



# 2023

## ANNUAL REPORT

# Table of contents

## Introducing EPV Energy

- EPV Energy in brief and key figures
- CEO's statement
- Our history
- Operating environment and megatrends
- Strategy and objectives:  
New Electricity Revolution strategy

## Business reviews

- Nuclear power
- Wind power
- Solar power
- Hydropower
- Electricity storage
- Combined heat and power  
and storing heat
- Energy management
- Electricity Transmission



## Corporate sustainability

- Introduction
- Sustainability management
- Corporate governance  
statement
- Economic responsibility
- Ecological responsibility
- Social responsibility
- CSRD tables
- Review of activities  
under the EU taxonomy

## Financial statements

- Report of the Board of Directors

### Consolidated financial statements

- Consolidated income statement
- Consolidated balance sheet
- Consolidated cash flow statement

### Parent company balance sheet

- Parent company's income  
statement
- Parent company balance sheet
- Parent company's cash flow  
statement

- Notes to the income statement
- Notes to the balance sheet

- Signatures
- Auditors' report



# Introducing EPV Energy

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EPV Energy in brief

Key figures

CEO's statement

Our history

Operating environment and megatrends

Strategy and objectives: New Electricity Revolution



# EPV Energy in brief

EPV has more than 70 years of experience in responsible energy generation. We invest in emission-free and reliable energy generation with determination and purpose. At EPV Energy, we have greatly improved our energy generation portfolio in recent years, resulting in significant reductions in carbon dioxide emissions.

EPV Energy Ltd (EPV) is a Finnish energy company that generates and acquires both electricity and heat and supplies them for its shareholders, i.e. Finnish energy companies, at a production cost price. This is known as the Mankala principle. It enables shareholders to participate in extensive energy projects that have low production costs.

According to our strategy, EPV's energy production will become emission-free by 2030. In 2023, the share of emission-free energy sources in EPV's electricity production was 94.3 per cent.

EPV's strategy is called New Electricity Revolution®. At the centre of this strategy is zero-emission electricity, whose production, storage and use are controlled with new technologies. The current state of our planet requires many great changes, including the way energy is produced, and the pace of driving down emissions must be accelerated. As a socially responsible company, EPV will continue to speed up these measures.

EPV's strategy models the modernisation of the entire society's energy generation system. In the

future, new electricity will be generated using zero-emission energy sources, such as solar, wind, hydro and nuclear power – the sources at the heart of our strategy. In addition, we will utilise emission-free raw material flows, such as forest energy, circular economy products and industrial producer gases. With new electricity, we are also helping other operators to become emission-free, thereby mitigating climate change.

As more and more electricity is generated by renewable wind and solar power, the need for solutions for balancing power, flexibility and energy storage is growing significantly. Different energy storage solutions support and bring flexibility to the electricity system. EPV continues to work tirelessly to solve the problem of clean power generation and the flexibility and storage solutions needed to support it, and plans to continue to invest heavily in such projects in the future.

EPV's strategy emphasises our desire to be at the forefront of progress and to lead the way in the energy transition. The company also intends to continue following the development of essential

new technologies as a basis for new projects. In the last few years, we have invested significantly in new electricity and will continue to do so.

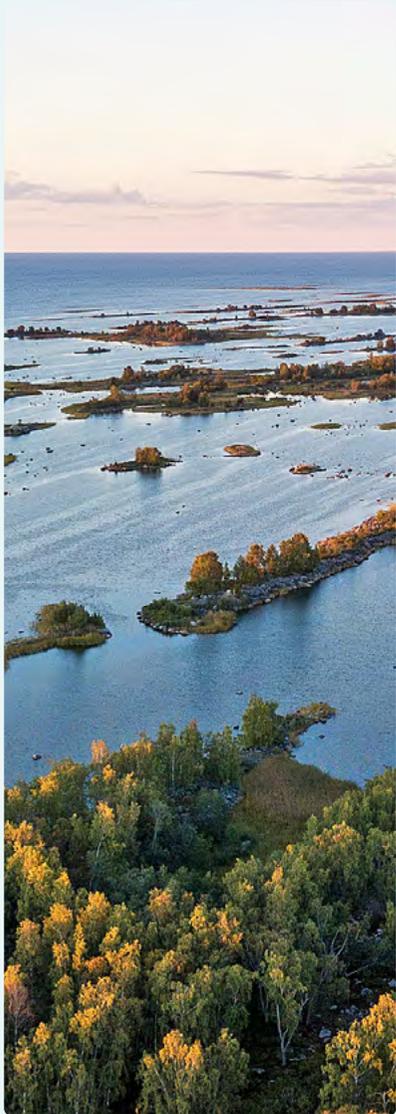
Our main task is to ensure our capacity for responsible energy generation and to maintain a competitive production cost price far into the future. The energy sector is Finland's most capital-intensive business sector. Power plants and wind farms tie up a large amount of capital over the course of decades. We plan our investments with great care.

In 2023, the Group's total power procurement was 4,8 terawatt-hours. This corresponds to over 5% of the total electricity consumed in Finland. Last year, a larger proportion of energy than ever was generated emission-free.

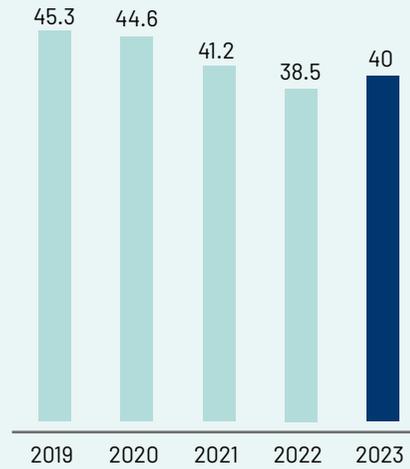
The EPV Energy Group has subsidiaries and affiliated companies in whose governance and supervision EPV actively participates. Nevertheless, the Group's subsidiaries and affiliated companies have their own administrative bodies. The Group is divided into four business areas.



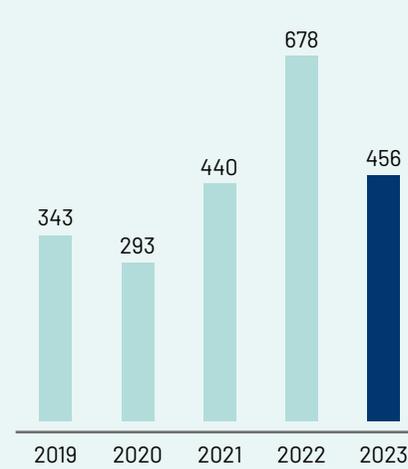
# Key figures 2023



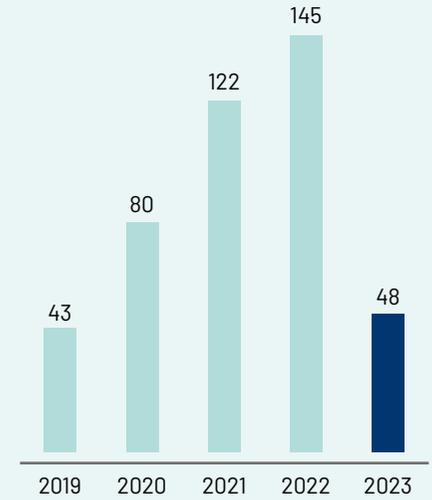
Equity ratio, %



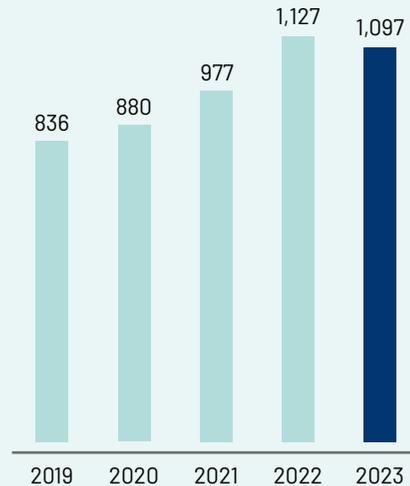
Turnover MEUR



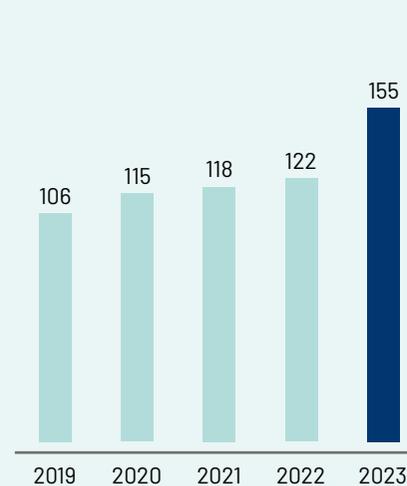
Investments MEUR



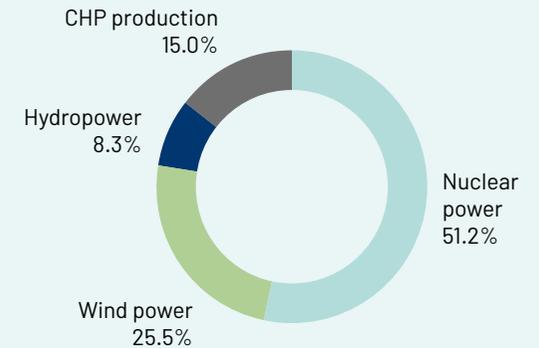
Balance sheet total MEUR



Average number of staff



Energy sources for EPV's electricity generation, %



# CEO's statement

2023 started in the midst of the energy crisis. Luckily we survived the worst of it, and EPV had a role to play in that. The commissioning of Olkiluoto 3 (OL3), the Närpiö wind farm and the new energy storage solutions in Vaasa were important highlights on our journey towards energy self-sufficiency and zero emissions.

## Investments to overcome the acute energy crisis

EPV and the energy sector as a whole entered a new normal during 2023 as the energy crisis was largely resolved. Although the effects of stopping electricity imports from Russia are still evident in the market, our sector has been able to meet Finland's energy needs, thanks to substantial investments. At EPV, we have been heavily involved in increasing energy self-sufficiency.

The Närpes wind farm was put into commercial operation in February and Olkiluoto 3 shortly afterwards in May. This increased our company's zero-emission electricity production to 4 terawatt-hours per year. At the same time, OL3 became EPV's largest single generation resource.



In addition, the two new electric boilers and the extension of the thermal energy storage facility in Vaskiluoto, Vaasa were put into operation in the autumn. Thanks to these investments and the construction of an electric boiler and district heating battery in Seinäjoki in 2022, we were able to significantly reduce the amount of heat produced by combustion in Vaasa and Seinäjoki.



## Investing in flexibility means investing more heavily in energy storage

However, despite reduced use, the power plants will continue to be maintained to ensure security of supply. At the end of 2022, we acquired the heat production in the Seinäjoki region from Seinäjoen Energia and the entire business of Vaskiluodon Voima, which has enabled us to build close cooperation with Vaasan Sähkö and Seinäjoen Energia during the year.

OL3, the Närpiö wind park and our new heat storage solutions play an important role in Finland's energy system. They help to secure electricity supply, promote energy self-sufficiency and increase flexibility. At the same time, they are moving our society towards zero emissions and provide excellent support for EPV's New Electricity Revolution strategy. Our company aims to achieve carbon neutrality by 2030, and in 2023 our own carbon dioxide emissions from production were lower than ever before – less than 50 grams per kilowatt-hour.

### Investment decision for solar power

An important investment decision was made at the end of the year which will further increase our zero-emission production portfolio: we are going to build EPV's first industrial-scale solar power plant in Heinineva, Lapua. We have been studying solar energy generation at our measuring station in Alavus since 2018 and we are excited to get our first solar project off the ground.

The Lapua solar power plant will be operational by the end of 2025. When completed, the new plant will produce more than 70 gigawatt-hours (GWh) of electricity per year. In short, we are steadily moving towards emission-free electricity generation.

### Looking towards more flexibility

Our strategy is that the most flexible player is also the star of the pitch. That is why EPV has a clear objective for 2024: now that we have completed several major projects in energy generation, we want to pay particular attention to increasing flexibility in our whole energy system.

In practical terms, investing in flexibility means investing more heavily in energy storage. Electricity is increasingly generated by wind and solar power, and the situation in the energy market varies according to the weather. As a result, electricity prices continued to fluctuate heavily in 2023. From a risk management perspective, we need more ways to decouple the generation and use of electricity, separating the time that electricity is generated from the time that it is consumed.

In addition to investing in machinery and equipment, increasing flexibility also requires investments in our know-how. Consequently our experts keep up-to-date

on developments in battery technology and various hydrogen storage solutions, among other things.

### The importance of AI is also growing in the energy sector

Another important goal for us in 2024 is to strengthen our understanding of artificial intelligence and the opportunities it brings to the energy sector. In the future, AI will play a central role in everything we do, and we want to be the leading energy supplier utilising AI in Finland.

Although we are already using various algorithms, for example, for forecasting of different kinds in electricity transmission and trading, AI has the potential for much wider use. Our main goal is to apply AI to manage and utilise large data sets more efficiently across the Group.

### The reform of our financial structure is underway

In 2022, we launched a financing strategy to broaden EPV's capital base in order to enable large investments and operate cost-effectively while taking risks into account. In 2023, equipment prices, interest rates and the cost of money increased further, which had a negative impact on the profitability of our planned investments. We had to postpone some investment decisions and cancel the Pyhäsalmi pumped-storage hydro plant project, which was a tough decision for our company.

In 2023, we drove the action plan of measures for our financing strategy forward as planned. At the beginning of 2024, EPV will enter the commercial paper market and start reporting under IFRS (International Financial Reporting Standards). At the same time, we will also start reporting on sustainability

issues as required by the EU Corporate Sustainability Reporting Directive (CSRD) and the EU taxonomy.

Through these measures, we aim to enter the bond market in 2025 and thereby ensure market-based and continuous financing for the Group.

### A big thank you to everyone in our team

I want to thank everyone at EPV and our partners for 2023. Thanks to your expertise, we were able to contribute to tackling the energy crisis and ensuring the availability of electricity and heat. Together, we brought some major projects to the finish line and make good progress with others, all of them important for Finland's emission-free energy system and self-sufficiency.

This year, for the second year in a row, we had zero accidents at work. We have worked very hard to reach this figure – that too is thanks to all the people at EPV. Together with our partners, we aim to achieve zero accidents at work also among our subcontractors.

**Rami Vuola**  
CEO  
EPV Energy Ltd



# Our history – more than 70 years of responsible energy generation

Founded in 1952, EPV Energy's business concept is still as strong as ever: we procure competitive electricity for our owners, i.e. Finnish energy companies. We focus on sustainability and zero emissions in our energy production.

EPV Energy has its roots in Ostrobothnia. The company was created when demand for electricity began to rise and concerns about the region's future were raised. Several small power stations decided to merge and form their own joint energy company.

Since then, EPV Energy has expanded throughout Finland and also owns generation shares abroad. In recent years, the Group has made a determined effort to achieve emission-free energy generation. Early 2000s, the company recognised that wind power is one of the most effective ways to reduce carbon dioxide emissions.

In addition to environmental responsibility, EPV Energy is known for its innovativeness and broad-mindedness. We are a forerunner in low-emission and renewable energy.



# Milestones along the way

**1952**

Several municipal electricity companies join forces to establish Etelä-Pohjanmaan Voima (EPV) in 1952.

**1960s & 1970s**

EPV Energy has its roots in Ostrobothnia. The company was created when demand for electricity began to rise and concerns about the region's future were raised. Several small power stations decided to merge and form their own joint energy company.

**1980s**

Vaskiluodon Voima shifts from oil to coal as a result of the oil crisis.

**1990s**

The electricity market in Finland is opened to competition. At the same time, EPV's ownership base begins to expand and become nationwide.

**1993**

EPV Alueverkko Oy was founded. Today, the company is one of the foremost electricity distributors in Finland.

**2003**

An investment decision is made on the Olkiluoto 3 nuclear power plant.

**2006**

EPV launches its wind power programme as a Finnish pioneer.

**2010**

EPV's first and Finland's most energy-efficient wind power station is completed in Röyttä, Tornio.

**2013**

Together with two other energy companies, EPV buys a significant share in Swedish hydropower. The transaction consists of 7 hydropower plants. The first biofuel gasification plant in the world is put into operation at the Vaskiluodon Voima power plant.

**2019**

Giving up last coal-fired condensing plant according to our roadmap towards emission-free energy.

**2014-2021**

EPV builds five new wind power farms in Vaasa, Kristinestad, Ilmajoki, Teuva and Närpiö.

**2020**

EPV's thermal energy storage facility is commissioned in Vaasa.

**2021**

EPV's first electric boiler is commissioned in Vaasa. From 2022 to 2023, 3 new electric boilers were commissioned in Seinäjoki and Vaasa and a fourth will be completed in 2024 in Tornio.

**2021**

EPV Energy signed a letter of intent with three other operators to build together a Power-to-X-to-Power system in Vaasa.

**2022**

EPV makes an investment decision on the construction of its first electric battery at the Teuva wind farm.

**2023**

EPV makes an investment decision on the construction of its first solar farm in Lapua.

# Operating environment

There is an increasing need for flexibility in the energy system and for risk management in energy markets.

The changes in the energy sector continued in 2023. The geopolitical situation and the ensuing energy crisis have affected EPV's operating environment in many respects. As a result of the war of aggression launched by Russia, Europe is trying to rid itself of its dependence on Russian energy as quickly as possible. Concerns about the sufficiency of energy, both fuels and electricity, was highlighted. The situation was particularly challenging for Finland in the winter of 2022–23, as virtually all major energy imports from Russia ceased. This situation has highlighted the importance not only of energy self-sufficiency, but also of emission-free energy solutions.

Finland and Finnish energy producers managed to react quickly. We were not completely out of luck in this rapid shift towards greater self-sufficiency, as Olkiluoto 3 became ready to join the market at just the right time. Significantly more wind power plants have been built in Finland in recent years, which is now bearing fruit. At the same time, weather-dependent renewable electricity generation is adding its own challenges to the equation. The growth of energy sources with variable output requires a parallel increase in balancing power to address the imbalance between production and consumption. The main challenges for the energy market in the future will be having sufficient flexibility in electric power and the energy system, and longer-term energy storage in a fossil-free world.

## The Nordic electricity market

Finland has been part of the open Nordic wholesale electricity market since the 1990s. Trading takes place on the Nord Pool power exchange where electricity producers sell electricity they have generated and large end-users buy electricity. The power exchange operates on the same principle as other commodity exchanges, meaning that the price of the traded commodity is purely determined by supply and demand. The Nordic and European electricity

market is based on the energy-only market model, which has been under assessment by the European Commission as electricity prices have risen. Many believe that in the energy crisis, the current market model has led to fluctuations in electricity prices that are too high for society to absorb.

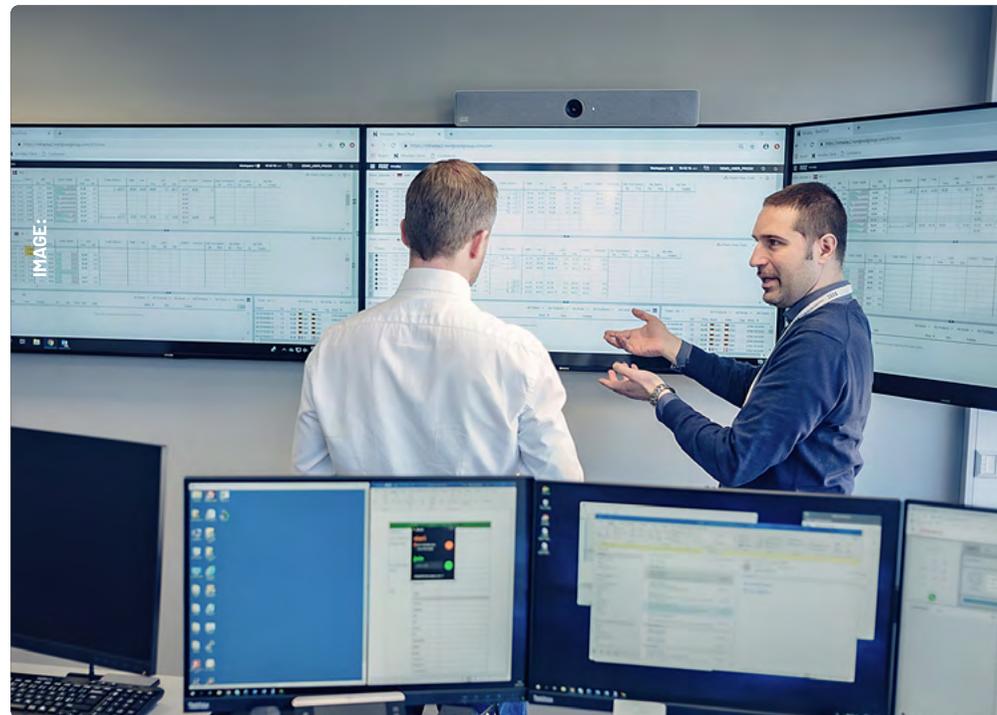
According to preliminary statistics, the consumption of electricity in the Nordic countries in 2023 was 0.4 per cent lower than in the previous year, at 380 (381) TWh. In 2023, Finnish electricity consumption

was 79.8 (81.6) TWh, which means a decrease of approximately 2.3 per cent compared to 2022. The industrial share of the consumed electricity was 42 per cent and other consumption 58 per cent. Last year, industrial consumption of electricity decreased by 5.9 per cent, while consumption in other sectors increased by 0.5 per cent. The losses stood for approximately 4 per cent of the overall electricity consumption.

In 2023, 2.2 per cent of power procurement was covered by imports and 97.8 per cent by domestic generation. Nuclear power covered approximately 41.0 per cent of the consumed electricity, combined generation of heat and power 16.8, hydropower 18.8 and other separate production 2.2 per cent. Wind power, which continues to grow rapidly, accounted for 18.1 per cent and solar power for 0.8 per cent.

The snow and water reserves, i.e. the hydrological balance, of the Nordic countries remained below the average almost throughout 2023. At the beginning of the year, the reserves were 13 TWh below the average level and at the end of the year 11 TWh below the average level. By the turn of the year, Nordic water reserves were approximately 74 TWh in total.

In 2023, CO<sub>2</sub> emissions from Finnish energy generation constituted 2.5 million tonnes, which is 38 per cent lower than the previous year. The long-term downward trend in carbon dioxide emissions continued after a break of a couple of years. The long-term investments made by the sector's companies are reflected in the evolution of emissions. Up to 94 per cent of the electricity generated in



Finland last year was free from CO2 emissions. The share of renewable energy sources was 52 per cent of the total electricity generated.

**European Green Deal**

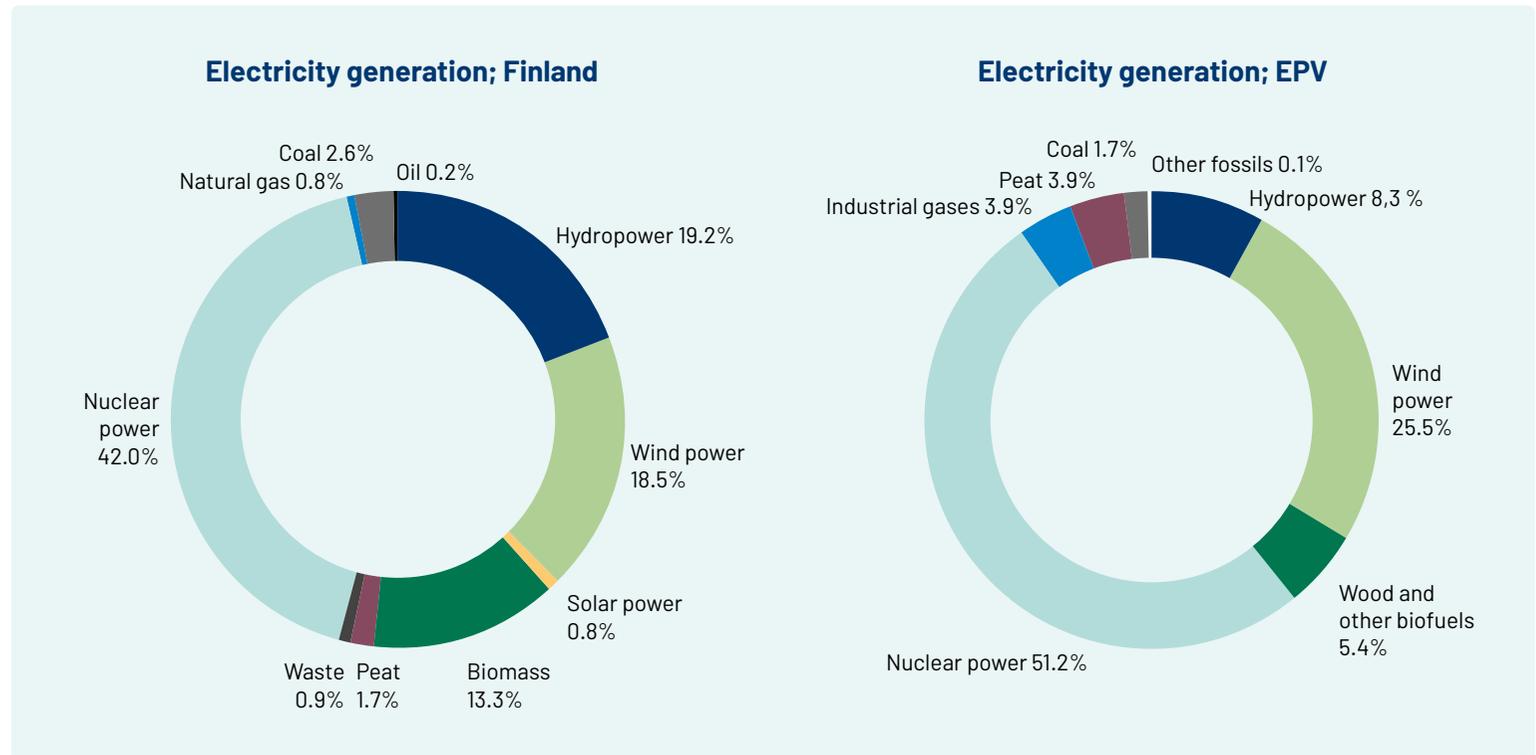
Europe’s future depends on a healthy planet. EU countries are committed to achieving climate neutrality by 2050, delivering on the commitments under the Paris Agreement. The European Green Deal is the EU’s strategy for reaching the 2050 goal. As part of the European Green Deal, the Commission has also published a proposal for the European Climate Pact, which is an initiative that invites people, communities and organisations to participate in climate action and build a greener Europe.

As in the previous year, the EU emissions allowance price fluctuated sharply between EUR 67 and EUR 100 per tonne during 2023. The average market price was around EUR 85 per tonne for most of the year and dropped to approximately EUR 80 per tonne by the end of the year. Emissions trading has proven to be an effective way to reduce emissions and it contributes to limiting the use of fossil fuels in high market price situations.

Stakeholders increasingly expect companies to identify their negative impacts and be transparent in communicating about them. In particular, EU legislation requires increasingly comprehensive reporting of non-financial information.

**Climate change and biodiversity**

Tightening targets for the reduction of greenhouse gas emissions are steering societies towards low-emission forms of energy. Governments are encouraging companies to invest in renewable production and cut their use of fossil fuels. Energy generation



plays an important role in the fight against climate change. Energy production is the largest source of emissions in Finland. In 2022, it accounted for 72% of all emissions. More attention should also be paid to biodiversity loss, which is likewise strongly influenced by climate change. EU member states are committed to restoring nature and its biodiversity.

**Towards a new energy system**

As society becomes more and more dependent on electricity, the need to guarantee security of supply and a stable price is becoming ever more important. The need for security will be reflected

in the production options and in the choice of storage and transmission methods. As society moves towards zero-emission production, it is evident that it is changing the whole energy system, especially electricity production. With more weather-dependent forms of electricity production, the whole system becomes more difficult to manage and new technological solutions are needed. The electricity market is adapting to the new situation, but much work remains to be done. In the electricity market, large price fluctuations continued in 2023. This is a new normal in the energy market, to which operators will have to adapt and create new systems and ways of operating in order to succeed.

Europe’s future depends on a healthy planet. EU countries are committed to achieving climate neutrality by 2050, delivering on the commitments under the Paris Agreement.

# Megatrends

EPV closely monitors worldwide megatrends, as they often have an effect on the energy sector. When we recognise the direction in which society is developing, we can effectively anticipate future challenges and opportunities. As experts in the field, we participate actively in the debate on a sustainable and long-term energy policy.



## Changes in the energy sector

The energy sector is at a turning point, and the domestic and global operating environments are also constantly evolving. However, investment decisions in the sector are always made for the long term. That is why we are taking a long-term approach and also promote long-term energy policy in social solutions.

## Need for balancing power and security of supply

The growth of energy sources with variable output, such as wind power, requires a parallel increase in balancing power to address the acute imbalance between production and consumption. As society becomes more and more dependent on electricity, the need to guarantee security of supply and a stable price is becoming ever more important. The need for security plays a key role in the choice of production, storage and transmission methods.

## Geopolitics

Recent geopolitical developments in Europe have led to uncertainty in international energy trade. The need for local solutions is growing.



## Main grid and transmission connections

The decentralisation of electricity generation and the electrification of society, including heat production, are putting pressure on the electricity grid, as is the rapid increase in the production of renewable energy. Society needs numerous new transmission connections.

## Climate change

Tightening targets for the reduction of greenhouse gas emissions are steering societies towards low-emission forms of energy. Governments are encouraging companies to invest in renewable production and cut their use of fossil fuels.



## Biodiversity and biodiversity loss

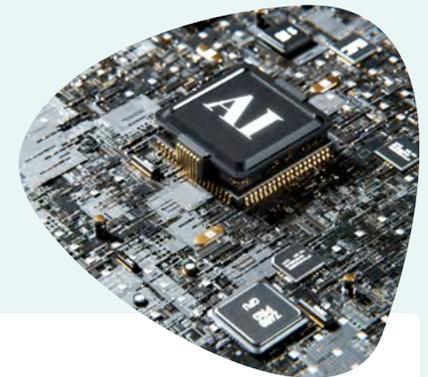
Biodiversity is the basis of all life. It is critical for the protection of people, the environment and the climate. Biodiversity is declining at an alarming rate. EU member states are committed to restoring nature and its biodiversity.

## Sustainability

Stakeholders increasingly expect companies to identify their negative impacts and be transparent in communicating about them. In particular, EU legislation requires increasingly comprehensive reporting of non-financial information.

## The energy policy context

The world map of energy resources is taking on a new shape as lithium, copper and nickel increasingly determine the future. Changes in environmental policies and tackling climate change will remain key issues as countries work to meet their emission targets and adapt to the impacts of climate change.



## Digitalisation and AI

Technology is evolving rapidly and changing production methods and operating models. Through digitalisation, we are also creating efficiency in the energy supply process. Artificial intelligence is revolutionising the way things are done. All sectors will need to learn to apply AI. At the same time, societies' increasing use of technology makes them more vulnerable. That is why cybersecurity must be a priority.

# Strategy and objectives: New Electricity Revolution

New electricity is the key enabler on the road to a new zero-emission world. This idea is highlighted in EPV's New Electricity Revolution strategy. By 2030, all the energy we produce will be generated completely emission-free. This is how we build a sustainable future.

The current state of our planet requires great changes and the acceleration of driving down emissions. Energy generation plays an important role in the fight against climate change. As a socially responsible company, EPV has stepped up these efforts. That is why we have one billion euros worth of investments in new electricity on our drawing board. Along the way, we will also relentlessly develop the more traditional forms of energy production to keep reducing their emissions.

This strategy models the modernisation of the entire society's energy generation system. In the future, new electricity will be solely generated using the zero-emission energy sources of solar, wind, hydro and nuclear power, which are key to our strategy. In addition, we will utilise emission-free raw material flows, such as forest energy, circular economy products and industrial producer gases. By focusing on these, we are not only making our own operations emission-free, but also helping society to meet its emissions reduction targets.



## New solutions and business models

In the future, we will also apply business models that are different from those currently used. We will form alliances and work in collaboration with various partners. We will develop solutions based on new electricity in areas such as heat production

and industrial processes. Our goal is to use this new electricity production to connect the energy needs of different industries.

## Towards a zero-emission world as one team

We make sure that every member of our team has the opportunity to be involved in building a zero-emission world. The success of our goal is determined by how well our professionals succeed in the face of growing challenges. What is required now is open-minded thinking, new learning, a culture of experimentation without fear of failure, and bold action. This will create an enthusiastic EPV team where every employee can develop, keep learning new things and be proud of what we achieve together.

## Secure returns on investments

Together with our shareholders, we will be a competitive player, bigger than our size would indicate, in the field of renewable energy. Our owners will continue to receive increasing returns on their investments. They can be confident that we are agile, efficient, reliable and service-minded. We will leverage diverse and innovative solutions as well as smart technologies to balance supply and demand. We are open-mindedly involved in solutions that, for the present, are just a figment of some dreamer's imagination.



**We have a hundreds of millions of euros worth of investments in new electricity on our drawing board**

## Business reviews

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Nuclear power

Wind power

Solar power

Hydropower

Electricity storage

Combined heat and power and storing heat

Energy management

Electricity transmission



ELLÄKÄVIJÄ  
HTI

# Electricity production at Olkiluoto 3 has begun

For EPV – and for Finland as a whole – 2023 was a significant year in terms of nuclear power: Olkiluoto 3 started regular electricity generation, making Finland almost entirely energy self-sufficient. As our country's biggest climate action, OL3 will also accelerate our journey towards a carbon-neutral society.

## OL3 produces 14 per cent of Finland's electricity

In April 2023, EPV's zero-emission electricity production increased by more than one terawatt-hour (TWh) per year in one go, as Olkiluoto 3 started regular electricity generation after more than a year of commissioning. On its own, OL3 covers about 14 per cent of the country's electricity needs. In total, Olkiluoto now produces around 30 per cent of Finland's electricity.

As the largest nuclear power plant unit in Europe, OL3 is a major step for Finland towards full energy self-sufficiency and an important contribution to clean domestic electricity production. Electricity imports in Finland decreased by around 60 per cent, while the share of zero-emission electricity production increased to 94 per cent.



## Nuclear power

EPV produces nuclear power through Pohjolan Voima and Teollisuuden Voima. We own approximately 10 per cent of TVO's Olkiluoto 3 project and more than 8 per cent of the production of Olkiluoto 1 and 2. Nuclear power is the largest form of energy generation in EPV's electricity production portfolio, accounting for 51 per cent of the total.



IMAGE: TVO

OL3 is the biggest climate action of both EPV and Finland as a whole. It perfectly supports our company's New Electricity Revolution® strategy, which focuses on achieving zero-emission energy production by 2030.

A survey commissioned by Finnish Energy in early 2023 showed that up to 69 per cent of Finns consider nuclear power an important means of combating

climate change. Indeed, according to the survey, support for nuclear power is at an all-time high – up to 68 per cent of Finns are in favour of it.

#### Seeking to extend the operating licences for OL1 and OL2

All three units at Olkiluoto performed well in 2023. OL1 generated electricity steadily throughout the

year. OL2 operated normally, except for one short production outage. Despite two short-term production outages, OL3 produced the most electricity of all the units, and Olkiluoto achieved an all-time record year.

OL3 will generate electricity for at least the next 60 years. The operating licences for OL1 and OL2 currently run until 2038. In 2023, Teollisuuden Voima (TVO) initiated an Environmental Impact Assessment

(EIA) procedure for the extension of the units' operating licences and a potential increase in output.

The plan is to extend the licences by 10–20 years, as Finland's electricity demand is expected to increase further as we transition to a carbon-neutral energy system. Nuclear power ensures electricity supply regardless of the weather.

Thanks to annual maintenance and extensive investments, both units are still in excellent condition despite being over 40 years old.

#### The final disposal project is progressing

Finland is the only country in the world where preparations for the final disposal of spent nuclear fuel are at the execution phase. The final disposal facility is currently under construction in the 455-metre deep ONKALO® excavated in the Olkiluoto bedrock. The final disposal will be carried out by Posiva, which is a part of the TVO Group.

Preparations for final disposal of nuclear waste progressed further in 2023. The personnel lift for 20 people was completed for ONKALO®. It will reach a depth of 437 metres below ground, significantly speeding up the journey to work. There is also an encapsulation lift under construction which will transport spent nuclear fuel down in canisters weighing 30 tonnes each.

The final disposal of nuclear fuel is scheduled to start in the mid-2020s. This would make Posiva and Teollisuuden Voima the first companies in the world to start the final disposal of spent nuclear fuel.

# Record amount of wind power produced

Although 2023 was not as windy as the previous year, EPV produced more wind power than ever before. A new wind farm commissioned in Närpiö at the beginning of the year significantly increased our output capacity. At the same time, the importance of electric boilers as part of a balanced energy system was highlighted.

## Electric boilers enable the storage of wind power

2023 was a very busy year for our country's wind power market: 212 new wind turbines were built in Finland and wind power output increased by as much as 25 per cent from the previous year.

In fact, EPV produced a record amount of wind power – an overall increase of 7 per cent. This was particularly influenced by the new Norrskog wind farm in Närpiö which started its commercial operation in February. The sixth wind power plant in EPV's portfolio, its 17 wind turbines generate roughly 300,000 megawatt-hours (MWh) of electricity per year.

The commissioning of the Närpiö plant a few months before Olkiluoto 3 began its commercial operations was a stroke of luck in Finland's energy situation, which was in crisis in 2022 after Russia invaded Ukraine. As 2023 progressed, fears of running out



## Wind power

*EPV is one of the largest producers of wind power in Finland. In 2023, approximately 25.5% of our electricity generation came from the wind. EPV currently has wind farms in Tornio, Vaasa, Ilmajoki, Kristinestad, Teuva and Närpiö. We plan and build our wind projects ourselves and handle the permit processes. As well as onshore wind parks, we also plan offshore wind power projects.*

of electricity turned into an oversupply of power and negative prices as new zero-emission energy projects were completed.

However, EPV has been able to prepare for increasing volumes of electricity, for example by utilising electric boilers and the large thermal energy storage facility in Vaskiluoto, Vaasa. Two new electric boilers were completed in Vaskiluoto in 2023, bringing the number of EPV boilers to four and their capacity to 200 megawatts (MW).

Our 120 wind turbines currently have a combined capacity of about 500 MW, and much of the electricity they generate on windy days can be stored as heat, thanks to the electric boilers. This balance between wind power and electric boilers will make Finland's energy system increasingly sustainable and flexible.

## Three new wind parks in the pipeline

EPV is currently planning three new significant wind farms in Laihia, Simo and Kuusamo. Construction of the infrastructure for the Rajavuori wind park in Laihia started in 2022 and continued in 2023. The actual investment decision on the construction of the wind turbines and the choice of equipment will be made at a later stage.

The Simo wind farm will have 24 turbines. The wind farm is technically and economically well located and its permits will allow the use of new wind power technology. During the year, preparatory work on the wind park continued, including railway work. In addition, the building permits for the turbines

were updated to reflect the latest developments in technology. We aim to make an investment decision in the next few years.

EPV is planning a wind farm of about 26 turbines in Nuunajärvi, Kuusamo. The project started in 2014, and the replanning of land use was launched in 2022. Delays in the project have been caused by issues such as reconciling reindeer husbandry and wind power. EPV is involved in the Porotuuli project of

the Natural Resources Institute of Finland (LUKE), which started in 2022 and focuses on researching ways to build wind turbines in reindeer husbandry areas in a socially and culturally sustainable way, and ways to minimise harm to reindeer husbandry.

While EPV's existing wind farms already generate a significant amount of electricity, by moving forward with new wind farm projects we are anticipating the growing need for electricity in the future. Wind power

plants are extremely long-term projects, which is why it is important to start early. For example, the Närpiö wind plant project took well over 10 years from initial planning to commercial operation.

**Offshore wind power planning continues**

EPV's dedicated technology team for offshore wind power promotes our offshore projects. Our company has two valid and legally binding component master

plans for offshore wind power in the Maanahkiainen area in the waters of Raahe and Pyhäjoki and the front of Röyttä in Tornio. The plans for both projects are being revised, and their revision processes were driven forward in the past year.

The aim is to update planning regulations to make them compatible with rapidly developing offshore wind technology. This will allow us to use increasingly efficient and reliable turbines in the construction phase.

At present, offshore wind power is more expensive than its onshore equivalent. However, rapid technological advances and the growing need for domestic energy are improving the future prospects of offshore wind power, as it has the greatest relative production potential.

**Development of EPV's wind power production 2013–2023**



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**Last year we harnessed more wind power than ever before**



# Investment decision made on EPV's first solar park

EPV's investment decision to build the Heinineva solar park in Lapua is a big first step into new terrain for the Group. If completed, the solar park will increase EPV's renewable electricity generation by around 6 per cent when fully operational. We are also re-purposing former peat production land more extensively than before, with a total of 900 megawatts worth of solar parks to be licensed and set up on this land.

## Solar power generation is expanding significantly

Industrial-scale solar power generation is taking significant steps forward in Finland. In recent years, panel technology has advanced by leaps and bounds, which has improved the energy output of panels, increased their efficiency and extended their life cycle by up to 30–40 years. The technology is finally ripe for major investments.

Solar power is a welcome addition to EPV's energy portfolio. It will complement seasonal energy production, since solar power is more readily available in the summer and wind power in the winter.

## Heinineva solar park is a great new direction for EPV

In 2023, EPV made an investment decision to build its first solar farm in Heinineva, Lapua. It will be one of the largest in Finland. Construction will start in 2024 and the solar park will be operational in 2025. During the first phase, Heinineva will be transformed into a 70 MW (megawatt) solar farm that will produce more than 63 GWh (gigawatt-hours) of electricity per year. The aim is to build the second part of the park as a continuous project, bringing its total capacity up to 100 MW. Overall, the Heinineva project is a big



## Solar power

*EPV is about to launch industrial-scale solar power production. We will use several former peat production areas to expand our solar power generation. We are building solar power for ourselves and looking far ahead in our work. We develop, build, invest in, operate and manage power balance and balancing power.*

step for EPV, and the solar farm is expected to be an important first step to a solar construction boom, following in the footsteps of our wind power projects.

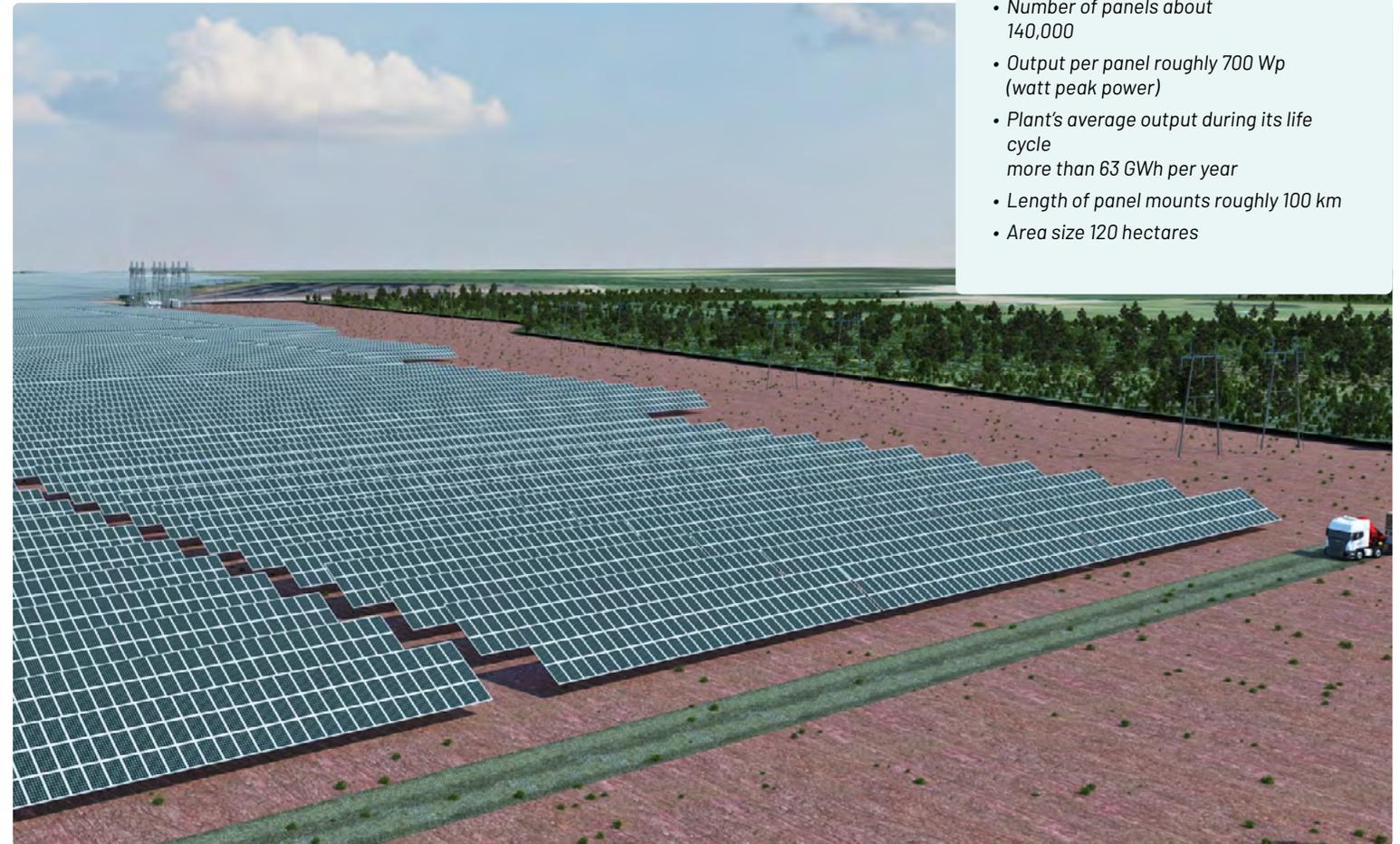
Our pilot solar power plants in Ilmajoki and Alavus, as well as our solar energy measuring station in Alavus, have provided us with valuable lessons on realistic energy production volumes. The monitoring station has also enabled us to study and develop our own solar power forecasting models. Additionally, we are verifying the load-bearing capacity of the soil for the installation of the mounting system at our pilot plants.

EPV is working on permit applications for decisions concerning the need for planning a total of 900 MW worth of solar farms. Of these, the Kortees-Salvianneva project in Ilmajoki – involving a 70 MWp solar power plant – is already pending and has a building permit. EPV's owners have the final word on whether we will move forward with future solar parks.

**Former peat production areas are ideal as solar parks**

The solar farms EPV is planning to build are to be located in South Ostrobothnia and Ostrobothnia on their own, mainly on disused peat production sites. The choice of peat production sites is based on a number of points that would be an advantage for solar parks. From a technical point of view, treeless bogland offers excellent conditions, as their flat topography and lack of shade make them ideal for solar power generation. In addition, the mires allow solar farms to be built without the need to cut down trees or use valuable farmland. Boglands are naturally low, which minimises the visibility of structures from a distance. This means that the solar farms will blend into the landscape without interfering with its visual appearance. There are

also drainage ditches in the areas, which can be improved if necessary with minimal environmental impact. Thanks to the favourable conditions, the construction of solar farms does not, in practice, cause significant nuisance to the surroundings and is carried out in an environmentally friendly way, taking local ecological considerations into account. The solar parks will be planned in such a way that their construction will be both technically and environmentally sustainable.



**Taking wind power projects as a model for site works**

EPV will build its solar farms using a similar contracting model to its wind farms: EPV itself will be responsible for the work on the ground and the overall implementation. Smaller parts of the projects, such as roadworks and the installation of mounting systems on the foundations, will be handled by several

trusted partners. We will employ a large number of local workers for the projects.

**Key figures for the Heinineva solar plant in Lapua**

- Plant's total output 100 MWp (Megawatt peak)
- Number of panels about 140,000
- Output per panel roughly 700 Wp (watt peak power)
- Plant's average output during its life cycle more than 63 GWh per year
- Length of panel mounts roughly 100 km
- Area size 120 hectares

# Steady production of hydropower

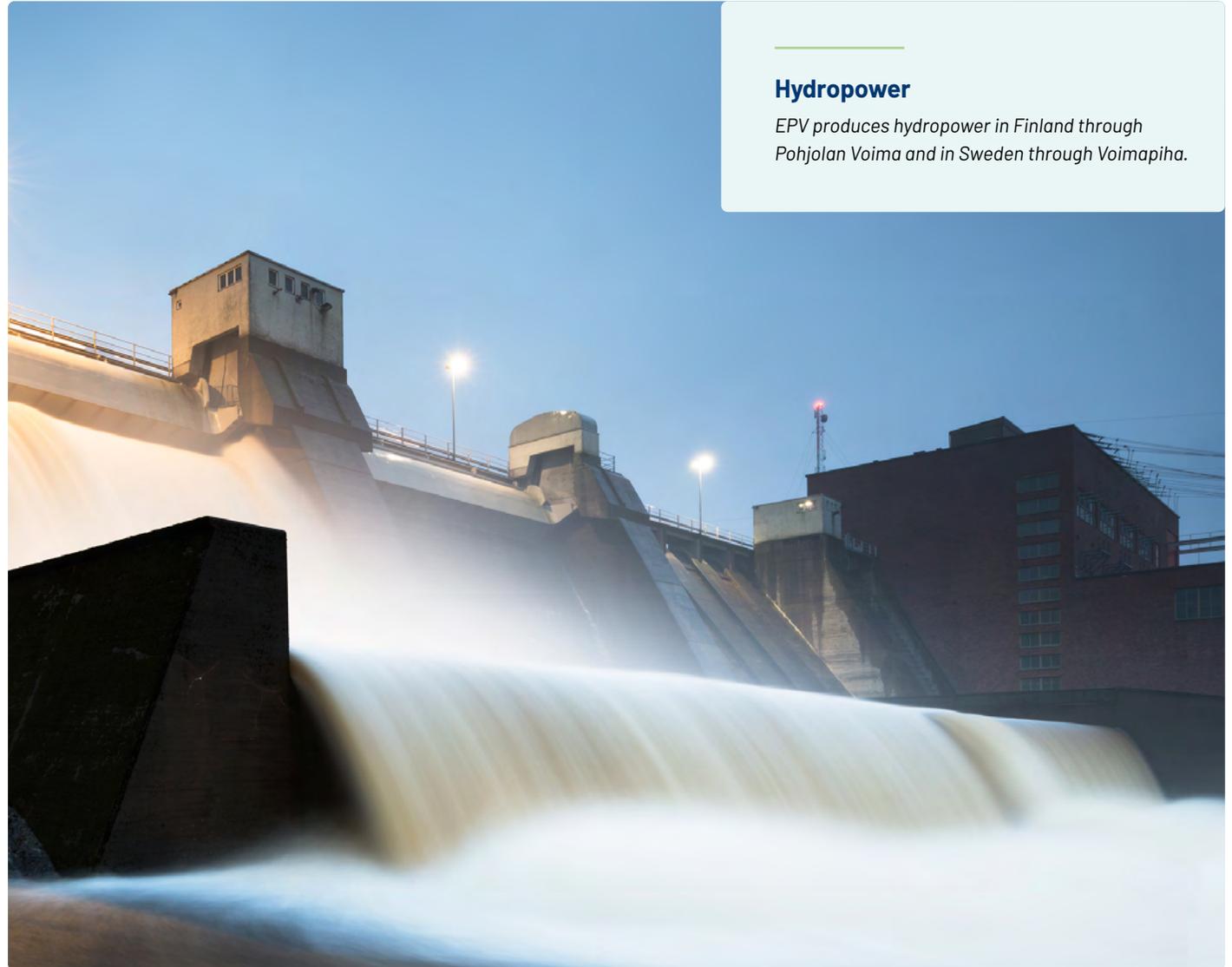
EPV's hydropower production was steady this year. As electricity prices fluctuated, the importance of hydropower as part of a zero-emission energy mix was highlighted.

EPV had quite a stable year in terms of hydropower, with no significant production disruptions at its hydropower plants. The production output was higher than usual in Finland, while in Sweden, slightly less hydropower than normal was produced through Voimapiha.

Electricity prices fluctuated a great deal over the year, and the regulation capabilities of hydropower continued to play an important role in managing the electricity system and increasing flexibility. For example, when there was little wind, the volume of hydropower output was increased to balance the electricity system.

Partly owned by EPV, Voimapiha Oy generates hydropower electricity in Sweden. Through its wholly-owned subsidiary Voimapiha AB, Voimapiha Oy holds 25.7 per cent of Vattenfall Kraftgården AB's share capital. The hydropower plants owned by Vattenfall Kraftgården are located on the River Indalsälven, one of the most significant hydropower reserves in Sweden. Voimapiha Oy has approximately 160 megawatts (MW) of generation power in these hydropower plants, corresponding to approximately 0.9 TWh of average annual output. In 2023, Voimapiha supplied EPV with just under 0.3 TWh of hydroelectricity generated in Sweden.

EPV's interest in Pohjolan Voima is 5.5 per cent and a total of 0.1 terawatt-hours (TWh) of hydroelectricity was received accordingly.



## Hydropower

*EPV produces hydropower in Finland through Pohjolan Voima and in Sweden through Voimapiha.*

# Effective solutions for electricity storage under development

The share of renewable electricity sources in EPV's energy profile grew rapidly in 2023 – as did the need to develop solutions for electricity storage. During the year, we pushed ahead with our electric battery and hydrogen projects and explored new ways of storing electricity.

## Teuva's electric battery is almost ready for commercial use

The ability to store electricity is becoming more and more important as our society moves towards a carbon-neutral energy system. An increasing share of electricity is generated by wind and solar power, and an important part of EPV's strategy is to increase storage facilities and flexibility to maintain harmony in the energy system.

During the past year, preparations were made at the Paskoonharju wind farm in Teuva for the commissioning of a 12 megawatt (MW) electric battery, which was completed at the end of 2023. The battery is currently waiting to be connected to the grid, after which its commercial use can begin.

The electric battery is expected to be put into operation during 2024, once all grid connectivity tests have been completed. The battery will bring much-needed fast balancing power to the weather-dependent electricity system and will act as a risk-management tool: for example, in the event of an outage, the battery will safeguard the balance of the power system.



## Electricity storage

*EPV seeks investment opportunities in electricity storage projects, such as electric batteries and hydrogen technology. As more and more electricity is generated by renewable wind and solar power, there is a great need for solutions for balancing power, flexibility and energy storage. Different energy storage solutions support the electricity system and bring flexibility to it.*

### The permit process for the hydrogen project continued

EPV is involved in the H-FLEX-E hydrogen project together with Wärtsilä and Vaasan Sähkö. The aim is to produce hydrogen from emission-free electricity, store it and later convert it back into electricity in a hydrogen-fuelled power plant, which we plan to build at the Vaskiluoto power plant site. Hydrogen is used to replace fossil fuels in energy generation.

In 2021, the project received a EUR 14 million grant from the Ministry of Economic Affairs and Employment. In 2023, we made progress with the permit process for the project and continued the design and the tendering process of its overall technical solution.

Like the Teuva electric battery investment, the hydrogen project will support EPV's goal of increasing the zero-emission flexibility needed in the electricity system. The hydrogen project offers an excellent solution for longer-term storage of electricity generated, for example, during windy periods. The idea is to produce hydrogen when there is plenty of wind and solar power available and to focus on producing electricity from hydrogen when there is not enough wind or solar power.

### Our technology team is seeking the best solutions for electricity storage

Specialising in hydrogen technology and electricity storage, EPV's technology team is heavily involved in driving our projects forward and planning new investments. It is the team's mission to delve into promising technologies and opportunities to utilise them – we are heavily and enthusiastically involved in driving forward the transformation of the energy sector.

In 2023, our technology team focused in particular on electric batteries that utilise different technologies and the Energy Dome company's electricity storage technology, which uses the phase transitions of carbon dioxide (CO<sub>2</sub>) to store energy. This is a new technology that we consider a very strong alternative for storing electricity in the future.

In line with our strategy, we want to make sure that we keep pace with, and ideally stay at the forefront of, the changes and transformation in the sector. EPV has set up teams around key technology areas as a concrete measure to achieve this.

### The construction of a pumped-storage hydro plant was abandoned

In the autumn of 2023, EPV decided to withdraw from the pumped-storage hydropower plant project planned for the Pyhäsalmi Mine. The decision was prompted by soaring investment and financing costs – the original cost estimate almost doubled in the cost calculations carried out in 2023 on the basis of calls for tender.



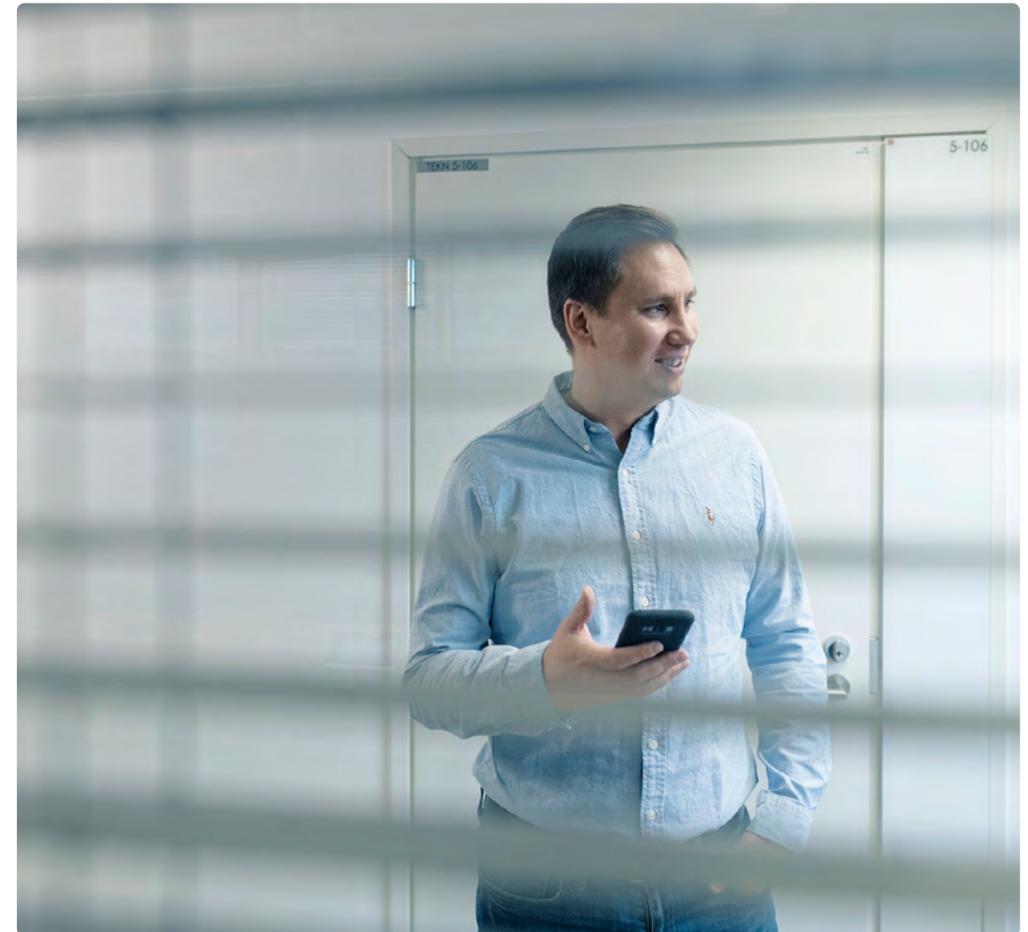
**Our technology team focused on electric batteries that use various technologies, as well as on other long-term energy storage solutions**

The project could not be postponed until a change in the market. The mine is a unique environment, and maintaining its extensive infrastructure in such a condition that would allow industrial investments would require extensive financial expenditure before an investment decision could even be secured.

Closing this project was a difficult decision for EPV. Had it been completed, the pumped-storage hydro

plant in the decommissioned mine would have been a unique solution for energy storage and flexible electricity supply.

Even though we were unable to build the pumped-storage hydro plant, we at EPV will continue to work hard to develop clean power generation and the flexibility and storage solutions needed to support it.



# Zero-emission heat production grew rapidly

A significant proportion of the heat EPV produced in 2023 was produced emission-free using electric boilers, the district heating battery in Seinäjoki and the thermal energy storage facility in Vaasa. At the end of the year, two new electric boilers were completed in Vaasa, as well as an extension of the thermal energy storage facility, both of which made it possible to reduce the amount of heat produced by combustion more efficiently.

## Fuel consumption was at an all-time low

A tough electricity market and fuel situation was predicted for early 2023, and EPV made preparations for the winter by buying large fuel stocks. However, the year proved historic in terms of fuel consumption: energy production at EPV's CHP plants in Vaasa and Seinäjoki was at an all-time low.

The plants' low utilisation rate was due not only to the mild winter at the beginning of the year, but also to EPV's timely investments. For years, we have been investing in emission-free heat production and heat storage through electric boiler projects, and by building a large thermal energy storage facility in Vaskiluoto, Vaasa, and a district heating battery in Seinäjoki.

The electric boilers allow sector coupling, which can significantly reduce the amount of heat produced by combustion. Water is heated in the electric boilers during windy periods, and the heat generated is stored in the district heating battery and the thermal energy storage facility.

## Sector coupling at its best

Thanks to our investments, we were able to shut down the Seinäjoki power plant for eight months on market terms in 2023. During this period, the region's district heating was produced at the power plant site by using a 40 megawatt (MW) electric boiler commissioned in 2022 and a 400 megawatt-hour (MWh) district heating battery that stores energy.

In October, two new electric boilers with a combined capacity of 120 MW were commissioned at the Vaskiluoto power plant. Vaskiluoto now has three electric boilers with a combined capacity of 160 MW, making them among the largest in Finland in terms of output. The Vaskiluoto thermal energy storage facility was also expanded in the autumn, increasing its capacity to 11 gigawatt-hours (GWh).

Together, Vaasa's electric boilers and thermal energy storage facility are sector coupling at its best, and serve as excellent components in a clean



## Combined heat and power and storing heat

*EPV produces electricity and heat in its combined heat and power (CHP) plants in Vaasa, Seinäjoki, Tornio and Raahe. In addition, we produce peat to ensure security of energy supply and acquire wood-based fuels for the production of electricity and district heating in the Seinäjoki, Vaasa and Tornio regions.*

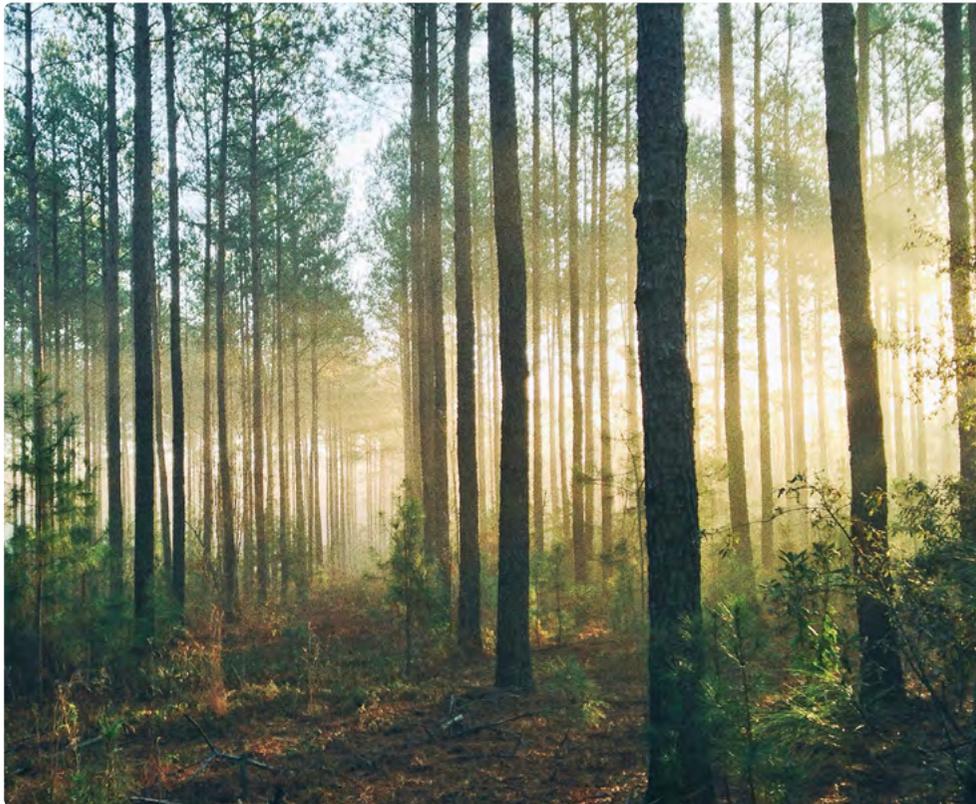
*We are also investing more and more in thermal storage and increasing flexibility. EPV currently has four electric boilers, a large thermal energy storage facility and a district heating battery.*

heat production system. Consequently, there were periods in the autumn when we were able to meet all the district heating needs in the Vaasa region with just electric boilers and the thermal energy storage facility.

The Vaskiluoto power plant site also underwent another major upgrade: The Vaskiluodon Voima company ceased operations, and Vaasan Voima, which is wholly owned by EPV, acquired its business operations at the turn of 2022–23. Around the same time, Seinäjoki's entire district heating production was also transferred from Seinäjoen Energia to EPV.

### Investment brings flexibility

The new investments at Vaskiluoto mean that EPV can make more efficient use of wind power than ever, especially as wind power is increasingly being connected to the grid. Investments are an essential part of EPV's consumption capacity and ability to act as peak load reserve, and increasing these is an important part of our strategy. Electricity generated during windy periods can now be stored as thermal energy and heat production can be increasingly secured during less windy periods.



### We can now store more electricity generated during windy periods

As the electric boilers, district heating battery and thermal energy storage facility allow our power plants to optimise their production more efficiently, their shutdown periods can be further extended in the future to reduce fuel consumption and emissions.

While energy storage at EPV is largely focused on thermal storage – the most cost-effective way to store energy – we are also developing solutions for storing electricity. The installation of our company's first 12 MWh electric battery was completed during 2023 at the Teuva wind farm. The battery will be deployed in early 2024.

### New projects underway

In 2022, Tornion Voima made an investment decision to purchase a 40 MW electric boiler for its power plant. This is the company's first electric boiler, and its acquisition is part of Tornion Voima's 2021 Zero-emission Roadmap.

In 2023, work on the installation of the electric boiler progressed and it is scheduled to enter commercial operation in early 2024. At the same time, the extensive cooperation between Tornion Voima and Outokumpu to achieve zero emissions continued as before.

In addition, an investment decision was made in 2023 at Vaasan Voima to build a reduction station for the main boiler and its installation work was started. The station is expected to be completed in early 2024.

In the future, the reduction station will allow the Vaskiluoto power plant to produce only heat when electricity production is not profitable. The station will be an important asset in the current market situation, when electricity prices are highly volatile and electricity is sometimes sold at very low prices even in frosty weather.

### A steady production year in Raahe

Raahen Voima produces steam, heat and electricity for the steel manufacturer SSAB's factory site. The company also produces electricity for EPV, and the majority of the city of Raahe's district heating. The production year at the Raahe power plant has been very steady, with no major production disruptions.

### Forest management and thinning chains promoted

EPV companies responsible for the fuel logistics of biomass and peat reserves, EPM Metsä and EPV Aluevarannot, were very active in 2023 due to the volatile market situation.

The recession in the Finnish mechanical wood processing industry led to reduced by-product flows and consequently a reduced amount of combustible fractions, such as sawdust, on the market. EPM Metsä and EPV Aluevarannot made changes to their fuel chains in line with the market situation.

Preparations for winter were made by importing biomass from abroad, and declining by-product flows were compensated for by investing in EPV's own thinning chains. This means a stronger focus on young forest management and thinning.

# More flexibility was brought to energy management

In 2023, EPV made use of more emission-free heat by connecting the two new electric boilers and the extension of the thermal energy storage facility in Vaskiluoto to the company's energy system. At the same time, preparations continued for the connection of the Group's first solar power plant to balance management and a new subsidiary was established to provide energy management services.

## Energy storage and production capacity increased

In 2022, the energy environment in Finland was quite challenging, but in 2023 the annual average price in the Finnish price zone was lower than in 2021 and 2022.

In the autumn, the two new electric boilers and the extension of the thermal energy storage facility at the Vaskiluoto power plant in Vaasa were integrated into our company's energy management and they started their commercial operation. These investments will not only allow us to store more heat, but also to significantly reduce the amount of coal and biomass consumed by utilising the heat produced.

As well as our energy storage capacity, our generation capacity also increased significantly: in 2023, we started the commercial operation of Olkiluoto 3 and the Närpiö wind farm, which are connected to the balance services of the Operations Centre.

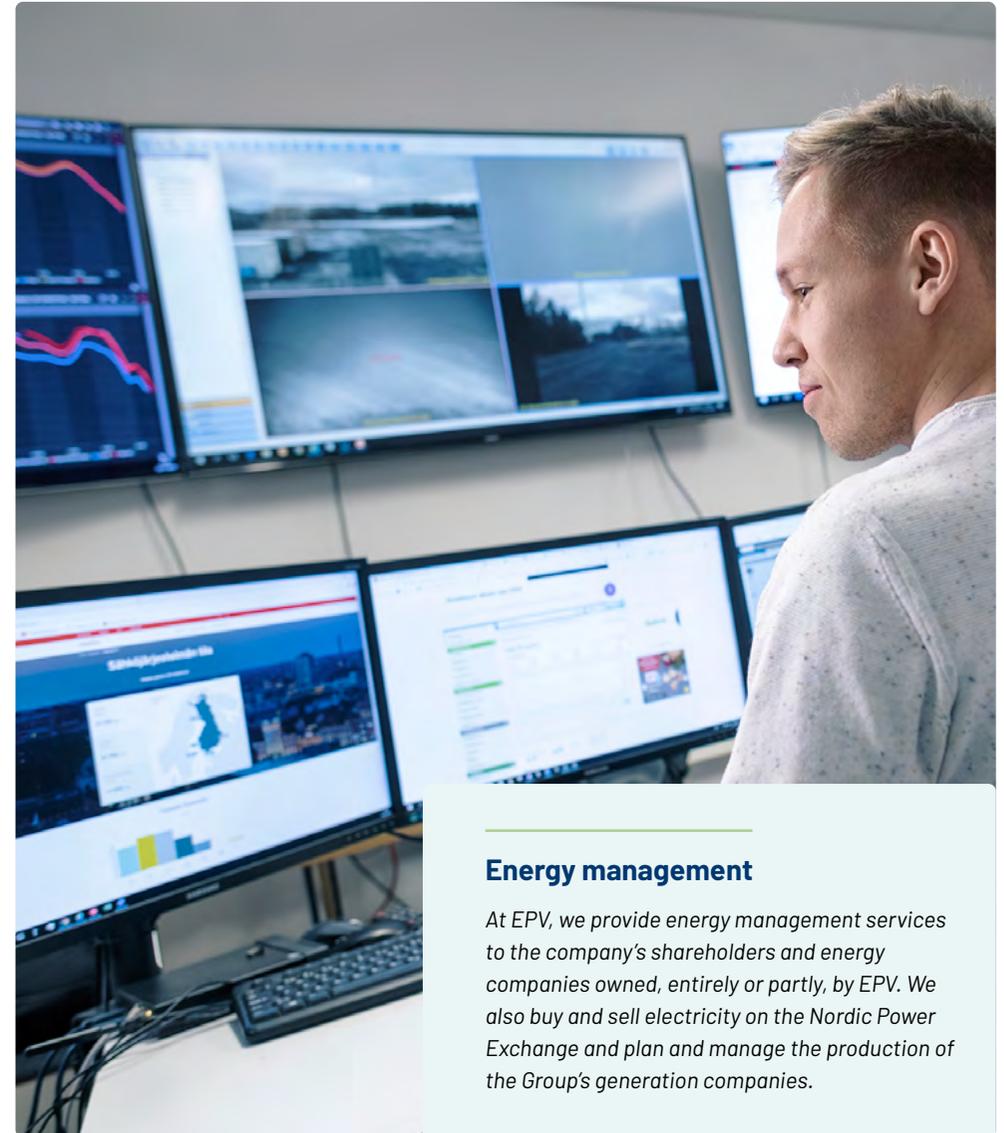
In December 2023, EPV made an investment decision to build its first solar farm in Heinineva, Lapua.

The solar farm will be connected to the company's energy management system in phases, starting in the second half of 2024. Preparations for service provision have been made through pilot projects on solar forecasting.

## Optimising production with investments in Vaskiluoto

EPV's electric boiler capacity increased by 120 megawatts (MW) with the commissioning of two boilers in Vaskiluoto in October. At the same time, the capacity of Vaskiluoto's thermal energy storage facility increased to 11 gigawatt-hours (GWh) with the completion of its extension around the same time.

The new electric boilers and the expansion of the thermal energy storage facility will provide greater opportunities to optimise Vaasa's energy production by scheduling the running of the power plant, the loading and discharging of the storage facility and the use of the electric boilers in such a way that the added value for electricity and heat customers is significantly higher than from the power plant alone. During the operation of the boilers, this can



## Energy management

*At EPV, we provide energy management services to the company's shareholders and energy companies owned, entirely or partly, by EPV. We also buy and sell electricity on the Nordic Power Exchange and plan and manage the production of the Group's generation companies.*

also be offered to Fingrid’s reserve market, so that they can be used to manage the power balance of the entire Finnish electricity system, if necessary.

In 2023, the electric boilers have generated significant revenues from Fingrid’s reserve market not only at the Vaasa power plant but also at the Seinäjoki plants. We joined Fingrid’s hourly market for balancing capacity a few weeks after Fingrid launched this brand new reserve-market trading platform in late 2022.

Based on the number of power plants under construction, renewable energy production is expected to grow profusely over the next few years, and this strong growth is forecast to continue thereafter.

As the number of power plants grows, Fingrid predicts that the need for reserves will also increase significantly by the end of the decade. It is safe to assume that demand for flexible electricity consumption, such as electric boilers and other storage solutions, will continue.

**Positive change in the calculation of collateral**

In 2023, progress was made in energy lobbying in relation to the collateral requirements of eSett Oy, a company that carries out power exchange and imbalance settlement services for the wholesale market. These collateral requirements have been very high, especially in 2022. EPV has been involved in lobbying, both independently and through associations, with the objective of making collateral requirements more reasonable.

In November, the Energy Authority decided that eSett must take into account the relevant party’s own generation when calculating the amount of the

collateral. Fingrid must implement this change by the summer of 2024. EPV has played a key lobbying role, and this decision will have a significant positive impact on the operating conditions and financing costs of the energy sector as a whole.

EPV will continue to lobby and will monitor and try to further influence, if necessary, the final form and details of the new collateral model.

**New subsidiary to develop energy management**

On 4 September 2023, EPV established EPV Operointi Oy to provide operational energy management services. Some of EPV Operointi Oy’s services have previously been provided by EPV Tase Oy, and EPV Operointi Oy will continue to provide these services with the same content to EPV Tase Oy’s customers. A completely new area of activity consists of services related to the monitoring, control and other operations of the electricity network. They are provided within the framework of the Operations Centre set up in Seinäjoki which operates 24/7/365. The company will become operational on 1 January 2024.

The Group has acquired the SCADA (Supervisory, Control And Data Acquisition) system to provide services related to the monitoring and control of electricity networks. The system can be used, for example, to monitor and control electricity generation, transmission and distribution, as well as industrial-scale electricity applications.

After SCADA has been put into service, the operation of the transmission network managed by EPV and the internal generation networks of the wind farms will be carried out by EPV Operointi Oy. The system also enables the connection of electric boilers and other equipment to energy management services and the

connection of various types of electricity flexibility to Fingrid’s reserve markets, even the fastest ones. The system implementation project is currently in the testing phase in a production environment but is not far off the start of production use.

The establishment of EPV Operointi and the acquisition of the SCADA system perfectly supports the

Group’s New Electricity Revolution strategy, which emphasises the development of new business models.

EPV’s subsidiary Powerheat Solutions Oy has begun marketing its services, and the services currently being launched will allow us to provide sector coupling expertise to a wider audience.



# Electricity network control centre to be taken over by EPV

In 2023, EPV's organisation was made stronger and investments in the future went ahead as planned. The significant changes made by the Energy Authority under the 6th regulatory period led to a critical debate in the industry. The cybersecurity of the telecommunications network is a key element in securing the energy system.

## Operations Centre was strengthened

EPV Alueverkko manages one of the largest high-voltage distribution networks in Finland. In 2023, Alueverkko was responsible for and managed almost 900 kilometres of network infrastructure, which will be further developed in 2024.

We strengthened the organisation of EPV's transmission line business through recruitment and reorganisation of control centre operations. The monitoring of the network and power plants is being transferred from a third party in Porvoo to EPV's own Operations Centre in Seinäjoki. We have hired new control centre operators and two new maintenance managers for network business operations. There are many advantages to bringing the monitoring under EPV's own management: the close proximity of the control centre and our own expertise in electricity and transmission lines will significantly improve the management of network disturbances.

We also established a new company, EPV Operointi Oy, to monitor the network and power plants. The control centre will operate in EPV Alueverkko's new premises in Seinäjoki.

## Appeal to the Market Court for changes to the monitoring model

The Energy Authority supervises the reasonable profit of distribution network companies under the Electricity Market Act. At the end of 2023, the Energy Authority announced its new regulatory methods for the 6th regulatory period which pose challenges to the transition to emission-free energy sources. The fact that society needs more and more electricity and is striving to achieve carbon neutrality requires electricity companies to make considerable investments to increase their transmission capacity.

The new regulatory model proposes freezing the value of the old network at the unit prices of the regulatory period ending in 2023. Freezing the value of network assets will have a significantly negative impact on the company's ability to invest in the long term. The decline in investment capacity will have a negative impact on network construction activities and, consequently, on security of supply and the management of disturbances. The restrictions imposed by the regulatory model raise widespread concerns about future investments in the network business. As a result, EPV Alueverkko will participate in a joint appeal by several network companies and



## Electricity transmission

We provide services mainly for the Group's own companies, and for the electricity distribution companies and end-users that are its transmission customers. EPV Alueverkko Oy is the largest high-voltage (110 kV) distribution network company in Finland. It transmits energy in Ostrobothnia, South Ostrobothnia, Kokkola and the Tornio region, as well as from Pohjolan Voima's Iijoki hydropower plants to the grid. EPV Teollisuusverkot Oy is a network company owned by EPV Energy and Outokumpu. It owns the 400 kV and 110 kV transmission lines from the Kemimaa substation on the grid to the Røyttä factory site in Outokumpu, Tornio, as well as the 400/110 kV Røyttä-Sellee transformer station that is important for the entire factory site.

Finnish Energy to the Market Court in an effort to achieve a fair ruling. The authorities have already received two previous statements on the risks of jeopardising network investments.

### Projects and investments underway

EPV signed new connection contracts for 170 megawatts (MW) in 2023. The company also had several transmission line and substation projects planned and under construction.

A new gas-insulated substation (GIS) was built in Seinäjoki. The switchgear and other components of the GIS are located inside the building, where the transmission lines and power plants are connected by underground cables. A GIS is different from an open circuit plant because it takes up less space and is not as climate-sensitive.

In 2023, we also renovated the Sänkiaho substation, which needed upgrades for new connections and expandability.

The planning of the GigaVaasa area continues. In 2023, preparations were made for the construction of two transmission lines that will bring initial electricity to the area. Construction of the line will start in 2024. The permit process for two other transmission lines in the area is currently underway.

### Investing in cybersecurity

EPV is well prepared to secure energy systems, and its substations are on NC ER (Network Code for Emergency and Restoration) standby 24 hours a day. NC ER means efficient and fast system recovery in the event of an emergency or major outage. In addition to improving cybersecurity, measures have been taken to protect critical infrastructure.



### Network building projects completed in 2023

- *Kärmeskytö–Eskoonneva: new transmission line*
- *Tuovila transmission line arrangements*
- *Line diversion and 110 kV cable for Julmala substation*
- *Seinäjoki Alakylä: new GIS station*
- *Line arrangements for the new GIS station in Seinäjoki*
- *Laihia: substation extension*
- *Sänkiaho substation renovation*

### Projects under construction, planning and licensing

- *Sänkiaho–Alajärvi: transmission line replacement*
- *Kroksmossen–Paskoonharju: new transmission line*
- *Brändskogen–Rajavuori: new transmission line*
- *Laajametsä: substation (GigaVaasa)*
- *Finne: substation (GigaVaasa)*
- *Tuovila–Laajametsä: new double transmission line (GigaVaasa)*
- *Finne–Laajametsä: double transmission line (GigaVaasa)*
- *Hoisko–Luoma-aho: new transmission line*
- *Hoisko switchyard renovation*
- *Heininea: new substation connection*
- *New Närpiö substation*

# Corporate sustainability

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Introduction

Corporate governance

Corporate governance statement

Economic responsibility

Ecological responsibility

Social responsibility

CSRD tables

EU taxonomy



# Introduction

At the core of EPV Energy's business is a vision and strategy for clean energy called the New Electricity Revolution.

This strategy has zero-emission electricity at its heart, the production, storage and use of which are controlled with new technologies. This strategy models the modernisation of the entire society's energy generation system. In the future, new electricity will be solely generated using the zero-emission energy sources of solar, wind, hydro and nuclear power, which are key to our strategy. In addition, we utilise renewable raw material flows, such as forest energy, circular economy products and industrial producer gases. By focusing on these, we are not only making our own operations emission-free, but also helping society to meet carbon neutrality targets and mitigate climate change.

This report covers the EPV Energy Group to the same extent as the financial statements. The data presented in the report are based on EPV's internal data and calculations.



**In the future, new electricity will be solely generated using zero-emission energy sources**



# EPV Energy's corporate sustainability achievements in 2023

Sustainability is the basis of EPV Energy's (EPV) operations, and this is clearly evident in the company's activities, way of thinking and management. Together with its personnel and partners, EPV is creating a cleaner world. We focus on emission-free and reliable energy generation with determination and purpose.



**0**  
accidents

### No accidents

In 2023, there were no accidents involving EPV's own staff.

### Happy employees

eNPS 60 I would recommend EPV Group as an employer. The employee survey shows results that are, on average, higher than in other energy sector organisations.



**94%**  
CO2-free energy

### Zero-emission energy – CO2-free

94% of EPV's energy generation was emission-free in 2023.



### Wind power

The sixth wind farm for commercial operation and preliminary preparations for the seventh have started. In 2023, 25.5 % of our energy generation came from wind power.

**51%**

### Zero-emission nuclear power

Olkiluoto 3 nuclear power plant for commercial operation. In 2023, 51% of our electricity generation came from emission-free nuclear power.



### Security of energy supply

The security of energy supply remained excellent.

### Towards zero-emission heat production

A significant proportion of the heat EPV produced in 2023 was produced emission-free using electric boilers.



### Solar power

EPV decided to build its first solar park in Lapua.

# Sustainability management

Responsible and ethical business practices and procurement practices form the basis of EPV Energy's business activities.

EPV's operations are guided by the Code of Conduct approved by the Board of Directors. It defines the Group's principles of responsible business conduct. This Code of Conduct guides the company's operational activities to ensure that its strategic goals and objectives are achieved in the way defined in its mission statement. Our Code of Conduct sets out how all employees and members of the management should act, without exception. We also require our suppliers and other partners to comply with these principles.

## Sustainability is strongly embedded in EPV's reward system

Sustainability is also strongly linked to EPV's reward system and part of its business metrics. Indicators that influence rewards include concrete targets for achieving carbon neutrality, safety at work, job satisfaction, financial responsibility, energy supply security, biodiversity and cybersecurity, etc.



## Materiality analysis of sustainability

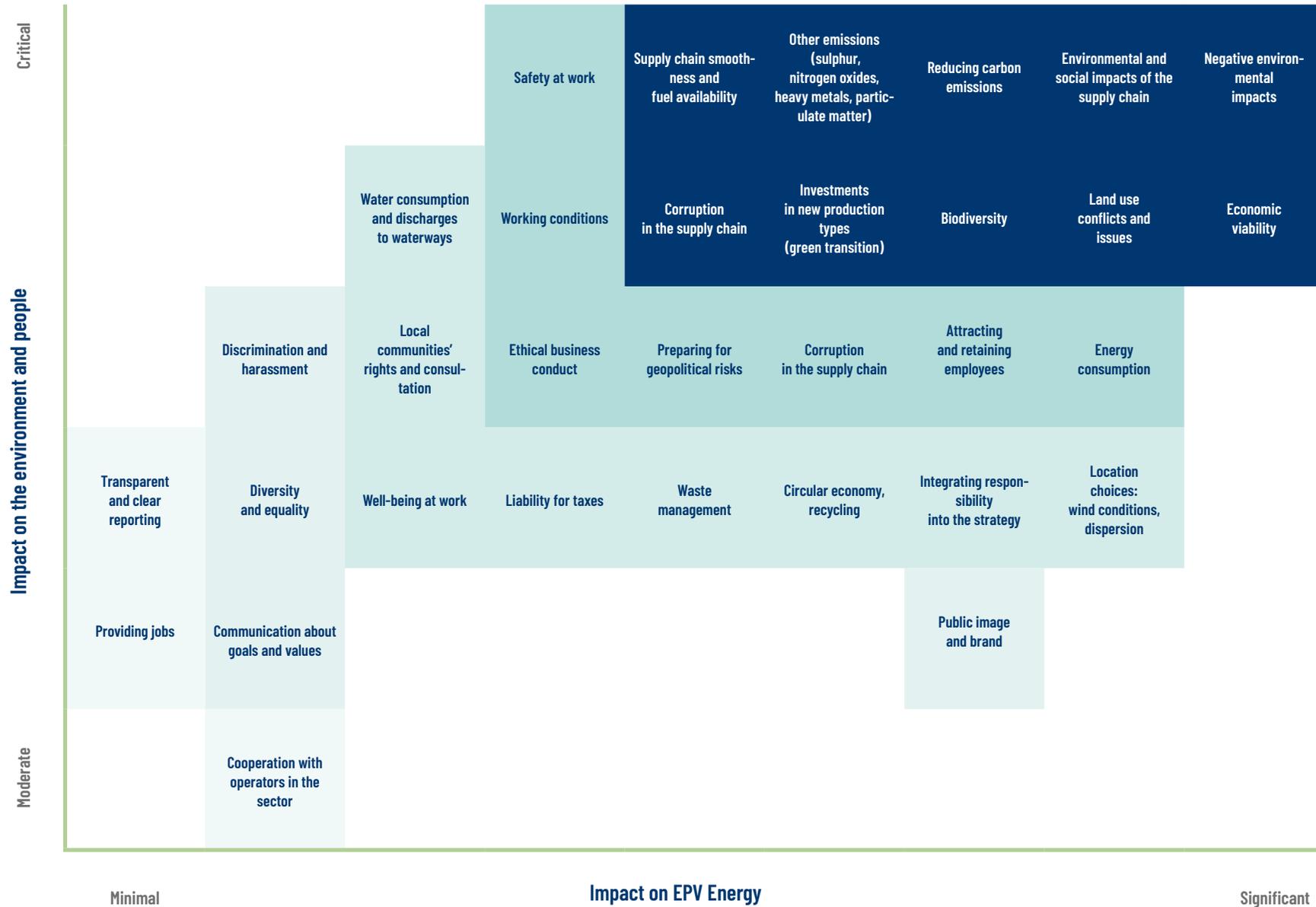
In 2022, EPV launched a sustainability reporting development project, including an updated materiality matrix. To do this thoroughly, we carried out a materiality assessment together with an external partner. We interviewed representatives of our various key stakeholders and our experts internally. In addition, we conducted a comprehensive materiality analysis, which involved assessing our operating environment, sustainability frameworks, industry trends, and regulations.

The sustainability themes compiled from this analysis and stakeholder interviews were assessed for their impact on stakeholders, the environment and people. The assessment is based on the intensity, magnitude, and reparability of the impact. In other words, how significant the impact is, or how large an area or number of people are affected, and how easy, time-consuming or resource-intensive it is to repair the damage. These impacts have been assessed at three different stages of the value chain: the supply chain, EPV's own operations, and at the customer or partner end. We revisited the analysis in 2023 and assessed any changes needed.

To develop its responsible activities, EPV had several sustainability-related projects in 2023. These include determining what EU taxonomy compliance looks like, and updating our own and our suppliers' operating principles.



## Sustainability materiality matrix



# EPV's sustainability objectives and measures

## Climate and biodiversity



- Climate change mitigation – As an energy generation company, EPV has an important role to play: to generate emission-free energy and thereby help society as a whole to meet its emission targets. According to our strategy, EPV's energy production will become emission-free by 2030.
- In its business management and development, EPV also takes environmental considerations into account. EPV is committed to acting in accordance with the principles of sustainable development in all of its business activities.
- We do our best to promote biodiversity through the objectives of the company's Biodiversity Action Plan and by taking into account the impacts and links of different forms of energy production or projects on biodiversity.

## Employees and working conditions



- Together with its personnel and partners, EPV is creating a cleaner world. EPV has a network of more than 500 service providers who support its project implementation and day-to-day business operations, consisting of both domestic and foreign companies.
- EPV strives to take exemplary care of occupational safety matters. The company's goal is to build for its own employees and contractors a working environment in which occupational accidents do not occur.
- EPV treats all its employees fairly and equally. Our goal is an open and inclusive working environment.

## Security of energy supply and cost-effectiveness



- Competitive electricity and heat for our shareholders: Our main task is to ensure our capacity for responsible energy generation and to maintain a competitive production cost price far into the future.
- As more and more electricity is generated by renewable wind and solar power, there is a growing need for solutions for balancing power, flexibility and energy storage. Different energy storage solutions support and bring flexibility to the electricity system. Energy storage solutions are one of EPV's key areas of investment to increase flexibility.
- Energy is a strategic factor in society. Cybersecurity is closely linked to all EPV's operations and their development.

## Good governance and economic responsibility



- Commitment to EPV Energy's Code of Conduct
- Sustainability is part of our business metrics
- Continuous risk management
- Responsible supply chain and ethical business – Supplier Code of Conduct
- The energy sector is Finland's most capital-intensive business sector. Power plants and the energy distribution network tie up a large amount of capital over the course of decades. We plan our investments with great care, model the coming years' investment needs and strive to fund them in such a way that our security of supply and equity ratio remain desirable.

# Corporate governance statement 2023

## Principles of administrative practice

EPV Energy Group consists of EPV Energy Ltd and its subsidiaries. The registered office of the Group's parent company, EPV Energy Ltd, is Vaasa. EPV Energy Ltd is a limited liability company whose business, according to its Articles of Association, is to purchase energy for its shareholders and to engage in other related activities.

According to its Articles of Association, EPV Energy builds power plants and the transmission equipment they require, and engages in energy production or procurement using the power plants and equipment or the production resources it owns, and supplies the energy thus generated or acquired to its shareholders at a production cost price (the Mankala principle). EPV Energy delivers the energy it has produced or acquired to its shareholders in proportion to their ownership of each series of shares. Each shareholder of the series of shares in question is responsible for the annual variable and fixed costs defined in more detail in the Articles of Association. The parent company's administration costs are covered by charging them as part of the fixed annual costs in a manner specified in more detail in the corporate documents.

According to the Articles of Association, the liability of each shareholder for the annual costs is always limited to the amount corresponding to the proportion of their shareholdings in all the shares in the series in question, and the failure of any other shareholder to satisfy the responsibilities of the shareholder for costs in proportion to the

shareholders shareholding shall not increase any non-defaulting shareholder's liability.

The parent company's Board of Directors and the Group's Management Team discuss the main principles of the Group's operations. The parent company participates in the management and supervision of its subsidiaries and affiliated companies through its representatives appointed to the governing bodies of these companies. The Group's subsidiaries and affiliated companies have their own governing bodies as well as their own task forces and corporate documents.

EPV Energy's governance is based on legislation and its corporate documents.

## INTERNAL CONTROL PROCEDURES AND RISK MANAGEMENT SYSTEMS RELATING TO FINANCIAL REPORTING

### Control mechanisms

The Board of Directors of EPV Energy Ltd ensures that the EPV Energy Group's administration and operations are appropriately organised. The CEO of EPV Energy Ltd is responsible for organising the control mechanisms for internal control, risk management, accounting and financial management with the support of the Group's Management Team. The guidelines cover the entire EPV Energy Group. The control mechanisms aim to ensure the legality of the company's operations, compliance with the rules and the reliability of financial reporting.

## Internal control

The Board of Directors and the management are responsible for the organisation and adequacy of the company's internal control. The purpose of internal control is to ensure the efficiency and effectiveness of the operations, the reliability of information, as well as compliance with the regulations and operating principles. EPV Energy's governance and internal control system are based on the corporate documents and policies approved by the Board of Directors, such as Corporate Governance Policy and other company guidelines.

The Group's Management Team usually meets about 10 times a year and monitors and discusses the implementation of the Group's operations. Additionally, each unit monitors the achievement of their business objectives. EPV Energy Ltd's economy review is discussed at the Board of Directors' meetings. At the Board meetings, the CEO of EPV Energy Ltd presents the company's financial figures, as well as the main events and trends related to the Group's business and its development.

## Risk management

The purpose of risk management is to provide support for the achievement of the strategy and objectives and to ensure that operating conditions are maintained despite changes in the operating environment. Comprehensive risk management enables anticipation and resilience, and is an essential part of monitoring the achievement of strategic objectives.

EPV Energy's integrated risk management is based on the SFS-ISO 31000 standard and good governance. EPV Energy's risk management is guided by a risk management policy approved by the Board of Directors. In it, the objectives, principles, roles and responsibilities of risk management are specified. The company's risk management is an ongoing process aimed at supporting the achievement of the strategy and business objectives, maintaining the operating conditions and ensuring business continuity. Risk management is a systematic activity covering the whole Group. Risk management is therefore part of EPV Energy's management system and is integrated into the company's strategy process and decision-making.

In principle, risk management is decentralised to all levels of the organisation. Every employee is encouraged to identify, assess and report risks. The Vice President, Sustainability, is responsible for maintaining and developing risk management methods, risk reporting and insurance programmes. The Group's Management Team discusses risks regularly, revises risk reporting where necessary and reports on key risks to the Board of Directors of the parent company.

The subsidiaries and group units are each responsible for their own risk management and reporting.

EPV Energy's risk management team oversees the effectiveness of the risk management process and its implementation. In implementing risk management, it is important to take into account changes in the operating environment and global trends.

The risk management policy is reviewed annually to ensure that it is up to date. The policy is available to all staff and is also part of the induction process for new colleagues. Further information on risk management is provided to employees, for example, through the Group's Intranet pages.

The same process is used at EPV Energy to identify and manage all risks. EPV Energy's risk management policy includes a description of the risk management process at Group level. The purpose of the process is to ensure systematic treatment of operational uncertainties and their effective management. The aim is to treat the risk at hand according to its significance and thus ensure that the risk is within the limits of tolerance. Identified risks are presented in a Group-wide risk register. Reports on risks are generated based on the information in the register and these are reported to the appropriate parties according to the annual planning cycle. The company's most significant risks are discussed by the Management Team and the Board of Directors.

When preparing the risk management assessments for 2023, particular attention was paid to the current geopolitical situation and the development of the energy market.

In line with ISO 31000:2018, EPV also uses a risk management framework to develop its operations. Performance development aims to engage, develop and support management activities within the Group.

### Financial control and reporting

The objective of internal control related to the financial reporting process is to ensure that the management has reliable, up-to-date information to help them in decision-making and that the financial

statements and interim reports are prepared in compliance with laws and regulations.

The Group's own finance unit is responsible for the preparation of annual financial statements for EPV Energy Ltd and its Group companies, as well as monthly reports, profit estimates and analyses. The companies' financial reporting is regularly monitored by the Boards of the companies.

In general, shared systems are used for reporting. The Group's own finance unit also handles financial administration, accounting and ledger processes. Development and monitoring of the financial reporting processes and control systems is a continuous activity.

The separate financial statements of the parent company and other Group companies follow Finnish accounting practice.

The decision-making order for expenses, investments and financial commitments is determined in the corporate documents, and approval rights are determined in stages for the different organisational levels in the policy approved by the Board. Most significant decisions are submitted separately to the Board of the individual Group company and to the Board of the parent company for approval.

### Auditing

According to the Articles of Association of EPV Energy Ltd, two (2) regular auditors and two (2) deputy auditors are elected as the company's auditors. One of the regular auditors and deputy auditors shall be an auditor approved by the Finland Chamber of Commerce or a Chamber of Commerce. The Ordinary General Shareholders' Meeting annually

appoints an auditor. On 31 March 2023, the Annual General Meeting of EPV Energy Ltd elected Ernst & Young Oy as the company's Ordinary Auditor for the period until the Annual General Shareholders' Meeting in 2024, with Mikko Ryttilahti, Authorised Public Accountant, and Kristian Berg, Authorised Public Accountant, as the main responsible Auditors and Anders Svennas, Authorised Public Accountant, and Marja Huhtala, Authorised Public Accountant, as the Vice Auditors appointed by Ernst & Young Oy. The Auditors report their audit findings to the Board of Directors and the General Meeting of Shareholders of EPV Energy Ltd.

The principal task of statutory audit is to verify that the financial statements give a true and fair view on the Group's results and financial position.

Ernst & Young's aggregate audit fees for the Group as a whole in 2023 amounted to approximately EUR 199,000 (EUR 160,000 in 2022). Ernst & Young's other fees from the Group amounted to approximately EUR 223,000 (EUR 93,000 in 2022).

### GENERAL SHAREHOLDERS' MEETING

The General Meeting is the company's highest decision-making body. The Annual General Meeting of Shareholders decides on statutory matters and matters provided for in the Articles of Association, elects the members of the Board of Directors in accordance with the procedure specified in the corporate documents, confirms the fees of Board members and names an auditor. Other important matters that the Annual General Meeting has the power to decide include the adoption of the financial statements, the distribution of profits, releasing the members of the Board of Directors and the CEO from liability, and any amendments to the Articles

of Association. If necessary, the Annual General Meeting also issues binding directives to the Board on major investments of the subsidiaries and the other matters specified in the Articles of Association.

The Annual General Meeting must be held yearly by the end of June. An invitation to the Annual General Meeting will be sent to the shareholders at the earliest four weeks and at the latest one week before the meeting.

EPV Energy's shareholders approved in the Annual General Meeting on 31 March 2023 the financial statements of EPV Energy Ltd for 2022, released the members of the Board of Directors and the CEO from liability, and elected ordinary and deputy Board members for the new term.

Extraordinary General Meetings may be called if necessary.

In 2023, the Annual General Meeting of EPV Energy Ltd was held on 31 March 2023. 12 shareholders were present at the meeting, representing a total of approximately 86 per cent of the company's total voting rights. The members of the Board of Directors attended the meeting. The meeting was also attended by the CEO and the Deputy CEO, as well as other members of management.

### COMPOSITION AND DUTIES OF THE BOARD OF DIRECTORS AND ITS COMMITTEES

#### Composition and term of office of the Board of Directors

The members of the Board of Directors are elected annually at the General Meeting of Shareholders. According to the Articles of Association, the Board

consists of a minimum of 10 and a maximum of 12 ordinary members and five deputy members.

By unanimous decision of the shareholders at the Annual General Shareholders' Meeting on 31 March 2023, ten members and five deputy members were elected to the Board of Directors. Director Olli Arola, Managing Director Stefan Damlin, Chief Legal Officer Jaana Eklund, CEO Jouni Haikarainen, Managing Director Vesa Hättilä, CEO Heikki Lappalainen, Managing Director Anders Renvall, Member of Parliament Joakim Strand, Director Markku Vartia and Business Unit Director Hans-Alexander Öst were elected as Ordinary Members of the Board of Directors in accordance with their consent. The Deputy Members elected were Managing Director Esa Ala-Honkola, Managing Director Jari Lepistö, Director Kari Roos, Business Unit Director Markus Tuomala and CEO Jukka Ylitalo.

At its organising meeting, the Board of Directors elected Member of Parliament Joakim Strand as Chairperson and Chief Legal Officer Jaana Eklund as Vice-Chairperson.

All of the Board members are independent of the company. The Board members do not own any shares of the company.

The procedure for the election and organisation of the Board is specified in detail in the corporate documents. The Chair of the Board is nominated by the largest shareholder. The CEO is not a member of the Board of Directors.

**Duties of the Board of Directors**

The Board is responsible for the oversight and control of the company and the appropriate arrangement of the company's administration and operations.

Furthermore, the Board must ensure that the company's accounting and financial controls are properly arranged. The Board oversees that EPV Energy's affairs are managed according to the corporate documents/Articles of Association and the decisions of the General Meeting of Shareholders.

EPV Energy's Corporate Governance Policy defines the Board's main duties and the way it operates in more detail.

In order to perform its duties, the Board does the following, for example:

- appoints the CEO and the Deputy CEO
- supervises the executive management of EPV Energy
- decides on the company's strategic objectives and operational guidelines
- decides on the Group's financial instruments
- decides on the Group's budget and action plan
- decides on remuneration system principles and approves the employment contract and other benefits of the CEO, unless it has authorised the Chairman of the Board or the Remuneration and Nomination Committee to make these decisions
- appoints task force and workgroup members
- approves policies and other guidelines which create the basis for the management system and internal control and which set limits on and guide and monitor the operations of the subsidiaries
- supervises the Group's risk management
- compiles the Report of the Board of Directors and approves the financial statements
- approves the charge for the fixed costs for each series of shares and other bases for shareholder invoicing
- summons the general meeting.

**Meeting practices**

EPV Energy's Board of Directors usually meets about 10 times a year. In addition to the members of the Board of Directors, the company's CEO and CFO regularly attend Board meetings. The other members of the Management Team attend the meetings at the invitation of the Board. The Secretary of the Board of Directors is the Group's Vice President, Sustainability. The Board has not assigned specific business monitoring priorities to its members. The meetings are usually chaired by the CEO of EPV Energy or, at his request, by another member of the Group's Management Team. According to the Rules of Procedure of the Board of Directors, the CEO is responsible for ensuring that the Board has access to sufficient information to assess the Group's activities and financial situation. In addition, the CEO supervises the implementation of the Board's decisions and reports to the Board on any shortcomings or problems in implementation.

The Board had nine meetings in 2023. The average attendance rate of Board members was 97 per cent.

**Remuneration of the Board of Directors**

The Annual General Meeting of EPV Energy Ltd decides annually on the remuneration of the Board of Directors and the basis for reimbursement of expenses. The remuneration of the Board of Directors is paid in cash.

The remuneration to be paid to the members and deputy members of the Board of Directors of EPV Energy Ltd in accordance with the decision of the Annual General Meeting 2023 was as follows:

- Chairperson €1,400 per month
- Member (incl. Vice Chairperson) €1,000 per month
- Deputy Member €800 per month
- Meeting fee, the same for everyone, €600 per meeting

Meeting fees are also paid to members of the committees and workgroups appointed by the Board.

**Committees of the Board of Directors**

To ensure that the issues within the responsibility of the Board of Directors are handled as efficiently as possible, the Board has appointed a Remuneration Committee that assists and reports to the Board of Directors. The Board of Directors appoints at least three members to the Committee annually from among its members, appoints the chair of the committee and approves its charter.

**Remuneration Committee**

The Remuneration Committee deals with matters concerning nomination and remuneration in general, the remuneration systems for the Management Team and employees, and deals with proposals to be submitted to the Annual General Meeting regarding the remuneration of the members of the Board.

The Board's Remuneration Committee approves the company's remuneration systems. Incentive bonuses of the Management Team are based on a long-term remuneration system and the criteria determined in it. The incentive scheme does not include shares or any derivatives.

Following a unanimous decision of the shareholders at the 2023 Annual General Meeting, the Board nominated Stefan Damlin as the chair of the Remuneration Committee and Jouni Haikarainen, Vesa Hätilä and Jukka Ylitalo as the other members of the committee. The Remuneration Committee met three times in 2023. Attendance at the meetings was 100 per cent.

In addition to the committee of the Board of Directors, the Board may appoint task forces or workgroups to assist the Board and senior management. The Board approves the duties and principles of operation of the task forces and workgroups.

The members of the Board of Directors, the CEO or other members of the company's management do not own any of the company's shares.

## CEO AND OTHER SENIOR MANAGEMENT

### CEO

The Board of Directors of EPV Energy Ltd appoints the CEO of the parent company and defines the terms of the CEO's employment in writing. The CEO is responsible for the day-to-day management of the company. He or she is accountable to the Board of Directors for the achievement of the objectives, strategy, plans, principles of operation and goals set by the Board. The CEO prepares matters to be brought to the Board of Directors for their decision and implements the Board's decisions. The CEO chairs the Group's Management Team.

Rami Vuola has been the CEO of the company since 2003. The Deputy CEO is Mats Söderlund, who is also the Group CFO and the Vice President of Combined Heat and Power Production, as well as a member

of the Management Team. The personal details of the CEO and the Deputy CEO are given at the end of this report.

### Management Team

The Board of Directors has appointed a Management Team for the EPV Energy Group which supports the CEO in preparing strategic issues, dealing with significant or fundamental operational matters and ensuring internal communication.

The EPV Energy Group's Management Team prepares and directs the development of the Group's processes and business operations as well as the Group's common activities. In particular, the Management Team takes care of the company's strategy, budget, major acquisitions and projects, the Group's structure and organisation, as well as the main lines of governance and HR policy issues. The Management Team consists of the CEO and the representatives responsible for operations at Group level.

The Management Team is not an administrative body regulated by the Limited Liability Companies Act. The subsidiaries and plant managers report to the business area managers.

At the end of 2023, the members of the EPV Energy Group's Management Team were:

- Rami Vuola, CEO
- Mats Söderlund, Deputy CEO, Group CFO and Vice President of Combined Heat and Power Production and Energy Storage
- Frans Liski, Vice President, Renewable Energy Production
- Reima Neva, Vice President, Energy Management and ICT

- Niko Paaso, Vice President, Portfolio Optimisation and Business Development
- Maija Suutarinen, Vice President, Sustainability, Risk Management and Communications

The Management Team met 10 times in 2023, with Maija Suutarinen, Vice President, Sustainability, acting as secretary.

## REMUNERATION OF THE CEO AND OTHER MEMBERS OF SENIOR MANAGEMENT

The Board of Directors of EPV Energy Ltd, acting on a proposal from the Remuneration Committee, annually approves the principles of the bonus schemes for the entire Group's personnel. All regular staff are covered by a performance bonus system, which is determined and decided annually.

# The Board of Directors of EPV Energy Ltd

## Members of the Board



**Joakim Strand**

Chairperson  
Member of Parliament  
Member of the Board since 2015

**Relevant work experience:**  
UPC Konsultointi Oy, International Operations Manager 2009–2015, Vaasan osuuspankki bank, notary unit 2004–2008.

**Board memberships:**  
Football Association of Finland, Högskollektiftelsen i Österbotten, Kvarken Link Ab, Kvarken Council EGTC, Nylands Brigads Gille r.f. Regional Council of Ostrobothnia, Sitra, Veikkaus Oy, Administrative Board, Vaasan Sähkö Oy, Åbo Akademi University Foundation.



**Jaana Klund**

Vice Chairperson  
Chief Legal Officer at Helen, General Counsel, VP  
Member of the Board since 2023

**Relevant work experience:**  
At the Helen Group since 2007.

**Board memberships:**  
Helen Electricity Network Ltd  
Kristinestad  
Tupaneva Oy,  
Oy Mankala Ab,  
Tuulipuisto  
Lakiakangas 3 Oy.



**Olli Arola**

member  
Vice President, Strategy & Corporate Social Responsibility at Vaasan Sähkö  
Member of the Board since 2005

**Relevant work experience:**  
Vice President, Electricity Trade at Vaasan Sähkö 2002–2022, various positions at Electricity Trade at Vaasan Sähkö 1991–2001.

**Board memberships:**  
Seinäjoen Voima Oy, Voimapiha Oy.



**Stefan Damlin**

member  
CEO of Vaasan Sähkö  
Member of the Board since 2018

**Relevant work experience:**  
Wärtsilä Finland Oy, CEO 2012–2018, Wärtsilä Corporation, Business Development Director, Globaali Industrial Operations 2011–2012, Wärtsilä Corporation, CFO, Global Engine Division 2005–2010, Finn-Power, Group Business Controller 2004–2005.

**Board memberships:**  
Fingrid, Chair of Advisory Committee  
Neova Group, PD Power Oy, Pohjolan Voima Oyj, Power-Deriva Oy, Ravera Oy, Vaasan Voima Oy, Voima Corporation.



**Jouni Haikarainen**

member  
CEO of Lahti Energia  
Member of the Board since 2020

**Relevant work experience:**  
Gasum Oy, Senior Vice President, Portfolio Management and Trading (PMT) 2019–2020, Gasum Oy, Senior Vice President, Natural Gas Business 2015–2018, Fortum Oyj, Vice President, Heat Business 2006–2014, E.On Finland Oyj, Production Manager 2005–2006.

**Board memberships:**  
One1 Oy, Oomi Energia Oy, Suomen Hyötytuuli Oy.



**Vesa Hätilä**

member  
CEO of Seinäjoen Energia  
Member of the Board since 2018

**Relevant work experience:**  
CEO of Koillis-Satakunnan Sähkö Oy, Sähkö-Virkeät Oy and Killin Voima Oy 2014–2017. Sales work at Empower Oy 2002–2014, football referee activities for Football Association of Finland 2000–2014.

**Board memberships:**  
Seinäjoen Voima Oy, Voimajunkkarit Oy.



**Heikki Lappalainen**

member  
CEO of Imatran Seudun Sähkö, Kaakon Energia and Imatran Seudun Sähkönsiirto  
Member of the Board since 2023

**Relevant work experience:**  
Management positions in various energy companies since 2017.

**Board memberships:**  
Kaakon Energia Oy.



**Anders Renvall**

member  
CEO of KymppiVoima  
Member of the Board since 2013

**Relevant work experience:**  
KymppiVoima Oy, Production Director 2004–2013, TXU Nordic Energy, Chief of Property Management 2002–2004, Pöyry / Ekono, Business Management Consultant, 1996–2002.

**Board memberships:**  
Kosalankankaan tuulivoimapuisto Oy, Pohjolan Voima Oyj, Teollisuuden Voima Oyj, Vattenfall Indalsälven Ab, Voimapiha Oy Ab.



**Markku Vartia**

member  
Business Director, Electricity Business at Vantaa Energy (until 30 Nov 2023)  
Member of the Board since 2009

**Relevant work experience:**  
Management Team member at Vantaa Energy 2005–2023, in various management positions.

**Board memberships:**  
Suomen Hyötytuuli Oy, Svartisen Holding AS, Woodtracker Oy.



**Hans-Alexander Öst**

member  
Vice President, Electricity Trade at Vaasan Sähkö  
Member of the Board since 2019

**Relevant work experience:**  
Vice President, Vice President, Corporate Development at Vaasan Sähkö 2019–2022, in various positions in energy solution delivery projects, project management, sales and business development at Wärtsilä Energy 2009–2019.

**Board memberships:**  
Tornion Voima Oy.

# The Board of Directors of EPV Energy Ltd

## Deputy Members of the Board



**Esa  
Ala-Honkola**

deputy member  
CEO of Alajärven Sähkö and JärviS-Energia  
Deputy member of the Board since 2023

**Relevant work experience:**  
Caverion, Head of Business Development 2022–2023, Wind Controller Oy, Business Development Director 2020–2022, VEO Oy, Director, expert services 2018–2019, VEO Oy, Business Unit Director 2013–2018.

**Board memberships:**  
Alajärven Lämpö Oy, Vaasan Voima Oy, Voimajunkkarit Oy.



**Jari  
Lepistö**

deputy member  
CEO of Lehtimäen Sähkö  
Member/deputy member of the Board since 2013

**Relevant work experience:**  
Director of Electrical Works at Lehtimäen Sähkö 1982–2008.

**Board memberships:**  
Voimajunkkarit Oy.



**Kari  
Roos**

deputy member  
Vice President, Electric Power Unit at Seinäjoen Energia  
Deputy member of the Board since 2018

**Relevant work experience:**  
Electricity sales engineer 1998–2004, information systems engineer 1994–1998, Development Engineer 1989–1994, Electrician 1986–1989, entrepreneur 1980–1986.

**Board memberships:**  
Vaasan Voima Oy.



**Markus  
Tuomala**

deputy member  
Vice President, District Heating Unit at Vaasan Sähkö  
Deputy member of the Board since 2022

**Relevant work experience:**  
In senior positions in foreign power plant projects at Wärtsilä Finland 2011–2019, in various managerial level positions at Wärtsilä Finland 2002–2011.

**Board memberships:**  
Vaasan Voima Oy.



**Jukka  
Ylitalo**

deputy member  
CEO of Jylhän Sähköosuuskunta  
Member/deputy member of the Board since 2016

**Relevant work experience:**  
Management positions at Jylhän Sähköosuuskunta 1991–2015.

**Board memberships:**  
Seinäjoen Voima Oy, Voimajunkkarit Oy.

# Management Team of EPV Energy Ltd



**Rami Vuola**

CEO  
At EPV Energy since 2003

**Relevant work experience:**  
Management positions at TXU 2000–2003, before that, Executive and managerial positions at Fingrid.

**Board memberships:**  
Pohjolan Voima Oyj, Teollisuuden Voima Oyj, Several subsidiaries of EPV Energy Group.



**Mats Söderlund**

Deputy CEO, Group CFO and Vice President of Combined Heat and Power Production and Energy Storage

At EPV Energy since 2015

**Relevant work experience:**  
CEO of several subsidiaries of EPV Energy Group 2015–  
Citec Group, Global Director and member of Management Team 2011–2015, management positions, Project Manager and energy project development, Citec Group 2004–2011.

**Board memberships:**  
Teollisuuden Voima Oyj, Financing Committee, Several subsidiaries of EPV Energy Group.



**Frans Liski**

Vice President, Renewable Energy Production

At EPV Energy since 2004

**Relevant work experience:**  
CEO of several subsidiaries of EPV Energy Group 2006–, at TXU 2003–2004.

**Board memberships:**  
Several subsidiaries of EPV Energy Group.



**Reima Neva**

Vice President, Energy Management and ICT

At EPV Energy since 2008

**Relevant work experience:**  
CEO of several subsidiaries of EPV Energy Group 2013–, Head of Information Management at Tampereen Sähkölaitos 2003–2008, Management Consultant at Process Vision Oy 2000–2003, Head of Energy Auditing at Fingrid Oyj and IVO Voimansiirto Oy 1993–2000.

**Board memberships:**  
In subsidiaries of EPV Energy Group.



**Niko Paaso**

Vice President, Portfolio Optimisation and Business Development

At EPV Energy since 2013

**Relevant work experience:**  
CEO of several subsidiaries of EPV Energy Group 2014–  
Numerous positions at Fortum in production hedging, trading, business development and acquisitions 1996–2013.

**Board memberships:**  
PVO Lämpövoima Oy, PVO Vesivoima Oy, Vattenfall Kraftgården AB, Several subsidiaries of EPV Energy Group.



**Maija Suutarinen**

Vice President, Sustainability, Risk Management and Communications

At EPV Energy since 2018

**Relevant work experience:**  
Communications Advisor at Danfoss Group 2014–2018, Group and IR Communications Specialist at Vacon Oyj 1999–2014.

**Board memberships:**  
In subsidiaries of EPV Energy Group.

# Economic responsibility

Economic responsibility contains within it both the sustainability of operations and the economic effects of our actions on others.

EPV's financial responsibility means careful planning of finances and monitoring economic developments. We anticipate factors that may affect our activities in the future and strive to take their effects on our finances into account in both the short and long term.

Our main task is to ensure our capacity for responsible energy generation and to maintain a competitive production cost price far into the future. The energy sector is Finland's most capital-intensive business sector. Power plants, wind and solar farms, solutions for electricity storage and the energy distribution network tie up a large amount of capital over the course of decades. That is why we plan our investments with great care.

The aim is to ensure that the Group has access to market-based and continuous financing that supports the achievement of its strategic and financial objectives. In addition, financial policies are applied to manage and reduce the risks associated with financing. The objective of the financing strategy is to maintain the financial position of the Group and the Group companies in such a way that, regardless of the market situation, it is possible to finance and refinance the company's investments and operations as cost-effectively as possible, taking the risks into account. Risk management is at the heart of our financing strategy.

Successful operating activities have positive effects for society as a whole, and especially for the company's stakeholders, such as:

- shareholders
- employees
- partners

The effects of well-considered and successful operating activities can be seen in the form of:

- new jobs
- investments
- tax revenue

EPV's financial success creates the prerequisites for fulfilling the company's social and ecological responsibilities.

## Competitive electricity and heat for our shareholders

We, as a company, do not seek profit with our operations. EPV Energy's most crucial task is to ensure that the electricity and heat supplied to our shareholders remains competitive. This requires the continuous follow-up of our operating environment and influencing the development of existing production resources.

Additionally, the company maintains and develops our readiness to make new investments as the operating environment evolves.

## Direct economic impacts in 2023

**MEUR 381.5**

Purchases

**MEUR 11.8**

Wages, salaries and other remuneration for personnel

**MEUR 3.2**

Taxes and social expenses

**MEUR 2.4**

Property taxes as a whole

**MEUR 12.9**

Net financing costs to creditors

**MEUR 48.1**

Investments



# The supply chain as part of corporate sustainability

Together with its personnel and partners, EPV is creating a cleaner world. Responsible sourcing is one of our company-wide sustainability priorities.

## Implementing responsible subcontracting and procurement

EPV is committed to respecting labour and human rights in its operations and supply chain and seeks to identify the related risks. We set environmental and social responsibility requirements for our subcontractors and supply chain and monitor compliance.

EPV's procurement process is the same for all contractors, regardless of how much money is changing hands. The process is described in our internal policies and guidelines. EPV ensures that it pays its invoices on time, provided that the billing information is correct. Payments are made in accordance with the billing information provided. The most common payment term is two weeks.

There have been no identified cases of corruption or bribery in EPV's own operations or those of its partners.

## An important network of partners

We engage in close and open cooperation with many different stakeholder groups. In addition to our own staff, we provide work for hundreds of business owners and professionals annually. After years of active collaboration, we have excellent

networks of expert partners in place for different energy production methods. Good, reliable suppliers, subcontractors and service providers are the lifeblood of our business. EPV seeks to make use of local partners.

Our sustainability requirements apply to the entire supply chain. We have developed a Group-wide code of conduct for our suppliers and we apply it to all our cooperation with suppliers or potential suppliers. In our code of conduct, we require our partners, among other things, to:

- comply with applicable local and international laws and regulations
- implement workers' rights in a proper and fair way
- act in an anti-discriminative way
- pay special attention to safety at work
- take environmental issues into account in their partner's activities too

## Purpose of the Supplier Code of Conduct

The purpose of our Supplier Code of Conduct is to define the basic legal, ethical, labour and environmental standards we expect EPV's suppliers to comply with. EPV's suppliers must comply with the principles set out in this Code of Conduct in all their business activities and in their relations with their

employees and public authorities. By requiring its suppliers to share EPV's corporate sustainability values, EPV contributes to setting high standards for the sector in areas such as climate and human rights protection.

Our suppliers play a vital role in EPV's sustainability efforts. In addition to acting in a responsible way themselves, our suppliers must ensure that their

own suppliers, subcontractors, consultants and business partners who are involved in supplying EPV with products, materials, components or services comply with the principles of our Code of Conduct. We require our suppliers to consider the economic, social and environmental impacts of their activities on all their stakeholders in relation to the size and footprint of the supplier.



# Risk management

The purpose of risk management is to provide support for the achievement of the strategy and objectives and to ensure that operating conditions are maintained despite changes in the operating environment. Comprehensive risk management enables anticipation and resilience, and is an essential part of monitoring the achievement of strategic objectives.

EPV's integrated risk management is based on the SFS-ISO 31000 standard and good governance. EPV's risk management is guided by a risk management policy approved by the Board of Directors. In it, the objectives, principles, roles and responsibilities of risk management are specified. The company's risk management is an ongoing process aimed at supporting the achievement of the strategy and business objectives, maintaining the operating conditions and ensuring business continuity. Risk management is a systematic activity covering the whole Group. Risk management is therefore part of EPV's management system and is integrated into EPV's strategy process and decision-making.

In principle, risk management is decentralised to all levels of the organisation. Every employee is encouraged to identify, assess and report risks either

to their line manager or to the Group's CFO or Vice President of Sustainability. EPV's Vice President of Sustainability is responsible for maintaining and developing risk management methods, risk reporting and insurance programmes. The Group's Management Team discusses risks regularly, revises risk reporting where necessary and reports on key risks to the Board of Directors of the parent company.

The subsidiaries and group units are each responsible for their own risk management and reporting.

EPV's risk management team oversees the effectiveness of the risk management process and its implementation. In implementing risk management, it is important to take global trends and changes in the operating environment into account.

Our risk management policy is reviewed annually to ensure that it is up to date. The policy is available to all staff and is also part of the induction process for new colleagues. Further information on risk management is provided to employees, for example, through the Group's Intranet pages.

## The risk management process

The same process is used at EPV to identify and manage all risks. EPV's risk management policy includes a description of the risk management process at Group level. The purpose of the process is to ensure systematic treatment of operational uncertainties and their effective management. The aim is to treat the risk at hand according to its significance and thus ensure that the risk is

within the limits of tolerance. Identified risks are presented in a Group-wide risk register. Reports on risks are generated based on the information in the register and these are reported to the appropriate parties according to the annual planning cycle. The company's most significant risks are discussed by the Management Team and the Board of Directors.

When preparing the risk management assessments for 2023, particular attention was paid to the current geopolitical situation and the development of the energy market.

In line with ISO 31000:2018, EPV also uses a risk management framework to develop its operations. Performance development aims to engage, develop and support management activities within the Group.

## Risks and opportunities

EPV's main risks relate to the energy market and generation capacity. These can take the form of challenges with fuel availability or changes in emissions trading or the market. All risks affect the achievement of our strategic objectives.

Climate change and adapting to it is a major driver of energy markets. Climate change brings both threats and opportunities. We have assessed the risks and opportunities climate change brings to our business and the risks and opportunities our operations raise for the climate. Climate change will inevitably affect our operations, especially when it comes to forest management and the availability of domestic fuel. Rising temperatures allow, among other things,

the spread of invasive species in forests. This may negatively affect both EPV's operations and local biodiversity. It has been suggested that one of the opportunities climate change brings is the acceleration of technological development, enabling the introduction of new energy technologies and portfolio diversification.

The threats and opportunities of climate change have been assessed over a five-year timeframe, with a short timeframe of less than two years, a medium timeframe of two to five years and a long timeframe of more than five years. The economic impact has also been estimated at three levels, with low impact being less than EUR 5 million, medium impact between EUR 5 and EUR 20 million and high impact over EUR 20 million. The results of the evaluation can be seen in the table on pages 46 and 47.



**EPV's main risks relate to the electricity market and generation capacity**

Risk category	Sub-category	Concrete risk	Timeframe	Financial impact	Preparedness
Legislative	New or changing regulations	Stricter taxonomy criteria	Medium	Medium	Implementing the strategy and anticipating regulation
		Requirements from public authorities or slow processing of cases affect the achievement of objectives	Short	Medium	Useful discussions and interaction with stakeholders. Proactive and timely action.
		Stricter environmental requirements for hydropower	Long	High	Useful discussions and interaction with stakeholders. Proactive and timely action.
		Additional tax burdens	Medium	Medium	
Physical	Extreme weather phenomenon	Production plants face output limitations due to high cooling water temperatures	Short	Low	Continuous monitoring of cooling water temperature and responding proactively to plant operations. Output limitation required.
		Storms may cause short outages or challenges for production activities	Short	Low	Continuous monitoring of plant operation and weather conditions; pre-shutdown of equipment before an accident.
	Wildfire	Wildfire may threaten biofuel storage fields	Short	Medium	Decentralisation of biofuel storage fields, monitoring and responding to wildfires where necessary.
	Data security	The reliability, integrity or availability of systems is compromised.	Medium	Medium	Technical solutions and their maintenance, auditing and monitoring, as well as staff training and communications.
Market	Emissions trading	Emissions trading prices rise further and make it more difficult to maintain certain forms of energy production.	Medium	Medium	A controlled reduction in the use of fossil fuels and peat.
	Availability of fuels	There is a risk that there may not be enough fuel available for electricity generation, leading to a reduction in electricity production	Short	Medium	Sufficient fuel stock
	Change in the market	New and transformational investments are not profitable; not reacting to changes in the market quickly enough.	Medium	High	Supporting innovative technological changes in line with the strategy

Opportunity category	Sub-category	Concrete opportunity	Timeframe	Financial impact	Preparedness
Technology	Innovations	Changes in the way production plants run enable new technological solutions	Medium	High	Enabling large investments for the EPV Energy Group; encouraging staff to boldly present their ideas
		Recycling of materials	Medium	Low	Projects take recycling into account and support suppliers in improving their performance
		Using new fuels	Long	Medium	Enabling new and transformational investments in the EPV Group
		Expanding our portfolio	Medium	Medium	Investing in new forms of production and technologies
Market	Public relations	Society is more involved in the debate and more supportive of the new electricity revolution	Short	High	Transparent and reliable communications
		Climate policy creates conditions for investment in new technologies and clean energy markets	Medium	High	Transparent and reliable communications
	Market advantage	Clean, emission-free electricity for consumers and owners	Medium	Medium	Implementing the current strategy
		Market advantage through a broad portfolio	Long	High	Implementing the current strategy

EPV is well prepared for the future risks that climate change may bring, thanks to its broad production portfolio, proactive maintenance, changes in the way power plants are operated and a well-planned strategy. The risks identified are local and there are not many major financial risks on the horizon

based on current information, thanks in part to our portfolio. We constantly monitor changes in the operating environment and identify potential risks and methods of controlling them. We design the methods of control with a view to reduce the impact or occurrence of risks, even possibly elimi-

nating the risk altogether if it makes financial sense to do so. When applying a proactive strategy, the risks identified can be taken into account when compiling the strategy and proactively exploited for business development.

We pursue opportunities by setting strategic objectives and striving to reach them. By investing in new forms of production and upgrading technologies to make use of new solutions, the opportunities offered by climate change can be realised.

# Ecological responsibility

EPV is on the road towards zero-emission electricity generation. As an energy generation company, we have an important role to play: to help society, with its ever-increasing need for electricity, to meet its emission targets.

The current state of our planet requires great changes and the acceleration of driving down emissions. The message from the research is clear: we can still mitigate climate change and biodiversity loss, but we need to act now. The energy sector has a vital role to play in combating climate change. More than 70 per cent of the EU's greenhouse gas emissions come from the processing and consumption of energy that is based on the conversion and combustion of fossil fuels, for example in industry, households and transport. Therefore, tackling climate change requires changes in energy production and consumption. Meeting energy demand and simultaneously reducing greenhouse gas emissions is an enormous challenge for the EU and its member states.

As an energy generation company, EPV has an important role to play: to generate emission-free electricity and thereby help society as a whole, with its ever-increasing need for electricity, to meet its emission targets. According to our strategy, EPV's energy production will become completely emission-free by 2030.

EPV's generation shares produced 4,290 (3,790) GWh of electricity, which corresponds to 5.5 (5.5) per cent of the electricity produced in all of Finland.



# Taking biodiversity into account in EPV's operations

It is an inescapable fact that all energy production activities have some impact on biodiversity. Of all EPV's activities, land use and emissions have the greatest impact on biodiversity.

Biodiversity is a prerequisite for life for humans too. Diverse ecosystems provide food and raw materials, help regulate water and nutrient flows, offer habitats for insects so they can pollinate crops, bind carbon, support the health of humans and other life forms, and create opportunities for recreation. EPV is aware of the environmental impact of its business activities and seeks to prevent negative impacts on the environment through measures such as:

- continuously reducing emissions from operations
- taking land use and environmental impacts into account, as well as ways to reduce them
- paying particular attention to assessments of environmental impact and making provisions for environmental risks in accordance with the precautionary principle
- promoting biodiversity as much as possible through projects in the company's biodiversity programme
- also getting our service and supplier partners to commit to environmentally responsible practices
- identifying environmental risks or opportunities
- taking into account the sustainability of the fuel chain
- using energy and water more efficiently and sorting and recycling waste.

EPV's work to promote the environment and biodiversity is guided by internal policies, such as environmental and energy efficiency policies, environmental impact

assessments and cooperation with public authorities and other stakeholders. These guidelines and Code of Conduct were created because EPV requires both its own staff and its partners to take sustainability and environmental issues seriously.

For 2024, EPV has drawn up a biodiversity action plan that sets out objectives and tasks for each area of business. The action plan involves the objectives of the EU biodiversity strategy, such as increasing carbon sinks by reforesting former peatland areas. The plan has been presented to and approved by the Board. The aim of this work is to identify the potential impacts of different types of production on biodiversity, and ways to reduce these impacts. The action plan will be updated annually and a yearly assessment will be conducted on whether previous measures were implemented and whether they were effective. To monitor the plan, a Group-wide performance indicator has been set up to ensure that at least one biodiversity project is carried out each year. EPV aims to ensure that biodiversity and ways to promote it are taken into account in all its land use for energy production.

## Site selection for new power plants

We aim to select sites for new solar and wind farms that already have fragmented habitats or low en-

vironmental value, to minimise our impact on the environment. Locating solar power plants on disused peatlands will minimise the environmental impact.

## EPV is involved in the Catch the Carbon project

Life-cycle sustainability is also strongly linked to the planning of sustainable after-use of areas no longer used for peat production. EPV has been involved in a pilot project in which an area of land that had been formerly used for peat production was transformed into one of the largest bird wetlands in Finland. There are also plans to use former peat production areas as industrial-scale solar farms. In addition, EPV is involved in the Ministry of Agriculture and Forestry of Finland's Catch the Carbon project, where the main objective is to strengthen the planning of the after-use of peat production areas in a way that enables efficient carbon sequestration through optimal site-specific and area-level planning of after-use. EPV is participating in the project with two pilot sites, which are peat production areas that have been in service for a long period (Kampinneva, Lapua and Ohraneva, Kauhava).

## Domestic biofuels

The wood used in EPV's power plants is mainly locally sourced wood. Most of the fuel we use is transported from within a hundred kilometres of the power plant. EPV has its own solid and experienced wood procurement organisation, supported by a supplier organisation that has been built up over the years. At the moment, availability is good.

The forests owned by EPV are regularly thinned for silvicultural purposes. In addition, we carry out other forest management work, such as the tending of seedling stands and ash fertilisation, which increase the growth of the forest on peat soil. In 2023, we fertilised 446 hectares with ash. We have valid forest management plans and have planned logging and silviculture measures for the next 10-year period. EPV's forests are PEFC certified.

## Young forest management projects

Projects to manage young forests are increasing because of their availability of undelimited trees that are suitable as energy wood. Coarser timber from first-thinning sites is increasingly being used as raw material for the chemical pulp industry. All the fuels we use meet the requirements of the EU RED II sustainability criteria. The purpose of the RED II sustainability criteria is to ensure good forest management and reliable and verifiable information about the origin of the wood to make sure that it does not come from illegal logging sites.

The biomass fuel supplied must meet the sustainability criteria set out in chapter 2 of the Act on Biofuels, Bioliquids and Biomass Fuels (393/2013), and the supplier must be able to prove the origin of the biomass fuel and compliance with the sustainability requirements on request. Compliance with these requirements is monitored by the Energy Authority. The operator has a self-monitoring and reporting obligation to the Energy Authority.

# Environmental impact of production methods

EPV is aware that the energy sector has a vital role to play in combating climate change. By producing clean electricity, EPV also helps society to meet its emission targets.

## Wind power is one of the company's most important energy generation methods

EPV is one of the leading operators in industrial-scale wind power production in Finland. The company started its wind power programme as early as 2006. In 2023, around 25.5% of EPV's electricity generation came from wind power.

## Our sixth wind farm was commissioned and preliminary preparations for the seventh continued

Wind power is an important part of EPV's New Electricity Revolution strategy and zero-emission energy portfolio, and work continued on new wind farms in 2023. In early 2023, the Norrskogen wind farm in Närpiö was put into commercial operation. This new wind park will produce an average of 300 gigawatt-hours (GWh) of electricity per year. Also, preparations in the project area of the Rajavuori wind farm in Laihia progressed well. EPV Wind-power Ltd aims to build an industrial-scale wind farm in Rajavuori, consisting of a maximum of 18 wind turbines in accordance with the component master plan. No investment decision has yet been made on the wind farm.

## EPV takes responsibility for its wind farms throughout their life cycle

EPV Energy takes responsibility for the smooth functioning and safety of its wind farms throughout their life cycle. This also includes the recycling of the wind turbines and the reuse of the sites they are located in.

The sites of the wind farms can be reused, depending on the technology and energy solutions used in them.

New wind turbines can be built to replace decommissioned ones if the municipality or landowner so wishes. The site is valuable in itself, because of the roads and electrical network built there. Above all, the site has the advantage that there is detailed information available about the wind conditions in the area over a long period.

Where re-use is not possible, the wind farms will be dismantled. If wind turbines are dismantled, their parts are recycled according to the best available current technology. EPV will be responsible for this dismantling and for making sure that all the necessary parts are removed from the site. In collaboration with technology companies in the industry, EPV Energy aims to build zero-waste wind farms. In other words, it strives to achieve a value chain that does

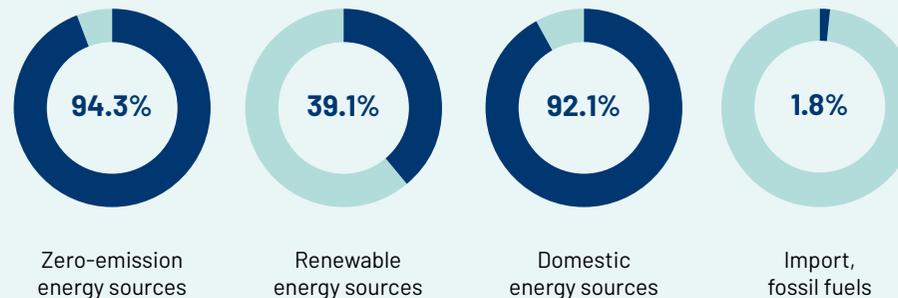
not create waste materials but, instead, reuses all material if possible.

Most of our turbine parts can already be recycled. For the time being, the parts most difficult to recycle are the turbine blades, which are composed of materials that are difficult to separate. Although wind farms will not be dismantled on a large scale in Finland until the 2030s, composite plastic waste is also created in other sectors, and the solutions and alternatives for recycling composite materials are being widely sought throughout the country. There are also many kinds of development projects under way at EU level that are researching how turbine towers or the materials from wind turbine blades could be reused in the future.

## EPV is involved in projects exploring the effects of wind power on reindeer husbandry and wildlife

EPV is involved in the Porotuuli project, as well as a project studying the effects of wind power construction on wildlife, which are led by the Natural Resources Institute Finland (Luke). The Porotuuli project brings together wind power operators and representatives of reindeer husbandry in Lapland. The aim of the project is to study how wind power construction can be planned and carried out in a socially and culturally sustainable way in reindeer herding areas. The motive for producing information is to minimise the harm caused to reindeer husbandry, to develop fair and just planning processes

Share of energy sources in EPV Energy's electricity production in 2023



and to proactively prevent land-use conflicts. The practical objective of the project is to study what measures can be taken to improve trust and the exchange of information between the wind power sector and reindeer husbandry. The project also aims to define best practices for the wind power sector in reindeer herding areas.

The wind power project also focuses on the presence of wildlife and the ways their habitats are used in the vicinity of wind turbines. Almost all major wind power developers in Finland are involved in the project. The project will run from 1 January 2023 to 31 December 2027. The project will produce a wide range of information on the impact of wind farms on game and other wildlife species as well as hunting.

### EPV was involved in promoting offshore wind power projects

Offshore wind power and its potential have been a topic of discussion in Finland for a long time, but

there has not yet been a real breakthrough. Once again in 2023, EPV played its part in promoting offshore wind projects. As part of the New Electricity Revolution strategy, a dedicated technology team was set up to promote these offshore alternatives.

At present, offshore wind power is still significantly more expensive than its onshore equivalent and investments would require public policy instruments to be set up. However, rapid technological developments may change this situation in the medium term, as offshore wind has the largest relative production potential and construction in Europe is concentrating more and more on offshore projects, especially in countries where finding sites for onshore wind farms is challenging.

EPV Energy's subsidiary Rajakiiri Oy is planning an offshore wind farm in the Maanahkiainen area of the Bothnian Bay off Raahel and Pyhäjoki. The project would include an offshore wind farm and the necessary connecting power lines to the national

grid. The Maanahkiainen project has been subject to an environmental impact assessment procedure and it has a legally binding component master plan. Due to developments in power plant technology, the dimensions allowed by the component master plan are now too small, which is why the company has requested an update of the plan and both municipalities have accepted the initiative. The land-use planning process is currently underway. The project is located in a water area managed by Metsähallitus, a state-owned enterprise that produces environmental services.

Rajakiiri Oy is also planning a smaller offshore wind farm in the area in front of Outokumpu Oy's steelworks in Tornio. Rajakiiri has concluded long-term reservation agreements for the water area with the City of Tornio and the Pirkkiö joint property management association. This project also has already gone through the environmental impact assessment procedure and town planning. The City of Tornio has accepted Rajakiiri Oy's initiative to update the town plan to allow for larger power plants in the future.

The land-use plans for both projects will be updated between 2022 and 2025, after which further planning can be done for the water permit and building permit processes, allowing the projects to be implemented in the 2030s.

### An investment decision to build EPV's first industrial-scale solar power plant

Solar power is also an important part of EPV's emission-free energy portfolio of the future, generated using renewable sources. The economic competitiveness of this form of production has improved over the last few years, and this trend is expected to continue. In solar projects, EPV focuses on industrial-scale production areas and takes advantage of

areas suitable for solar power that it already owns.

EPV made an investment decision in 2023 to build its first industrial-scale solar farm in Heinineva, Lapua. The new solar farm will produce more than 90 GWh of electricity per year. This was a big decision and an excellent first step for EPV towards solar power generation. EPV's strategy emphasises our desire to be at the forefront of progress and to lead the way in the energy transition. This renewable energy project is a purposeful and determined step in our move towards emission-free energy generation. The project was preceded by a long period of testing and development. The project will be built on a phased-out peat production site, and we have extensively studied different types of foundations, as they will contribute to optimising the use of our entire production portfolio. The Heinineva area is large and open and virtually shade-free. Not only is it a large-scale project, but it will also demonstrate a new type of technology that has been developed in Finland. In addition, the aim is to introduce an industrial-scale forecasting model for solar power production.

Work on the large solar power park in Heinineva progressed well in 2023. The final tests and commissioning of the new solar farm will take place in late 2025. EPV's Heinineva solar power project in Lapua was awarded NextGenerationEU funding of EUR 12 million from the European Union's Recovery and Resilience Facility (RRF) on 15 December 2022.



Euroopan unionin rahoittama –  
NextGenerationEU

**Hydrogen plays an important role in achieving climate targets**

Hydrogen is expected to play an important role in achieving global climate targets. Using nuclear power and electricity from renewable energy sources, hydrogen can be produced without emissions. Because hydrogen can be stored, it can contribute to solving the storage problem of renewable electricity whose production is dependent on the weather. That is why EPV also wants to be involved in research into this technology. Together with other Vaasa-based organisations, EPV intends to produce hydrogen from wind-generated electricity and then electricity from hydrogen on calm days. The cooperation being planned in Vaasa will enable a new way of storing renewable energy. The idea is to store the heat resulting from energy generation in the existing thermal energy storage facility built into rock caverns in the area and use it in the Vaasa district heating network, while maximising the total efficiency of the system. It will also make it possible to pilot a hydrogen-based energy production solution that is suitable for the global export market.

EPV's Power-to-X-to-Power hydrogen project received a significant boost when the Ministry of Economic Affairs and Employment of Finland granted it EUR 14 million in investment aid in late 2021. In 2022, an environmental investigation was conducted on the project, followed by an environmental impact assessment based on the results and conducted as an individual case procedure. To ensure a safe site, a major accident risk assessment was also carried out. The technical design of the project and the application procedures for the regular environmental and chemical safety permits have also progressed significantly during 2023.



EPV is also involved in Hydrogen Cluster Finland, which has prepared a vision that aims to make the hydrogen economy a new export pillar for Finland by 2030. By then, companies in the cluster will provide global solutions for building a carbon-neutral society. In addition to the H-Flex-E project, monitoring national cooperation and training staff in hydrogen-related issues are part of EPV's development work.

**We produce emission-free base load power and balancing power using renewable sources of energy**

Affiliated and associated companies that produce hydropower and nuclear power for EPV:

- Pohjolan Voima Oyj
- Teollisuuden Voima Oyj
- Voimapiha Oy

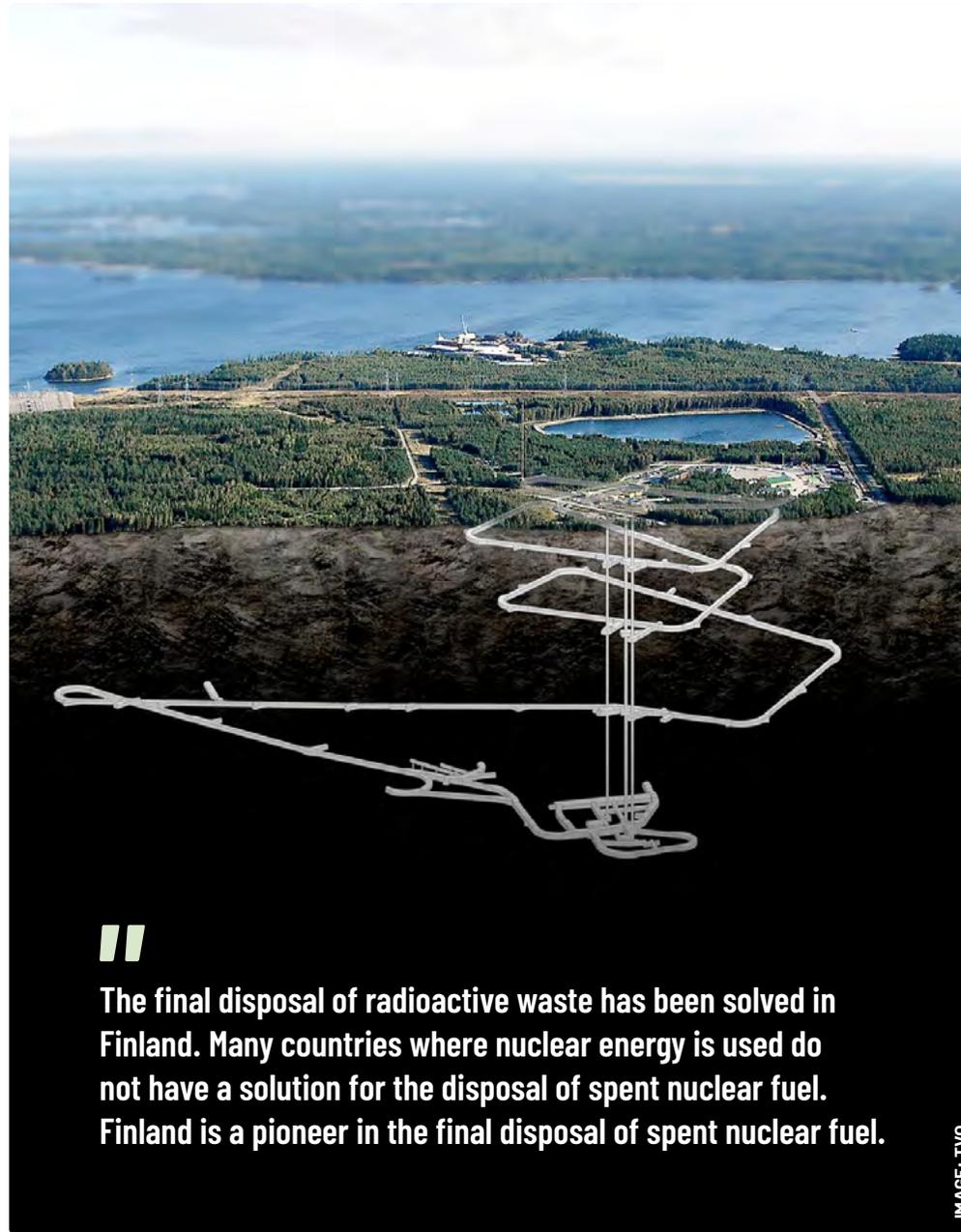
When produced in a responsible way, nuclear power is an environmentally friendly and safe way of producing electricity throughout its lifespan. The lifespan of nuclear power plants is several decades, and they produce completely zero-emission electricity in a similar manner to hydropower and wind power.

### Nuclear power is an important ingredient in the future of zero-emission electricity production

Nuclear power does not generate greenhouse gas emissions or air pollutants. The difference between nuclear power and wind and solar power is the fact that nuclear power is not dependent on the weather.

For approximately 40 years, Teollisuuden Voima Oyj (TVO) has produced nuclear power for EPV from Olkiluoto 1 and 2 nuclear power stations. In 2023, nuclear power made up 51.2 per cent of EPV's electricity generation. Nuclear power has been the largest single form of energy generation in EPV's production portfolio for some time and its role is strengthening further. The commissioning of Olkiluoto 3 significantly increased EPV's emission-free production. EPV's generation resources increased by 160 MW and our annual nuclear output will increase by more than one terawatt-hour in one go.

The Radiation and Nuclear Safety Authority (STUK) granted permission to start the Olkiluoto 3 EPR reactor in December 2021. During 2022, OL3 commissioning continued with tests in stages where the reactor was at different capacities until the reactor reached its full capacity. Nuclear power plays a crucial role in electricity generation in Finland and in achieving zero-emission targets. Currently, a good third of Finland's electricity generation is produced with nuclear power. The IPCC climate report has raised a great deal of debate about nuclear power once again. Nuclear power and hydropower are currently the most important forms of emission-free electricity production. For example, approximately 50 per cent of Europe's emission-free electricity production is generated with nuclear power. One of the key arguments for building more nuclear power facilities is that it will facilitate the achievement of climate targets.



**The final disposal of radioactive waste has been solved in Finland. Many countries where nuclear energy is used do not have a solution for the disposal of spent nuclear fuel. Finland is a pioneer in the final disposal of spent nuclear fuel.**

IMAGE: TVO

### The construction of a permanent repository for nuclear waste is on the home stretch

The final disposal of radioactive waste has been solved in Finland. Teollisuuden Voima Oyj and Fortum Power and Heat Oy established Posiva Oy to carry out research on the final disposal of the spent fuel rods from their nuclear power stations and to implement the disposal in practice. The spent nuclear fuel will be permanently disposed of deep in the bedrock of Olkiluoto in Eurajoki.

Finland is a pioneer in the final disposal of spent nuclear fuel. Many countries that use nuclear energy have final disposal facilities for low and intermediate-level waste, but no other country has started the final disposal of high-level spent nuclear fuel. The final disposal solution for spent nuclear fuel in Finland has been planned with highly detailed precision. Posiva has proceeded purposefully towards the implementation of this final disposal while keeping to the schedule, because it is time we take responsibility and stop putting off the decision and trusting that future generations will take care of it.

### Posiva has applied for an operating licence for an encapsulation and final disposal facility for spent nuclear fuel

At the end of December 2021, Posiva, submitted an application to the Finnish Government for a licence to operate an encapsulation and final disposal facility for spent nuclear fuel. Excavation of the final disposal tunnels started in 2021 and the construction of the encapsulation plant were already started in Olkiluoto in 2019.

After 30–50 years of storage, the spent nuclear fuel will be transported to the encapsulation plant where it will be dried and enclosed in hermetically sealed



canisters designed for final disposal. The canisters will be placed in the disposal tunnels in the bedrock of Olkiluoto. The final disposal of nuclear fuel is scheduled to start in the mid-2020s. If everything goes to plan, Posiva will be the first company in the world to start nuclear waste disposal.

### **Nuclear power companies are responsible for nuclear waste management**

The responsibility for nuclear waste management belongs to nuclear power companies, whose duty it is to take care of the actions necessary in managing nuclear waste and to bear the costs of these actions. In accordance with the Nuclear Energy Act, nuclear waste generated in Finland must be handled, stored and permanently disposed of in Finland, and nuclear waste from other countries must not be imported.

Plenty of time has been reserved for the preparation and practical implementation of final disposal. Thor-

ough preparations and careful implementation will ensure the safety of the final disposal measures taken.

### **Hydropower producer actively maintains and develops water environments**

Our associated company, Pohjolan Voima Oyj (PVO), produces hydroelectric power in Finland. The company actively manages and develops the aquatic environment, for example through bank restoration, fish stocking and the capture of fish in the lower reaches and their release higher upstream, as well as by cooperating in projects that aim to restore migratory fish stocks.

EPV is also a part owner of Voimapiha Oy, which delivers renewable energy from Swedish hydroelectric power plants to its shareholders. Voimapiha is also indirectly involved in Sweden's hydroelectric power fund, which began its activities in early 2019. The hydroelectric power fund's shareholders are

responsible for 95 per cent of Sweden's hydropower production. Hydroelectric power plants will be able to apply for funding from the fund for new environmental investments. In 2023, hydroelectric power represented 7.5 per cent of EPV's power procurement.

### **New electric boilers and the expansion of our thermal energy storage facility put us firmly on the road towards emission-free heat production**

The new electric boilers and the extension of the thermal energy storage facility were commissioned in October 2023 in Vaskiluoto, Vaasa. The new heat generation solutions will perfectly support EPV's strategy and promise of emission-free and flexible energy generation and consumption. Together, the electric boilers and TES facility will contribute to the clean heat production system of the future and are an essential part of the company's peak load reserve. In addition to demand response, these new investments will reduce CO<sub>2</sub> emissions from production.

With the heat the electric boiler produces and using the thermal energy storage facility, we can optimise the heat loads and shutdown periods of the Vaasa power plant better than ever. Additionally, the electric boiler allows the power plant longer shutdown periods. Together with thermal energy storage optimisation, this creates significant benefits and improves the usability of the power plant system's heat generation.

Correspondingly, the energy produced by the electric boilers will reduce fuel consumption. As the need for fuel decreases, the company can reduce the area in which bioenergy is sourced, which will result in fewer transport kilometres. In addition, the most challenging fuel fractions in the available fuel range can be eliminated. This will free up bioenergy frac-

tions for further processing, to a higher degree of refinement, and promote sustainable development also in other sectors. By replacing combustion with electric boilers, climate emissions in electricity generation are reduced, thus contributing to achieving Finland's and the EU's climate targets.

The electric boilers and thermal energy storage facility commissioned in Vaskiluoto, Vaasa, in 2023 led to the creation of the largest electric boiler/thermal storage combination in Finland. Vaskiluoto is a mega-scale project that already combines different energy sectors in an excellent way. The plant's storage capacity rose to as much as 11 GWh and its electric heating capacity to 160 MW.

### **Thermal energy storage caverns bring flexibility to energy production**

2023 was the third year that the Vaskiluoto thermal energy storage (TES) facility, owned by Vaasan Voima, was in full operation. The TES facility was used to optimise production and it proved to work as planned. The facility enabled the Vaskiluoto power plant to reduce its output when the market price of electricity was at an unprofitable level. The shutdown of the power plant during a heat supply period is also made possible by the TES facility.

The TES facility will diversify the region's heat supply now and in the future. The power plant will carry out charging, and heat will be discharged from the TES system to be used in the region's district heating network. The TES facility acts as an optimisation tool within EPV's energy generation portfolio.

- The total capacity of the caverns used for thermal energy storage is 210,000 m<sup>3</sup> (comprising two thermal storage caverns with a capacity of 150,000 m<sup>3</sup> and 60,000 m<sup>3</sup>)

- The TES facility has a charge and discharge capacity of 110 MW

The extension of the thermal energy storage facility was completed in 2023. The expansion of the facility involved making use of a second cavern of 60,000 m<sup>3</sup>, which will increase the facility's capacity by about 40 per cent.

In the future, the TES facility can be utilised regardless of the production method. The flexibility afforded by the facility is a key factor in EPV's energy generation system and will continue to be, even after the life cycle of the current plants has come to an end. The technology constructed on the site will be easy to modernise and adapt for new purposes as required. For example, the potential future hydrogen project will be connected to it, and the cavern fluid can be heated using wind, solar or some other renewable energy source, while utilising electric boiler technology.

### **EPV's 12 MW electric battery at Teuva wind farm has been completed**

2023 saw the completion of EPV's first electric battery at the Teuva wind farm. The power capacity of the electrical energy storage facility built on the site is 12 megawatts and its energy capacity is 12 megawatt-hours. The new electrical energy storage facility excellently supports EPV's New Electricity Revolution strategy, which has renewable electricity at its core. As more and more electricity is produced from renewable energy, the storage is needed. Different energy storage solutions support and bring flexibility to the electricity system. The battery storage facility will enable more flexibility and bring much-needed, fast balancing power to the power system. If, for example, we were to experience

a major grid failure or an energy production resource were to drop out of the grid unexpectedly, the battery energy storage facility would secure the balance of the electricity system. The battery is still waiting to be connected to the national grid, which will take place in 2024.

### **Tornion Voima continued cooperation with Outokumpu**

The close energy cooperation between Tornion Voima and Outokumpu continued in 2023. The part of their cooperation focused on energy efficiency was extended with the decision to build a 40 MW electric boiler in Tornio. The boiler will become operational at the beginning of 2024.

A plan for emission-free production has also been drawn up for Tornion Voima. The plan looks at what strategic changes should be made to enable the company to move to zero-emission production. The fuels currently used are industrial gas, biomass and peat. The new plan focuses in particular on measures that could help to phase out the use of peat.

### **Power plants taking part in the Energy Efficiency Agreements programme**

All the CHP plants owned by EPV have already been part of the Energy Efficiency Agreements programme for years. These plants include:

- Vaasa power plant
- Seinäjoki power plant
- Tornio power plant

The Energy Efficiency Agreements programme actively drives us to seek out areas in which we can improve our energy efficiency. With the resulting

measures, we are improving the efficiency of our power plants, which can be seen in falling emissions and greater cost savings.

### **Seinäjoki and Vaasa power plants were audited in accordance with environmental management systems and energy efficiency certifications**

In addition to the Energy Efficiency Agreement, the Seinäjoki and Vaasa power plants have been granted certifications for their environmental management systems (ISO 140001:2015) and the ETJ+ Energy Efficiency Management System. In 2023, both power plants underwent external audits for certification. The audits were carried out by the internationally accredited certification body and classification society DNV.

In 2023, a periodical audit was carried out at the Seinäjoki power plant for both its environmental management system (ISO 140001:2015) and the ETJ+ Energy Efficiency Management System. Vaasan Voima had its ETJ+ and ISO14001 systems re-audited after full ownership of the power plant was transferred to EPV at the beginning of 2023 as a result of a business transaction, and the certificates had to be transferred from Vaskiluodon Voima to Vaasan Voima. The audits for both power plants were completed without any anomalies.

### **Audits maintain energy efficiency and responsibility and improve operations**

In addition to external auditing, EPV carries out internal targeted auditing directed at EPV's subsidiaries. EPV's audit programme is updated every three years to ensure that the audits are as systematic and comprehensive as possible. The programme

includes at least one audit of each majority-owned subsidiary and a site audit of each active construction site. The audit programme sets out the overall objectives for the audit period. The programme was updated in autumn 2023 for the period 2024–2026.

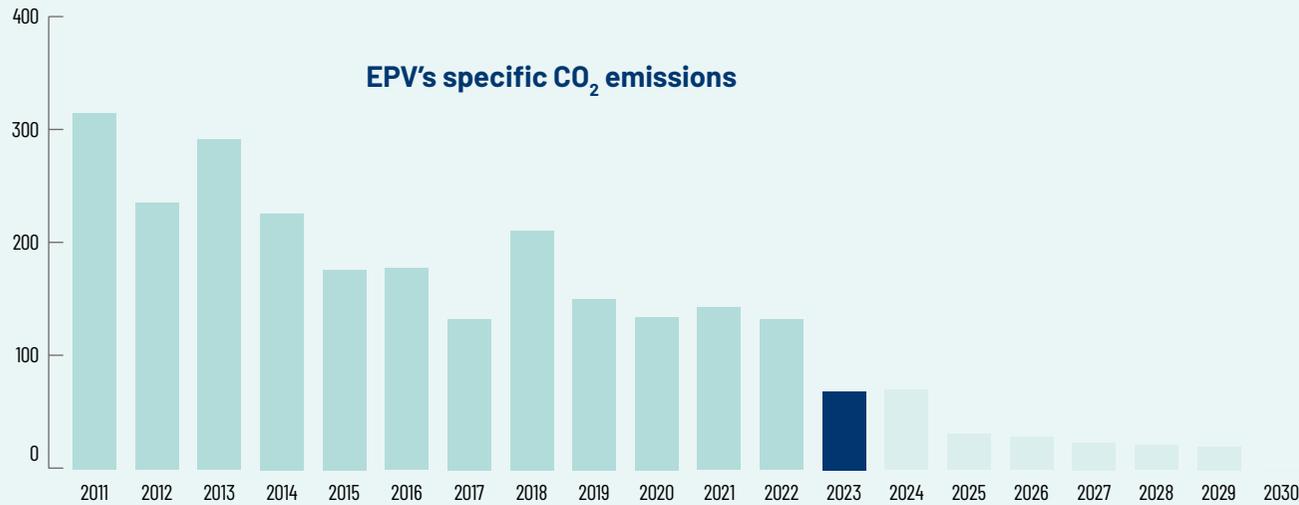
In 2023, ten internal audits were carried out in the company focused on, for example:

- the company's wind power plants under construction and already in use
- the energy-efficiency of power plants and the safety of construction projects
- a substation construction site
- a peat production area

Audits are used to monitor the responsibility of the Group companies' operations. The audit results can also be utilised to standardise different companies' practices. When planning audits, any statements and complaints made by public authorities concerning the object of the audit are taken into account, as are any observations made about accidents and hazardous situations.

The audits are reported and the target company's representatives and main contractors operating in the area are notified at a sufficient level about the results of the audits. The implementation of any necessary corrective actions is monitored by EPV Energy and, when needed, through additional inspection visits.

# Carbon neutral energy generation by 2030



- 2011** Röyttä wind farm
- 2012** Increasing the use of biomass in Tornio and Seinäjoki
- 2013** Vaasa gasification plant
- 2014** Hydropower from Sweden
- 2015** Torkkola wind farm and extension of the Röyttä wind farm; Coal condensing capacity decreases (Kristinestad 2 and Tahkoluoto)
- 2016** Santavuori wind farm
- 2016** Metsälä wind farm
- 2018** Metsälä wind farm
- 2019** The last coal condensing plant decommissioned (Meri-Port)
- 2020** Norwegian hydropower lease expires

- 2020** Commissioning of the TES facility at the Vaasa power plant
- 2022** Increase in wind power capacity: Teuva,
- 2023** Olkiluoto 3, Increase in wind power capacity: Närpiö
- 2025** Change in the operation of the Vaasa and Seinäjoki power plants
- 2026** Solar park I, wind power Metsälä II
- 2026** Increase in wind power capacity: Laihia
- 2027** Increase in wind power capacity: Simo
- 2028** Solar park II, Increase in wind power capacity: Kuusamo
- 2029** Increase in wind power capacity: Kiiri
- 2030** Solar park III, Increase in wind power capacity: Maanahkiainen

# Emissions

EPV is part of the EU Emissions Trading Scheme, which aims to promote the reduction of carbon dioxide emissions.

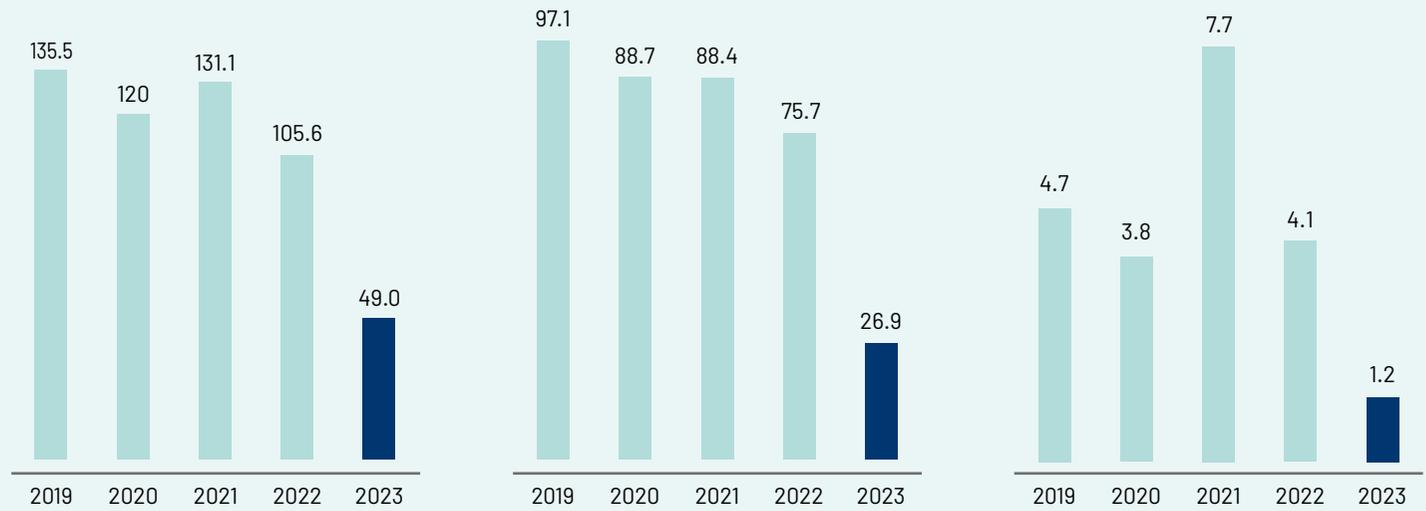
EPV's CO<sub>2</sub> emissions come from the use of fossil fuels in energy generation. EPV's strategic goal is to reduce emissions from its energy production in such a way that its operations are carbon neutral by 2030. EPV does not contribute to emission offsetting, but aims to reduce emissions through its own activities.

It also monitors other air emissions such as nitrogen, sulphur and particulate emissions under the terms of its permit. The amount of these emissions is shown in the adjacent table.

In 2023, CO<sub>2</sub> emissions from EPV's electricity supplied to our shareholders were 0.33 million tonnes, which is 38 per cent less than the previous year. Up to 94.3 per cent of the EPV's electricity production last year was free from CO<sub>2</sub> emissions. The share of renewable energy sources was 39.1 per cent of the total electricity generated, and domestic fuels covered 92.1 per cent.



**The average emissions of the electrical energy acquired through generation shares in 2023**



**Nitrogen oxide emissions, mg/kWh**

**Sulphur dioxide emissions, mg/kWh**

**Particle emissions, mg/kWh**

# EPV Energy's Scope 1-3 emissions 2023



## EPV Energy's Scope 1 emissions

Scope 1 emissions cover the company's direct emissions. EPV's Scope 1 emissions come from its electricity and heat generation plants and from emissions from electricity purchased on the market.

In 2023, the average carbon dioxide (CO<sub>2</sub>) emissions of the electricity procured by EPV were 69.5 g/kWh. This is significantly less than in the previous year.

**In 2023, the average carbon dioxide emissions of the electricity procured by EPV were 41% less than the previous year**



## EPV Energy's Scope 2 emissions

Scope 2 emissions cover the emissions from the energy consumed by the company. EPV's Scope 2 emissions are mainly generated at EPV's three CHP plants in Vaasa, Seinäjoki and Tornio, as well as at electricity distribution facilities and other company sites.

In 2023, an energy audit was carried out for EPV. The audit is carried out every four years in accordance with the Energy Efficiency Act (1429/2014). The purpose of an energy audit is to obtain information on the energy consumption profile of the Group or company, identify energy saving opportunities, determine the amount of energy saved and report on the results of the audit. The energy audit was carried out for the whole Group, taking into account all its energy uses, including buildings, industrial and commercial activities and transport. The energy audit showed that EPV's CHP plants account for 99 per cent of the Group's total energy consumption.



## EPV Energy's Scope 3 emissions

Scope 3 emissions cover a company's indirect emissions from sources not directly owned by the company. In 2023, EPV examined its potential Scope 3 emission sources. EPV discovered that its main potential Scope 3 emissions come from activities such as transporting biofuels, building wind and solar farms, recycling waste and transporting waste.

EPV is reporting its Scope 3 emissions for the first time. The most significant share of EPV's Scope 3 emissions in 2023 came from the transport of biofuels to power plants.

# Social responsibility

Together with its personnel and partners, EPV is creating a cleaner world.

The importance of our work is evident every day, for example, in:

- declining emissions
- the growth of renewable energy
- secure energy production and distribution
- projects involving new technologies

These development paths are a concrete representation of the high-level skills and competence of our personnel.



**The importance of our work can be seen, for example, in falling emissions**



# Personnel

EPV invests in its employees' well-being, occupational safety and professional development.

EPV offers its staff interesting and varied duties and opportunities to improve their skills in their work and profession. Motivated and committed personnel are particularly valuable for the efficient functioning of EPV's operations. EPV applies an HR and remuneration policy as well as a Code of Conduct that each guide our human resource management activities and ensure that EPV complies with international and national legislation and agreements. As a matter of policy, we treat all our employees fairly and equally and do not accept child or forced labour. We expect our suppliers to also follow these principles.

EPV aims to ensure the commitment, motivation and continuous development of our personnel. At EPV, we are constantly working to ensure the well-being and comfort of all our staff. As part of the monitoring of our employees' job satisfaction, we carry out an annual staff survey. The latest staff survey was carried out in the autumn of 2023 in cooperation with Promenade Insight. The vast majority, 83 per cent, of the Group's staff participated in the survey. Importantly, at Group level, all metrics improved. Overall, staff experience at EPV is well above the average for energy sector organisations, and the excellent overall score has risen from last year to 4.14 (2022: 4.01).

As last year, our staff strongly associates EPV with reliability and stability. Compared to the 2022 survey, the perceptions of flexibility and fairness are now more prominent. Our strengths include our positive employer image, supervisory work, well-being at work and team spirit. Of all the statements made, those mentioning supervisory work in a positive light were the largest in number. In 2023, we used the Employee Net Promoter Score (eNPS) index for the first time to measure how likely our employees are to recommend our company as a good place to work, and we received an excellent score of 60. In the future, eNPS will be one of our Group-level indicators. The feedback from the survey will be used in the development of our operations to further reduce negative impacts on staff well-being and to identify and reinforce the positive aspects.

## The Group's broad know-how is highly valued

In line with our strategy, we want to make sure that we keep pace with, and ideally stay at the forefront of, the changes and transformations in the sector. Maintaining the know-how of EPV's personnel plays a key role in ensuring the profitability of the Group's business activities and maintaining the continuous development of its operations.



## Employee experience at EPV is well above the average for energy sector organisations

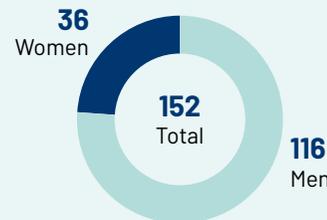
We had already created specialised teams around key technology areas back in 2021 to bring together people from across the Group and across organisational boundaries. This allows us to bring together the people with the most relevant and advanced expertise in each technology to work on specific issues. We also aim to optimise our use of the know-how capital available and the sharing of knowledge and good practices between the teams. In 2023, the technology teams were very active and created significant new development ideas, some of which are already in full swing or nearing implementation. One notable example is the development of an industrial-scale solar power project which ultimately led to an investment decision.

EPV encourages its personnel to seek training and take part in events that support their professional development. Training opportunities can be explored together during Energy Discussions, which are held with each employee at least twice a year. In 2023, EPV staff have received an average of 3 days of training per person. Energy Discussions take place between the employee and their supervisor or manager, who together set and monitor goals for the coming year and for personal development. Energy Discussions are a great opportunity to give feedback and discuss in more depth issues such as well-being at work, work motivation and employee commitment.

In 2023, EPV increased its staff by 35 people. The biggest single reason for the increase in the number of employees was the transfer of more than 20 people from Vaskiluodon Voima Oy to Vaasan Voima Oy on 1 January 2023. During the year, 2 people in the Group retired and 4 resigned. On the last day of the year, the EPV Group employed 157 people. EPV also has “framework agreement employees” whose work arrangements are agreed upon when required. In 2023, the Group employed 4 people under a framework agreement. During the year, around 5 per cent of staff were on parental leave. The average length of service at EPV is 13.5 years and the average age of staff is 45 years. 25 per cent of our personnel are women. EPV operates in many locations, but most of its staff work in Ostrobothnia. EPV Energy’s Board of Directors had 10 members, including one woman, and 5 deputy members. EPV Energy’s Management Team consists of 6 people, one of whom is a woman.



**Number of regular staff**



**Average age of staff**



**Equality**

Equality is an important value for EPV. EPV complies with labour legislation and collective agreements in the energy sector and the Group upholds the right to belong to a union. Our staff policies emphasise the importance of equality.

There must be no inequality between people on the grounds of sex, age, religion, family status or any other personal factor as regards remuneration, rewards, organisational changes, training, recruitment or any other workplace activity. Discrimination in any form is not tolerated and equality is continuously assessed by HR. Our equality and non-discrimination plan is included in the Group’s joint workplace development plan. The plan is reviewed and updated annually together with staff groups. In terms of pay, EPV follows the collective agreements in the energy sector. A person’s salary is determined individually on the basis of an employment contract and as a contractual salary, taking into account job demands, the person’s qualifications and the provisions of collective agreements in the energy sector. Between similar jobs with similar duties, there is no gender pay gap in pay at EPV. Across the board and across a range of jobs and employee groups, EPV Group’s level of pay is good compared to the pay level shown in the statistics compiled by Finnish Energy.

In 2023, EPV has introduced an anonymous reporting channel, the Whistleblow Channel. Through this whistleblowing channel, it is possible to report suspected misconduct and unethical behaviour. The channel can be used by EPV’s own employees, suppliers, customers and other stakeholders. The whistleblower will be legally protected against any retaliation.

The companies in the EPV Group engage in collaboration based on continuous dialogue. The cooperation groups of each company meet both in structured meetings and for informal open discussion outside the meeting cycle.

**Well-being at work**

All EPV companies offer their staff very comprehensive occupational health care services and insurance cover. Active attention is paid to well-being at work, and discussing well-being at work with a supervisor or manager is an essential part of the Energy Discussions.

In 2023, we invested in well-being at work by introducing a comprehensive cultural, physical activity and well-being benefit, which also allows staff to access dental care and massage, for example, according to their needs. We also introduced a employment bicycle benefit in 2023 to encourage our personnel to get more exercise.

Events, lectures, etc., related to well-being at work, are organised on a locality-specific basis. For example in the Vaasa region in 2023, a hiking expedition was organised through a magnificent nature site in Korsholm.



**Between similar jobs with similar duties, there is no gender pay gap in pay at EPV**

# Safety at work

EPV strives to take exemplary care of occupational safety matters. The company's goal is to build for its own employees and contractors a working environment in which occupational accidents do not occur.

EPV's goal is to provide an exemplary approach to occupational safety. Occupational safety work and planning are carried out by the head of occupational health and safety and the Health and Safety Committee. The Committee has 7 members, 4 of whom are health and safety representatives and deputies elected by the staff. The other members of the Committee are the Vice President of Sustainability, the Head of Occupational Health and Safety, and the Human Resources Manager. The main task of the Health and Safety Committee is to improve occupational safety throughout the Group and to support the development of safety at work.

During the year, the project on harmonised reporting on occupational safety was continued. The project was completed in the autumn of 2023 and the roll-out of the programme started in November. A key aim of the project was to lower the threshold for making safety observations and reporting accidents. The reporting of observed incidents makes it possible

to prevent accidents. By correcting deficiencies in safety, accidents can be prevented. The information from the programme can be used for the continuous development of occupational safety. The programme allows the reporting of these topics among others:

- occupational accidents
- near misses
- serious occupational accidents
- accidents on the way to and from work
- dangerous situations
- safety observations

EPV's accident frequency target for 2023 was < 5 for its own staff. The accident frequency rate is the ratio of the number of accidents that result in absence from work per million hours worked. The combined target for the whole Group, including partners, was to achieve a lower rate than the latest average in Finnish Energy's statistics. In 2023, the average accident frequency rate reported by Finnish Energy was 7.

EPV's accident frequency includes all accidents for both its own staff and contractors, including zero-accidents and accidents on the way to and from work. In 2023, the accident frequency rate was 7.5 per million hours worked. The number of accidents involving EPV's own staff was 0. From 2024 onwards, EPV will reduce its accident frequency in line with Finnish Energy's calculations. The safety figures are shown in the table on page 67.



## Continued investment in cybersecurity

Energy is a strategic factor in society. Its crucial role makes it an attractive target for different types of actors. In 2022, Russia's invasion of Ukraine, the geopolitical situation and its impact on energy markets have further underlined this. There has also been a trend in 2023 which shows that energy companies and their partners are under attack around the world.

In the current energy revolution, digitalisation is increasing, and systems and equipment are becoming increasingly integrated into larger and larger real-time entities. They are required to be extremely reliable. The role of small consumers as part of this system will also increase in the current decade, and electricity consumption will be integrated into the management of the electricity system.

Cybersecurity is closely linked to all EPV's operations and their development. It must be taken into account right from the design stage, and maintained and developed during the operational phase. This is an indispensable and critical area of activity to which EPV paid particular attention in 2023, as always.



**In 2023, there were no accidents involving EPV's own staff**

# Public relations

We strive to be a good citizen by managing our relations responsibly with various actors in society.

We work closely together with our stakeholder groups in many matters concerning sustainable development, and we maintain an active dialogue and utilise it in further developing our activities.

Our most important stakeholders are:

- shareholders
- employees
- investors
- decision-makers
- public authorities
- landowners
- local business owners and partners
- local communities
- educational establishments

Proper and effective collaboration with decision-makers and public authorities creates a better framework for business activities and helps us to streamline projects, which is crucial to our strategy of New Electricity Revolution. Our strategy calls for investment in new clean electricity and heat generation and in the transmission of energy to the point of consumption. Policy makers and public authorities have an important role to play in creating a favourable environment for investment and enabling our projects, from the planning phase to the permit process.

## EPV's strategic lobbying priorities promote clean energy transition

At the end of 2023, we compiled a lobbying strategy to promote a sustainable energy future in a more systematic way. The strategic focus of our lobbying is to create the conditions for new energy projects, which are a key part of a clean transition. We stress the importance of a technology-neutral and long-term energy policy and smooth licence procedures to boost investment.

The transition to a cleaner energy system must be well managed to ensure security of supply. Alongside new investments, it is therefore important to ensure the viability of existing production capacity. During the transition period, our objective is to secure a controlled reduction in CHP generation and fuel consumption in order to ensure sufficient energy generation and business profitability. In addition, the conditions for nuclear, wind, hydro and solar power generation are important to us as a company.

Alongside electricity generation, a strong electricity grid is at the heart of clean transmission, enabling uninterrupted transmission of electricity to consumers. EPV Alueverkko Oy (EPA) is a nationally licensed network operator with a 110 kV high-voltage distribution network. We are lobbying to promote the ability of our electricity transmission business

to continue to support clean energy solutions by investing in them.

Comprehensive risk management is part of EPV Energy's management system, in which lobbying remains a key part of our risk management toolbox. The role of lobbying is to manage political risks, reputational risks and regulatory risks to projects.

## We work in a network to influence industry developments

We rely mainly on industry associations for political influence. Nevertheless, we have been preparing for the introduction of a transparency register set up by the National Audit Office of Finland (NAOF). We are committed to Finnish Energy's Sustainable Lobbying Principles, on the basis of which our lobbying:

- is open, honest and ethical
- is based on strong expertise and facts, with integrity built in

We do not give gifts that may influence decision-making or lead to some form of dependency between the parties.

As a member of trade associations, we are involved in public debate and striving to influence opinions. The main organisations guiding the development of the energy sector are Finnish Energy, the Energiakaupungit Association, the Bioenergy Association of Finland and the Finnish Wind Power Association. We are members of all of them and our staff hold positions of trust in them. Membership of the World

Energy Council (WEC) Finland also provides us with valuable information, as does participation in Hydrogen Cluster Finland, a network of companies and industry associations. By participating actively, we always stay up to date on the latest developments in the sector and the operating environment.

The development of the electricity market is part of the sustainable development of the energy sector, in which we participate not only through industry associations but also through the workgroups of Fingrid and e-Sett.

We are also an active member of the National Emergency Supply Agency through which we aim to ensure our country's security of energy supply. We are a member of the National Emergency Supply Agency's Energy Supply Sector and Heat Pool Committees.



**Alongside new investments, it is important to ensure the viability of existing production capacity**

# A major electricity distributor serving its country

We transmit electricity from the main grid and power plants to electricity distribution companies and other major end-users.

Because a well-functioning energy distribution and transmission network is critical for today's society, the company is always prepared for various crises by the construction and maintenance of its network infrastructure. Detailed instructions have been compiled beforehand for potential major outages.

## 24-hour capability requirements of the network code were met

EPV is one of the significant network users defined by the Finnish transmission system operator Fingrid and is subject to the EU Network Code for Emergency and Restoration (NC ER). This code sets a 24-hour capability requirement for all substations that

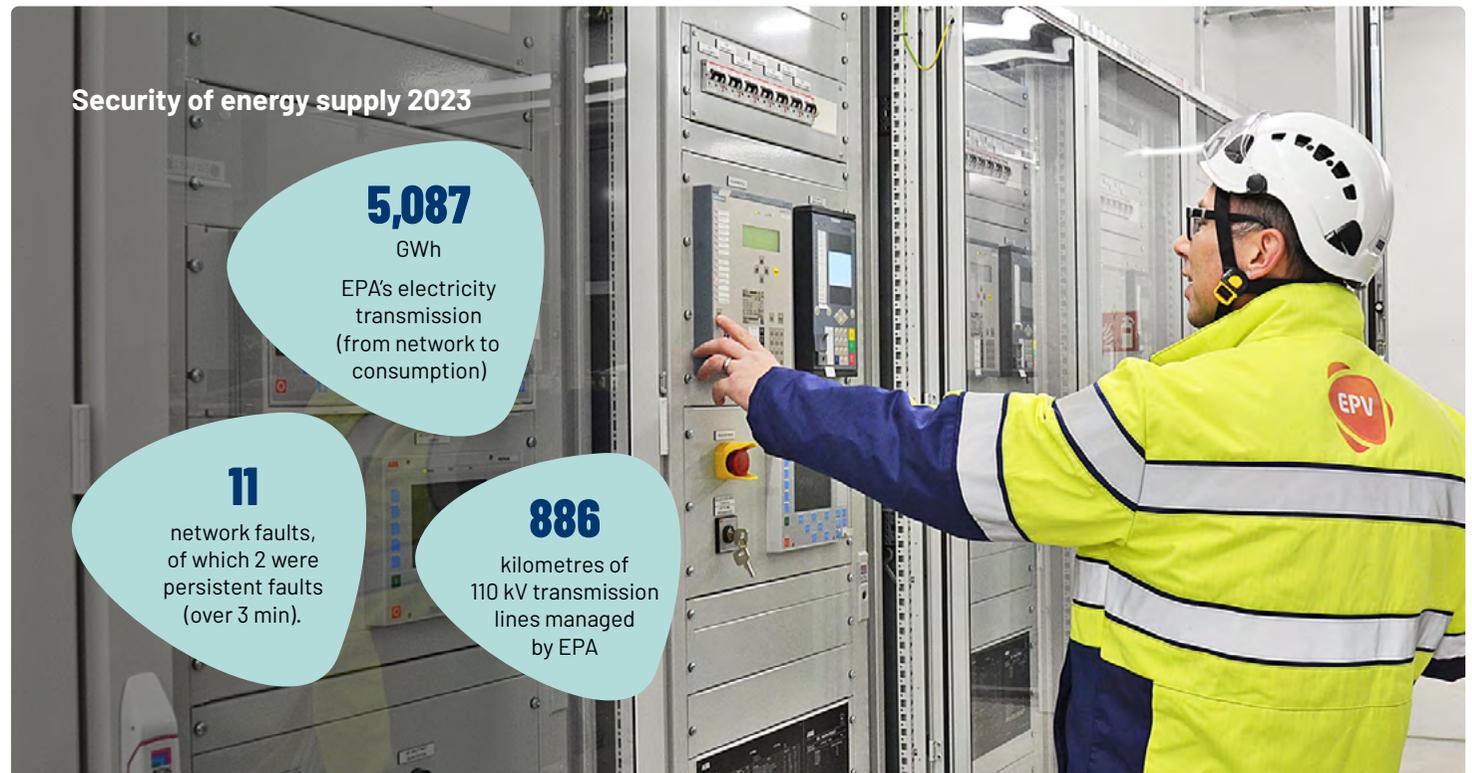
transmit electricity from generating plants of over 30 megawatts (MW) to the grid. This is to ensure a controlled restoration of the power system in the event of a major national disturbance.

EPV meets the requirements of the NC ER for substations in its network that Fingrid has identified as significant.

EPV Alueverkko Oy (EPA) is the largest high-voltage (110 kV) distribution network company in Finland. It transmits energy in Ostrobothnia, South Ostrobothnia, Kokkola and the Tornio region, as well as from Pohjolan Voima's Iijoki hydropower plants to the grid. EPV Teollisuusverkot Oy is a company owned by EPV Energy and Outokumpu and it owns the 400 kV and 110 kV transmission lines and the 400/110 kV high-voltage line transformer located in Tornio.

We continuously invest in our electricity grid infrastructure to ensure it is able to transmit more and more energy produced with wind power. Our investments and modernisations also contribute to the continuity of supply and the safety of the power we provide. We take care of the maintenance of the infrastructure according to the life cycle of the equipment.

The electricity grid's power control system is at the heart of our operations. The volume of data transfer has grown and will continue to grow in the future. Today, information mainly travels through optical fibres instead of copper. Optical fibres in turn run from one substation to another. Well-functioning and sufficient data transfer enables the efficient and continuous supervision and operation of the system.



# UN goals

EPV contributes to the promotion of several of the UN's Sustainable Development Goals (SDGs).

Agenda 2030 sets out 17 goals, nine of which we are actively working towards:

- Affordable and clean energy;
- Industry, innovation and infrastructure;
- Climate action;
- Gender equality;
- Decent work and economic growth;
- Responsible consumption and production;
- Life on land;
- Peace, justice, and strong institutions
- Partnerships for the goals.

We divided the goals into main goals and other goals. The main goals are central to EPV's activities and strategy. EPV's main goals are the first three. The other goals are important to EPV's operations and core values within our sustainable business activities. The main goals are presented on this page. [You can read more about the other goals on our website.](#)



**We aim to produce 100%  
emission-free electricity by 2030**



**GOAL 7:**  
**To ensure affordable, reliable, sustainable and modern energy for all.**

We produce competitive and clean energy for society and our owners. Our investments will improve electricity generation, its efficiency, electricity storage and the transition from fossil fuels to renewable ones. We are one of the pioneers in the Finnish market. We aim to produce 100 per cent emission-free electricity by 2030. New electricity is the key enabler on the road to a new zero-emission world. This idea is highlighted in EPV's New Electricity Revolution® strategy.



**GOAL 9:**  
**To build sustainable infrastructure and promote sustainable industry and innovation.**

EPV builds and develops sustainable energy solutions that are vital for society. Our forms of production enable responsible energy consumption and sustainable industry. We encourage our staff and partners to innovate and propose new solutions for the future energy market.



**GOAL 13:**  
**To take urgent action against climate change and its impacts.**

Our key objective is to enable a green energy transition. Through zero-emission energy production and continuous innovation, we reduce our impact on the climate.

We produce eco-friendly electricity for industry and our shareholders, while ensuring safe and reliable power generation for the future.

# CSRD

For the first time, EPV Energy reports its sustainability figures in line with the CSRD. The historical figures in the tables only show the company's previously reported figures.

	2023	2022	2021	2020	2019
<b>Our personnel</b>					
<b>Our entire personnel</b>	157				
<b>Number of staff, regular</b>	152				
Men	116	77%	92 persons, ca. 78%	89 persons, ca. 78%	80 persons, ca. 75%
Women	36	23%	27 persons, ca. 22%	25 persons, ca. 22%	26 persons, ca. 25%
<b>Number of staff, temporary</b>	1				
Men	0				
Women	1				
<b>Number of staff, part-time</b>	6				
Men	1				
Women	5				
<b>Zero-hour employees, number</b>	4				
<b>Average age of staff, years</b>	45	45	approx. 45	46	45
under 30 years	12				
30–50 years	89				
over 50 years	56				
Persons with disabilities (%)	0				

<b>Employee's home region</b>					
Ostrobothnia	79				
South Ostrobothnia	39				
Uusimaa	6				
Lapland	27				
Other	6				

	2023	2022	2021	2020	2019
<b>Staff turnover</b>					
Group employees on average	155	122	118	114	106
Average length of service, years	14	14	approx. 13	approx. 11	approx. 14
<b>New employees</b>	17				
Men	12				
Women	5				
<b>Parental leave</b>	8				
Men	4				
Women	4				
Income turnover	12.10%				
Number of employees who have left	6				
Exit turnover	3.80%				
Number of retirees	2				
Average age of retirees	64				

<b>Top management</b>					
<b>Board of Directors</b>					
Men, number	14				
Men, %	93				
Women, number	1				
Women, %	7				
<b>Management Team</b>					
Men, number	5				
Men, %	83				
Women, number	1				
Women, %	17				

# CSR

	2023	2022	2021	2020	2019
<b>Training</b>					
Training days (8h)/person	440				
Total training hours	3,205				
White-collar workers	376				
Men	304				
Women	72				
Employees	1,923				
Men	1,822				
Women	101				

<b>Equality</b>					
Reports of discrimination	0				
Whistleblower reports	0				
Amount of fines (Social)	0				

<b>Corruption</b>					
Corruption or bribery incidents	0				
Fines for corruption or bribery	0				
Incidents of corruption or bribery against own staff	0				
Business partner contracts terminated due to corruption or bribery	0				

	2023	2022	2021	2020	2019
<b>Safety at work</b>					
Hours of work EPV	255,088				
Hours of work, contractors	278,347				
<b>Accident frequency rate EPV</b>	0	0	4.34	9.19	??
Accident frequency rate EPV + contractors	7.50	10.84	15.81	10.44	8.59
Accident frequency rate, contractors	14.37				
<b>Number of accidents, EPV</b>	0				
<b>Number of days of absence</b>	0				
<b>Number of fatal accidents</b>	0	0	0	0	0
<b>Frequency of working days lost</b>	0				
<b>Frequency of occupational diseases</b>	0				
<b>Accidents to contractors</b>	4				
<b>Number of audits performed</b>	4				
Internal audits	10	12	9	11	9
External audits	2	2	2	2	2

# CSR

	2023	2022	2021	2020	2019
<b>Electricity production</b>					
<b>Non-renewable energy sources</b>					
Coal or coal-based	1.7%				
Crude oil and other petroleum products	0%				
Liquefied natural gas	0%				
Other non-renewable energy sources	3.9%				
Nuclear power	51.2%				
Electricity, heat, steam from non-renewable sources, purchased or otherwise acquired	3.9%				

<b>Renewable energy sources</b>					
Renewable energy sources (biomass, biogas, hydrogen)	5.4%				
Electricity, heat, steam from renewable sources, purchased or otherwise acquired	0%				
Energy sources without fuel (wind, water, solar)	33.8%				

<b>Electricity consumed (MWh)</b>					
<b>Non-renewable energy sources</b>					
Coal or coal-based	34.0%				
Crude oil and other petroleum products	0%				
Liquefied natural gas	0%				
Other non-renewable energy sources	7%				
Nuclear power	0%				
Electricity, heat, steam from non-renewable sources, purchased or otherwise acquired	0%				

	2023	2022	2021	2020	2019
<b>Electricity consumed (MWh)</b>					
<b>Renewable energy sources</b>					
Renewable energy sources (biomass, biogas, hydrogen)	59%				
Electricity, heat, steam from renewable sources, purchased or otherwise acquired	0%				
Energy sources without fuel (wind, water, solar)	0%				

<b>GHG emissions (kt)</b>					
Scope 1	329.4				
Scope 2	0.0065				
Scope 3	0.881				

<b>CO2 emissions</b>					
CO2 emissions, g/kWh	69.5	118	144	135	152

<b>Nitrogen, sulphur and particulate emissions from electricity purchased through EPV Energy's generation shares</b>					
Nitrogen oxide emissions, mg/kWh	49.0	105.6	131.1	120.0	135.5
Sulphur dioxide emissions, mg/kWh	26.9	75.7	88.4	88.7	97.1
Particle emissions, mg/kWh	1.2	4.1	7.7	3.8	4.7

# EU taxonomy

The EU taxonomy was first published in 2020, with additional criteria for nuclear and gas added in 2022. The EU taxonomy aims to create a common classification system to define when economic activity can be considered sustainable. Its aim is to promote sustainable investments to achieve the objectives of the European Green Development Agenda. The taxonomy obliges non-financial corporations to report their taxonomy-eligible and taxonomy-compliant turnover, capital expenditure and operating expenditure.

In 2023, EPV estimates that the majority of the turnover, capital expenditure and operating expenditure from EPV's operations will be taxonomy-eligible and meet the technical criteria set out in the Delegated Regulation on climate change mitigation (Commission Delegated Regulation [EU] 2021/2139) and the complementary Delegated Regulation on nuclear power and natural gas (Commission Delegated Regulation [EU] 2022/1214). EPV focuses on activities that mitigate climate change.

EPV has identified the following main taxonomy-eligible activities in the Delegated Regulation on climate:

- 4.3. Electricity generation from wind power
- 4.5 Electricity generation from hydropower
- 4.9 Transmission and distribution of electricity
- 4.20 Cogeneration of heat/cooling and power from bioenergy
- 4.28 Electricity generation from nuclear energy in existing plants

For all taxonomy-eligible activities, see the tables on turnover, capital expenditure and operating expenses for key performance indicators on page 71-73.

## Assessment of taxonomy eligibility and taxonomy compliance

The assessment of taxonomy eligibility and taxonomy compliance was carried out as a Group-wide project, analysing the Group's entire production portfolio. The taxonomy covers the same activities as EPV's other financial reporting.

To be reportable, economic activities must meet the technical criteria of the Delegated Regulation on climate (EU 2021/2139). In addition, activities may be taxonomy-compliant if they contribute significantly to at least one environmental objective, do not cause significant harm to other environmental objectives and comply with minimum ethical labour and human rights standards. Compliance with ethical labour and human rights principles has been assessed at Group level, while environmental objectives and the absence of significant harm to other environmental objectives have been assessed separately for each economic activity.

All EPV's taxonomy-eligible economic activities considered have been assessed against the criteria of significant contributions to climate change mitigation. Some actions may also contribute to climate change adaptation, but to avoid double reporting, all actions are reported in the same way.

The main taxonomic activity – cogeneration of heat/cooling and power using bioenergy – leads to verifiable greenhouse gas emission savings of at least 80% compared to saving methods involving greenhouse gas emissions and fossil fuel benchmarks as defined in Annex VI of Directive (EU) 2018/2001. Hydropower and nuclear power producers have verified their taxonomy, as EPV has no operational decision-making power in relation to these forms of energy production. By default, wind power contributes to the objective.

Electricity distribution and transmission are assessed to be taxonomy compliant, as more than 67 per cent of the new generation capacity in the system will remain below the 100 gCO<sub>2</sub>e/kWh threshold, measured on a life-cycle basis and according to electricity generation criteria, over a rolling five-year period. In addition, total emissions from the networks are below 100 gCO<sub>2</sub>e/kWh.

## Do no significant harm

### Adapting to climate change

The physical climate risk assessment required in Appendix A used two IPCC climate scenarios: RCP1: 1-1.9C and RCP4: 3-7C. The scenarios used provide a good knowledge base and differ widely, highlighting the differences between them and throwing the risks into relief. EPV has a stable and diversified production portfolio with low climate risks. The main risks are forest fires, which obviously threaten forestry, and changes in the temperature of large water bodies, which may affect the cooling and efficiency of power plants in the long term.

## Sustainable use and protection of water and marine resources, protection and restoration of biodiversity and ecosystems

International legislation guides the requirement relating to both water resources and biodiversity which states that no significant harm shall be caused to other environmental objectives. International legislation obviously influences national legislation, which in turn influences EPV's activities. EPV complies with the valid permit conditions set by competent authorities. These conditions meet the requirements for both water resources and biodiversity. Compliance is monitored through audits, actions by competent authorities and official standards.

## Transition to a circular economy

EPV meets this requirement through contracts entered into with suppliers and contractors. EPV takes the sustainability and recyclability of resources into account before new investments are decided on, as it is a core value for EPV.

## Pollution prevention and control

Compliance is ensured through national laws and checks by competent authorities. The best available technology is used in all the power plants which comply with the relevant legislation. Environmental management systems require regular audits, which ensures annual monitoring.



### Minimum safeguards

The EPV Code of Ethics describes our commitment to respecting human rights. Our Code of Ethics includes commitments under the UN Guiding Principles on Business and Human Rights and the Organisation for Economic Co-operation and Development's (OECD) Guidelines for Multinational Enterprises. In the Code of Conduct for our suppliers, we require our value chain to work towards these goals as well.

### Accounting principles

This is the first time that EPV is reporting under the EU taxonomy for sustainable activities.

The Group's reporting under the EU taxonomy is based on its consolidated financial statements, which have been audited in accordance with FAS. Turnover is based on EPV Energy Ltd's ownership in the subsidiaries and holding companies. The financial information is allocated in a taxonomy-appropriate and taxonomy-compatible way according to production. CCM 4.20 financial data in Table A.1. are based on non-fossil production. Operating costs include the running costs of all production facilities and renting expenses. CCM 4.20 operating costs are broken down into A.1 and A.2 depending on the object of the operating cost. Where operating expenditure is allocated to the activity as a whole, the operating expenditure is allocated on the

basis of the weighted value of non-fossil production. Capital expenditure includes capitalised investments and intangible assets. The largest capital expenditure in 2023 was related to wind power, electricity transmission and distribution, and cogeneration of heat/cooling and power using bioenergy. In 2023, the largest capitalised investment was related to the construction of a single wind farm (CCM 4.3). CCM 4.20 capital expenditure has been allocated to A.1 and A.2 depending on the object of the capital expenditure. Where capital expenditure is allocated to the activities as a whole, the operating costs are allocated on the basis of the weighted value of non-fossil production.

### Nuclear and gas forms 4 and 5:

The EU taxonomy also requires reporting of non-taxonomy-compliant financial data relating to nuclear power and fossil gases. EPV's data relating to nuclear power and fossil gases are taxonomy-aligned and taxonomy-eligible, and are reported in Forms 1-3. Forms 4 and 5 are therefore not applicable to EPV's activities and have not been reported.







**NUCLEAR ENERGY RELATED ACTIVITIES**

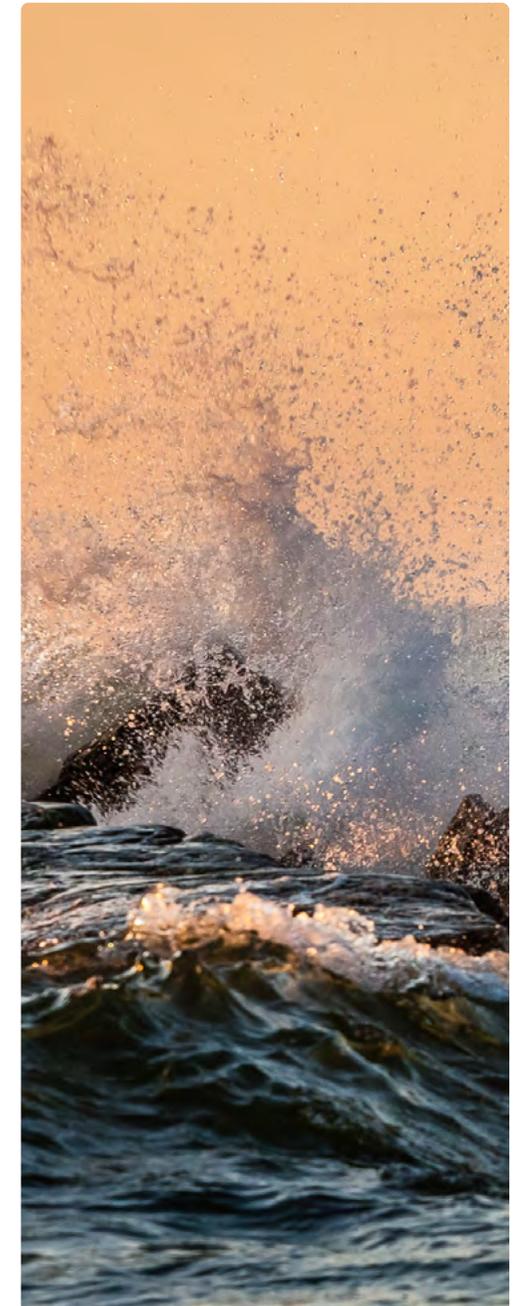
1.	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	No
2.	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	Yes
3.	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	Yes

**FOSSIL GAS RELATED ACTIVITIES**

4.	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	No
5.	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	Yes
6.	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	No

TAXONOMY-ALIGNED ECONOMIC ACTIVITIES (DENOMINATOR) Turnover (MEUR)	Amount and proportion						
	Climate change mitigation + climate change adaptation		Climate change mitigation		Climate change adaptation		
	Amount	%	Amount	%	Amount	%	
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	5.1	1%	5.1	1%	0	0%
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	85.9	19%	85.9	19%	0	0%
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	7.2	2%	7.2	2%	0	0%
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	235.6	50%	235.6	50%	0	0%
8.	Total applicable KPI	333.8	73%	333.8	73%	0	0%

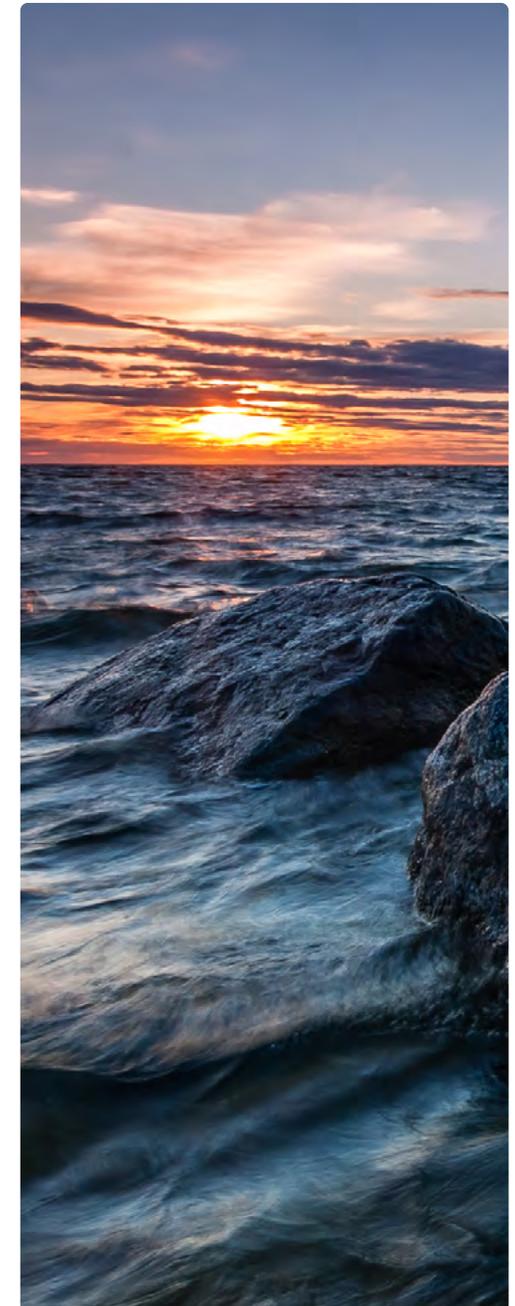
TAXONOMY-ALIGNED ECONOMIC ACTIVITIES (DENOMINATOR) CAPEX (MEUR)		Amount and proportion					
		Climate change mitigation + climate change adaptation		Climate change mitigation		Climate change adaptation	
		Amount	%	Amount	%	Amount	%
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	125.9	99%	125.9	99%	0	0%
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	125.9	99%	125.9	99%	0	0%





	<b>TAXONOMY-ALIGNED ECONOMIC ACTIVITIES (DENOMINATOR) OPEX (MEUR)</b>	<b>Amount and proportion</b>					
		<b>Climate change mitigation + climate change adaptation</b>		<b>Climate change mitigation</b>		<b>Climate change adaptation</b>	
		<b>Amount</b>	<b>%</b>	<b>Amount</b>	<b>%</b>	<b>Amount</b>	<b>%</b>
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	21.9	74%	21.9	74%	0	0%
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	21.9	74%	21.9	74%	0	0%

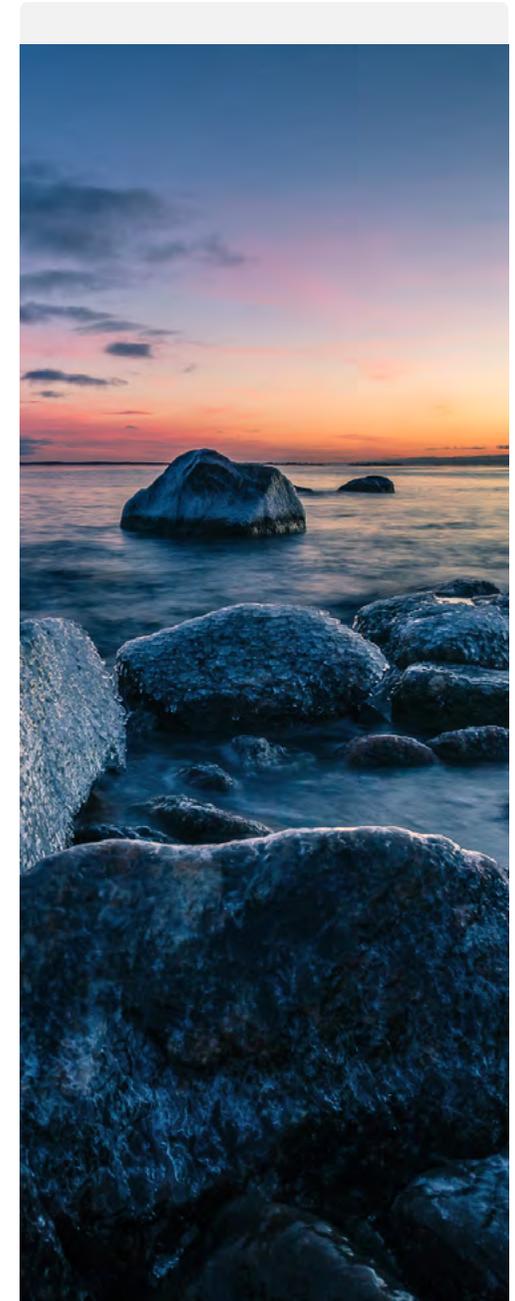
	TAXONOMY-ALIGNED ECONOMIC ACTIVITIES (NUMERATOR)  Turnover (MEUR)	Amount and proportion					
		Climate change mitigation + climate change adaptation		Climate change mitigation		Climate change adaptation	
		Amount	%	Amount	%	Amount	%
1.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
2.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	5.1	2%	5.1	2%	0	0%
3.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	85.9	26%	85.9	26%	0	0%
4.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
5.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	7.2	2%	7.2	2%	0	0%
6.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
7.	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	235.6	71%	235,6	71%	0	0%
8.	Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	333.8	100%	333.8	100%	0	0%





	<b>TAXONOMY-ALIGNED ECONOMIC ACTIVITIES (NUMERATOR)  CAPEX (MEUR)</b>	<b>Amount and proportion</b>					
		<b>Climate change mitigation + climate change adaptation</b>		<b>Climate change mitigation</b>		<b>Climate change adaptation</b>	
		<b>Amount</b>	<b>%</b>	<b>Amount</b>	<b>%</b>	<b>Amount</b>	<b>%</b>
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	0	0%
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	125.9	100%	125.9	100%	0	0%
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	125.9	100%	125.9	100%	0	0%

	TAXONOMY-ALIGNED ECONOMIC ACTIVITIES (NUMERATOR)  OPEX (MEUR)	Amount and proportion					
		Climate change mitigation + climate change adaptation		Climate change mitigation		Climate change adaptation	
		Amount	%	Amount	%	Amount	%
1.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
2.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
3.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
4.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
5.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
6.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	0	0%
7.	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	21.9	100%	21.9	100%	0	0%
8.	Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	21.9	100%	21.9	100%	0	0%



# Financial statements

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Report of the board of directors

Consolidated income statement

Consolidated balance sheet

Consolidated cash flow statement

Parent company's income statement

Parent company's balance sheet

Parent company's cash flow statement

Notes to the Financial Statements

Notes to the income statement

Notes to the balance sheet

Separate financial statements for electricity business activities

Signatures

Auditors' report



# REPORT OF THE BOARD OF DIRECTORS OF EPV ENERGY LTD 2023

EPV Energy Ltd (EPV) is a company specialised in energy procurement and it operates on an absorption costing principle. The aim is to supply the owners with competitive electricity and to ensure inexpensive power procurement in a changing operating environment. The company's strategic objective is that the energy procurement should be both emission-free and competitive. In 2023, EPV acquired a total of 4,764 (4,136) GWh of electricity. This corresponds to 6.0 (5.1) per cent of the overall electricity consumption in Finland.

## EVENTS DURING THE FINANCIAL YEAR

### Operating environment

The changes in the energy sector continued in 2023. The geopolitical situation and the ensuing energy crisis have affected EPV's operating environment in many respects. As a result of the war of aggression launched by Russia, Europe is trying to rid itself of its dependence on Russian energy as quickly as possible. Concerns about the sufficiency of energy, both fuels and electricity, was highlighted. The situation was particularly challenging for Finland in the winter of 2022–23, as virtually all major energy imports from Russia ceased. This situation has highlighted the importance not only of energy self-sufficiency, but also of emission-free energy solutions.

Finland and Finnish energy producers managed to react quickly. We were not completely out of luck in this rapid shift towards greater self-sufficiency, as Olkiluoto 3 became ready to join the market at just the right time. Significantly more wind power plants have been built in Finland in recent years, which is

now bearing fruit. At the same time, weather-dependent renewable electricity generation is adding its own challenges to the equation. The growth of energy sources with variable output requires a parallel increase in balancing power to address the imbalance between production and consumption. The main challenges for the energy market in the future will be having sufficient flexibility in electric power and the energy system, and longer-term energy storage in a fossil-free world.

According to preliminary statistics, the consumption of electricity in the Nordic countries in 2023 was 0.4 per cent lower than in the previous year, at 380 (381) TWh. In 2023, Finnish electricity consumption was 79.8 (81.6) TWh, which means a decrease of approximately 2.3 per cent compared to 2022. The industrial share of the consumed electricity was 42 per cent and other consumption 58 per cent. Last year, industrial consumption of electricity decreased by 5.9 per cent, while consumption in other sectors increased by 0.5 per cent. The losses stood for approximately 4 per cent of the overall electricity consumption.

In 2023, 2.2 per cent of power procurement was covered by imports and 97.8 per cent by domestic generation. Nuclear power covered approximately 41.0 per cent of the consumed electricity, combined generation of heat and power 16.8, hydropower 18.8 and other separate production 2.2 per cent. Wind power, which continues to grow rapidly, accounted for 18.1 per cent and solar power for 0.8 per cent.

The snow and water reserves, i.e. the hydrological balance, of the Nordic countries remained below the average almost throughout 2023. At the beginning of the year, the reserves were 13 TWh below the average level and at the end of the year 11 TWh below the average level. By the turn of the year, Nordic water reserves were approximately 74 TWh in total.

In 2023, CO<sub>2</sub> emissions from Finnish energy generation constituted 2.5 million tonnes, which is 38 per cent lower than the previous year. The long-term downward trend in carbon dioxide emissions continued after a break of a couple of years. In other ways too, the long-term investments made by the sector's companies are reflected in the evolution of emissions. Up to 94 per cent of the electricity generated in Finland last year was free from CO<sub>2</sub> emissions. The share of renewable energy sources was 52 per cent of the total electricity generated.

As in the previous year, the EU emissions allowance price fluctuated sharply between EUR 67 and EUR 100 per tonne during 2023. The average market price was around EUR 85 per tonne for most of the year and dropped to approximately EUR 80 per tonne by

the end of the year. Emissions trading has proven to be an effective way to reduce emissions and it contributes to limiting the use of fossil fuels in high market price situations.

Europe's future depends on a healthy planet. EU countries are committed to achieving climate neutrality by 2050, delivering on the commitments under the Paris Agreement. The European Green Deal is the EU's strategy for reaching the 2050 goal. As part of the European Green Deal, the Commission has also published a proposal for the European Climate Pact, which is an initiative that invites people, communities and organisations to participate in climate action and build a greener Europe.

As society moves towards zero-emission production, it is evident that it is changing the whole energy system, especially electricity production. New forms of electricity generation will make the whole system more difficult to manage, which is why new technological solutions will be needed. The electricity market is adapting to the new situation, but much work remains to be done. The 2023 market saw unprecedented fluctuations in electricity prices. This is the new normal in the energy market, and we have no choice but to adapt to it and make sure that the systems involved operate accordingly. There is an increasing need for flexibility in the energy system and for risk management in energy markets.

### EPV's strategy is shifting focus to solutions for balancing power, flexibility and energy storage within the electricity system

In 2021, EPV Energy launched a new strategy that bears the name New Electricity Revolution®. At the centre of this strategy is zero-emission electricity, whose production, storage and use are controlled with new technologies. The current state of our planet requires great changes and the acceleration of driving down emissions. As a socially responsible company, EPV will continue to speed up these measures. This strategy models the modernisation of the entire society's energy generation system.

The strategy's main guidelines have remained largely unchanged, and our policy is to make EPV's energy production completely emission-free by 2030. In the future, new electricity will be generated using the zero-emission energy sources of solar, wind, hydro and nuclear power, which are key to our strategy. In addition, we will utilise emission-free raw material flows, such as forest energy, circular economy products and industrial producer gases. With new electricity, we are also helping other operators to become emission-free. As more and more electricity is produced from renewable sources, there is an increasing need for different types of energy storage. Such storage solutions will bring new flexibility to the electricity system, while increasing the ability of the whole energy system to cope with different types of disturbances. The strategy will therefore increasingly focus on balancing power, flexibility and energy storage solutions to harmonise the energy system.

### Production

In 2023, 46.1 per cent of EPV's electricity supply came from nuclear power, 23.0 per cent from wind power, 13.5 per cent from combined heat and power (CHP) and 7.4 per cent from hydropower. The share of market price electricity was 9.9 per cent. The share of pure condensing power in EPV's electricity supply has become zero.

In 2023, CO<sub>2</sub> emissions from EPV's electricity supply were 0.33 million tonnes, which is 38 per cent less than the previous year. Up to 94 per cent of the electricity generated by EPV and under EPV's generation shares last year was free from CO<sub>2</sub> emissions. The share of renewable energy sources was 39 per cent of the total electricity generated, and domestic energy sources covered 92 per cent.

The total production volume of the Olkiluoto 1 and 2 nuclear power plants of the associated company **Teollisuuden Voima Oyj** in 2023 was 14.3 GWh. OL1 achieved the third highest annual production volume in the company's history. OL2's generation output was reduced in August 2023 by a leak in the cooling system of the water-cooled generator and the replacement of the generator rotor. Annual maintenance of the plants was carried out as planned. Last spring, a maintenance shutdown was carried out at OL2 and a short refuelling outage took place at the OL1 plant unit. In total, the annual maintenance of the OL1 and OL2 plant units lasted about four weeks. TVO started investigating the extension of the operating licences of the OL1 and OL2 units and a potential output increase. In the autumn of 2023, an environmental impact assessment (EIA) procedure was launched.

In 2023, the Olkiluoto 3 plant unit produced 10.4 TWh of electricity.

After the full power tests of the OL3 unit, the unit's production was interrupted as planned in January 2023 due to the replacement of the impellers of the feedwater pumps. The commissioning of OL3 continued on 15 March 2023 with the final performance tests carried out by the plant supplier, which were followed by the final phase of the commissioning process: an uninterrupted demonstration run of about 30 days. OL3 started generating electricity on a regular basis in April 2023, after which the unit was out of production for just under four days in total during the rest of the year. The commissioning of OL3 significantly increased EPV's emission-free production. EPV's generation resources will increase by approximately 160 MW and our annual nuclear output will increase by more than one terawatt-hour in one go.

EPV's direct interest in Teollisuuden Voima is 6.6 per cent, and a total of 1.6 (1.1) TWh of nuclear electricity was acquired in proportion to this share.

**EPV Windpower Ltd** (100%) focuses on building wind farms and generating wind electricity in the coastal areas of Ostrobothnia and also inland. The wind power stations in operation and owned by EPV Windpower are located in Torkkola in Vaasa (16 turbines), Santavuori in Ilmajoki (17 turbines), Metsälä in Kristinestad (34 turbines), Paskoonharju in Teuva (23 turbines) and Norrskoggen in Närpes (17 turbines). The Närpes wind farm was put into commercial operation in February 2023. EPV Windpower also continued its preparations for the Rajavuori wind farm in Laihia in 2023. No investment decision has yet been made on the wind farm. Additionally, EPV Windpower holds some legally valid building permits for new power stations. EPV Windpower Ltd had its best production year ever in terms of production volume, exceeding the previous record by 9.9 per

cent. In 2023, the company's total electricity supply to EPV was 1,034 (941) GWh.

**Rajakiiri Oy**'s (60.2%) wind power station in Tornio had its lowest production year in terms of production volume since the completion of the Puuska 2 wind farm. The total electricity generation of the company was 104 (133) GWh, of which 61 (83) GWh were supplied to EPV. There was a small change in Rajakiiri's share of ownership at the end of 2023 when EPV Energy Ltd and Oy Katternö Kraft Ab decided to sell a part of their interest in the Puuska 2 wind farm and the Raahe offshore wind power project to Outokumpu.

**EPV Solar Power Ltd** (100%) was founded in 2022 and its purpose is to design and build industrial-scale solar parks for EPV. EPV Solar Power made an investment decision in 2023 to build its first industrial-scale solar farm in Heinineva, Lapua. The plan is to implement the new solar farm in two phases. In the first phase, the solar farm will produce approximately 67 GWh of electricity per year. The second phase, if everything goes to plan, will increase the annual output to more than 90 gigawatt-hours. This was a big decision and an excellent first step for EPV towards solar power generation. EPV's strategy emphasises our desire to be at the forefront of progress and to lead the way in the energy transition. This renewable energy project is a purposeful and determined step in our move towards emission-free energy generation. The Finnish Ministry of Economic Affairs and Employment granted the project NextGenerationEU funding of EUR 12 million in December 2022.

The associated company **Pohjolan Voima Oyj** is a power procurement company which operates on an absorption costing principle, supplying electricity to its owners at cost price. EPV's interest in Pohjolan Voima is 5.5 (5.5) per cent and a total of 0.6

(0.3) TWh of nuclear electricity and 0.1 (0.1) TWh of hydroelectricity was acquired accordingly.

**Voimapiha Oy** (17%) generates hydropower electricity in Sweden. Through its wholly-owned subsidiary Voimapiha AB, Voimapiha Oy holds 25.7 per cent of Vattenfall Kraftgården AB's share capital. The hydropower plants owned by Vattenfall Kraftgården are located on the River Indalsälven, one of the most significant hydropower reserves in Sweden. Voimapiha Oy has approximately 161 MW of generation power in these hydropower plants, corresponding to approximately 866 GWh of average annual output. In 2023, Voimapiha supplied EPV with a total of 261 GWh of hydroelectricity generated in Sweden.

The subsidiary **Seinäjoen Voima Oy**'s (100%) business operations began in March 2018. The company's Seinäjoki power plant had the lowest supply year in its history, generating 135 (399) GWh in 2023. The plant generated a total of 536 (308) GWh of district heating. At the end of 2022, a business transaction was concluded in which Seinäjoen Energia's heat production plants were transferred to Seinäjoen Voima Oy. In this transaction, Seinäjoen Voima acquired the new district heating boiler in the Kapernaumi district of Seinäjoki, the pellet boilers on the Hanneksenrinne road, the peat and biomass-fired district heating boiler in Kapernaumi and five oil-fired boilers as backup when needed. These plants produced 265 GWh of district heat in 2023. No personnel were transferred in the transaction. The wholesale heat supply agreement between Seinäjoen Voima and Seinäjoen Energia came into force on 1 January 2023 and the new district heating agreement for the Seinäjoen Voima power plant came into force on 1 April 2023. The company's 40 MW electric boiler and 400 MWh district heating battery, commissioned in November 2022, were in operation throughout the reporting year.

EPV's subsidiary **Tornion Voima Oy** (100%) is a major energy producer in Tornio. Tornion Voima's production facilities are located in the areas of the Tornio steelworks, Pirkkiö and the Kemi Mine.

Good cooperation with the steelworks and the mine will lead to future energy solutions and investments that will move us closer to emission-free energy production. Tornion Voima focuses on serving the energy needs of the steel company and the mine, allowing heating customers to focus on the production of their own products with high availability. Of the energy generated at the plant, CHP is supplied to EPV; district heating, process steam and district cooling to the Tornio steelworks; district heating and mine air heating to the mine, and district heating to Tornion Energia Oy. Tornion Voima Oy made the decision to invest in a new 40 MW electric boiler back in 2022. The electric boiler will be used to produce process steam and district heating for the Outokumpu stainless steel mill. The boiler will be commissioned in February 2024. In 2023, the total electricity supply to EPV was 135 (190) GWh. The difference in production to 2022 is mainly due to the initial revision of the turbine and generator in 2023.

**Raahen Voima Oy** is EPV's affiliated company (25%), which generates electricity and heat in the area of the Raahen steelworks. Of the energy generated at the plant, CHP is supplied to EPV, electricity, district heat and process steam to the Raahen steelworks and district heat to Raahen Energia Oy. In terms of operations, 2023 was a good year for Raahen Voima. Its total electricity supply to EPV in 2023 was 146 (129) GWh.

**Vaasan Voima Oy** (100%) was founded in 2019. In accordance with the business transaction agreements concluded in 2019, Vaskiluodon Voima's business activities were transferred to Vaasan Voima on 31

December 2022. This brought Vaasan Voima's share of the power asset to 230 MW. In the business transaction, 25 people joined the EPV Group under their current employment contracts, without losing the employee benefits they had acquired so far.

The company has built a thermal energy storage (TES) facility in Vaskiluoto, Vaasa, utilising old underground oil storage caverns. The TES facility has a charge and discharge capacity of approximately 110 MW and a storage capacity of approximately 11 GWh. The facility became technically operational in spring 2020, with a storage capacity of 8 GWh at the time, and 2021 was its first full year of operation. During the summer months, the facility stores heat, capitalising on the waste heat created in the Vaasa region. During the winter, the TES facility has been used by the CHP plant. In the long run, this investment will enable more flexible use of wind and solar power in producing heat, while maintaining the possibility of making use of the waste heat created in the Vaasa region.

In 2021, the company built a new 40 MW electric boiler in Vaskiluoto, Vaasa. The electric boiler is an important component of the clean heat generation system of the future and a part of EPV's balancing production capacity. In 2023, the company built two new 60 MW electric boilers in Vaskiluoto. At the same time, the storage capacity of the TES facility was also expanded by converting a cave that had served as an expansion tank into a thermal storage facility. The total capacity after the extension is 11 GWh. This brings the combined output of Vaasan Voima's electric boilers to 160 MW, which places Vaasa's electric heating among the most powerful in Finland in terms of output. Together with the extended TES facility, this solution will bring much-needed flexibility and cost-efficiency to the system, while reducing emissions from district heat production.

The company's electricity generation in 2023 was 234 GWh. The plant generated a total of 418 GWh of district heating. The operations of the affiliated company **Vaskiluodon Voima Oy** were discontinued in 2023 and transferred to Vaasan Voima Oy.

### Transmission network companies

The subsidiary **EPV Alueverkko Oy** (100%) practices electricity transmission and network operations mainly in the power transmission network it owns in Ostrobothnia, South Ostrobothnia, Tornio, Kokkola and Iijoki. The amount of energy transmitted for consumption via EPA's transmission network in 2023 was 5,087 (4,865) GWh. The company's network received 3,419 (3,531) GWh of electrical energy from generation plants, to be transferred for consumption and to the main grid.

170 MW worth of new connection agreements were signed in 2023. There are several projects under development, and the possibility of connecting them to the grid is always considered on a case-by-case basis within the existing transmission capacity. The planning and permit processes of industrial-scale solar power projects are also seeing strong growth in our network area. However, the concentration of the projects within the same areas poses challenges for connectivity. Fingrid Oyj has already announced that it is currently not possible to connect power park modules (wind, solar, batteries) to the west coast of Finland due to potential grid stability problems. This situation should improve by 2027-28 with the completion of new 400 kV connections. The company will continue to meet the growing demand for transmission capacity by planning new looped connections that will, at the same time, secure network operations and fault recovery.

As a major electricity distributor in Finland, EPV Alueverkko is also involved in a project to build a large battery technology hub in Laajametsä, Vaasa. The planned construction of this consumption hub in the area has triggered measures at the company to ensure that we provide the necessary services for the required electricity connections. When completed, this future industrial hub will require a considerable volume of electricity distribution, up to several hundred megawatts.

The completed financial year was the fourth and final year of the Energy Authority's fifth regulatory period for network operations (2020–2023). For the operating year, the preliminary calculation of the permitted yield inclines towards underproduction, as does the cumulative permitted yield for the third and fourth regulatory periods.

The Energy Authority has allowed applications for the possibility to use the underproduction accumulated in the 4th regulatory period in the new 6th regulatory period starting in 2024, if any has been accumulated. EPV Alueverkko applied for this, and we received a positive decision from the Energy Authority.

In the course of 2023, the Energy Authority has prepared monitoring methods for the new 6th regulatory period. Major challenges for network companies have been identified in these methods, and network companies nationwide have made statements on the need for changes. Minor improvements have been made, but the case will go to the Market Court, where it is hoped that further improvements will be made to make the methods more reasonable.

During the financial year, EPV Teollisuusverkot Oy (90%) transmitted 1,648 (1,853) GWh of energy

through its transmission network for consumption. EPV Teollisuusverkot's major expansion of the Sella substation was completed and the substation was commissioned in 2022. During the 2023 financial year, further work was completed on the Sella substation building.

### Other companies

**The purpose of EPV Tase Oy (100%)** is to provide balance-related services for EPV's owners and the energy generation companies owned, entirely or partly, by EPV. The sharp rise in market prices in 2022 that accelerated to a historic high in Europe and Finland as a result of geopolitical events did not continue into 2023. On average, the Group gave NordPool and eSett significantly less collateral for trading than in the peak year of 2022. Although the amount of collateral provided decreased significantly, the sharp rise in interest rates that started at the same time has meant that the cost of financing the collateral has not fallen accordingly. Some of the company's service activities were transferred to EPV Operointi Oy, which means that, from 1 January 2024, EPV Tase will only act as a balance responsible party and as a trading channel for its customers on physical electricity marketplaces.

**EPV Operointi Oy (100%)** was founded on 4 September 2023. It will be responsible for the trading, control and management services of EPV's shareholders, production companies, network companies and affiliated companies. Within the framework of a separate company, we can extend our activities to cover services provided by our affiliated companies and, for example, cooperation in the supervision of power and district heating networks between shareholders. The company will begin its opera-

tions on 1 January 2024. Some of EPV Operointi Oy's services have previously been provided by EPV Tase Oy, and EPV Operointi Oy will continue to provide these services with the same content to the same customers. A completely new area of activity consists of services related to the monitoring of the electricity network, and they will be organised within the framework of the operations centre started in Seinäjoki that operates 24/7/365. These tasks were previously organised as procurement services.

EPV Akkuhybridi Oy (100%) focuses on electrical energy storage solutions. In 2022, the company made an investment decision to build an electrical energy storage facility at the Teuva wind farm with a capacity of 12 megawatts and an energy capacity of 12 megawatt-hours. As more and more electricity is produced from renewable energy, the storage is needed. Different energy storage solutions support and bring flexibility to the electricity system. The introduction of an electric battery was significantly delayed in 2023. The delay was due to the modelling required for the deployment tests and the unforeseen challenges involved. The investment will be completed in early 2024 when the official operating licence is obtained and the final tests can be carried out.

**Suomen Energiavarat Oy (SEV)** was established for a specific purpose. As a shareholder in Neova Oy, its aim is to develop Neova's operations with the strategic goal of increasing the shareholder value. EPV owns all SEV's Series A shares and 3.9 per cent of its Series B shares.

**EPV Aluevarannot Oy's (100%)** main focus has been on the procurement of biofuels for the EPV Energy Group and the development of the land owned by the

company. Maximum use was made of the company's own peat production in line with the needs resulting from the energy crisis, and peat production will be maintained for the time being to secure the Group's security of energy supply. Peat for cattle bedding and horticulture also play a role in the utilisation of land. In terms of security of supply, peat continues to be an important fuel for EPV, but the after-use of peat production areas is also an important topic under discussion. The planning of the after-use and the process of abandoning these areas continued. Due to the challenging conditions last summer and autumn, the production of energy peat was only moderately successful, but the company exceeded its targets for environmental peat production. Bio-fuels for wholesale heating, which support variable fuel needs, have also enabled supply chains to exist outside the winter season, allowing almost normal stock rotation.

**Powerheat Solutions Oy (70%)** was established in 2022 to provide solutions for the electrification of heat and steam production for industrial and district heating companies. Its business operations were at the starting phase during the reporting year.

The subsidiary Vaskiluodon Teollisuuskiinteistöt Oy (100%) is active in the rental of industrial, office and storage facilities. Its facilities are located in a reserve area for power generation.

**Manga LNG Oy's (5%)** long-term purpose is to deliver competitive liquefied natural gas to its shareholders.

## KEY FIGURES ON THE FINANCIAL POSITION

Year	2023	2022	2021
<b>Finances</b>			
<b>Group</b>			
Turnover	MEUR 455.7	MEUR 677.7	MEUR 439.5
Business result	MEUR 21.4	MEUR 11.9	MEUR -11.3
Equity ratio, %	39.9%	38.6%	41.2%
Balance sheet total	MEUR 1,097.2	MEUR 1,127.4	MEUR 977.0
<b>Parent company</b>			
Turnover	MEUR 220.5	MEUR 270.1	MEUR 147.0
Business result	MEUR -3.1	MEUR -1.1	MEUR -2.6
Equity ratio	64.6%	65.7%	67.4%
Balance sheet total	MEUR 533.4	MEUR 529.1	MEUR 469.9
<b>Production</b>			
Electricity acquisition	4.8 TWh	4.1 TWh	4.0 TWh
Electricity distribution	6.7 TWh	6.7 TWh	7.5 TWh
Heat supply	1.4 TWh	1.1 TWh	1.3 TWh

The EPV Energy Group's turnover was EUR 455.7 (677.7) million. The turnover share of the electricity sales was EUR 332.0 (558.4) million and of the remaining operations EUR 123.7 (119.3) million. The decrease in turnover is mainly due to a substantial decrease in the market price of electricity.

The business result of the Group was EUR 21.4 (11.9) million. The net financing costs of the financial year totalled EUR 12.7 (5.6) million. The result for the financial year, as shown in the consolidated financial statements, was EUR 7.4 (5.0) million.

EPV operates according to the absorption costing principle. Its shareholders pay for the variable costs according to the supplied amounts of energy and for the fixed costs in relation to their holdings, regardless of whether their share of the power asset has been utilised or not.

## FINANCING AND INVESTMENTS

The Group's balance sheet total remained at the previous year's level and was EUR 1,097.2 (1,127.4) million. Non-current liabilities were EUR 493.2 (486.7) million and current liabilities EUR 139.1 (180.0) million. By the end of the year, the equity ratio of the Group was 39.9 (38.6) per cent. Fuel stocks for security of supply affected the Group's equity ratio negatively.

The liquidity of the Group was good all year. By the end of the year, there was a total of EUR 54.1 (63.8) million in liquid assets and investments. Unused stand-by credit amounted to more than EUR 100 million by the end of the year.

The net investments of the Group totalled EUR 43.8 (142.6) million. The investments in tangible and intangible assets amounted to EUR 48.3 (144.7) million. EUR 11.3 million was raised from shareholders through share issues to finance wind and solar power investments.

The interest rate risk has been hedged through interest rate swap agreements. Further information on derivatives is available in the notes.

## THE SHAREHOLDERS, GENERAL SHAREHOLDERS' MEETING AND BOARD OF DIRECTORS

### Shareholders

Shareholders' interests at the end of 2023 were as follows:

	2023, %	2022, %
Alajärven Sähkö Oy	1.48	1.44
Cumel Oy	0.32	0.32
Helen Ltd	5.63	5.91
Imatran Seudun Sähkö Oy	0.36	0.36
Jylhän Sähköosuuskunta	4.10	4.09
JärviS-Energia Oy	1.67	1.68
Kaakon Energia Oy	0.36	0.37
KSS Energia Oy	0.64	0.65
Kympivoima Oy	7.52	7.50
Lahti Energia Oy	8.43	8.79
Lehtimäen Sähkö Oy	0.54	0.53
Oulun Energia Oy	2.30	2.19
Outokumpu Oyj	0.27	1.31
Oy Perhonjoki Ab	1.64	1.77
Rauman Energia Oy	0.92	0.93
Seinäjoen Energia Oy	11.92	10.71
Vaasan Sähkö Oy	43.03	42.19
Vantaa Energy Ltd	7.86	8.27
Vimpelin Voima Oy	0.47	0.48
Äänekosken Energia Oy	0.53	0.52
Total	100.0	100.0

### General Shareholders' Meetings

The Ordinary General Shareholders' Meeting of 2023 was assembled on 31 March 2023, and during it, issues belonging to the Ordinary General Meeting were discussed.

The Extraordinary General Meeting on 31 January 2023 discussed Helen Ltd's proposal to appoint Jaana Eklund, Chief Legal Officer, as an ordinary member of the Board of Directors following Juha-Pekka Weckström's resignation from the Board.

### Board of Directors

In accordance with the Articles of Association, the Board has 10-12 ordinary members and five deputy members. By unanimous decision of the shareholders at the Ordinary General Shareholders' Meeting on 31 March 2023, ten members and five deputy members were elected to the Board of Directors. Director Olli Arola, Managing Director Stefan Damlin, Chief Legal Officer Jaana Eklund, CEO Jouni Haikarainen, Managing Director Vesa Hätilä, CEO Heikki Lappalainen, Managing Director Anders Renvall, Member of Parliament Joakim Strand, Director Markku Vartia and Business Unit Director Hans-Alexander Öst were elected as Ordinary Members of the Board of Directors in accordance with their consent. The Deputy Members elected were Managing Director Esa Ala-Honkola, Managing Director Jari Lepistö, Director Kari Roos, Business Unit Director Markus Tuomala and CEO Jukka Ylitalo.

At its organising meeting, the Board of Directors elected Member of Parliament Joakim Strand as Chairperson and Chief Legal Officer Jaana Eklund as Vice-Chairperson.

### The CEO and Management Team

In 2023, the CEO of the company was Rami Vuola. The members of the Management Team as of 31 December 2023 were Rami Vuola, Frans Liski, Reima Neva, Niko Paaso, Maija Suutarinen and Mats Söderlund.

## Auditors

In the General Meeting, the audit firm Ernst & Young Oy was elected as the company's Ordinary Auditor for the period until the Ordinary General Shareholders' Meeting in 2024, with Mikko Ryttilahti (CA) and Kristian Berg (CA) as the main responsible Auditors and Anders Svennas (CA) and Marja Huhtala (CA) as Vice Auditors.

## SUSTAINABILITY

Sustainability is the basis of EPV Energy's operations, and this is clearly evident in the company's activities, way of thinking and management. Together with its personnel and partners, EPV is creating a cleaner world. The importance of our work is evident in declining emissions, growing use of renewable energy sources and reliable energy production. EPV Energy has more than 70 years of experience in sustainable energy generation. We focus on emission-free and reliable energy generation with determination and purpose. EPV aims to achieve carbon-neutral energy generation in the 2020s.

Our main task is to ensure our capacity for responsible energy generation and to maintain a competitive production cost price far into the future. The energy sector is Finland's most capital-intensive business sector. Power plants and energy infrastructure tie up a large amount of capital over the course of decades. We plan our investments with great care. We are also developing our ability to anticipate our investment needs. We model the coming years' investment needs and strive to fund them in such a way that our security of supply and equity ratio remain desirable.

The Non-financial Reporting Directive is being reformed. The forthcoming Corporate Sustainability Reporting Directive (CSRD) will bring extensive and detailed changes to corporate social responsibility reporting. Extending the former Non-financial Reporting Directive, the CSRD will initially oblige large, publicly listed SMEs to report information on their social and environmental impacts. Similarly, the EU's sustainable finance taxonomy requires finance companies to report what proportion of their portfolio includes investments that contribute to specific environmental objectives, and other companies to report what proportion of their turnover, working capital and investments contribute to the same environmental objectives. EPV's goal is to be in an excellent position to report the information required by the legislation when the obligations are extended to the company. The CSRD will be extended to non-listed companies in 2025. In 2023, EPV has continued to work on its sustainability and taxonomy reporting in line with the CSRD and taxonomy requirements.

## Personnel

In line with our strategy, we want to make sure that we keep pace with, and ideally stay at the forefront of, the changes and transformation in the sector. Maintaining the know-how of the EPV Energy Group's personnel plays a key role in ensuring the profitability of the Group's business activities and maintaining the continuous development of its operations.

Good leadership is important to us, and we want to invest in it. Our goal is to create an enthusiastic EPV team where every employee can develop, keep learning new things and be proud of what we achieve together. The New Electricity Revolution® strategy means a renewal for the company. At the same time,

it means renewal for individuals and the way they are managed. We are also systematically working to improve our own leadership. Good management is the right of every EPV employee.

EPV Energy strives to take exemplary care of occupational safety matters. The company's goal is to build for its own employees and contractors a working environment in which occupational accidents do not occur. When working in power plants, wind farms, electricity transmission projects and peat production areas, and during maintenance shutdowns, the importance of cooperation and foresight is highlighted, especially when the goal is zero accidents. A safe working environment is the sum of many factors. It does not happen by chance, but requires constant upkeep and remembering the ground rules common to all. The best results are achieved when practices are monitored and improved together as a team.

In 2023, there were no accidents involving EPV's own staff. This is an excellent achievement by EPV personnel. We emphasise safety at work in everything we do and we are happy and proud to see it is paying off. The accidents recorded in 2023 happened to external contractors. We have set the bar for responsibility extremely high for occupational safety. Our wide reporting of accidents also ensures that even the smallest of accidents are logged, and the necessary measures are taken at the workplace to ensure it does not happen again.

EPV takes a proactive approach to occupational health and well-being. At EPV, we regularly inquire into the state of the working environment and community with various surveys and studies, and develop our personnel policy and workplace atmosphere based on the results obtained from these. Job satisfaction

is monitored regularly with Group-wide staff surveys, which are carried out annually and encompass all personnel. The overall results of the EPV Group's staff survey have been and continue to be at a high level. In 2023, we used the Employee Net Promoter Score (eNPS) index for the first time to measure how likely our employees are to recommend our company as a good place to work, and we received an excellent score of 60.

Over the year, the average number of Group employees was 155 (122). At the end of 2023, EPV Energy had 78 (67) employees, EPV Alueverkko 6 (5), Tornion Voima Oy 27 (27), Seinäjoen Voima Oy 24 (24) and Vaasan Voima Oy 22 employees. The personnel of the Vaasa power plant were transferred to the Group in a business transaction on 31 December 2022 from Vaskiluodon Voima Oy. At the end of 2023, of the Group's total personnel, 70 were managerial employees, 47 professional employees and 40 lower-grade employees.

## The environment

The current state of our planet requires great changes and the acceleration of driving down emissions. The message from the research is clear: we can still mitigate climate change and biodiversity loss, but we need to act now. The energy sector has an important role to play in combating climate change. More than 70 per cent of the EU's greenhouse gas emissions come from the processing and consumption of energy that is based on the conversion and combustion of fossil fuels, for example in industry, households and transport. Therefore, tackling climate change requires changes in energy production and consumption. Meeting energy demand and simultaneously reducing greenhouse gas emissions is an enormous challenge for the EU and its member states.

As an energy generation company, EPV has an important role to play: to generate emission-free electricity and thereby help society as a whole, with its ever-increasing need for electricity, to meet its emission targets. According to our strategy, EPV's energy production will become completely emission-free by 2030.

In the future, new electricity will be generated using the zero-emission energy sources of solar, wind, hydro and nuclear power. By focusing on these, we are not only making our own operations emission-free, but also helping society to meet its emissions reduction targets. In 2023, the share of emission-free energy sources in EPV Energy's electricity production was 87.2 per cent.

Again in 2023, we completed several construction projects that will contribute to zero-emission energy production. The largest of these were Olkiluoto 3 and the Närpes wind farm. Also, two new electric boilers were commissioned, the extension of the thermal energy storage facility in Vaasa was completed, and the first electric battery in Teuva is ready to serve and waiting to be connected to the national grid. We also made an investment decision to build EPV's first industrial-scale solar power plant in Lapua. In addition, many projects are in the pipeline for an investment decision, such as a wind farm in Laihia.

EPV is one of the leading operators in industrial-scale wind power production in Finland. Wind power is one of the company's most important energy generation methods. EPV takes responsibility for the smooth functioning and safety of its wind farms throughout their life cycle. This also includes reuse and recycling of the sites where the wind turbines are located. In 2023, EPV also started investing in solar power after

making an investment decision on the first solar power plant in Lapua. This is a big decision and an excellent first step for EPV towards solar power generation. EPV's strategy emphasises our desire to be at the forefront of progress and to lead the way in the energy transition. This renewable energy project is a purposeful and determined step in our move towards emission-free energy generation.

EPV's power plants are involved in the Energy Efficiency Agreements programme. The programme actively drives the company to seek out areas in which we can improve our energy efficiency. With the resulting measures, we are improving the efficiency of our power plants, which can be seen in falling emissions and greater cost savings. Additionally, the majority of EPV's power plants have been granted the ISO 140001:2015 certification for environmental management systems and the ETJ+ Energy Efficiency System.

Audits are used to monitor the responsibility of the Group companies' operations. The audit results can also be utilised to standardise different companies' practices. In 2023, a total of 10 internal and external audits were carried out in EPV's Group companies, focusing on the company's wind farms in production and under construction, electricity distribution, peat production areas and the energy efficiency, cleanliness and chemicals used in power plants.

More detailed environmental information on EPV Energy are presented on the company's website in the Corporate Responsibility Report 2023.

## CURRENT LEGAL PROCESSES

The company has no pending legal proceedings.

## EVENTS FOLLOWING THE FINANCIAL YEAR

The EIA programme for the lifetime extension and upgrading of the Olkiluoto 1 and Olkiluoto 2 plant units has been completed. On 5 January 2024, the Environmental Impact Assessment (EIA) programme for the potential lifetime extension and capacity increase of the OL1 and OL2 units in Olkiluoto was submitted to the Ministry of Economic Affairs and Employment, which is acting as the coordinating authority. Teollisuuden Voima Oyj is investigating the possibility of extending the service life of the OL1 and OL2 units from 2038 to 2048 or 2058. In addition, TVO is also exploring opportunities to upgrade the power of the plant units.

## MOST SIGNIFICANT RISKS

EPV's business activities are exposed to several economic and strategic risks and risks relating to energy policies and regulations. The most central factor affecting business profitability is the development of the wholesale price of electricity in the Nordic countries. This price development is mainly determined by the price of fuels and CO2 emissions allowances, as well as the hydrological balance.

The energy sector is a heavily regulated industry. Changes in regulations and taxation often reflect the prevailing political atmosphere and they can also alter the relative profitability of various production methods. Due to their political nature, these changes are often difficult to anticipate and may consequently

increase the risks to individual production methods. EPV maintains a diverse industrial structure. In practice, this means that the energy acquired by the company has been produced using several different methods and that we avoid making the share of an individual production method too large. In addition to this, in order to prepare for potential changes in the operating environment, EPV engages in active strategic work and has a risk management process in place based on the SFS-31000 standard. EPV's strategy and risk management measures are used to help ensure that the company makes correct and timely investment decisions.

## RESEARCH AND DEVELOPMENT

EPV has continued to invest in research and development in various sections of electricity generation. Some of the most important areas of research are project opportunities relating to renewable energy and zero-emission electricity and heat generation. EPV aims to be a pioneer in the energy sector, using new electricity to connect the energy needs of different industries. In 2023, the company's research and development activities focused particularly on the development of industrial-scale solar power generation and flexible components for the energy system. EPV has also charted the application of battery technologies in the changing Nordic electricity system and the opportunities presented by hydrogen technology for electricity generation.

Our strategy emphasises our desire to be at the forefront of technological developments and to stay strongly involved in the transformation of the energy sector. In 2023, the technology teams established around all key technologies continued their excellent work. The teams explored new technologies and the

opportunities they bring for future emission-free energy production and flexibility, innovated new solutions and drove projects forward. To ensure that all the teams have the best possible know-how at their disposal, they include people from across the Group.

### NEAR FUTURE PROSPECTS

The crucial factors influencing the development of electricity prices in the Nordic countries are the balance between demand and supply, the price levels for fuels and CO<sub>2</sub> emission allowances, and the water resource situation. At the beginning of February 2024, the hydrological reserves of the Nordic countries were approximately 10 TWh below the long-term average and at the same level as in the corresponding period in 2023. The market price of emissions allowances for 2024 was about EUR 58 per tonne of carbon dioxide. At the same time, the average electricity price on the derivatives market for the rest of 2024 was approximately EUR 38 per megawatt hour and for 2025 approximately EUR 37 per megawatt hour. The regional price in Finland was respectively EUR 47 and 42 per megawatt hour.

In the current financial year, energy production at the plants owned by the EPV Energy Group is expected to continue as in the previous year.

The uncertainty and risks arising from the geopolitical situation – including the sanctions imposed, potential additional sanctions, counter-sanctions and their consequences – may affect the economic lives of assets, as well as commodity prices and related margining requirements in Europe. Geopolitical tensions in the neighbouring regions are creating uncertainty in energy markets. Fluctuating renew-

able energy production continues to grow, adding to the challenges of balancing the electricity system. Connecting the energy flows of different industries through electricity is more important than ever.

At the centre of EPV Energy's strategy is new electricity, whose production, storage and use are controlled with new technologies. In the future, new electricity will be solely generated using zero-emission energy sources. EPV continues to invest heavily in increasing emission-free production and the use of various flexible elements.

### THE BOARD'S PROPOSITION FOR DISTRIBUTION OF PROFITS

The distributable equity of the parent company amounts to EUR 329,585,111.75, of which the profit or loss for the financial year is EUR 1,728,335.85. The Board of Directors proposes to the General Shareholders' Meeting that no dividends are to be paid.

# Consolidated income statement

CONSOLIDATED INCOME STATEMENT €	1 Jan–31 Dec 2023	1 Jan–31 Dec 2022	Notes
<b>Turnover</b>	<b>455,673,703.49</b>	<b>677,709,406.09</b>	1
Manufacture for own use	1,312,607.20	1,413,500.86	
Other operating income	6,802,825.35	27,795,485.95	2
Materials and services	-269,803,328.59	-573,872,447.24	3
Personnel expenses	-14,406,323.45	-11,662,163.32	4
Depreciation and impairment charges	-43,581,792.37	-33,845,445.67	5
Other operating expenses	-114,092,681.47	-73,303,972.80	6
Share of profit of affiliated companies	-550,883.92	-2,364,190.48	
<b>Business result</b>	<b>21,354,126.24</b>	<b>11,870,173.39</b>	
Finance income and costs	-12,737,459.50	-5,632,965.07	7
<b>Result before taxes</b>	<b>8,616,666.74</b>	<b>6,237,208.32</b>	
Income taxes	-1,822,007.00	-1,838,881.95	9
Minority interests	581,224.71	644,210.84	
<b>Result for the financial year</b>	<b>7,375,884.45</b>	<b>5,042,537.21</b>	

# Consolidated balance sheet

CONSOLIDATED BALANCE SHEET €	31 Dec 2023	31 Dec 2022	Notes
<b>Assets</b>			
<b>Non-current assets</b>			
Intangible assets	26,070,082.92	21,334,367.19	10
Tangible assets	689,603,429.65	690,140,182.35	11
Investments			13
Interests in Group companies	263,570.01	263,570.01	
Interests in associated companies	125,299,923.90	126,455,371.59	
Other shares and interests	1,970,875.94	1,972,875.94	
<b>Total non-current assets</b>	<b>843,207,882.42</b>	<b>840,166,367.08</b>	
<b>Current assets</b>			
Inventories	42,879,281.97	49,175,146.01	14
Non-current receivables	70,080,117.72	70,153,299.95	15
Current receivables	86,858,734.11	104,098,602.48	16
Securities included in financial assets	8,135,363.40	0.00	17
Cash in hand and bank receivables	46,010,339.11	63,812,482.73	
<b>Total current assets</b>	<b>253,963,836.31</b>	<b>287,239,531.17</b>	
	<b>1,097,171,718.73</b>	<b>1,127,405,898.25</b>	

CONSOLIDATED BALANCE SHEET €	31 Dec 2023	31 Dec 2022	Notes
<b>Equity and liabilities</b>			
<b>Equity</b>			18
Share capital	14,770,711.80	14,624,919.80	
Share issue	0.00	865,300.00	
Other funds			
Invested non-restricted equity reserve	304,225,763.20	308,157,763.20	
Retained result	103,585,469.57	98,913,963.78	
Result for the financial year	7,375,884.45	5,042,537.21	
<b>Total equity</b>	<b>429,957,829.02</b>	<b>427,604,483.99</b>	
Minority interests	7,770,877.21	7,188,890.74	
Provisions for liabilities and charges	3,500,000.00	3,500,000.00	19
<b>Liabilities</b>			
Deferred tax liabilities	23,667,129.02	22,453,561.87	20
Non-current liabilities	493,192,419.26	486,660,224.89	21
Current liabilities	139,083,464.22	179,998,736.76	22
<b>Total liabilities</b>	<b>655,943,012.50</b>	<b>689,112,523.52</b>	
	<b>1,097,171,718.73</b>	<b>1,127,405,898.25</b>	

# Consolidated cash flow statement

CONSOLIDATED CASH FLOW STATEMENT €	2023	2022
<b>Operating activities</b>		
Business result	21,354,126.24	11,870,173.39
Adjustments to business result 1)	41,726,735.20	36,165,031.34
Changes in working capital 2)	2,863,310.00	-50,933,237.83
Dividends received	182,160.00	413,360.00
Interest received	9,630,845.01	812,524.59
Interest paid	-20,847,436.38	-4,393,483.10
Other financial income and expenses	-1,703,028.13	-2,465,366.56
Taxes	-608,439.85	-1,031,246.74
<b>Cash flow from operating activities</b>	<b>52,598,272.09</b>	<b>-9,562,244.91</b>
<b>Investment activities</b>		
Acquisition of shares	-3,048.00	0.00
Increase (-) in acquisition of tangible and intangible assets	-48,078,483.83	-144,672,147.88
Investment aid	544,480.00	0.00
Return of capital received	1,771,956.33	1,727,200.00
Proceeds from sales of non-current assets	2,204,361.76	339,561.99
<b>Cash flow from investment activities</b>	<b>-43,560,733.74</b>	<b>-142,605,385.89</b>
<b>Financing activities</b>		
Share issue	11,300,000.00	38,100,000.00
Return of capital paid	-651,508.00	0.00
Redemption of own shares	-415,337.01	0.00
Proceeds from long-term loans	72,087,204.33	160,214,721.79
Repayments of long-term loans	-65,812,422.24	-52,260,975.70
Proceeds from current financing (liabilities)	952,380.95	20,000,000.00
Repayment of short-term loans	-44,300,000.00	-15,829,387.12
<b>Cash flow from financing activities</b>	<b>-26,839,681.97</b>	<b>150,224,358.97</b>

CONSOLIDATED CASH FLOW STATEMENT €	2023	2022
<b>Change in cash and cash equivalents</b>	-17,802,143.62	-1,943,271.83
Liquid assets 1 Jan	63,812,482.73	65,755,754.56
<b>Liquid assets 31 Dec</b>	<b>46,010,339.11</b>	<b>63,812,482.73</b>
<b>1) Adjustments to business result</b>		
Share of profit of affiliated companies	550,883.92	2,364,190.48
Depreciation and impairment charges	43,581,792.37	33,845,445.67
Gain (-) or loss (+) from divestment of non-current assets	-2,405,941.09	-57,403.61
Non-cash items	0.00	12,798.80
	<b>41,726,735.20</b>	<b>36,165,031.34</b>
<b>2) Changes in working capital</b>		
Increase (-) or decrease (+) in non-interest-bearing receivables	-6,122,312.83	-13,343,645.71
Increase (-) or decrease (+) in inventories	6,295,864.04	-39,125,114.24
Increase (+) or decrease (-) in non-interest-bearing liabilities	2,689,758.79	1,535,522.12
	<b>2,863,310.00</b>	<b>-50,933,237.83</b>

# Parent company's income statement

PARENT COMPANY'S INCOME STATEMENT €	1 Jan–31 Dec 2023	1 Jan–31 Dec 2022	Notes
<b>Turnover</b>	<b>220,458,314.09</b>	<b>270,070,294.92</b>	1
Manufacture for own use	112,660.00	0.00	
Other operating income	8,350,200.11	5,166,592.06	2
Materials and services	-114,954,920.12	-208,797,576.51	3
Personnel expenses	-7,944,689.01	-7,186,390.47	4
Depreciation and impairment charges	-233,110.68	-291,748.90	5
Other operating expenses	-108,898,469.43	-60,039,213.22	6
<b>Business result</b>	<b>-3,110,015.04</b>	<b>-1,078,042.12</b>	
Finance income and costs	-156,915.58	-250,959.36	7
<b>Result before appropriations and taxes</b>	<b>-3,266,930.62</b>	<b>-1,329,001.48</b>	
Appropriations			8
Difference between planned depreciations and tax depreciations	-54,703.73	-142,268.39	
Group contributions received	5,050,000.00	5,050,000.00	
	<b>4,995,296.27</b>	<b>4,907,731.61</b>	
Income taxes	-29.80	-631,736.12	9
<b>Result for the financial year</b>	<b>1,728,335.85</b>	<b>2,946,994.01</b>	

# Parent company's balance sheet

PARENT COMPANY'S BALANCE SHEET €	31 Dec 2023	31 Dec 2022	Notes
<b>Assets</b>			
<b>Non-current assets</b>			
Intangible assets	1,122,053.84	240,315.38	10
Tangible assets	3,325,053.05	3,135,521.70	11
Investments			13
Interests in Group companies	254,745,278.26	244,255,485.25	
Interests in associated companies	124,881,780.96	125,486,344.74	
Other shares and interests	1,970,875.94	1,972,875.94	
<b>Total non-current assets</b>	<b>386,045,042.05</b>	<b>375,090,543.01</b>	
<b>Current assets</b>			
Inventories	1,534,635.60	1,456,140.36	14
Non-current receivables	73,534,113.22	67,860,863.45	15
Current receivables	64,944,003.01	84,241,493.75	16
Cash in hand and bank receivables	7,386,800.99	494,227.03	
<b>Total current assets</b>	<b>147,399,552.82</b>	<b>154,052,724.59</b>	
	<b>533,444,594.87</b>	<b>529,143,267.60</b>	

PARENT COMPANY'S BALANCE SHEET €	31 Dec 2023	31 Dec 2022	Notes
<b>Equity and liabilities</b>			
<b>Equity</b>			18
Share capital	14,770,711.80	14,624,919.80	
Share issue	0.00	865,300.00	
Other funds			
Invested non-restricted equity reserve	304,225,763.20	308,157,763.20	
Retained result	23,631,012.70	21,099,355.70	
Result for the financial year	1,728,335.85	2,946,994.01	
<b>Total equity</b>	<b>344,355,823.55</b>	<b>347,694,332.71</b>	
Accumulated appropriations			20
Depreciation difference	196,972.12	142,268.39	
<b>Liabilities</b>			
Non-current liabilities	128,424,044.23	107,566,877.05	21
Current liabilities	60,467,754.97	73,739,789.45	22
<b>Total liabilities</b>	<b>188,891,799.20</b>	<b>181,306,666.50</b>	
	<b>533,444,594.87</b>	<b>529,143,267.60</b>	

# Parent company's cash flow statement

PARENT COMPANY'S CASH FLOW STATEMENT €	2023	2022
<b>Operating activities</b>		
Business result	-3,110,015.04	-1,078,042.12
Adjustments to business result 1)	-2,248,778.86	243,455.67
Changes in working capital 2)	23,734,494.20	-14,035,631.07
Dividends received	182,160.00	413,360.00
Interest received	4,277,269.95	920,983.25
Interest paid	-5,248,971.35	-1,334,833.77
Other financial income and expenses	632,625.82	-250,468.84
Income taxes	-29.80	-631,736.12
<b>Cash flow from operating activities</b>	<b>18,218,754.92</b>	<b>-15,752,913.00</b>
<b>Investment activities</b>		
Acquisition of shares	-11,353,048.00	-40,705,000.00
Increase (-) in acquisition of tangible and intangible assets	-1,304,380.49	-284,712.54
Return of capital received	1,771,956.33	1,788,292.03
Proceeds from sales of non-current assets	2,179,751.98	120,199.10
<b>Cash flow from investment activities</b>	<b>-8,705,720.18</b>	<b>-39,081,221.41</b>
<b>Financing activities</b>		
Proceeds from long-term loans	20,857,167.18	15,257,512.88
Increase (-) or decrease (+) in interest-bearing receivables	-9,760,782.95	-8,816,376.48
Increase (+) or decrease (-) in short-term interest-bearing liabilities	-29,000,000.00	5,170,612.88
Group contributions received	5,050,000.00	5,050,000.00
Paid-up equity increase	11,300,000.00	38,100,000.00
Return of capital paid	-651,508.00	0.00
Redemption of own shares	-415,337.01	0.00
<b>Cash flow from financing activities</b>	<b>-2,620,460.78</b>	<b>54,761,749.28</b>

PARENT COMPANY'S CASH FLOW STATEMENT €	2023	2022
<b>Change in cash and cash equivalents</b>	6,892,573.96	-72,385.13
Liquid assets 1 Jan	494,227.03	566,612.16
<b>Liquid assets 31 Dec</b>	<b>7,386,800.99</b>	<b>494,227.03</b>
<b>1) Adjustments to business result</b>		
Depreciation and write-downs	233,110.68	291,748.90
Non-cash items	0.00	12,798.80
Gain (-) or loss (+) from divestment of non-current assets	-2,481,889.54	-61,092.03
	<b>-2,248,778.86</b>	<b>243,455.67</b>
<b>2) Changes in working capital</b>		
Increase (-) or decrease (+) in non-interest-bearing receivables	8,085,023.92	-21,106,089.12
Increase (-) or decrease (+) in inventories	-78,495.24	-639,252.28
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	15,727,965.52	7,709,710.33
	<b>23,734,494.20</b>	<b>-14,035,631.07</b>

# Notes to the Financial Statements

## ACCOUNTING PRINCIPLES

### The scope and accounting principles of the consolidated financial statements

EPV Energy Group consists of EPV Energy Ltd and its subsidiaries. The registered office of the Group's parent company, EPV Energy Ltd, is Vaasa. The consolidated financial statements incorporate all the subsidiaries and affiliated companies, excluding Voimapiha Oy.

EPV Energy Ltd owns all the Series A shares of Suomen Energiavarat Oy. Suomen Energiavarat Oy's financial statements have not been incorporated into the consolidated financial statements, since the company was established for a specific purpose and the Series A shares EPV Energy Ltd owns do not entitle it to any dividends. The affiliated company Voimapiha Oy has also not been incorporated into the consolidated financial statements, because the Series A shares EPV Energy Ltd owns do not entitle it to any dividends.

The **subsidiaries** have mainly been established by the parent company and have been incorporated in accordance with the acquisition cost method. The only exception is the online business Vaskiluodon Teollisuuskiinteistöt Oy, which has been incorporated in accordance with the equity method. The portion of the purchase price paid for this subsidiary which exceeds equity (difference on consolidation) at the time of acquisition has been allocated to the transmission network.

The Group's internal transactions and internal assets and liabilities have been eliminated.

Minority interests have been separated from the result for the financial year and equity and are presented as a separate item in the income statement and balance sheet.

The accumulated depreciation difference has been divided into non-restricted equity and deferred tax liabilities. The change in depreciation in the income statement has been divided into the result for the financial year and the change in deferred tax liabilities.

The **affiliated companies** have been incorporated in accordance with the equity method. A share of the affiliated company's result and change in depreciation (less deferred tax liabilities) equivalent to the Group's interest is included in the income statement.

In the balance sheet, the share of the affiliated company's equity and the accumulated depreciation, less deferred tax liabilities, are presented as share value.

### Non-current assets

Non-current assets are entered in the balance sheet under the original acquisition cost, less contributions received and scheduled depreciation and amortisation. Planned depreciations are calculated according to the asset's expected economic life.

The depreciation periods are:	
Intangible rights	10–20 years
Other long-term expenses	5–40 years
Goodwill	5–15 years
Buildings and structures	5–30 years
Machinery and equipment	5–52 years
Transmission network	30 years

The share of wasteland and standing crop in the direct acquisition costs of bog areas intended for peat production are entered under item land. The remaining direct acquisition costs of bog areas are recognised under peat resources. Peat resources are depreciated under the machine hour method of depreciation.

The expenses directly linked to wind power projects are entered under purchases in progress. They are part of the preparation process for investments. The prerequisites for completing the projects are investigated annually and separately for each project.

An increased depreciation on machinery and equipment capitalised during the financial year has been carried out by some subsidiaries, as allowed in the tax years 2020–2023 by Act 1572/2019 (not available in English).

### Valuation of inventories

Inventories are evaluated as direct acquisition costs according to the FIFO principle. Should the probable acquisition cost of the inventories be lower than the original acquisition cost on the date of the financial statements, the difference is not entered as a cost due to the absorption costing principle.

### Emission allowances

Emission allowances received free of charge are assets not included in the balance sheet.

### Feed-in tariff system

The feed-in tariff system covers the power generation subsidy, or feed-in tariff, which fluctuates based on the electricity market price paid to wind, biogas, forest chip and wood-based fuel power plants or on the emission allowance price.

The subsidies granted based on the feed-in tariff system are recognised in the company's turnover.

### Derivatives management

The interest rate tying period of floating-rate loans has been extended with interest rate swap agreements, using hedge accounting principles. The derivative agreements have not been recognised in the balance sheet. Derivatives used to manage interest rate risk have been accrued for the agreement period. Income from interest rate derivatives is shown under finance income and expenses under finance expenses.

The purchase of coal in foreign currency has been hedged using forward exchange agreements.

The nominal values, fair values and other key figures of the derivative instruments are presented in the notes.

### Pension cover

The pension cover of the company's personnel is taken care of by an external pension insurance company.

### List of ledgers and materials

A list of ledgers and materials is attached to the balance sheet specifications.

# Notes to the income statement

NOTES TO THE INCOME STATEMENT (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>1. TURNOVER</b>				
Electricity sales	331,990	1) 558,416	1) 218,289	263,400
Heat sales	91,453	58,303	0	0
Other activities	32,231	60,990	2,169	6,670
	<b>455,674</b>	<b>677,709</b>	<b>220,458</b>	<b>270,070</b>
<b>2. OTHER OPERATING INCOME</b>				
Rental income	103	1,253	121	86
Capital gains on fixed assets	2,416	118	2,487	61
Other income	4,283	7,732	5,742	5,020
Fuel sales	0	18,692	0	0
	<b>6,803</b>	<b>27,795</b>	<b>8,350</b>	<b>5,167</b>
<b>3. MATERIALS AND SERVICES</b>				
Energy purchases and distribution charges	168,943	1) 455,836	1) 96,201	171,633
Fuels	60,277	103,361	1,090	2,391
Emission allowance purchases	26,456	46,533	17,664	34,773
<b>Purchases during period</b>	<b>255,676</b>	<b>605,730</b>	<b>114,955</b>	<b>208,798</b>
Increase (-) or decrease (+) in inventories	6,184	-38,274	0	0
External services	7,943	6,416	0	0
	<b>269,803</b>	<b>573,872</b>	<b>114,955</b>	<b>208,798</b>

1) Deals (sales and purchases) closed with the Nord Pool power exchange or other wholesale markets are presented according to the gross principle, as in previous years.

NOTES TO THE INCOME STATEMENT (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>4. PERSONNEL EXPENSES</b>				
Wages, salaries and bonuses	11,826	9,574	6,469	5,871
Pension expenses	2,140	1,755	1,214	1,099
Other additional personnel expenses	440	333	262	216
	<b>14,406</b>	<b>11,662</b>	<b>7,945</b>	<b>7,186</b>
Salaries and bonuses paid to the CEO and the Board of Directors	651	603	613	565
Average number of personnel during financial year	155	122	73	64
<b>5. DEPRECIATION AND IMPAIRMENT CHARGES</b>				
Planned depreciations				
Intangible assets	558	505	0	0
Other non-current expenses	1,791	1,449	166	118
Buildings and structures	5,286	4,237	24	105
Machinery and equipment	31,364	23,710	44	68
Transmission network	3,699	3,556	0	0
Other tangible assets	72	72	0	0
Peat resources	534	317	0	0
	<b>43,304</b>	<b>33,845</b>	<b>233</b>	<b>292</b>

NOTES TO THE INCOME STATEMENT (€1,000)	Group		Parent company	
	2023	2022	2023	2022
Reduction in value of non-current assets				
Peat resources	278	0	0	0
	<b>43,582</b>	<b>33,845</b>	<b>233</b>	<b>292</b>

#### 6. OTHER OPERATING EXPENSES

Firm energy purchases	73,678	42,759	104,814	55,976
External services	27,548	21,723	1,548	1,601
Administrative costs	2,112	1,972	1,351	1,375
Rent	2,151	2,215	451	404
Materials and supplies	3,787	1,613	64	84
Other personnel expenses	1,031	720	605	500
Commitment expenses and public payments	3,787	2,444	61	85
Other expenses and adjustments	0	-141	5	13
	<b>114,093</b>	<b>73,304</b>	<b>108,898</b>	<b>60,039</b>

#### Auditor's fees

Auditing fees	199	160	97	81
Certificates and expert opinions	14	3	5	2
Tax advisory fees	4	3	1	3
Other services	206	88	206	77
	<b>422</b>	<b>253</b>	<b>308</b>	<b>163</b>

#### 7. FINANCE INCOME AND COSTS

Dividend income				
From others	182	413	182	413
	<b>182</b>	<b>413</b>	<b>182</b>	<b>413</b>

NOTES TO THE INCOME STATEMENT (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Other interest and finance income</b>				
From Group companies	64	22	1,487	500
From affiliated companies	0	18	0	18
From others	9,566	1,025	4,354	698
	<b>9,631</b>	<b>1,065</b>	<b>5,841</b>	<b>1,215</b>

#### Interest and other finance costs

To Group companies	-	-	0	0
To affiliated companies	-65	-36	0	0
To others	-22,485	-7,076	-6,180	-1,879
	<b>-22,550</b>	<b>-7,111</b>	<b>-6,180</b>	<b>-1,879</b>

#### Total finance income and costs

	<b>-12,737</b>	<b>-5,633</b>	<b>-157</b>	<b>-251</b>
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#### 8. APPROPRIATIONS

Increase (-) or decrease (+) in cumulative difference between actual and planned depreciation	-	-	-55	-142
Group contributions received (+) and paid (-)	-	-	5,050	5,050
	<b>0</b>	<b>0</b>	<b>4,995</b>	<b>4,908</b>

#### 9. INCOME TAXES

Income tax on ordinary activities	608	1,031	0	632
Changes in deferred tax liabilities	1,214	808	-	-
	<b>1,822</b>	<b>1,839</b>	<b>0</b>	<b>632</b>

# Notes to the balance sheet

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>10. INTANGIBLE ASSETS</b>				
<b>Intangible rights</b>				
Acquisition cost 1 Jan	2,680	1,481	5	18
Increases	788	1,212	75	0
Decreases	0	-13	0	-13
<b>Acquisition cost 31 Dec</b>	<b>3,468</b>	<b>2,680</b>	<b>80</b>	<b>5</b>
Accumulated depreciation and impairment charges 1 Jan	-747	-642	0	0
Depreciation for the period	-158	-105	0	0
<b>Book value 31 Dec</b>	<b>2,564</b>	<b>1,933</b>	<b>80</b>	<b>5</b>
<b>Goodwill</b>				
Acquisition cost 1 Jan	6,000	6,000	0	0
<b>Acquisition cost 31 Dec</b>	<b>6,000</b>	<b>6,000</b>	<b>0</b>	<b>0</b>
Accumulated depreciation and impairment charges 1 Jan	-5,600	-5,200	0	0
Depreciation for the period	-400	-400	0	0
<b>Book value 31 Dec</b>	<b>0</b>	<b>400</b>	<b>0</b>	<b>0</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Other non-current expenses</b>				
Acquisition cost 1 Jan	32,949	27,504	3,738	3,706
Increases	6,296	5,445	973	32
<b>Acquisition cost 31 Dec</b>	<b>39,245</b>	<b>32,949</b>	<b>4,710</b>	<b>3,738</b>
Accumulated depreciation and impairment charges 1 Jan	-13,948	-12,498	-3,502	-3,384
Depreciation for the period	-1,791	-1,449	-166	-118
<b>Book value 31 Dec</b>	<b>23,506</b>	<b>19,001</b>	<b>1,042</b>	<b>235</b>
<b>Total intangible assets</b>				
Acquisition cost 1 Jan	41,629	34,985	3,743	3,723
Increases	7,085	6,657	1,048	32
Decreases	0	-13	0	-13
<b>Acquisition cost 31 Dec</b>	<b>48,713</b>	<b>41,629</b>	<b>4,790</b>	<b>3,743</b>
Accumulated depreciation and impairment charges 1 Jan	-20,294	-18,340	-3,502	-3,384
Depreciation for the period	-2,349	-1,954	-166	-118
<b>Book value 31 Dec</b>	<b>26,070</b>	<b>21,334</b>	<b>1,122</b>	<b>240</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>11. TANGIBLE ASSETS</b>				
<b>Land</b>				
Acquisition cost 1 Jan	11,818	11,372	1,992	1,992
Increases	264	617	0	0
Decreases	-12	-171	0	0
<b>Acquisition cost 31 Dec</b>	<b>12,070</b>	<b>11,818</b>	<b>1,992</b>	<b>1,992</b>
<b>Book value 31 Dec</b>	<b>12,070</b>	<b>11,818</b>	<b>1,992</b>	<b>1,992</b>
<b>Peat resources</b>				
Acquisition cost 1 Jan	4,572	4,572	0	0
Increases	0	0	0	0
Decreases	-278	0	0	0
<b>Acquisition cost 31 Dec</b>	<b>4,294</b>	<b>4,572</b>	<b>0</b>	<b>0</b>
Accumulated depreciation and impairment charges 1 Jan	-1,859	-1,543	0	0
Depreciation for the period	-534	-317	0	0
<b>Book value 31 Dec</b>	<b>1,901</b>	<b>2,713</b>	<b>0</b>	<b>0</b>
<b>Buildings and structures</b>				
Acquisition cost 1 Jan	108,879	80,977	2,271	2,997
Increases	17,100	28,628	0	0
Decreases	0	-726	0	-726
<b>Acquisition cost 31 Dec</b>	<b>125,979</b>	<b>108,879</b>	<b>2,271</b>	<b>2,271</b>
Accumulated depreciation and impairment charges 1 Jan	-25,653	-22,142	-1,872	-2,493
Accumulated depreciation from deduction	0	726	0	726
Depreciation for the period	-5,286	-4,237	-24	-105
<b>Book value 31 Dec</b>	<b>95,040</b>	<b>83,226</b>	<b>376</b>	<b>399</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Machinery and equipment</b>				
Acquisition cost 1 Jan	566,827	408,565	2,511	2,766
Increases	100,373	158,451	6	15
Investment aid	-544	0	0	0
Decreases	0	-189	0	-270
<b>Acquisition cost 31 Dec</b>	<b>666,656</b>	<b>566,827</b>	<b>2,517</b>	<b>2,511</b>
Accumulated depreciation and impairment charges 1 Jan	-163,690	-139,891	-2,370	-2,452
Accumulated depreciation from deduction	0	182	0	150
Depreciation for the period	-31,364	-23,982	-44	-68
<b>Book value 31 Dec</b>	<b>471,602</b>	<b>403,137</b>	<b>104</b>	<b>141</b>
Book value of production machinery and equipment included in fixed assets 31 Dec	468,344	381,419	54	68
<b>Transmission network</b>				
Acquisition cost 1 Jan	89,322	83,412	0	0
Increases	3,273	5,931	0	0
Decreases	-16	-21	0	0
<b>Acquisition cost 31 Dec</b>	<b>92,579</b>	<b>89,322</b>	<b>0</b>	<b>0</b>
Accumulated depreciation and impairment charges 1 Jan	-32,171	-28,637	0	0
Accumulated depreciation from deduction	16	21	0	0
Depreciation for the period	-3,699	-3,556	0	0
<b>Book value 31 Dec</b>	<b>56,724</b>	<b>57,150</b>	<b>0</b>	<b>0</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Other tangible assets</b>				
Acquisition cost 1 Jan	1,081	1,081	0	0
<b>Acquisition cost 31 Dec</b>	<b>1,081</b>	<b>1,081</b>	<b>0</b>	<b>0</b>
Accumulated depreciation and impairment charges 1 Jan	-1,009	-936	0	0
Depreciation for the period	-72	-72	0	0
<b>Book value 31 Dec</b>	<b>0</b>	<b>72</b>	<b>0</b>	<b>0</b>
<b>Prepayments and purchases in progress</b>				
Acquisition cost 1 Jan	132,024	183,907	603	366
Increases	33,137	69,289	981	437
Decreases	-112,896	-121,172	-731	-200
<b>Acquisition cost 31 Dec</b>	<b>52,265</b>	<b>132,024</b>	<b>854</b>	<b>603</b>
<b>Book value 31 Dec</b>	<b>52,265</b>	<b>132,024</b>	<b>854</b>	<b>603</b>
<b>Total tangible assets</b>				
Acquisition cost 1 Jan	914,506	773,869	7,492	8,236
Increases	154,148	262,916	987	453
Investment aid	-544	0	0	0
Decreases	-113,202	-122,279	-731	-1,196
<b>Acquisition cost 31 Dec</b>	<b>954,908</b>	<b>914,506</b>	<b>7,749</b>	<b>7,492</b>
Accumulated depreciation and impairment charges 1 Jan	-224,366	-193,132	-4,357	-5,059
Accumulated depreciation from deduction	16	930	0	876
Depreciation for the period	-40,955	-32,163	-67	-173
<b>Book value 31 Dec</b>	<b>689,603</b>	<b>690,140</b>	<b>3,325</b>	<b>3,136</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>12. CAPITALISED INTEREST COSTS</b>				
Capitalised in the financial year	382	860	0	0
Without depreciation of capitalised interest costs				
Prepayments and purchases in progress	227	1,310	0	0
Other non-current expenses	215	139	0	0
Buildings and structures	1,059	862	0	0
Machinery and equipment	4,984	4,061	0	0
Transmission network	34	36	0	0
	<b>6,519</b>	<b>6,408</b>	<b>0</b>	<b>0</b>
<b>13. INVESTMENTS</b>				
<b>Interests in Group companies</b>				
Acquisition cost 1 Jan	264	264	244,255	203,550
Increases	0	0	11,353	40,705
Decreases	0	0	-863	0
<b>Acquisition cost 31 Dec</b>	<b>264</b>	<b>264</b>	<b>254,745</b>	<b>244,255</b>
<b>Book value 31 Dec</b>	<b>264</b>	<b>264</b>	<b>254,745</b>	<b>244,255</b>
<b>Interests in associated companies</b>				
Acquisition cost 1 Jan	126,455	129,785	125,486	126,390
Increases	592	0	0	0
Decreases	-1,748	-3,329	-605	-904
<b>Acquisition cost 31 Dec</b>	<b>125,300</b>	<b>126,455</b>	<b>124,882</b>	<b>125,486</b>
<b>Book value 31 Dec</b>	<b>125,300</b>	<b>126,455</b>	<b>124,882</b>	<b>125,486</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Other shares and interests</b>				
Acquisition cost 1 Jan	1,973	2,796	1,973	2,796
Decreases	-2	-823	-2	-823
<b>Acquisition cost 31 Dec</b>	<b>1,971</b>	<b>1,973</b>	<b>1,971</b>	<b>1,973</b>
<b>Book value 31 Dec</b>	<b>1,971</b>	<b>1,973</b>	<b>1,971</b>	<b>1,973</b>
<b>Total investments</b>				
Acquisition cost 1 Jan	128,692	132,844	371,715	332,737
Increases	592	0	11,353	40,705
Decreases	-1,750	-4,152	-1,470	-1,727
<b>Acquisition cost 31 Dec</b>	<b>127,534</b>	<b>128,692</b>	<b>381,598</b>	<b>371,715</b>
<b>Book value 31 Dec</b>	<b>127,534</b>	<b>128,692</b>	<b>381,598</b>	<b>371,715</b>

**NOTES TO THE BALANCE SHEET (€1,000)**
**INVESTMENTS**

Name of entity	Registered office	Group share, %	Group voting control, %	Parent company share, %	Shares owned by parent company	
					Shares	Book value
<b>Interests in Group companies</b>						
EPV Akkuhybridi Oy	Vaasa	100.0	100.0	100.0	3,500	2,103
EPV Alueverkko Oy	Vaasa	100.0	100.0	100.0	17,000	17,455
EPV Aluevarannot Oy	Vaasa	100.0	100.0	100.0	1,000	6,150
EPV Solar Power Ltd	Vaasa	100.0	100.0	100.0	4,500	5,003
EPV Operointi Oy	Vaasa	100.0	100.0	100.0	500	50
EPV Siirtoverkko Oy	Vaasa	100.0	100.0	100.0	5,000	5
EPV Tase Oy	Vaasa	100.0	100.0	100.0	500	500
EPV Teollisuusverkot Oy (A)	Vaasa	90.0	90.0	90.0	90	2,003
EPV Windpower Ltd (A)	Vaasa	100.0	100.0	100.0	564	2,678
EPV Windpower Ltd (B)	Vaasa	100.0	100.0	100.0	5,200	25,933
EPV Windpower Ltd (C)	Vaasa	100.0	100.0	100.0	4,700	23,500
EPV Windpower Ltd (D)	Vaasa	100.0	100.0	100.0	10,000	50,000
EPV Windpower Ltd (E)	Vaasa	100.0	100.0	100.0	7,436	37,072
EPV Windpower Ltd (F)	Vaasa	100.0	100.0	100.0	6,800	34,000
		<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>34,700</b>	<b>173,183</b>
Powerheat Solutions Oy	Espoo	70.0	70.0	70.0	5,000	500
Rajakiiri Oy (A)	Tornio	60.2	60.2	60.2	9,431	3,313
Rajakiiri Oy (B)	Tornio	60.2	60.2	60.2	4,615	3,386
		<b>60.2</b>	<b>60.2</b>	<b>60.2</b>	<b>14,046</b>	<b>6,699</b>

**NOTES TO THE BALANCE SHEET (€1,000)**
**INVESTMENTS**

Name of entity	Registered office	Group share, %	Group voting control, %	Parent company share, %	Shares owned by parent company	
					Shares	Book value
Seinäjoen Voima Oy	Vaasa	100.0	100.0	100.0	18,001	18,353
Tornion Voima Oy	Tornio	100.0	100.0	100.0	7,500	15,008
Vaasan Voima Oy	Vaasa	100.0	100.0	100.0	9,500	7,473
Vaskiluodon Teollisuuskiinteistöt Oy	Vaasa	100.0	100.0	100.0	4,000	264
<b>Interests in associated companies</b>						
EPM Metsä Oy	Vaasa	50.0	50.0	50.0	200,000	174
Raahen Voima Oy	Raahе	25.0	25.0	25.0	675,625	8,376
Voimapiha Oy (A)	Helsinki	16.7	32.7	16.7	200,000	20,000
Woodtracker Oy	Espoo	17.6	17.6	17.6	30,000	30
Pohjolan Voima Oyj (A)	Helsinki			5.2	692,549	7,793
Pohjolan Voima Oyj (B)	Helsinki			3.2	230,558	2,735
Pohjolan Voima Oy (B2)	Helsinki			5.3	297,418	20,669
Pohjolan Voima Oyj (C2)	Helsinki			3.2	11,624	138
Pohjolan Voima Oyj (C)	Helsinki			14.3	318,041	467
Pohjolan Voima Oyj (M)	Helsinki			3.0	9,355	331
Pohjolan Voima Oyj (V)	Helsinki			21.5	224,735	3,952
				<b>5.5</b>	<b>1,784,280</b>	<b>36,085</b>



NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>14. INVENTORIES</b>				
Power plants' fuel	41,327	47,507	0	0
Advance payments	1,553	1,668	1,535	1,456
	<b>42,879</b>	<b>49,175</b>	<b>1,535</b>	<b>1,456</b>
<b>15. NON-CURRENT RECEIVABLES</b>				
Loan receivables	67,382	67,382	73,462	67,697
Other non-current receivables	2,698	2,771	72	164
	<b>70,080</b>	<b>70,153</b>	<b>73,534</b>	<b>67,861</b>
<b>Receivables from Group companies</b>				
Loan receivables	1,520	1,520	7,600	1,835
<b>Receivables from associated companies</b>				
Loan receivables	65,695	65,695	65,695	65,695
<b>16. CURRENT RECEIVABLES</b>				
Trade receivables	56,816	66,467	34,218	46,794
Loan receivables	0	0	19,373	15,285
Unpaid share capital	89	15,300	0	15,300
Other receivables	10,335	13,031	4	2
Prepayments and accrued income *)	19,619	9,301	11,350	6,861
	<b>86,859</b>	<b>104,099</b>	<b>64,944</b>	<b>84,241</b>
Share issue receivables from 2022 relate to wind and solar power investments				
<b>Receivables from Group companies</b>				

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
Trade receivables	-	-	566	177
Loan receivables	-	-	19,373	15,285
Prepayments and accrued income	23	12	227	154
	<b>23</b>	<b>12</b>	<b>20,166</b>	<b>15,616</b>
<b>Receivables from associated companies</b>				
Trade receivables	3,794	6,035	0	918
Loan receivables	580	286	0	0
Prepayments and accrued income	9,007	3,297	9,007	3,297
	<b>13,381</b>	<b>9,618</b>	<b>9,007</b>	<b>4,215</b>
*) Significant items included in prepayments and accrued income				
Accrued electricity purchases	8,510	3,019	8,510	3,019
Preliminary investment appraisal costs	0	1,702	0	1,702
Accrued emission allowances bought	1,358	1,019	983	1,019
Accrued electricity and heat sales	1,436	1,598	1	322
Accrued interest income	3,317	692	1,687	402
Accrued VAT	28	204	19	166
Accrued external services	294	163	57	77
Accrued LNG sales	0	0	0	59
Accrued energy aid	3,460	0	0	0
Accrued excise taxes	477	149	0	0
Accrued investment aid	611	585	0	0
Other	129	170	92	95
	<b>19,619</b>	<b>9,301</b>	<b>11,350</b>	<b>6,861</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>17. SECURITIES INCLUDED IN FINANCIAL ASSETS</b>				
Difference between the acquisition cost and market value of marketable securities included in financial assets				
Units in mutual funds				
Market value 31 Dec	8,135	-	-	-
Book value 31 Dec	8,135	-	-	-
<b>Difference</b>	<b>0</b>			
<b>18. EQUITY</b>				
<b>Restricted equity</b>				
Share capital 1 Jan	14,625	14,310	14,625	14,310
Increase in share capital	797	315	797	315
Issuance of equity to shareholders	-652	0	-652	0
<b>Share capital 31 Dec</b>	<b>14,771</b>	<b>14,625</b>	<b>14,771</b>	<b>14,625</b>
Share issue 1 Jan	865	704	865	704
Unregistered share capital	0	434	0	434
Transfer to share capital	-797	-272	-797	-272
Expiration of underwriting	-68	0	-68	0
<b>Share issue 31 Dec</b>	<b>0</b>	<b>865</b>	<b>0</b>	<b>865</b>
<b>Total restricted equity</b>	<b>14,771</b>	<b>15,490</b>	<b>14,771</b>	<b>15,490</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Non-restricted equity</b>				
Invested non-restricted equity reserve 1 Jan	308,158	280,634	308,158	280,634
Investment in invested non-restricted equity reserve	0	27,524	0	27,524
Expiration of underwriting	-3,932	0	-3,932	0
<b>Invested non-restricted equity reserve 31 Dec</b>	<b>304,226</b>	<b>308,158</b>	<b>304,226</b>	<b>308,158</b>
Retained result 1 Jan	103,957	98,914	24,046	21,099
Changes in minority interests	44	0	0	0
Redemption of own shares	-415	0	-415	0
<b>Retained result 31 Dec</b>	<b>103,585</b>	<b>98,914</b>	<b>23,631</b>	<b>21,099</b>
Result for the financial year	7,376	5,043	1,728	2,947
<b>Total non-restricted equity</b>	<b>415,187</b>	<b>412,114</b>	<b>329,585</b>	<b>332,204</b>
<b>TOTAL EQUITY</b>	<b>429,958</b>	<b>427,604</b>	<b>344,356</b>	<b>347,694</b>
Depreciation difference				
Share from depreciation difference entered under equity	91,464	86,552	-	-

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Calculation of distributable equity 31 Dec</b>				
Retained result	-	-	23,631	21,099
Result for the financial year	-	-	1,728	2,947
Invested non-restricted equity reserve	-	-	304,226	308,158
	<b>-</b>	<b>-</b>	<b>329,585</b>	<b>332,204</b>

**NOTES TO THE BALANCE SHEET (€1,000)**

Share capital by share class	shares	€1,000
Series A1		
- the right to receive electricity generated through nuclear power by the nuclear power plant units Olkiluoto 1, Olkiluoto 2 and Olkiluoto 3, based on the company Teollisuuden Voima Oyj's Series A and B shares or shares replacing them	3,630,898	6,173
Series A2		
- the right to receive electricity generated through nuclear power by Teollisuuden Voima Oyj's nuclear power plant units Olkiluoto 1 and Olkiluoto 2, based on the company Pohjolan Voima Oyj's Series B shares or shares replacing them	250,000	425
Series A3		
- the right to receive electricity generated through nuclear power by Teollisuuden Voima Oyj's nuclear power plant unit Olkiluoto 3, based on the company Pohjolan Voima Oyj's Series B2 shares or shares replacing them	600,486	1,021
Series B		
- the right to receive electricity generated mainly at the Meri-Pori coal power plant, based on the company Teollisuuden Voima Oyj's Series C and Pohjolan Voima Oyj's Series C2 shares or shares replacing them	64,653	110
Series C		
- the right to receive electricity generated mainly by Mussalon Voima Oy, based on the company Pohjolan Voima Oyj's Series M shares or shares replacing them	20,517	35
Series D1		
- the right to receive electricity generated at the Vaskiluodon Voima power plant, based on the company Vaskiluodon Voima Oy's or, from 1 January 2023, Vaasan Voima Oy's shares or shares replacing them	622,500	1,058

**NOTES TO THE BALANCE SHEET (€1,000)**

Share capital by share class	shares	€1,000
Series D2		
- the right to receive electricity generated mainly at Vaskiluodon Voima Oy's thermal power station in Vaasa, based on the company Pohjolan Voima Oyj's Series V shares or shares replacing them	113,091	192
Series D3		
- the right to receive electricity generated at the Seinäjoki thermal power station, based on the company Seinäjoen Voima Oy's shares or shares replacing them	183,500	312
Series E1		
- the right to receive electricity generated in Finland mainly through hydroelectric power, based on the company Pohjolan Voima Oyj's Series A shares or shares replacing them	543,375	924
Series E3		
- the right to receive electricity generated in Sweden mainly through hydroelectric power, based on the company Voimapiha Oy's Series A shares or shares replacing them	110,000	187
Series F		
- the right to receive electricity generated mainly at the Tahkoluoto and Kristinestad power plants, based on the company Pohjolan Voima Oyj's Series C shares or shares replacing them	197,964	337
Series G		
- the right to proceeds not included in other share series and the liability to pay corresponding expenses	302,400	514

**NOTES TO THE BALANCE SHEET (€1,000)**

Share capital by share class	shares	€1,000
Series M		
- the right to receive liquid natural gas (LNG), based on the company Manga LNG Oy's shares or shares replacing them	6,000	10
Series S		
- the right to receive electricity generated through solar power, based on the company EPV Solar Power Ltd's shares or shares replacing them	50,000	85
Series T1		
- the right to receive electricity generated at the Tornio thermal power station, based on the company Tornion Voima Oy's shares or shares replacing them	120,000	204
Series T2		
- the right to receive electricity generated at the Raahe CHP power station, based on the company Raahen Voima Oy's shares or shares replacing them	49,531	84
Series W1		
- the right to receive electricity generated through wind power, based on the company Rajakiiri Oy's shares or shares replacing them	86,971	148
Series W2		
- the right to receive electricity generated through wind power, based on the company EPV Windpower Ltd's Series A shares or shares replacing them	26,756	45
Series W3		
- the right to receive electricity generated through wind power, based on the company Suomen Merituuli Oy's shares or shares replacing them	4,987	8

**NOTES TO THE BALANCE SHEET (€1,000)**

Share capital by share class	shares	€1,000
Series W4		
- the right to receive electricity generated through wind power, based on the company EPV Windpower Ltd's Series B shares or shares replacing them	259,325	441
Series W5		
- the right to receive electricity generated through wind power, based on the company EPV Windpower Ltd's Series C shares or shares replacing them	235,000	400
Series W6		
- the right to receive electricity generated through wind power, based on the company EPV Windpower Ltd's Series D shares or shares replacing them	500,000	850
Series W7		
- the right to receive electricity generated through wind power, based on the company EPV Windpower Ltd's Series E shares or shares replacing them	370,700	630
Series W8		
- the right to receive electricity generated through wind power, based on the company EPV Windpower Ltd's Series F shares or shares replacing them	340,000	578
	<b>8,688,654</b>	<b>14,771</b>

The owners of each share series shall bear the fixed costs of the series in question commensurate with the number of shares they own and variable costs commensurate with the quantity of energy they have taken.

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>19. PROVISIONS FOR LIABILITIES AND CHARGES</b>				
<b>Other provisions for liabilities and charges</b>	<b>3,500</b>	<b>3,500</b>	<b>0</b>	<b>0</b>
When production ceases, the company is responsible for dismantling the power plant and bringing the site to its former state.				
<b>20. ACCUMULATED APPROPRIATIONS</b>				
<b>Depreciation difference of deferred tax liabilities</b>	<b>23,667</b>	<b>22,454</b>	<b>39</b>	<b>28</b>
<b>21. NON-CURRENT LIABILITIES</b>				
Loans from financial institutions	432,211	403,959	71,100	51,100
Other liabilities	60,981	82,702	57,324	56,467
	<b>493,192</b>	<b>486,660</b>	<b>128,424</b>	<b>107,567</b>
<b>Liabilities to associated companies</b>				
Other liabilities	59,124	58,267	57,324	56,467
Liabilities maturing in more than five years				
Loans from financial institutions	63,487	78,745	0	0

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>22. CURRENT LIABILITIES</b>				
Loans from financial institutions	55,804	99,550	15,000	44,000
Advances received	168	168	0	0
Trade payables	44,862	36,699	28,475	22,209
Other liabilities	13,430	28,991	1,087	693
Accruals *)	24,819	14,591	15,905	6,838
	<b>139,083</b>	<b>179,999</b>	<b>60,468</b>	<b>73,740</b>
<b>Liabilities to Group companies</b>				
Trade payables	-	3	10,678	9,530
Accruals	-	-	328	0
	<b>-</b>	<b>3</b>	<b>11,006</b>	<b>9,530</b>
<b>Liabilities to associated companies</b>				
Trade payables	20,169	16,189	17,184	12,047
Other liabilities	0	4,214	0	305
Accruals	2,039	389	2,039	389
	<b>22,208</b>	<b>20,792</b>	<b>19,223</b>	<b>12,740</b>
*) Essential items included in accruals				
Electricity sales	11,262	3,411	11,262	3,411
LNG sales	0	0	328	0
Heat sales	89	0	0	0
Electricity purchases	1,124	0	0	0
Interest expenses	6,726	2,355	2,950	745

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
Accrued emissions trading	0	1,185	0	1,071
Accrued external services	994	2,146	10	0
Fuel purchases	1,389	485	0	0
Accrued ash and other by-products	15	428	0	0
Accrued rental expenses	283	1,151	0	0
Accrued personnel expenses	2,374	2,115	1,258	1,182
Accrued income and energy taxes	434	648	0	310
Accrued VAT	31	0	0	0
Other	98	668	98	119
	<b>24,819</b>	<b>14,591</b>	<b>15,905</b>	<b>6,838</b>
<b>23. COMMITMENTS</b>				
<b>Overdraft agreements</b>				
Total amount of granted overdraft	139,000	150,000	40,000	40,000
Available	12,356	23,786	0	0
<b>Leasing contract payments</b>				
Maturing next financial year	451	420	68	48
Maturing later	514	472	106	81
	<b>966</b>	<b>892</b>	<b>174</b>	<b>129</b>

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>Shares pledged, book value of shares</b>				
From associated company's liabilities	1,818	1,818	1,818	1,818
<b>Guarantees</b>				
On behalf of Group company				
Granted electricity market collateral	62,200	102,200	60,000	100,000
Available	42,200	82,200	40,000	80,000
Other parent company guarantees	16,122	26,533	31,122	41,533
From associated company's liabilities	36,550	35,059	36,550	35,059
<b>Other commitments</b>	<b>6,252</b>	<b>52,458</b>	<b>17</b>	<b>39,018</b>

The parent company has non-fixed-term lease agreements for premises in Vaasa and Helsinki. The agreements create a rental liability for the company.

Wind power projects involve the usual, non-current rental liabilities to landowners and, after production has ended, the responsibility to dismantle equipment and bring the site to its former state.

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>24. DERIVATIVE FINANCIAL INSTRUMENTS</b>				
<b>Interest and currency derivatives</b>				
In accordance with the company's financing policy, it only concludes derivative agreements with the purpose of hedging. The interest rate risk is hedged through interest rate swap agreements by converting floating rate loans into fixed interest rate loans. The hedging relationships are essentially efficient; in other words, the terms of the hedged risk and hedging instrument are well matched. The derivative instruments will terminate between 2024 and 2038. The fair value of interest rate swaps on the closing date is the best estimate of future interest expenses that the instruments incur, affecting the interest costs of future financial years.				
Interest rate swaps (on closing date)				
Nominal value	221,120	262,607	47,000	86,000
Fair value	21,975	29,573	5,797	7,209
Forward foreign exchange contracts				
Value of underlying instrument	-	4,956	-	-
Fair value	-	-287	-	-
<b>25. INTRA-GROUP TRANSACTIONS</b>				

The Group's immediate circle includes affiliated and associated companies and shareholders. Transactions carried out with this immediate circle are part of EPV Energy's normal business operations. EPV Energy Ltd owns generation shares in various production companies. Under the Articles of Association, a shareholder is entitled to receive electricity in proportion to their shareholding and is obliged to bear the costs.

NOTES TO THE BALANCE SHEET (€1,000)	Group		Parent company	
	2023	2022	2023	2022
<b>26. EMISSION ALLOWANCES</b>				
<b>Emissions trading period</b>	<b>2023-2025</b>	<b>2022-2025</b>	<b>2023-2025</b>	<b>2022-2025</b>
	<b>tn CO2</b>	<b>tn CO2</b>	<b>tn CO2</b>	<b>tn CO2</b>
Allocated free emission allowances	371	456	-	-
Allocated per year	126	115	-	-
<b>Use of emission allowances</b>	<b>2023</b>	<b>2022</b>	<b>2023</b>	<b>2022</b>
	<b>tn CO2</b>	<b>tn CO2</b>	<b>tn CO2</b>	<b>tn CO2</b>
Total emissions	469	590	-	-
Emission allowances allocated without compensation 1 Jan	-127	-115	-	-
Emission allowance purchases	-332	-470	-	-
<b>Deficit (+) / surplus (-)</b>	<b>10</b>	<b>6</b>	<b>-</b>	<b>-</b>
Allocated available free emission allowances 31 Dec				
	250	399	-	-

# Separate financial statements for electricity business activities

## ELECTRICITY UNBUNDLING PRINCIPLES

The unbundled calculation has been prepared using the matching principle. Electricity business activities are the company's main business. Shareholdings are excluded from the electricity business, as they do not materially relate to the electricity business itself. The capitalisation of separate wholesale heat production in subsidiaries is not included in the electricity business activities.

INCOME STATEMENT €	1 Jan-31 Dec 2023	1 Jan-31 Dec 2022
<b>Turnover</b>	<b>218,302,785.82</b>	<b>263,319,383.48</b>
Manufacture for own use	112,582.20	0.00
Other operating income	8,346,671.50	5,153,279.34
Materials and services	-113,865,394.51	-206,406,619.96
Personnel expenses	-7,920,537.62	-7,613,685.82
Depreciation and impairment charges	-232,598.77	-290,060.87
Other operating expenses	-107,772,014.79	-58,327,598.95
<b>Business result</b>	<b>-3,028,506.17</b>	<b>-4,165,302.78</b>
Finance income and costs	-339,710.64	-645,560.06
<b>RESULT BEFORE APPROPRIATIONS AND TAXES</b>	<b>-3,368,216.81</b>	<b>-4,810,862.84</b>
Appropriations		
Difference between planned depreciations and tax depreciations	-54,639.46	-142,830.34
Group contributions received	50,000.00	50,000.00
	<b>-4,639.46</b>	<b>-92,830.34</b>
Income taxes	-29.80	-17,371.30
<b>Result for the financial year</b>	<b>-3,372,886.07</b>	<b>-4,921,064.48</b>

BALANCE SHEET €	31 Dec 2023	31 Dec 2022
<b>ASSETS</b>		
<b>NON-CURRENT ASSETS</b>		
Intangible assets	1,122,053.84	240,315.38
Tangible assets	3,159,016.36	2,969,485.01
Investments		
Interests in Group companies	216,788,042.72	206,298,249.71
Interests in associated companies	123,063,701.54	123,668,265.32
Other shares and interests	190,123.94	190,123.94
<b>TOTAL NON-CURRENT ASSETS</b>	<b>344,322,938.40</b>	<b>333,366,439.36</b>
<b>CURRENT ASSETS</b>		
Non-current receivables	73,533,948.21	67,856,104.56
Current receivables	58,460,686.93	78,769,967.89
<b>TOTAL CURRENT ASSETS</b>	<b>131,994,635.15</b>	<b>146,626,072.46</b>
	<b>476,317,573.55</b>	<b>479,992,511.82</b>

BALANCE SHEET €	31 Dec 2023	31 Dec 2022
<b>EQUITY AND LIABILITIES</b>		
<b>EQUITY</b>		
Share capital	14,446,011.80	14,099,959.80
Share issue	0.00	865,300.00
Other funds		
Invested non-restricted equity reserve	285,450,463.20	289,382,463.20
Retained result	-53,486,837.32	-48,150,435.83
Result for the financial year	-3,372,886.07	-4,921,064.48
<b>TOTAL EQUITY</b>	<b>243,036,751.61</b>	<b>251,276,222.69</b>
<b>ACCUMULATED APPROPRIATIONS</b>		
Depreciation difference	196,972.12	142,268.39
<b>LIABILITIES</b>		
Non-current liabilities	173,670,504.52	157,863,938.16
Current liabilities	59,413,345.30	70,710,082.58
<b>TOTAL LIABILITIES</b>	<b>233,083,849.82</b>	<b>228,574,020.74</b>
	<b>476,317,573.55</b>	<b>479,992,511.82</b>

# Signatures to the Board of Directors' report and financial statements

Proposal for recording the annual result

The distributable equity of the parent company amounts to EUR 329,585,111.75, of which the profit or loss for the financial year is EUR 1,728,335.85. The Board of Directors proposes to the General Shareholders' Meeting that no dividends are to be paid.

Vaasa 13 March 2024

Joakim Strand  
Chairperson

Olli Arola

Stefan Damlin

Jaana Eklund

Jouni Haikarainen

Vesa Hätilä

Riku Kananen

Heikki Lappalainen

Anders Renvall

Hans-Alexander Öst

Rami Vuola  
CEO

## Auditor's note

We have today submitted the report on the conducted audit.

### **ERNST & YOUNG OY**

Audit firm

Mikko Ryttilahti  
Authorised Public Accountant (KHT)

Kristian Berg  
Authorised Public Accountant (KHT)

# Auditors' report

## To the General Shareholders' Meeting of EPV Energy Ltd

### FINANCIAL STATEMENT AUDIT

#### Auditors' opinion

We have audited the financial statements of EPV Energy Ltd (Business ID 0216734-9) for the financial year beginning on 1 January and ending on 31 December 2023. The financial statements comprise the Group's and the parent company's balance sheet, income statement, statement of cash flows and notes.

In our opinion, the financial statements give a true and fair view of the Group's and parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

#### Basis for opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's responsibilities for the audit of financial statements section of our report. We are independent of the parent company and of the Group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for an audit opinion.

Responsibilities of the Board of Directors and the CEO for the financial statements

The Board of Directors and the CEO are responsible for the preparation of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the CEO are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the CEO are responsible for assessing the parent company's and the Group's ability to continue as going concerns, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the Group or cease operations, or there is no realistic alternative but to do so.

#### Auditor's responsibilities for the audit of financial statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the Group's internal control.

- Evaluate the appropriateness of the accounting principles applied and the reasonableness of the accounting estimates made by management and the information presented on these.

- Conclude on the appropriateness of the Board of Directors' and the CEO's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the parent company or Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction,

supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

## OTHER REPORTING REQUIREMENTS

### Other information

The Board of Directors and the CEO are responsible for other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditors' report thereon.

We have obtained the report of the Board of Directors prior to the date of this auditors' report and the Annual Report is expected to be made available to us after that date.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read this other information and, in doing so, consider whether this information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. Our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements, and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditors' report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

### Opinions based on the decisions of the General Shareholders' Meeting

We support that the financial statements should be adopted. The proposal by the Board of Directors for the disposal of the profit for the period is in compliance with the Limited Liability Companies Act. We support that the parent company's Members of the Board of Directors and the CEO should be discharged from liability for the financial period audited by us.

### ERNST & YOUNG OY

Tilintarkastusyhteisö

Mikko Ryttilahti  
KHT

Kristian Berg  
KHT

