sustainable energy system, Appendices	
◯ 305-4	GHG emissions intensity	Sustainable energy system, Appendices	
305-5	Reduction of GHG emissions	Sustainable energy system	
◯ 305-7	Nitrogen oxides (NOx), sulphur oxides (SOx), and other significant air emissions	Environmental impacts, Appendices	We report only air emissions that are significant for Helen
	GRI 306: Waste 2020		
306-1	Waste generation and significant waste-related impacts	Circular economy	
306-2	Management of significant waste-related impacts	Circular economy	
◯ 306-3	Waste generated	Circular economy, Appendices	
◯ 306-4	Waste diverted from disposal	Circular economy, Appendices	
◯ 306-5	Waste directed to disposal	Circular economy, Appendices	The final waste disposal methods are not detailed
	GRI 308: Supplier Environmental Assessment 2016		
308-2	Negative environmental impacts in the supply chain and actions taken	Supply chain	
PEOPLE AND SOCIETY			
	GRI 401: Employment 2016		
401-1	New employee hires and employee turnover	Appendices	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Work community	All employee benefits, such as sports and recreational benefits, are available to permanent, fixed-term, and part-time employees equally
	GRI 402: Labour/Management Relations 2016		
402-1	Minimum notice periods regarding operational changes	GRI index	We comply with Finnish legislation in reorganisation situations

Disclosure number	Disclosure name	Location	Further information
GRI 403: Occupational Health and Safety 2018			
403-1	Occupational health and safety management system	Work community	
403-2	Hazard identification, risk assessment, and incident investigation	Work community	
403-3	Occupational health services	Work community	
403-4	Worker participation, consultation, and communication on occupational health and safety	Work community	
403-5	Worker training on occupational health and safety	Work community	
403-6	Promotion of worker health	Work community	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Work community	
403-8	Workers covered by an occupational health and safety management system	Work community	
403-9	Work-related injuries	Work community, Appendices	The absence rate has not been reported. In terms of the entire supply chain, lost-time incident frequency is not available, only the number of incidents. The calculation method is described in more detail in the appendices.
403-10	Work-related ill health	Work community	
GRI 404: Training and Education 2016			
404-1	Average hours of training per year per employee	Work community, Appendices	
404-2	Programs for upgrading employee skills and transition assistance programs	Work community	
404-3	Percentage of employees receiving regular performance and career development reviews	Work community, Appendices	
GRI 405: Diversity and Equal Opportunity 2016			
405-1	Diversity of governance bodies and employees	Work community, Appendices	
405-2	Ratio of basic salary and remuneration of women to men	Work community	The median wage gap for salaried employees is 2.98% and 2.43% for senior salaried employees and managers
GRI 406: Non-discrimination 2016			
406-1	Incidents of discrimination and corrective actions taken	Work community, GRI index	No incidents
GRI 408: Child Labour 2016			
408-1	Operations and suppliers at significant risk for incidents of child labour	Supply chain	

Disclosure number	Disclosure name	Location	Further information
GRI 409: Forced or Compulsory Labour 2016			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	Supply chain	
GRI 414: Supplier Social Assessment 2016			
414-1	New suppliers that were screened using social criteria	Supply chain	
414-2	Negative social impacts in the supply chain and actions taken	Supply chain	
GRI 415: Public Policy 2016			
415-1	Political contributions	Ethical conduct and compliance	
GRI 417: Marketing and Labelling 2016			
417-2	Incidents of non-compliance concerning product and service information and labeling	GRI index	No incidents
417-3	Incidents of non-compliance concerning marketing communications	GRI index	No incidents
GRI 418: Customer Privacy 2016			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Safety and security	

Appendices

Information assured.

GRI 2: GENERAL DISCLOSURES

GRI 2-7: Employees	2023	2022	2021
Number of employees	786	701	1,015
Summer employees	41	56	74

GRI 2-30: Collective bargaining agreements	2023	2022	2021
Employees, %	92.6	92.2	94.9

ECONOMIC SUSTAINABILITY

GRI 201-1: Economic perfromance	2023	2022	2021
Net sales, EUR million	1,826	1,785	1,318
Operating profit, EUR million	93	142	82
Distribution of net sales, %			
Electricity	56	57	47
Electricity transmission	6	7	9
Heating	34	31	38
Cooling	2	1	2
Gas	0.4	2	1
Solutions	1	1	1
Other	0	2	2

Services, EUR thousand			
Electricity	1,021,031	1,016,855	621,127
Electricity transmission	107,660	119,013	124,292
Heating	630,832	555,605	502,841
Cooling	28,023	23,509	22,347
Gas	6,623	30,090	14,246
Solutions	24,901	12,623	8,111
Other	7,146	27,566	25,143
Total	**1,826,215**	**1,785,261**	**1,318,107**

GRI 201-1: Distribution of added value, EUR million	2023	2022	2021
Net sales	1,826	1,785	1,318
Purchased goods and services	1,314	1,177	853
Employees (wages and salaries)	55	64	77
Society (taxes)	143	181	168
Creditors (financial expenses)	50	26	20
Owners (dividends)	62	19	75

GRI 201-4: Financial assistance received from government, EUR million	2023	2022	2021
Financial assistance received from government	1.7	18.7	0.7

GRI 207: Tax

GRI 207-4: Taxes paid, EUR million	2023	2022	2021
Property tax	3.1	2.3	1.0
Employer's contributions	10.9	12.1	12.9
Corporation tax	17.5	18.5	8.8
Fuel tax	101.1	136.0	132.1
Total	**132.6**	**168.9**	**154.8**

Taxes remitted, EUR million	2023	2022	2021
Electricity tax	82.4	94.1	92.8
Value added tax	157.8	169.4	128.0
Withholding taxes	14.8	17.5	16.8
Total	**255.0**	**281.0**	**237.6**

ENVIRONMENTAL SUSTAINABILITY

GRI 301: Materials; GRI 302: Energy

GRI 301-1: Material consumption by weight or volume; 302-1: Materials as energy

Use of fuels	2023	2022	2021
Non-renewable fuels*			
Natural gas, m^3	143,312,351	84,768,585	423,130,208
Coal, tonnes	539,512	1,001,978	790,300
Fuel oil, tonnes	44,313	69,437	37,026
Renewable fuels*			
Biomass, tonnes	528,141	165,662	141,905
Non-renewable fuels, GWh**			
Natural gas	1,489	861	4,298
Coal	3,579	6,894	5,356
Fuel oil	527	820	432
Renewable fuels, GWh**			
Biomass	1,560	747	670

* Fuel amounts have been defined with measurements or on the basis of purchase accounts.
** Energy consumption is based on measured data and we monitor it in our own systems.

Use of biofuels, %*	2023	2022	2021
PEFC-certified and sourced from controlled origins	79	52	55
FSC Mix and sourced from controlled origins	9	19	10
SBP, sourced from controlled origins	12	29	35

* The presentation method has been specified further since 2020.

GRI 302-3: Energy intensity	2023	2022	2021
Energy intensity (MWh)*	1.01	1.04	1.03

* Fuel and electricity consumption in relation to the produced electricity and heat. Covers both Helen's internal and external energy consumption.

GRI 302-4: Reduction of energy consumption

Production plants, MWh per year	**2023**	**2022**	**2021**
Calculated primary energy savings for production plants (polttoaineet)	40,300	449,365	135,887
Reduction of transmission losses in the electricity network (sähkö)	102	83	85
Reduction of heat losses in district heating and cooling networks (lämpö)	4,102	3,552	5,542
Total	**44,504**	**453,000**	**141,514**

GRI 303: Water

GRI 303-3: Water withdrawal

Cooling water for energy production, m³	**2023**	**2022**	**2021**
Seawater	95,075,000	84,603,327	68,312,325

GRI 305: Emissions

GRI 305-1, 305-2, 305-3: Direct GHG emissions, indirect GHG emissions of energy and other indirect GHG emissions

GHG emissions, tCO_2e	**2023**	**2022**	**2021**
Total GHG emissions (Scope 1, 2 and 3)	2,410,074	3,421,457	3,643,549
Direct GHG emissions (Scope 1)	1,656,084	2,680,478	2,773,101
Direct biogenic emissions (Scope 1)	622,756	296,636	267,485
Energy indirect GHG emissions (Scope 2) – Market-based	118,542	23,847	7,970
Energy indirect GHG emissions (Scope 2) – Location-based	17,572	22,872	40,004
Other indirect emissions (Scope 3)	635,448	766,750	862,187
Category 1: Purchased goods and services	39,712	64,962	51,551
Category 2: Gapital goods	149,220	152,016	189,175
Category 3: Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	439,559	514,705	575,366
Category 4: Upstream transportation and distribution	808	628	1,054
Category 5: Waste generated in operations	5,374	1,759	2,012
Category 6: Business travel	210	330	196
Category 7: Employee commuting	503	527	914
Category 12: End-of-life treatment of sold products	62	13	12
Category 15: Investments	Investments emissions data is not yet available	31,810	41,906

GRI 305-4: GHG emissions (Scope 1, 2, 3) intensity for sold electricity and heat

	2023	**2022**	**2021**
GHG emissions intensity, gCO_2e per kWh*	218	311	295

* The calculation method has been specified further in 2021.

Emissions calculation principles

Our emissions calculation is based on the international GHG Protocol (Greenhouse Gas Protocol), which we started to use in 2021. The emissions reported before have been converted to obtain comparable results. We calculate our emissions in carbon dioxide equivalents (CO_2e).

As well as Helen's direct stack emissions, the emissions calculation covers emissions caused by the company's own vehicles and leakage of gases (Scope 1) and emissions from the energy we consume (Scope 2). In addition, we take into account emissions from purchased goods and services, capital goods, the fuel and energy procurement chain, transportation and distribution services, the processing of waste generated in operations, business travel, employee commuting, the end-of-life treatment of sold products, and investments (Scope 3).

Scope 3 emissions category	Materiality of the emissions category for Helen
Category 1: Purchased goods and services	Material
Category 2: Capital goods	Material
Category 3: Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	Material
Category 4: Upstream transportation and distribution	Material
Category 5: Waste generated in operations	Material
Category 6: Business travel	Material
Category 7: Employee commuting	Material
Category 8: Upstream leased assets	Not material for our operations
Category 9: Downstream transportation and distribution	Not material for our operations
Category 10: Processing of sold products	Not material for our operations
Category 11: Use of sold products	Not material for our operations
Category 12: End-of-life treatment of sold products	Material
Category 13: Downstream leased assets	Not material for our operations
Category 14: Franchises	Not material for our operations
Category 15: Investments	Material

In the calculation, we use the operational control method, in other words, we calculate and report all Scope 1, Scope 2 and Scope 3 emissions of the parent company and the subsidiaries in which the Group has controlling interest.

We calculate and report biogenic emissions and removals. In the calculation of specific emissions and the monitoring of emissions reduction targets, biogenic emissions are treated as zero emissions in accordance with the EU's Emissions Trading System.

The life cycle-based calculation includes both carbon dioxide (CO_2) and all other greenhouse gases: methane (CH_4), nitrous oxide (N_2O), HFC and PFC compounds, sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). The climate impacts caused by these gases are very small compared to the impacts caused by our CO_2 emissions.

In the calculation of Scope 1 emissions, Statistics Finland's default emission factors have been used for CO_2 and the Finnish Environment Institute's default emission factors for methane and nitrous oxide. Market-based Scope 2 emissions have been calculated for electricity of unverified origin on the basis of the residual mix calculated by the Energy Authority. Location-based Scope 2 emissions have been calculated on the basis of the emission factor of electricity consumed in Finland, as calculated by Fingrid Oyj. Scope 3 emission factors have been selected from the Ecoinvent database and GWP factors have been calculated using the GWP100 values from the IPCC Fifth Assessment Report.

	2023	2022	2021
Refrigerant emissions (F-gases), kg	0	13	170

GRI 305-7: Nitrogen oxide (NO_x) emissions, sulphur oxide (SO_x) emissions and other significant air emissions

Flue gas emissions, tonnes	2023	2022	2021
Nitrogen oxides (NO_x)	1,850	2,539	2,526
Sulphur dioxide (SO_2)	2,586	2,410	1,877
Particulates (PM)	140	118	51

GRI 306: Waste

GRI 306-3, 306-4, 306-5 Waste handling*

Ash and by-products handling, t**	2023	2022	2021
Total ashes generated	**77,831**	**122,457**	**97,127**
Recovery	77,771	122,282	97,057
Disposal	60	175	70
Total desulphurisation end product and bed sand generated	**22,007**	**34,922**	**18,179**
Recovery	21,882	34,875	18,179
Disposal	125	47	0
Total	**99,838**	**157,379**	**115,306**

Waste handling, t***	2023	2022	2021
Total waste generated	**9,676**	**5,293**	**10,695**
Non-hazardous waste	7,578	4,866	10,177
Hazardous waste	2,098	428	518
Waste diverted from disposal	**6,506**	**4,581**	**9,910**
Non-hazardous waste, material recovery	5,937	4,117	9,213
Non-hazardous waste, energy recovery	403	233	525
Hazardous waste, material recovery	77	228	158
Hazardouse waste, energy recovery	89	3	14
Waste directed to disposal	**3,170**	**712**	**785**
Non-hazardous waste, disposal	1,238	516	439
Hazardous waste, disposal	1,932	197	346

Material recovery refers to recycling, reuse and other recovery operations. Energy recovery is classified as waste recovery in our calculations. Disposal includes landfilling, incineration without energy recovery and other disposal operations. All waste is diverted from and directed to disposal offsite Helen locations.

* The calculation method has been specified further in 2023. The data for previous years have been recalculated retrospectively.
** Ash and by-products are generated only by Helen Ltd's operations.
*** Reporting covers Helen Ltd's, Helen Electricity Network Ltd's and Oy Mankala Ab's waste processing.

SOCIAL SUSTAINABILITY

GRI 401: Employment

GRI 401-1: New employee hires and employee turnover	2023	2023	2022	2022	2021	2021
New employee hires	**Number of employment relationships**	**Employment relationships started, %**	**Number of employment relationships**	**Employment relationships started, %**	**Number of employment relationships**	**Employment relationships started, %**
Under 31 years of age	25	24.0	24	24.5	24	22.4
31–50 years of age	68	65.4	69	70.4	72	67.3
Over 50 years of age	11	10.6	5	5.1	11	10.3
Men	63	60.6	67	68.4	63	58.9
Women	41	39.4	31	31.6	44	41.1

Employee turnover, %	**2023**	**2022**	**2021**
Under 31 years of age	2.3	2.7	1.7
31–50 years of age	7.5	10.7	7.2
Over 50 years of age	1.7	4.3	3.3
Men	6.7	11.9	7.1
Women	4.8	5.7	5.1
Overall turnover	**11.5**	**17.6**	**12.2**

Use of fixed-termn workforce	**2023**	**2022**	**2021**
Use of fixed-termn workforce, %	6.1	4.3	5.6
Summer employees	41	56	74

GRI 403: Occupational health and safety

403-9: Work-related injuries

Helen's own personnel*	**2023**	**2022**	**2021**
All accidents	7	20	26
Accidents resulting in absence	0	5	9
Serious occupational accidents	0	0	0
Fatal occupational accidents	0	0	0
Lost-time incident frequency (LTIF)**	0	2.7	4.5

Supply chain, incl. Helen	**2023**	**2022**	**2021**
All accidents	39	50	45
Accidents resulting in absence	14	16	19
Serious occupational accidents	2	0	0
Fatal occupational accidents	0	0	0
Lost-time incident frequency (LTIF)**	Not comprehen-sively available	Not comprehen-sively available	Not comprehen-sively available
Lost-time incident frequency (Helen and main partners)* **	1.8	4.3	4.6

* Helen's own personnel in 2023 includes only experts as the power plant personnel was outsourced in 2022.
** LTIF = number of accidents resulting in absence per million working hours
*** The lost-time incident frequency for the supply chain includes only accidents associated with main partners as working hours are not yet available for the whole supply chain.

GRI 404: Training and education 201

404-1: Average hours of training per year per person

Hours of training per person per year	**2023**	**2022**	**2021**
Men	17.5	10.8	17.7
Women	16.0	9.7	21.5
Total	**16.9**	**10.3**	**19.0**

Hours of training per person per year	**2023**	**2022**	**2021**
Senior salaried employees and managers	18.8	11.6	25.0
Salaried employees	10.6	6.2	13.7
Employees*	0	0	11.3

	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Hours of training per person per year	**2023**	**2023**	**2022**	**2022**	**2021**	**2021**
Senior salaried employees and managers	18.7	19.0	12.0	10.8	22.6	29.2
Salaried employees	11.8	10.0	4.1	7.4	14.0	13.3
Employees*	0	0	0	0	12.0	7.3

* Helen no longer had employees on 31 December 2022 due to outsourcing.

Total hours of training*	**2023**	**2022**	**2021**
Hours of training	**13,469**	7,176	19,254

* The figure for 2023 covers the entire Group. The figures for 2022 and 2021 include the training hours of Helen Ltd.

404-3: Employees receiving regular perfromance and career development reviews, %	**2023**	**2022**	**2021**
Men	100	100	100
Women	100	100	100

GRI 405: Diversity and equal opportunity

405-1 Diversity of governance bodies and employees, %	**2023**	**2023**	**2022**	**2022**	**2021**	**2021**
Board of Directors	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Under 30 years of age	13	0	0	0	0	0
30–50 years of age	25	25	25	25	13	38
Over 50 years of age	13	25	25	25	38	13
Total	**50**	**50**	**50**	**50**	**50**	**50**

Management Group	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Under 30 years of age	0	0	0	0	0	0
30–50 years of age	18	27	22	22	30	30
Over 50 years of age	36	18	33	22	30	10
Total	**55**	**45**	**56**	**44**	**60**	**40**

Employees	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Under 30 years of age	9	8	9	7	7	5
30–50 years of age	33	23	32	23	32	18
Over 50 years of age	16	11	17	12	27	10
Total	**58**	**42**	**58**	**42**	**67**	**33**

405-2 Ratio of basic salary and remuneration of women to men, %	**2023**	**2022**	**2021**	**2020**
Salary gap between men and women*	< 3	-	> 4	-

* Measured only every other year.

GRI G4: ELECTRIC UTILITIES SECTOR DISCLOSURES	**2023**	**2022**	**2021**
EU-12 Losses in electricity transmission, MWh	82,380	93,097	105,720

	2023	**2022**	**2021**
EU-30 Average availability of power plants, %*	95.19	96.98	86.91

* Average availability of the Hanasaari, Salmisaari and Vuosaari power plants (Vuosaari C not included), calculated according to the PSK 6021 standard.

HELEN'S OWN INDICATORS	2023	2022	2021
EPSI Rating (electricity retail customer satisfaction survey for private customers)	66.3	64.2	72.0

	2023	2022	2021
eNPS (Employee Net Promoter Score)*	33	-	5
360-degree evaluation*	1.37	1.34	-

* The latest result.

Outage times	2023	2022	2021
District heating customer, hours	2.2	1.8	2.5
District heating outages	449	443	528
of which unplanned and unexpected	80	43	95
District cooling customer, hours	3.8	1.3	1.8
District cooling outages	28	20	18
Electricity transmission customer, minutes	3.7	4.0	4.7

Origin of electricity, GWh*	2023	2022	2021
Coal	870	1,742	1,341
Natural gas	212	246	1,740
Nuclear power	2,409	1,594	1,402
Renewable	1,195	1,218	1,000
Total	**4,686**	**4,800**	**5,484**

Origin of heat, GWh*	2023	2022	2021
Coal	2,403	4,344	3,419
Natural gas	1,262	616	2,280
Heat pumps	911	671	842
Biomass	1,793	683	614
Fuel oil	304	540	335
Total	**6,673**	**6,854**	**7,490**

* The figures have been corrected for the year 2022 due to a calculation error.

Origin of cooling, GWh	**2023**	**2022**	**2021**
Heat pumps	203	189	190
Absorption	0.01	3	4
Compressor cooling	0	6	4
Free cooling	2	9	2
Total	**205**	**207**	**200**

Carbon neutral energy production, %	**2023**	**2022**	**2021**
Carbon neutral energy	55	36	32
Renewable energy	26	19	16

Products and services, GWh	**2023**	**2022**	**2021**
Electricity produced	4,686	4,800	5,484
Electricity transmitted	4,387	4,351	4,473
Heating	6,673	6,852	7,490
Cooling	205	207	200

Science Based Targets

Actual, gCO_2e per kWh	**2023**	**2022**	**2021**	**2020**	**2019**
SBTi target for heat and electricity produced	214	291	257	264	287
SBTi target for heat and electricity sold	154	244	228	233	254

Investments in carbon neutral energy, EUR million	**2023**	**2022**	**2021**
Investments	421	221	184

Supplier audits and HSEQ assessments	**2023**	**2022**	**2021**
Audits	4	5	5

The figures are rounded up or down. Consequently, the sums may differ from the figures presented. The indicators have been calculated using exact figures.

Independent Practitioner's Assurance Report to the Management of Helen Ltd

This document is an English translation of the Finnish language original report

We have been engaged by the Management of Helen Ltd (hereafter "Helen") to provide limited assurance on selected sustainability indicators presented in the Annual Review 2023 (hereafter "Selected Sustainability Information") for the year ended 31 Dec 2023.

Selected Sustainability Information include the following indicators:

- Materials GRI 301-1
- Energy 302-1, 302-3, 302-4
- Water GRI 303-3
- Emissions GRI 305-1, 305-2, 305-3, 305-4, 305-7
- Waste GRI 306-3, 306-4, 306-5
- Compliance with laws and regulations GRI 2-27
- Helen's own indicator: Carbon-neutral energy
- Helen's own indicator: Performance against SBTi targets
- Helen's own indicator: Origin of electricity, heating and cooling

Management's responsibilities
The Management of Helen is responsible for the preparation and presentation of the Selected Sustainability Information in accordance with the reporting criteria, i.e. the Company's reporting guidelines and *GRI Sustainability Reporting Standards*. The Management is also responsible for determining Helen's objectives with regard to sustainable development performance and reporting, including the identification of stakeholders and material issues, and for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived.

Our responsibilities
Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed. We conducted our assurance engagement on the Selected Sustainability Information in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised), *Assurance Engagements other than Audits or Reviews of Historical Financial Information* and ISAE 3410, *Assurance Engagements on Greenhouse Gas Statements*, issued by the International Auditing and Assurance Standards Board IAASB. These Standards require that we plan and perform the engagement to obtain limited assurance about whether the Selected Sustainability Information is free from material misstatement. The nature, timing and extent of the assurance procedures selected depend on professional judgement, including the assessment of material misstatement due to irregularity or error. We believe that the evidence we obtain is sufficient and appropriate to provide a basis for our conclusion on limited assurance.

We are independent of the company in accordance with the ethical requirements applicable in Finland to the engagement we have undertaken and have fulfilled our other ethical obligations under those requirements.

KPMG Oy Ab applies International Standard on Quality Management ISQM 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Procedures performed
A limited assurance engagement on Selected Sustainability Information consists of making inquiries, primarily of persons responsible for the preparation of information presented in the Selected Sustainability Information, and applying analytical and other evidence gathering procedures, as appropriate. In the engagement, we have performed the following procedures, among others:

- Interviewed the member of Helen's senior management and relevant staff responsible for providing the Selected Sustainability Information;
- Assessed the application of the *GRI Sustainability Reporting Standards* reporting principles in the presentation of the Selected Sustainability Information;
- Assessed data management processes, information systems and working methods used to gather and consolidate the Selected Sustainability Information;
- Reviewed the presented Selected Sustainability Information and assessed its quality and reporting boundary definitions;
- Assessed the Selected Sustainability Information's data accuracy and completeness through a review of the original documents and systems on a sample basis and;
- Conducted a site session to review the Selected Sustainability Information on one of Helen's sites.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Inherent limitations
Inherent limitations exist in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, error or non-compliance may occur and not be detected. Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and estimating such data.

Conclusion
Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Based on the procedures performed and the evidence obtained, as described above, nothing has come to our attention that causes us to believe that the Selected Sustainability Information subject to the limited assurance engagement is not prepared, in all material respects, in accordance with company's reporting guidelines and the *GRI Sustainability Reporting Standards*.

Helsinki, 12 March 2024
KPMG Oy Ab

Esa Kailiala
Authorised Public Accountant

Tomas Otterström
Partner, Advisory

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