WORKING FOR FOSSIL FREEDOM

Annual and Sustainability Report 2023

VATTENFALL

Contents

Working for fossil freedom

Learn more about the noteworthy developments that took place throughout the year and in Vattenfall's value chain.

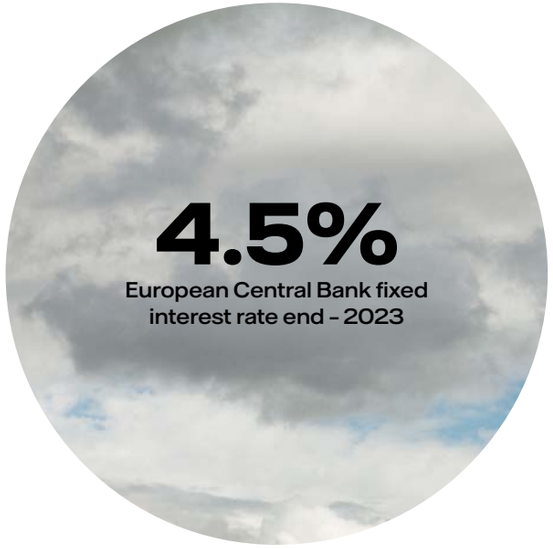
● Administration report and financial statements
● Statutory sustainability report

About the report: The Annual and Sustainability Report 2023 for Vattenfall AB (publ) is submitted by the Board of Directors and describes the company's overall targets and strategy as well as the year's results. The administration report and accounts are found on pages 1, 4–6, 19, 84–95, and 110–166 and are assured by our auditors. Pages 7, 18, 24–25, 50, 52–76, 78–79, 84–91, 102–103, and 175–189 include Vattenfall's statutory sustainability report according to the Swedish Annual Accounts Act. Vattenfall has prepared its reporting in accordance with the Global Reporting Initiative's (GRI) Universal Standards 2021. Vattenfall uses the GRI framework as a basis for reporting and is inspired by the Integrated Reporting Framework with the ambition that the report will reflect how sustainability is embedded in the overall strategy as well as in the daily work. Vattenfall mainly uses the Annual and Sustainability Report as a source for its Communication on Progress for the UN Global Compact (UNGC).

Further information about Vattenfall's operations and sustainability work can be found at: group.vattenfall.com/who-we-are/sustainability

Staying the course in a turbulent time

High inflation and supply chain pressures
2023 has been a challenging year for the renewables sector. The extreme volatility during 2022 abated and instead, the year has been characterised by higher inflation and supply chain squeezes, which has redrawn the operating environment.



Vattenfall has worked towards staying resilient and maintaining its long-term vision, utilising its integrated and diversified business model, financial discipline, and clear strategic prioritisation. Read more on page 8

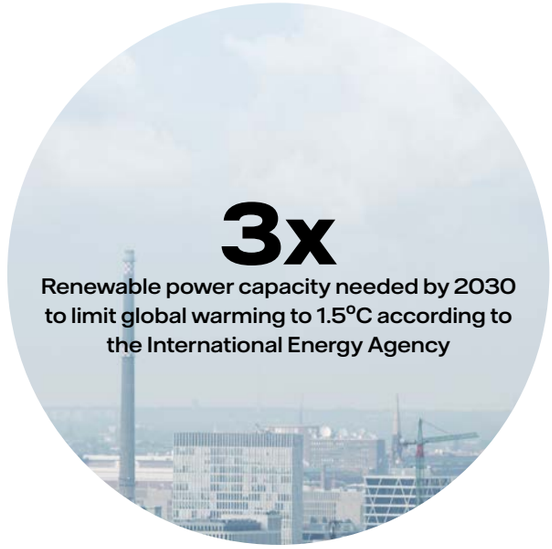
Technology to power the fossil-free transition
2023 saw the emergence of further groundbreaking technologies and sustainable goods and services. Technological advancements stand at the forefront of the fossil-free transition propelling it forward.

Vattenfall is boosting its impact by partnering with high-emitting sectors and developing innovative decarbonisation technologies via initiatives such as the First Movers Coalition. Read more on page 31

Advancing policy goals
The Council of the EU in the first half of 2023 resulted in advances within energy and climate policy. The new legislation includes a more ambitious reduction target, a framework for renewable energy, and policies to decarbonise transport and residential heat.

Vattenfall's net-zero targets have been approved by the Science Based Targets initiative and its absolute operating emissions (Scope 1&2) have been reduced by 66 per cent since 2017. Read more on page 56

Continued strong long-term fundamentals
Discrepancy between demand and supply for fossil-free energy persist, emphasising the need and business opportunities within fossil-free energy. The 2022 energy crisis showed the interconnectedness between energy security and the energy transition, highlighting the improved prospects of various technologies.



For Vattenfall sustainability is the business and fossil-free energy is the foundation for value creation. Therefore, Vattenfall will continue the journey towards fossil freedom. Read more on page 15

WORKING FOR FOSSIL FREEDOM

We are committed to building a future where everyone can choose fossil-free ways to move, make, and live. We call this fossil freedom. Working towards this goal is more than a responsibility, it is also a business opportunity – using fossil-free energy and technology not just to tackle climate change, but to benefit society, local communities and biodiversity.

While we have taken significant steps towards fossil freedom, our society is still highly dependent on fossil fuels. At Vattenfall we are working to help society break free from this addiction.

We will not get there alone. That is why we are collaborating with a broad range of partners, to push the boundaries of energy production, make fossil-free power and heat widely accessible for people and businesses, and decarbonise manufacturing and transport.

In 2023 we accelerated progress towards our goal, from the inauguration of the Hollandse Kust Zuid wind farm to helping Bristol in the UK decarbonise through a citywide district heating network.

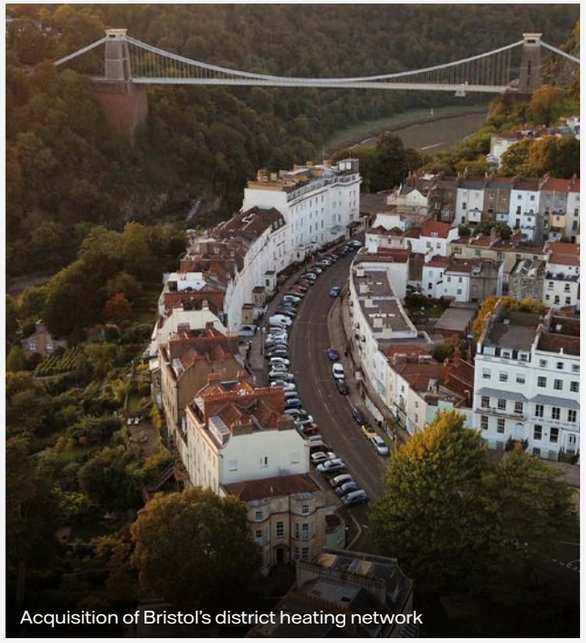
Important events during the year

Q1

Page 45 | Partnership entered into with the Strömma Group to electrify the company's boat fleet

Page 46 | Acquisition of Bristol's existing heat networks and ongoing collaboration with Bristol City Leap to achieve carbon neutrality for the city's energy infrastructure by 2030

Page 126 | Completed the divestment of the gas-fired power plant Magnum in the Netherlands



Acquisition of Bristol's district heating network

Haringvliet onshore wind farm in the Netherlands

Q2

Page 43 | Inauguration of the South Kyle onshore wind farm in the UK

Page 56 | Vattenfall's goal of net-zero emissions by 2040 approved by the Science Based Targets initiative

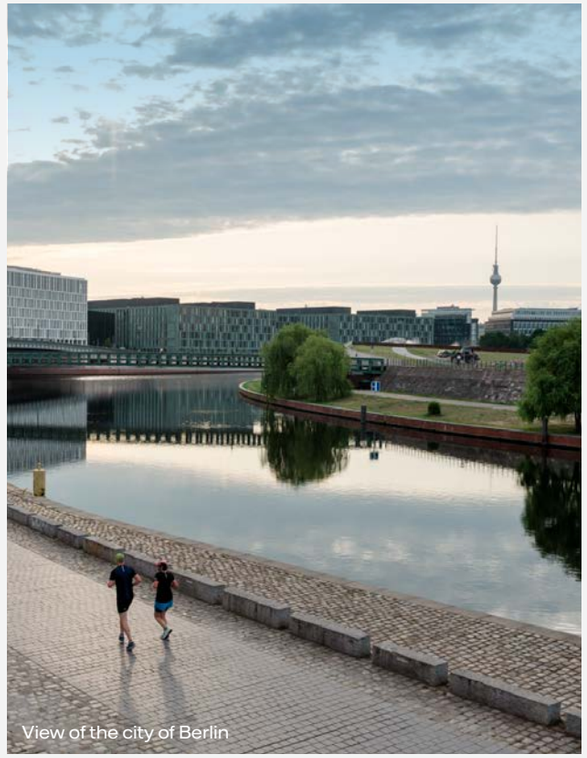
Q3

Page 27 | Vattenfall initiates a process to acquire land on the Värö Peninsula adjacent to Ringhals

Page 42 | Inauguration of the Hollandse Kust Zuid offshore wind farm in the Netherlands

Page 43 | Exercised option to develop the offshore wind power project Nordlicht II in Germany

Hollandse Kust Zuid offshore wind farm in the Netherlands



View of the city of Berlin

Q4

Page 38 | Strategic review of Heat Berlin finalised and Vattenfall decided to sell the district heating business to the State of Berlin

Page 43 | Vattenfall divests the entire Norfolk Offshore Wind Zone

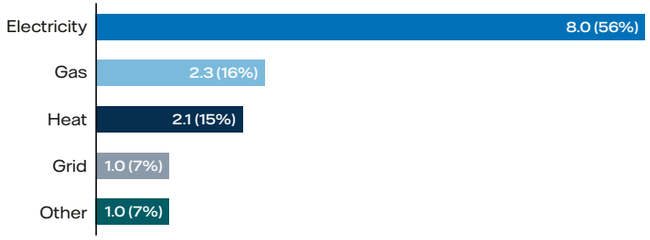
Vattenfall in 2023

Customers

14.4

million customers

Numbers of customer contracts, by type

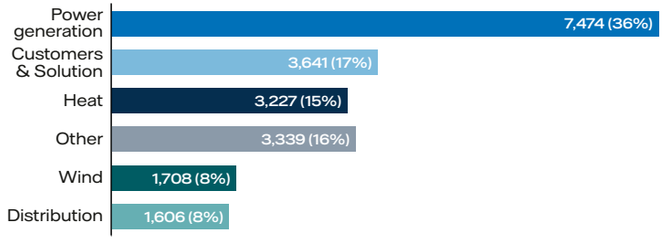


Employees

20,995

employees

Number of employees, by operating segment

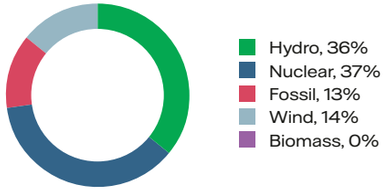


Electricty production

100.9

TWh electricity produced

Electricity generated, by source



Economic

Vattenfall's Articles of Association stipulate that the company is to generate a market rate of return by operating a commercial energy business that enables the company to be among the leaders in developing environmentally sustainable energy production. See more on page 112

20.0 (35.1)[1]

SEK billion in underlying operating profit

[1] The value has been adjusted compared with information previously published in Vattenfall's financial reports.

Social

Vattenfall is committed to having an engaged, safe and empowered workforce that are treated fairly and compensated well. And for people across our supply chain and in local communities to be justly treated. See more on pages 24-25

80% (80)

Employee engagement index

Environmental

Decarbonisation of power is imperative to reach fossil freedom and our climate impact decreased further in 2023. But our commitment does not stop here; biodiversity and other environmental aspects are also core to our business. See more on pages 56-65

69[1] (78)

gCO_2e/kWh

[1] Deviates from the preliminary reported value as communicated in the year-end report 2023.

Overview of Vattenfall's assets and production plants

Vattenfall is one of Europe's largest producers and retailers of electricity and heat and has approximately 21,000 employees. Our main markets are Sweden, Germany, the Netherlands, Denmark, and the UK. The parent company, Vattenfall AB, is wholly owned by the Swedish state, and its headquarters are in Solna, Sweden.

Largest plants

Largest plants	Type	Country	Capacity
Wind farms			
Hollandse Kust Zuid	Offshore	The Netherlands	1,500 MW
Kriegers Flak	Offshore	Denmark	604 MW
Horns Rev 3	Offshore	Denmark	407 MW
Vesterhav Syd and Nord	Offshore	Denmark	344 MW
Thanet	Offshore	United Kingdom	300 MW
DanTysk	Offshore	Germany	288 MW
Sandbank	Offshore	Germany	288 MW
Power plants			
Ringhals	Nuclear	Sweden	2,204 MW
Forsmark	Nuclear	Sweden	3,307 MW
Hydro power			
Harsprånget	Hydro	Sweden	871 MW
Stornorrfors	Hydro	Sweden	599 MW

District heating

Vattenfall's largest district heating networks are in Amsterdam, Berlin[1], and Uppsala.

[1] Heat Berlin is to be divested to the State of Berlin during 2024.

Other operations

Distribution
Vattenfall's Distribution business owns and operates electricity distribution grids in Sweden and the UK.

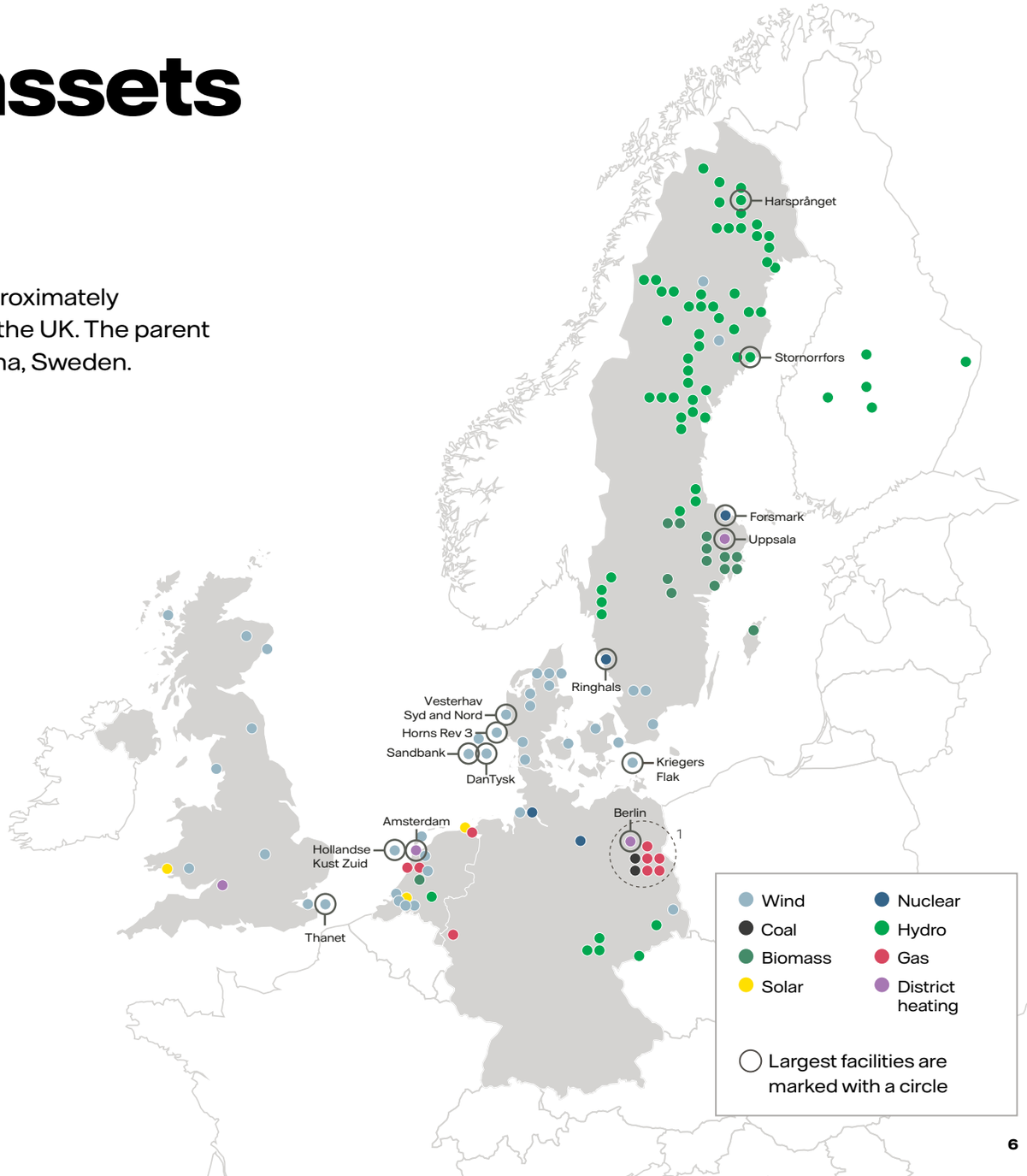
Sales
Serves B2B and/or B2C customers in Sweden, Germany, the Netherlands, Denmark, the UK, France, Finland, and Norway.

E-mobility charging solutions
Vattenfall operates 51,000 charging points throughout Sweden, Germany, Norway, and the Netherlands.

Power-as-a-Service
Designing, building, owning, and operating necessary electrical infrastructure for industry and heavy transport. It is an established business in Sweden and the UK with recent market entries in the Netherlands and Denmark.

Offices

Vattenfall also has offices in Finland, France, Norway, Poland, and Belgium.



Business model and value chain

It takes several steps for electricity and heat to reach the end consumers and Vattenfall is present throughout the full value chain in accordance with our strategy as an integrated utility. Our business model is centred around creating value for our stakeholders.

Inputs

Financial capital
Page 116

Human capital
Page 24

Manufactured capital
Page 6

Social and relationship capital
Page 54

Intellectual capital
Page 23

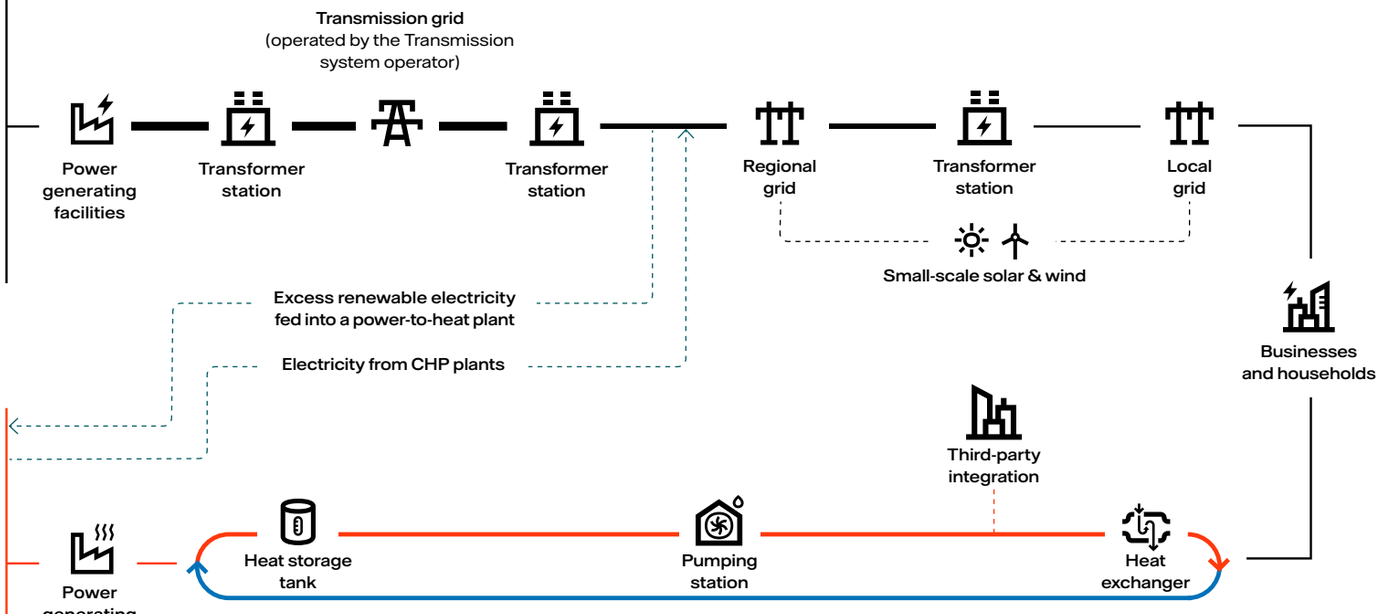
Natural capital

Electricity
- Wind
- Nuclear
- Hydro
- Gas
- Solar
- Battery storage

Heat
- Biomass
- Gas
- Waste-to-heat
- Coal
- Power-to-heat
- Geothermal

Value chain and activities

Vattenfall contributes to the electricity generation and supply system with its portfolio of hydro and nuclear power, strong growth in large-scale renewables such as wind, solar power, and battery facilities as well as regional and local grids. Also decentralised solutions with solar PV panels, e-vehicle charging solutions, battery storage, smart meters, and network services are offered to our customers.



Our district heating supply is based on the operation of some large, combined heat and power plants (CHPs), but in order to drive the move towards decarbonisation of the heating sector, we are widening the use of decentralised and flexible energy solutions, including mini-CHPs, heat pumps, storage options, solar panel installations, and third-party excess heat infeed.

At the consumers, the hot district heating water passes through a heat exchanger transferring the heat to the customers' heating systems.

Outputs

20,995
employed

51,000
charging points

88 TWh
of fossil-free electricity generated

SEK 9.5 billion
in paid taxes

SEK 4.0 billion
Dividend proposed for 2024

Outcomes

Economic value
SEK 12.7 billion

Social value
SEK 27.4 billion

Environmental value
SEK -5.8 billion

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UN's Sustainability Development Goals

Page 51

"While the transformation towards net zero is driven by climate goals, the price of CO_2, and customer demand, it also comes with many business opportunities; something many industries realised a long time ago. The businesses of tomorrow will not run on fossil fuels."

CEO Message

Staying the course in a turbulent time

In 2023, the world was uncertain in many ways. Geopolitical conflicts affected global trade and inflation and interest rates were high. Economic growth slowed down. Despite that, we are at the epicentre of an energy transition that has left the starting blocks and is now picking up speed.

The green transition is happening *now*, as is the energy transition required for us as a society to succeed. The demand for fossil-free energy increased during 2023, and the targets for the energy transition at a European level, as well as at country levels have never been higher. At COP28 a large number of countries agreed to move away from fossil fuels. While the transformation towards net zero is driven by climate goals, the price of CO_2, and customer demand, it also comes with many business opportunities; something many industries realised a long time ago. The businesses of tomorrow will not run on fossil fuels.

Even if the direction is clear, the uncertainty around us is of course also impacting us in the energy sector including our suppliers, industry customers, and households, many of whom are finding it hard to make ends meet. Russia's war in Ukraine laid bare the risks of Europe's dependency on fossil fuels and the importance of having a secure energy supply. Even though prices were lower this winter, mainly due to well-filled gas storages, electricity and gas prices are

still higher than before the crisis and there is still a high degree of volatility. But from a fundamental, long-term energy perspective, in Europe not much has changed.

I am proud of my Vattenfall colleagues, who are showing persistence and endurance while working hard every day to make sure we are staying the course, by offering attractive sustainable solutions for our customers to move, make, and live fossil free. There has also been a lot of effort from our customers when it comes to energy savings. It is the sum of small and big steps that will help stabilise the prices and volatility in the energy market.

Regulations should encourage innovation and investments

Regulatory frameworks must allow for and support technology and innovation, as well as investments and speed in the transition. The EU Green Deal can serve as a good example of how ambitious climate targets can be transformed into legislation. Now the focus needs to be on implementation. I welcome the fact that a political agreement on the EU power market reform has been reached, increasing market stability and taking on a toolbox approach leaving the choice of measures at the national level. While the demand for fossil-free electricity is huge, the required build-out is not keeping pace. Investments need to multiply and the right incentives for those affected by the necessary new infrastructure must be developed; Europe's competitiveness is facing a tough challenge. The risk of inaction is looming, since it will not only stall the transition, but also mean us missing out on innovation and business opportunities. I truly believe that the energy transition is a possibility and that we as a society, with full respect for the complexity, should act together now to make it happen. Vattenfall is ready to do our part.

New wind and solar are of continued importance

Vattenfall plays a key role in the energy transition, as a leading European energy company with a purpose and strategy to enable the fossil freedom that drives society forward. For more than 100 years, we have electrified industries, we have supplied energy to people's homes, and we have modernised the way of living through innovation and cooperation.

Last September we inaugurated the offshore wind farm Hollandse Kust Zuid in the Netherlands, together with our partners BASF and Allianz. A proud moment for all involved and a testament to the importance of collaborations and partnerships. Vattenfall was awarded the project in 2018 and it is the first modern subsidy-free offshore wind farm in the world.

> "Vattenfall is conducting a profitable energy business despite the past years' turmoil, and I account this achievement largely to our employees and our business model. There are many opportunities of value creation in fossil-free energy generation."

Hollandse Kust Zuid also demonstrates how the market has changed over the past five years. The offshore wind industry is now struggling with price increases due to rising cost of capital, inflation, and supply chain squeezes. This continues to have an impact on the industry in general, and it led us to the decision to sell the Norfolk zone in the United Kingdom to RWE. The divestment increases Vattenfall's opportunities to invest in fossil-free projects that better fit our overall portfolio and risk appetite, while securing the future of the Norfolk projects.

The offshore market remains attractive over the long term, and Vattenfall will continue to be a significant offshore developer. Most recently we signed a Memorandum of Understanding with BASF to partner on the 1.5 GW Nordlicht cluster off the coast of Germany.

We have also continued to grow our onshore wind business and large-scale solar business. One example is South Kyle, the 240 MW onshore wind farm in the UK that we inaugurated in the spring of 2023. And in the summer, we acquired a 4 GW pipeline of large-scale solar projects in Germany, bringing our german solar development portfolio to 7 GW. We are also exploring large-scale batteries and third-party contracting of flexibility.

The underlying operating profit for the year amounted to

SEK 20.0 billion

and the profit for the period amounted to SEK 10.4 billion

Wind power increased its production by

13%

mainly due to new capacity from Hollandse Kust Zuid in the Netherlands

Customers chose Vattenfall in these uncertain times

500,000

new electricity contracts in 2023

Nuclear and hydro power: the backbone of our current business
In 2023 we optimised and developed our nuclear and hydro businesses, the backbone of our company. We have seen a revival of nuclear around the world, with more new-build projects being planned – nuclear has important capabilities in the energy system. We are also working with new nuclear in Sweden, a topic high on the agenda for the Swedish government and for Vattenfall. During 2023 I have, together with some of my colleagues in Vattenfall, visited countries where they have recently built or are in the midst of building new nuclear to deepen our knowledge even further about how to build with speed and cost efficiency.


Markersbach pumped hydro and solar plant

→ Read about our operating segments

We believe that with the right support, there is an opportunity to create long-term value by investing in nuclear. But it is absolutely key to unlock that potential for commercial players, with the right risk-sharing mechanisms. A lot of work is ongoing at Vattenfall to be able to execute investments into both existing and new nuclear. Please read more on page 26.

Hydro power has played a key role in Sweden's energy system for more than a century, and it has been delivering a reliable contribution to the stability in the energy system. For the first time in more than 30 years, we are now looking into expansion at a number of our existing hydro power locations, as well as pumped hydro opportunities.

New owner for Heat Berlin
Just before Christmas, we announced our decision to sell our heating operations in Germany to the State of Berlin. When we initiated the strategic review in May 2022 it was – in addition to reflect the value of the business – important to sell to an investor who would reliably continue the transformation of the company and implement our plans to decarbonise the district heating system in Berlin. Germany continues to be a core market for Vattenfall, and looking forward, we see a wide range of growth opportunities in Germany for our growing business in fossil-free generation and energy services. We want to continue to play a key role in shaping the energy transition in Germany, and to enable our more than five million customers to live fossil-free lives.

On our path to net zero
At Vattenfall, sustainability is not just a goal, it is an integrated part of our business strategy. As of June 2023, Vattenfall is among the first energy companies world wide who had our net-zero targets for 2040 approved


Blakliden Fäbodberget wind farm

→ Read about our sustainability work

by the Science Based Target Initiative. These now include scope one, two, and three. This is an important confirmation that the targets, we have set, are in line with the ambitions of the Paris Agreement. We are already today delivering on our 2030 roadmap for CO_2, addressing the emissions from our own activities, but to reach net zero, everything that we buy and sell needs to be fossil free. We have set a 50 per cent CO_2-reduction target by 2030 for procurement of goods and services, and we are also increasing the share of biogas that we are supplying to our customers. For this we have recently entered a partnership with Renewi, who will supply our Dutch customers with 7.5 million cubic metres of biogas per year.

Navigating through opportunities and risks
Vattenfall is conducting a profitable energy business despite the past years' turmoil, and I account this achievement largely to our employees and our business model. There are many opportunities of value creation in fossil-free energy generation. But if the past years have taught us anything, it is that you never know what is to come. The market conditions have changed drastically right before our eyes. Therefore, it is also important to be prudent and adhere to our risk strategy to continue leveraging on Vattenfall being an integrated and diversified business. Recent years' turmoil in the market has highlighted the benefits of not putting all our eggs in one basket, by strengthening our competitive advantage and generating a strong financial position. Looking ahead, we continue to look for investment opportunities that meet our profitability requirements, and we will only invest, if those are met.

Partnerships enable entire industries to change
To succeed with the transition we need to work together – business, politics, and society – and not lose sight of the long-term goals. Propelled by this belief Vattenfall is a founding member of the First Movers Coalition (FMC), together with several of our partners. FMC is working to enable and scale net-zero technologies in hard-to-abate sectors. We use our combined purchasing power to accelerate investments in developing goods, services, and technologies needed for the energy transition. Since the start, we have together garnered USD 15 billion in aggregated demand for emerging climate technologies. Vattenfall has so far committed to the sectors of cement, steel, aviation, and trucking.

Fossil-free steel is in demand, and I am happy to say that we have ourselves managed to secure some of the first deliveries from SSAB as well, to use in our own

operations. We will start pilots with possible applications like power line pylons, grid stations, and parts of foundations for offshore wind power.

In the autumn, we commercially tested HYBRIT's first-of-its-kind hydrogen storage as part of our collaboration with SSAB and LKAB. Fossil-free hydrogen is a prerequisite for producing fossil-free steel and by adding storage, the variable cost of hydrogen production can be significantly reduced, by 25 to 40 per cent.

On the Swedish west coast, we investigate the potential development of a new value chain connecting offshore wind and fossil-free hydrogen supporting Preem's large-scale production ambition of five million cubic metres renewable fuels and electrofuels no later than 2035. In the same region, we are together with St1 developing the value chain for producing electrofuels, also by means of offshore wind. This will support their plans to produce one million cubic metres of electrofuels, first drops starting to materialise around 2030.

The transition will not happen by itself, and it will also not happen without challenges and conflicts of interest from time to time. I think it is reasonable that significant industrial transformations are discussed. But I also think it is important that we ask ourselves how many successful companies there will be in 20 years' time that emit large amounts of carbon dioxide? With responsibility and business acumen we can find a common way forward.

> "I am, however confident that Vattenfall is equipped to be successful and a key contributor to the necessary transition."

Engaged people are the key to success

The energy transition is big, includes many parts of business and society, and it will be ongoing during multiple terms of office. It will be the biggest transformation of our societies since the industrial revolution and the focus and priorities will constantly be put to the test. I am, however confident that Vattenfall is equipped to be successful and a key contributor to the necessary transition. We have highly engaged and competent people, who work in our organisation with pride and dedication. In 2023 we had an all-time-high response rate of 85 per cent in our yearly employee survey, with very high levels of engagement.

In 2024, we will continue to leverage our existing business and the opportunities the green energy transition will give us. This year will no doubt be another eventful year that we step into with a new investment plan allocating over 40 billion SEK to growth in 2024 and 2025, a commitment to continue working for fossil freedom and leveraging on our integrated business model, with more fossil-free energy production and smart customer solutions.

I am looking forward to what 2024 will bring.

Laxede hydro power plant

Anna Borg, President and CEO

The Carpe Futurum heat plant in Uppsala will cut CO_2 emissions by

200,000 tonnes

annually

Wind and Profitability

Offshore wind: Attractive outlook despite short-term hurdles

As Europe moves away from fossil fuels, massive investments are needed in offshore wind. Vattenfall is ready to contribute while navigating current headwinds.

Limiting global warming to 1.5°C requires rapid transformation of the entire energy system. Europe has set ambitious climate targets and wind power is one of the most important technologies to achieve them. 30 additional GW are needed onshore and offshore every year to hit the EU targets by 2030.

To succeed, a steep scale-up is needed. But instead, the offshore wind industry faced strong headwinds during 2023. A supply chain already under pressure had to deal with additional challenges due to inflation and continued geopolitical conflicts, with extreme price increases as a result. This imposed additional risks to offshore wind developers as projects in today's market require significant financial commitments prior to taking a final investment decision. In combination with revenue schemes that did not reflect the new market conditions and increased costs of capital, the profitability of many offshore wind projects came under severe pressure. Vattenfall was one of the companies experiencing this harsh reality when the development of the Norfolk Boreas wind farm in the United Kingdom (UK) needed to be stopped last summer. Looking into the near future, quite a number of European countries expect to fall short of their wind power expansion path.

Signs of stabilisation and strong long-term market outlook

The turmoil is not expected to ease soon, but there are signs of things moving in the right direction. Growth in offshore wind relies heavily on scaling up supply chains, ports, and transmission infrastructure, and regulators and decision-makers are taking steps to ensure a more stable market environment – ultimately increasing the attractiveness to invest throughout the whole supply chain.

The UK is one example. Following Vattenfall's decision to stop the development of Norfolk Boreas and a CfD[1] auction round that attracted zero bids for offshore wind, the country sent a positive signal in November when announcing a willingness to pay up to GBP 100 per MWh in today's value to reflect the current market situation and secure offshore wind power build-out.

> "Offshore wind is one of the fastest and cheapest ways to provide enough capacity to replace fossil fuels in Europe"
> Helene Biström, Head of Business Area Wind

"Stopping the development of Norfolk Boreas was a very tough decision. It hurt, but it was necessary. The project was not financially viable and stopping it also sent a clear signal that the industry is in distress. We did see a welcome and needed shift in the discussion in the UK, moving from confidence in inevitable offshore development regardless of the challenges, to a focus on how to secure the build-out," says Helene Biström, Head of Business Area Wind.

In December 2023, Vattenfall signed an agreement with RWE to divest the entire Norfolk Offshore Wind Zone to a purchase price of GBP 1.0 billion. The deal includes the three projects Boreas, Vanguard East and Vanguard West in the UK.

The sale increases Vattenfalls ability to invest in other fossil-free projects that better fit the overall portfolio and risk appetite. Further, the sale ensures continued development of the projects and covers the impairment and most of the provisions taken for Norfolk Boreas reported in July 2022. The full financial impact from the transaction will be visible once the deal has been closed, which is expected in Q1, 2024.

Despite the short-term challenges, offshore wind remains the backbone of the energy transition across Europe, and Vattenfall expects the market to stabilise at a high growth rate. The long-term outlook for the market is strong, and Vattenfall is in a good position to seize opportunities while navigating current realities.

"Offshore wind is one of the fastest and cheapest ways to provide enough capacity to replace fossil fuels in Europe. Looking at the next 10 years, there are no alternatives. Europe simply will not reach its climate targets without offshore wind," Biström says.

Additional growth through partnerships

During 2023 Vattenfall's Business Area Wind accounted for 33 per cent of Vattenfall's total underlying profit (EBIT) – or SEK 6,5 billion – with a majority of that coming from offshore wind. To contribute to Vattenfall's growth and managing risks going forward, the business area is aiming for strategic partnerships.

"Vattenfall holds a perfect position in the offshore wind industry with an attractive long-term pipeline of projects and historically strong relationships with our suppliers and industry. Today, energy-intensive industry is concerned about the availability of fossil-free electricity. By us partnering with them in an offshore wind project, they can proceed with their transition away from fossil fuels, and we can reduce our risks. "We can play an important role here, by connecting fossil-free electrons directly to industrial customers and at the same time releasing capital for more investments in offshore wind – and with this, accelerate the journey to fossil freedom," Biström says.

In 2021, Vattenfall partnered with chemical company BASF and financial services provider Allianz as co-owners when building the 1.5 GW subsidy-free offshore wind farm Hollandse Kust Zuid in the Netherlands. As a next step, Vattenfall and BASF announced their ambition to partner on the Nordlicht 1 and 2 offshore wind farms in Germany through a future sale of 49 per cent of the projects to BASF.

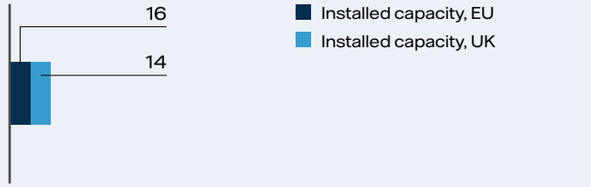
The demand for fossil-free electricity remains high and Vattenfall has a strong track record of delivering profitable projects. The focus now is to participate in getting the offshore wind industry back on a healthy track by making carefully selected, sound investment decisions.

Big plans for offshore wind

Unit: GW

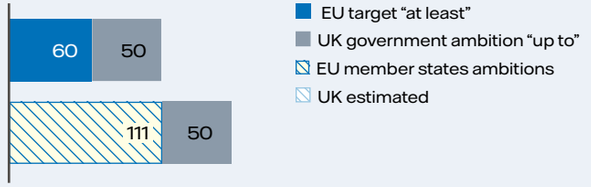
2022 Installed capacity

The chart to the right shows the installed capacity in the EU and the UK. The chart below shows the share of offshore wind power in the power mix in the EU and the UK.



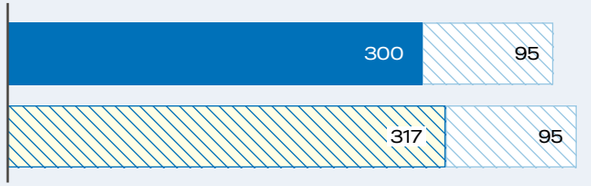
2030 Target and ambitions

For 2030 the upper bar shows the EU target of at least 60 GW offshore wind, and the UK ambition of up to 50 GW offshore wind. The EU target was set in its 2020 Offshore Renewable Energy Strategy. Since then, ambitions of many member states have increased. Early 2023, EU member states announced an increased joint ambition of 111 GW by 2030. This is shown in the lower bar together with the UK ambition.



2050 Targets, ambitions and estimates

For 2050, the upper bar shows EU's target of at least 300 GW. The UK does not have a target for 2050, therefore the estimate of the non-departmental public body, The Committee on Climate Change, in its Sixth Carbon Budget is used. The estimate is 65–125 GW, and the bar shows the middle of that range, 95 GW. The lower bar shows the EU member states' ambitions of around 317 GW, with the UK estimate on top of that.



[1] CfD: contract for difference, UK revenue support scheme.

STRATEGY

We are at the epicentre of the energy transition that is accelerating. This creates major challenges but also brings a lot of opportunities. Vattenfall has formulated a strategy to reach our goal of enabling fossil freedom. It steers our direction: How we prioritise business opportunities, focus our efforts, and engage our employees, so that we can remain truly customer centric while creating value for our stakeholders and continue to lead the decarbonisation of both our sector and far beyond.

Enabling the fossil freedom that drives society forward

Vattenfall operates in a complex business environment, influenced by macro-economics, geopolitics, regulations, and technology developments. Our strategy is therefore continuously evolving to ensure that we create value for our customers and other stakeholders, remain financially robust, and reach our goal of a net-zero value chain by 2040.

The geopolitical tension also seen in 2022 is rising amongst influential actors across the world, impacting global trade relations and key supply chains. Monetary policy throughout Europe and the rest of the world has been gradually tightened to counter continued high inflation, and increased interest rates are hitting both consumers and businesses. A notable decrease of investments in Europe can be seen across sectors, among increasing unemployment levels and cost of living.

The European economy has lost momentum which puts pressure on the energy market and poses challenges for the energy transition. This is especially visible in the build-out of renewables, where cost increases, strained supply chains, and tough competition challenge the attractiveness of investments, and many projects are struggling to reach return levels required for a financial investment decision.

We, however, fundamentally believe in a positive market outlook and that the energy industry will experience significant growth in years to come, driven by increasing customer demand for fossil-free energy and new EU legislation for decarbonisation, such as the Carbon Border Adjustment Mechanism and a more ambitious reduction target for EU ETS sectors. We navigate the current market dynamics by increasing focus and prioritisation of new investments, and by ensuring the robustness needed to deliver on our long-term ambition of being a leader in energy transition towards a fossil-free society.

Stornorrfors hydro power plant

Beliefs that underpin our strategy

Our strategic direction is based on how we believe the market will evolve and what is required to remain competitive. Some of the key beliefs that underpin our strategy are:

The energy industry will experience significant growth in years to come
We currently face a challenging investment landscape, defined by supply chain delays, increased costs, and investor interest spread across relatively few projects. However, as demand for fossil-free electricity and heat increases, it is clear that electrification remains the key abatement option to decarbonise society and reach even further increased climate targets. This confirms our view of a fundamentally positive market outlook, and that the energy industry will experience significant growth in years to come.

The value of flexibility will continue to be high in the long term
As low-cost intermittent renewables penetration increases, power prices are expected to decline, but volatility will remain. We believe the market attractiveness for flexibility will continue to be high in the long term and allow us to monetise this volatility. We are therefore evaluating new opportunities within technologies such as pumped hydro storage, batteries, and hydrogen storage. Plannable production such as hydro and nuclear will also have a valuable role to play and allow us to further capture value from price volatility.

Digitalisation is key to improve competitiveness, manage threats, and serve our customers
In a rapidly growing energy system characterised by volatile markets, increasing customer expectations, and constant cyber security threats, digitalisation plays a key role in capturing opportunities and addressing challenges. As an integrated energy utility, we believe digital tools and competencies are key to maximise value from our asset portfolio, differentiate from competition, protect our company (and employees), and grow our customer base.

Our strategy in a nutshell

Setting out to be a leader in the energy transition
Our goal is to enable the fossil freedom that drives society forward as a profitable energy utility. Leading the energy transition is in line with expectations from our owner, our customers as well as society at large. With the dedication and expertise of our employees, we are well-positioned to continue to be in the lead. We acknowledge that the energy transition needs to be just for all stakeholders involved. Being a trusted and collaborative partner in the societies where we operate is therefore key.

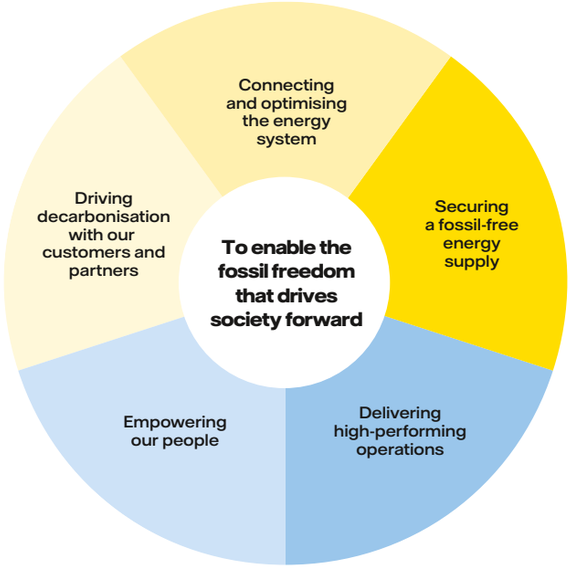
Fossil-free electricity generation is our foundation for value creation
Our portfolio in hydro, nuclear, and electricity distribution in Sweden will deliver value for a long time to come, as these assets constitute the backbone of our portfolio to accelerate the electrification revolution. Together with a strongly growing renewables business, on the continent especially, we have built an attractive asset portfolio, and we see a significant pipeline for continued growth in fossil-free electricity generation and flexibility going forward. With a strong track record in delivering fossil-free electricity and heat to our customers, we are well-positioned to capture growth opportunities across our markets, creating value for society as well as our owner.

An integrated utility logic and a diversified portfolio create additional value
Vattenfall has chosen to be active throughout the energy value chain, as an integrated utility with a diversified portfolio that delivers additional value from our generation assets. We believe this increases our competitiveness, for example by allowing us to differentiate in wind power tenders or combining energy services to offer beyond commodity to our customers (e.g. bundled offerings for heat pumps). Furthermore, our broad industry expertise makes us an attractive counterparty to help decarbonise industrial companies.

A diversified portfolio that spans the full value chain, several markets, regulatory regimes, and different business models also lowers our overall risk profile. This, in turn, increases our investment capacity. The wholesale market exposure in our generation portfolio is balanced by the regulated distribution business as well as margin-based revenues from sales of heat and electricity. A growing portfolio of fossil-free and renewable assets also makes it easier and less risky to service and acquire customers. In sum, diversification is the basis for a robust portfolio that can secure growth and value creation over time and also weather the currently dynamic and volatile market environment.

Sustainability is at the core of our strategy
We see growth opportunities in profitable sustainable business models. For us, sustainability is a competitive advantage and an opportunity to grow in new products and market segments. This is what we mean, when we say, “sustainability is the business”. Therefore, we continuously invest in and raise our sustainability ambitions to increase our competitiveness. We drive and support the energy transition, allocating most of our growth investments along the fossil-free electricity value chain, aiming for net zero in our full value chain by 2040.

The Vattenfall strategy wheel illustrates our integrated business model and what is needed to succeed with our strategy



Driving decarbonisation with our customers and partners with focus on greater customer centricity and promotion of electrification and climate-smart energy solutions in areas where we have a competitive advantage.

Connecting and optimising the energy system with focus on maximising the value of flexibility and promoting stable and cost-efficient grid infrastructure.

Securing a fossil-free energy supply with focus on growth in new fossil-free energy generation and maximising the value of our existing assets, as well as implementing our CO_2 roadmap.

Delivering high-performing operations by being both competitive and cost-effective, and by leveraging opportunities in digitalisation and taking social and environmental responsibility throughout the value chain.

Empowering our people with focus on securing necessary competencies while improving the employee journey and providing a safe work environment.

Our portfolio

Our strategy in a nutshell materialises in our portfolio, where we prioritise businesses that are sustainable in attractive markets with returns above cost of capital and where we are competitive. We continuously evaluate our view on where we want to grow, develop, or assess our business scope. Key elements of our portfolio are:

- **Offshore wind** – Our primary growth area, where we aim to capture the value of fossil-free electrons by securing PPAs and partnering with industry offtakers and financial investors. Our current offshore strategy is to continue to look for attractive investment opportunities despite the challenging market.
- **Onshore renewables** – We are active primarily on the continent where partnerships with offtakers are key to secure attractive development sites. Given the growing industrial demand, we see significant growth potential for onshore wind, large-scale solar, and batteries in Germany and Sweden. The targeted growth is closely linked to demand growth to manage the risk of system oversupply.
- **Nordic nuclear and hydro** – Our existing nuclear and hydro portfolio is the backbone of the Swedish energy system and an important enabler for both the energy transition and additional growth for Vattenfall. We are looking into several options for the development and optimisation of our existing fleet, including operational improvements, prolonged operations, and capacity increases for our hydro business. Furthermore, we are also evaluating the potential for new nuclear in Sweden.
- **Electricity grid (Distribution System Operator)** – There is an unprecedented need for new grid capacity and interconnections, and we will continue to make significant investments in our Swedish electricity grids to enable the power system build-out.
- **District heating** – We have completed a strategic review of our district heating business in Berlin and decided to sell the business to the State of Berlin. In the Netherlands, our focus is on decarbonising our operations by exploring ways to reduce dependency on natural gas and finding fossil-free heat alternatives. In other markets we focus on growing or maintaining our market share.
- **Customer gas and electricity sales** – This is a mature market where focus is on remaining competitive in a very competitive environment, while helping our customers to decarbonise, especially on the continent. We also venture deeper into the electricity value chain, for example by offering services such as heat pump installations. Our e-mobility offerings further contribute to retaining and attracting customers and the associated power contracts.

A clear strategic direction

Our overall strategic direction is clear. We continue to grow in fossil-free electricity generation and distribution and sharpen our focus on decarbonising remaining fossil-dependent businesses. Growth investments are enabled by strong performance in our nuclear, hydro, wind, and retail businesses, and we see PPAs and industry partnerships as key avenues to realising these investments. However, managing increased risk in the short term by staying flexible and competitive, without losing sight of our long-term commitments, will be imperative.

Investments along the electricity value chain in 2024-2025

25 SEK billion

Develop

Maintaining and optimising our assets within hydro, nuclear, and district heating

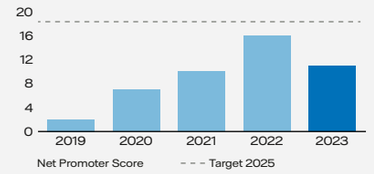
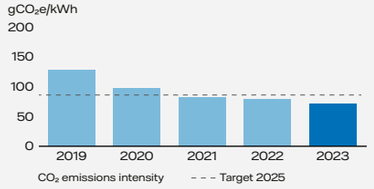
41 SEK billion

Grow

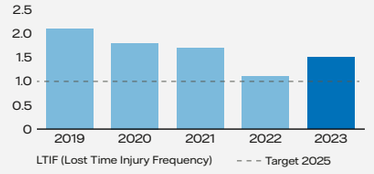
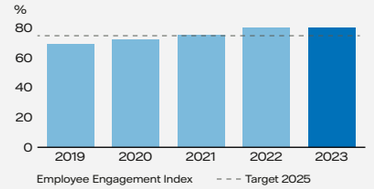
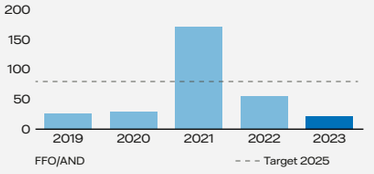
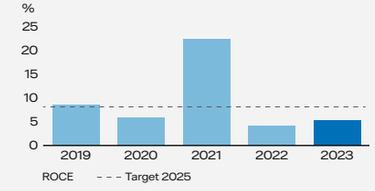
Growth primarily in renewables and and electricity grids

Strategic targets

Vattenfall wants to contribute to a sustainable energy system across all parts of our value chain. Our goal is to be a truly customer-centric company as we transition towards a production portfolio that is sustainable in the long-term. In 2020 Vattenfall set six strategic targets for 2025 for the Group to track and steer our performance towards our goal of fossil freedom.

Target for 2025	Outcome 2023	Comments	Five-year trend
Driving decarbonisation with our customers and partners			
+18 Customer engagement, Net Promoter Score (NPS)[1]	+11 (+16)	Decrease in absolute NPS due to longer response times in customer services during the beginning of 2023.	
Securing a fossil-free energy supply			
≤ 86 gCO_2e/kWh CO_2 emissions intensity[2, 3]	69[4] (78)	Improvement due to lower fossil-based generation. For more information see page 56.	

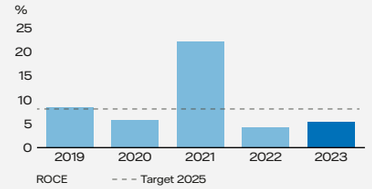
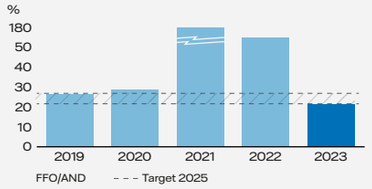
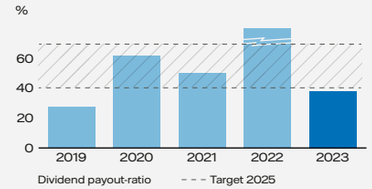
[1] NPS is a tool for measuring customer loyalty and for gaining an understanding of customers' perceptions of Vattenfall's products and services.
[2] Including other greenhouse gases, such as N2O and SF6.
[3] Direct emissions (Scope 1) and indirect emissions from purchased electricity and heat (Scope 2) as defined in the Greenhouse Gas Protocol standard.
[4] Deviates from the preliminary reported value as communicated in the year-end report 2023.

Target for 2025	Outcome 2023	Comments	Five-year trend
Motivating and empowering our people			
≤1.0 Lost Time Injury Frequency (LTIF)[5]	1.5 (1.1)	Above target levels. Further actions required to enhance safety organisation. For more information see pages 78-79.	
75 Employee Engagement Index[6]	80 (80)	Outcome above target level after continued improved performance with more engaged employees. For more information see page 24.	
Conduct high-performing operations			
22–27% Funds from operations (FFO)/adjusted net debt	21.5% (55.0)	Below target interval as a result of lower underlying EBITDA, and the adjusted net debt mainly increased due to increased investments.	
≥ 8% Return On Capital Employed (ROCE)[7]	5.3% (4.2)	Outcome below target due to lower electricity prices and also lower generation volumes from hydro power and lower availability from nuclear power. The negative price effects from the Continental hedging also had a negative impact.	

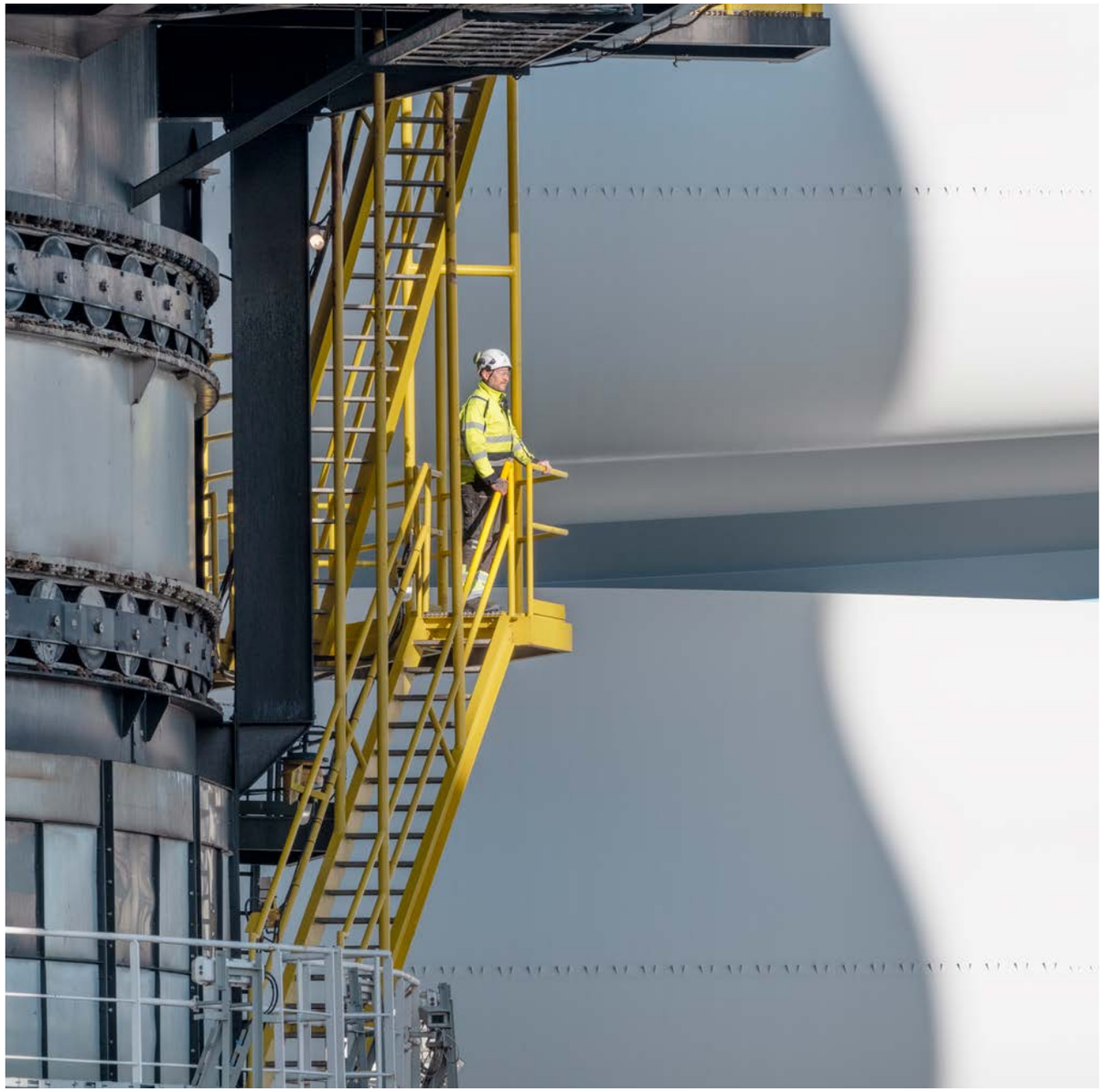
[5] Lost Time Injury Frequency (LTIF) is expressed as the number of lost time work injuries (per 1 million hours worked), i.e. work-related accidents resulting in absence longer than one day, and accidents resulting in fatality. The ratio pertains only to Vattenfall employees.
[6] Documentation for measurement of target achievement is derived from the results of the My Opinion employee survey, which is conducted on an annual basis.
[7] The key ratio is based on EBIT and average capital employed (see page 195).

Financial targets

Vattenfall's owner has set three financial targets for the Group, which pertain to profitability, capital structure, and dividend policy. These targets are intended to ensure that Vattenfall creates value and generates a market rate of return, that its capital structure is efficient, and that financial risk is kept at a reasonable level.

Target over a business cycle[1]	Outcome 2023	Comments	Five-year trend
Profitability			
≥ 8.0% Return On Capital Employed (ROCE)[2]	**5.3%** (4.2)	Outcome below target due to lower electricity prices and also lower generation volumes from hydro power and lower availability from nuclear power. The negative price effects from the Continental hedging also had a negative impact	
Capital structure			
22–27% Funds from operations (FFO)/adjusted net debt	**21.5%** (55.0)	Below target interval as a result of lower underlying EBITDA, and the adjusted net debt mainly increased due to increased investments.	
Dividend policy			
40–70% Dividend share of the year's profit after tax	**4.0** SEK billion[3] (4.0)	The Board of Directors has proposed a dividend of SEK 4 billion.	

[1] 5–7 years.
[2] The key ratio is based on EBIT and average capital employed (see page 195).
[3] Dividend proposed by the Board of Directors.



Investment plan

Vattenfall's investment strategy reflects our ambition to enable fossil freedom. Substantial growth investments will be made in fossil-free production. Other key investment areas are the optimisation and extension of our electricity grids and the increasing investments in electrification of transport. The heating business in Berlin, which will be divested to the State of Berlin during 2024, is not included in the figures below.

Total investments
Total planned net investments for 2024 and 2025 amount to SEK 65 billion. Gross investments amount to SEK 77 billion, where the difference is mainly attributable to partnering related to offshore projects, especially Nordlicht I, as well as develop-to-sell assumptions for onshore wind, especially Windplan Blauw, and solar projects. The figures that follow relate to net investments.

Growth investments
Growth investments account for around 62 per cent (SEK 41 bn) of the total investment budget. Approximately SEK 18 billion in investments are planned for the development and construction of new wind farms. Major investments are the finalisation of Hollandse Kust Zuid in the Netherlands (~1,500 MW) and the Vesterhav projects in Denmark (344 MW), further development of the offshore wind farms Nordlicht I and II in Germany (together ~1,600 MW) and the construction of the onshore wind farms Bruzaholm in Sweden (138 MW) and Clash II in UK (77 MW). Growth investments also include development costs for potential future wind power projects, such as Swedish Kriegers Flak, Korsnäs, and the Kontiki projects in Sweden, and Muir Mhòr in the UK. Potential construction of these projects lies beyond 2025. Other major growth areas include the development of electricity grids and district heating networks, with investments of approximately SEK 13 billion. This mainly entails connecting new customers and areas to our electricity and heating networks as well as providing network solutions. Major growth investments are being made in the electricity distribution operations in response to increased capacity requirements, to realise the connection of new renewables capacity as well as other new connections. In the heat business, this includes projects in the Netherlands such as installing new e-boilers with 150 MW capacity in Diemen or erecting new peak and back-up capacity in Leiden, several activities in our UK business to drive decarbonisation and building a 20 MW wood pellet-fired heat only boiler in Vänersborg in Sweden. Further growth activities amount to around SEK 10 billion and include for example investments in electric vehicle charging stations and network solutions like power-as-a-service, solar and battery projects, e.g. building a 500 MW battery in Brunsbüttel.

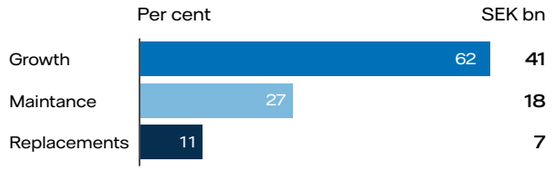
Maintenance and replacement investments
Vattenfall is also investing heavily in maintenance, modernisation and replacement of existing assets and businesses. Planned maintenance and replacement investments amount to approximately SEK 25 billion over the coming two years.

We plan to invest SEK 11 billion in our electricity grids in Sweden to secure the quality of supply and reinforce the grids. Further, we are investing approximately SEK 3 billion to safeguard the safe operation of our Swedish nuclear plants by completing safety and modernisation measures at Ringhals and Forsmark. Investments in dam safety as well as in maintenance and refurbishment of the Nordic hydro power fleet are planned with around SEK 3 billion. In the heating business, we plan to invest around SEK 2 billion to maintain and further develop our asset portfolio.

Vattenfall's investment plan 2024-2025

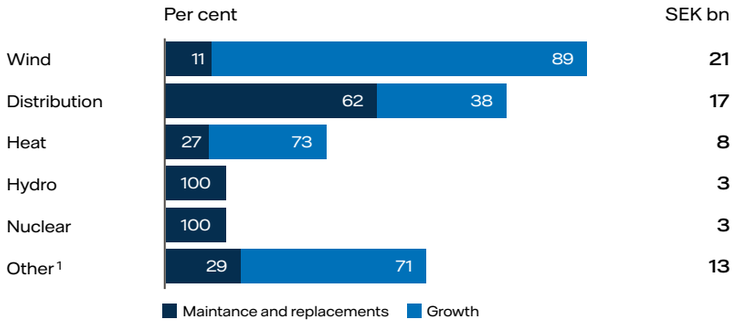
Total capex per category

65
SEK billion

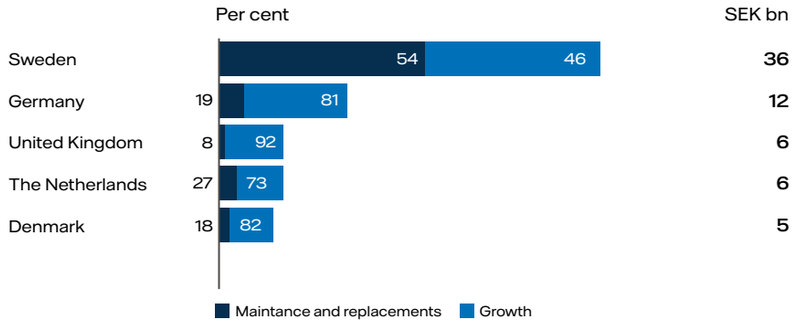


[1] Mainly charging solutions, solar and battery projects as well as heat and energy solutions.

Capex per technology



Capex per country



Major investment projects - decided on and in progress[1]


Hollandse Kust Zuid

Project	Country	Type	Capacity	Est. CO_2 reduction[2] (ktonnes)	Vattenfall's interest (%)	Completion	Total investment
Hollandse Kust Zuid 1-4[3]	Netherlands	Wind offshore	1,509 MW	1,563	51%	2024	2,600 MEUR
Vesterhav projects[3]	Denmark	Wind offshore	344 MW	196	100%	2024	657 MEUR
Bruzaholm[3]	Sweden	Wind onshore	138 MW	3	100%	2025	2,124 MSEK
Windplan Blauw[3]	Netherlands	Wind onshore	77 MW	59	100%	2024	213 MEUR
Tützplatz[3]	Germany	Solar	76 MW	29	100%	2024	57 MEUR
Battery Toledo[3]	Sweden	Battery	55 MW	n/a	50%	2024	43 MEUR
E-boiler Diemen	Netherlands	Electricity as fuel	150 MWth	n/a	100%	2025	45 MEUR
E-mobility - Netto[3]	Germany	E-mobility	n/a	n/a	100%	2025	68 MEUR
E-mobility - Bünting[3]	Germany	E-mobility	n/a	n/a	100%	2024	50 MEUR

[1] All numbers in the table reflect the status as per 31 December 2023.
[2] Production from onshore wind estimated to 2.6 GWh/MW installed, from offshore wind to 3.5 GWh/MW installed, and from solar to 1.0 GWh/MW installed. Resulting production is compared against grid average emission factors which will decline over time as the energy system decarbonises. Actual production emission factors and savings will vary. Other projects are compared to project-specific reference cases.
[3] The project is EU taxonomy-eligible and aligned.

EU taxonomy reporting

The EU taxonomy regulation aims to establish a common classification system that defines when an economic activity can be considered sustainable, so-called taxonomy-aligned. Its ultimate aim is to steer investments into activities that help to achieve the ambitions of the EU Green Deal.

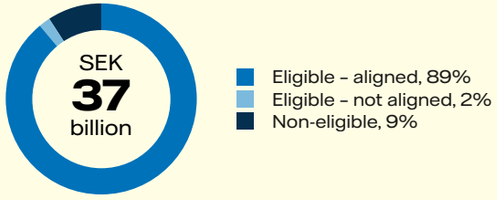
89 per cent of Vattenfall capex in 2023 were eligible and aligned
Wind power accounted for 54 per cent of investments in 2023. Other key investment areas were electricity grids (19 per cent), existing nuclear power plants (5 per cent), and district heating and cooling (5 per cent).

Eligible but not aligned capex
2 per cent of Vattenfall's investments during the year was made in eligible but not aligned activities. These consist of investments in gas-fuelled heating and/or cooling or gas-fuelled combined heat and power generation that do not meet the substantial contribution to climate change mitigation criteria.

Non-eligible activities
For Vattenfall, this mainly includes sales, some service-related capex as well as maintenance investments that are not covered by the taxonomy regulation. Activities being reported as non-eligible does not necessarily indicate that the activities are considered to be not sustainable. It only indicates the activity is not listed in the Taxonomy and therefore not assessed under the Taxonomy regulation.

Read our EU taxonomy reporting on page 175

Capex as per 2023



Green Bond Investor Report

Vattenfall issued its first green bond in June 2019 and by year-end 2023, Vattenfall had a total of SEK 25.2 billion in outstanding green bonds, whilst having invested a total of SEK 43.6 billion.

Vattenfall has decided to use green financing in its funding activities, and we expect all future long-term financing to be made under the Green Bond framework[1].

Green bond framework in brief
The current green bond framework consists of four eligible categories: Renewable energy, transmission and distribution of electricity, energy efficiency, and clean transportation. The climate research institute CICERO has provided a second opinion on the framework and issued the highest rating, "Dark Green".

Outstanding bonds
Our outstanding green bonds issued up to 2022 were emitted under the previous framework where the eligible categories were: Renewable energy and related infrastructure, energy efficiency, electrification of transport and heating, and industry projects. Our latest hybrid bond issued in 2023 was issued under our new green bond framework.

Investments under Vattenfall's Green Bond Framework[3, 4]

Category / project / country	Type	Capacity (MW)	Est. CO_2 reduction[2] (ktonnes)	Vattenfall's interest (%)	Start/ compl.	Total investment	2023	-2022	Total
Renewable energy and related infrastructure									
Hollandse Kust Zuid 1-4 / Netherlands	Wind offshore	1,509	1,563	51	2020/2024	2,600 MEUR	7,814	17,935	25,750 MSEK
Kriegers Flak / Denmark	Wind offshore	604	345	100	2019/ 2021	7,600 MDKK	0	9,694	9,694 MSEK
Vesterhav projects / Denmark	Wind offshore	344	196	100	2022/2023	657 MEUR	4,262	1,806	6,068 MSEK
Princess Ariane (retained) / Netherlands	Wind onshore	180	139	100	2018/ 2020	220 MEUR	0	1,348	1,348 MSEK
Bruzaholm / Sweden	Wind onshore	139	3	100	2023/2025	2,124 MSEK	226	0	226 MSEK
Velinga / Sweden	Wind onshore	67	1	100	2024/2026	1,200 MSEK	0	0	0 MSEK
Industry projects									
HYBRIT / Sweden	Fossil-free steel	Pilot project	–	33	2019/ 2021	858 MSEK	20	460	480 MSEK
Total							**12,322**	**31,243**	**43,565 MSEK**
Outstanding green bonds									**25,217 MSEK**

Bruzaholm
Vattenfall has started the construction of the onshore wind farm project in Bruzaholm, Sweden. The 21 wind turbines will upon completion produce 460 GWh, which corresponds to the annual electricity consumption of approximately 91,500 households. The wind farm is expected to be commissioned in 2025.

Velinga
During 2023, Vattenfall took the final investment decision to start the construction of the onshore wind farm in Velinga, Sweden. The project will have an annual production of approximately 173 GWh and an output of 67 MW. Construction started during the year and the wind farm is expected to be commissioned in early 2026.

[1] All external borrowing is done at corporate level with bonds issued by the parent company, Vattenfall AB, for general corporate purposes. Our bonds have a balanced maturity profile and Vattenfall does not refinance any particular bond maturities but rather takes into consideration the total financing need, i.e. cash from operations, existing liquidity, capex needs, and maturing financial payments such as bond repayments.
[2] Production from onshore wind estimated to 2.6 GWh/MW installed, from offshore wind to 3.5 GWh/MW installed, and from solar to 1.0 GWh/MW installed. Resulting production is compared against grid average emission factors which will decline over time as the energy system decarbonises. Actual production emission factors and savings will vary. Other projects are compared to project-specific reference cases.
[3] All numbers in the table reflect the status as per 31 December 2023.
[4] The reporting of spend relating to green bonds has been updated from 2023 with the aim to be fully comparable with other, financial reporting of the projects. This is reflected in all active projects above, including for historic investments, i.e. accured expenses and not cash flow.

Research and Development

Research and Development (R&D) aims at accelerating the journey towards fossil freedom by exploring new opportunities with colleagues in Vattenfall's operations, customers, partners, and academia.

Vattenfall's R&D activities span across all Vattenfall business areas, working to realise Vattenfall's strategy and purpose. We encourage innovation throughout the company, but at the R&D unit our 145 experts are all dedicated to exploring the many opportunities in the future energy landscape. By bridging the gap from academia to industry, innovating, testing new solutions, and supporting implementation in the business, R&D can guide and lower the risks in order to accelerate Vattenfall's journey towards fossil freedom.

Organised into several interdisciplinary teams exemplified in the graphic to the right, the expertise in R&D ranges from detailed component level to system and market-wide levels. A key aspect and strength of the R&D unit is its diversity with 25 languages spoken by our R&D colleagues. The diversity of employees ensures a variety of viewpoints and experiences are included, as well as a more thorough analysis of options and broader understanding of potential risks and opportunities in the various R&D projects and activities.

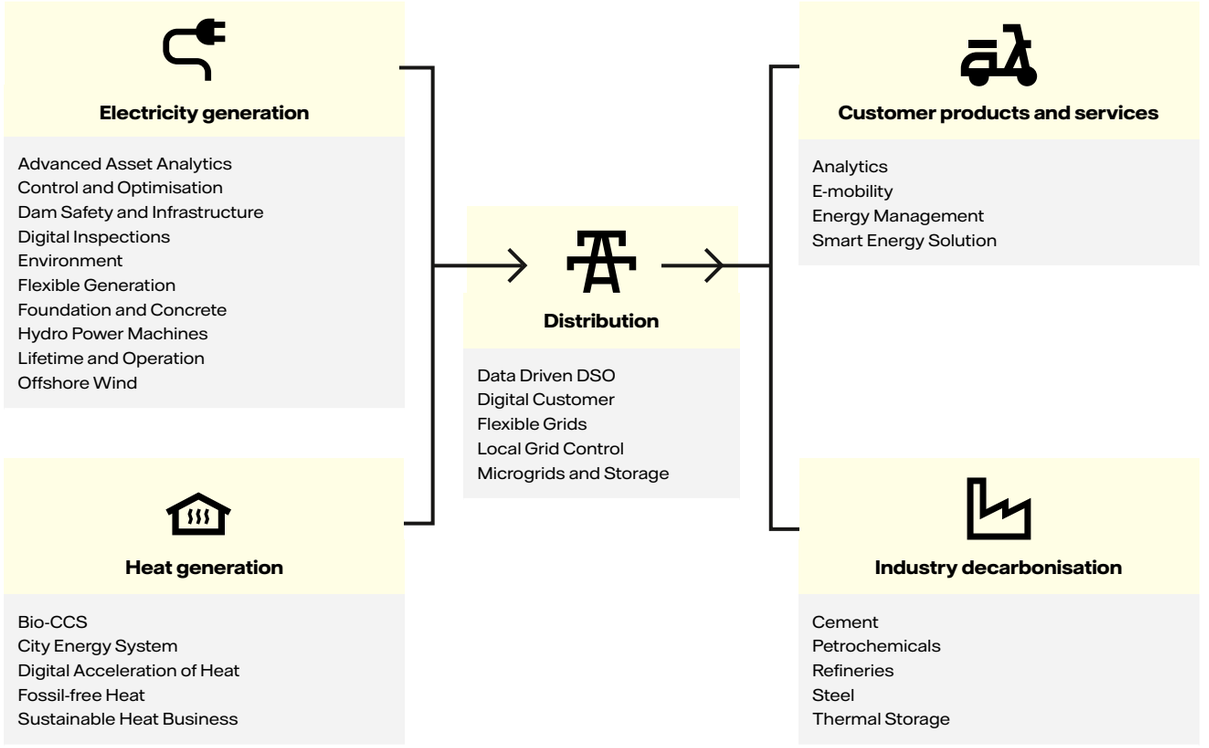
Exploring the potential of AI

Several R&D activities involve the use of digital technologies, including data analytics, machine learning, and artificial intelligence (AI). Algorithms and models are applied to support and advance the business. For example, Computer Vision, AI that allows extraction of information from visual media, has been utilised in cases that include detection of ice formation on wind turbine blades, biodiversity monitoring around hydro power plants and wind farms, and automatic crack detection in bedrocks.

In addition, the emergence of a new generation of AI Chatbots has put the spotlight on Large Language Models (LLMs). LLMs can be used both for understanding natural language texts, or everyday communication, and generating new ones. LLMs can analyse a vast amount of information and provide the highlights or summaries, give personalised support and suggestions, automate tasks like meeting planning, and increase productivity. They can assist in data analysis, accelerate learning, enhance customer support and much more.

Naturally, Vattenfall R&D teams have been exploring the possibilities offered by LLMs. As an example, a personalised, secure document analysis system is being developed to help Vattenfall colleagues in the nuclear business. This is done by grouping and summarising relevant documents, to allow insight at a glance and increase productivity. Considering the many complex challenges the energy sector faces, the potential of LLMs is high. R&D continues to explore multiple secure applications that can help Vattenfall in the journey towards fossil freedom.

R&D programmes throughout the value chain



145
R&D experts

25
languages spoken at R&D

464
million SEK spent on R&D in 2023

Our people

Our people are crucial for Vattenfall's purpose to enable the fossil freedom that drives society forward. Fossil freedom can only be achieved, if the right people with the right competencies and skills choose to join and stay with us. We strive endlessly to make sure that we all have a safe, inspiring, and caring work environment.

We highly value diversity because we are convinced that a breadth of ideas is important; that open dialogue helps us to learn from each other, and that to truly perform we all need to feel welcome and be able to be ourselves at work.

Our commitment

At Vattenfall, we are committed to empowering, engaging, and developing employees so that everyone is able to perform at their peak, while ensuring a safe, inspiring, inclusive, and caring workplace. We offer fair remuneration, flexible working hours as well as a challenging and international work environment with the possibility to work with some of the best in the field.

Vattenfall's culture rests on four guiding principles: Active, Open, Positive, and Safety. It should empower us all to perform at our best and in a way that drives operational excellence and long-term value creation for the business. Our success is underpinned by a proactive and mature health and safety culture where our goal is zero accidents, injuries, and work-related illnesses.

An integral part of our principles is creating a diverse and inclusive workplace. Vattenfall works actively for all employees to have the same opportunities and rights regardless of gender, ethnicity, age, transgender identity or expression, religion or other belief, disability, or sexual orientation. Everyone is included in working towards our goal of fossil freedom and contributes to building a more profitable and attractive company. We work hard to spread awareness, take concrete actions, and measure our progress. Read more about our H&S or D&I strategy and results on pages 78 and 73, respectively.

What our employees say

Each year, our employee survey, My Opinion, is used to track the degree to which our employees feel connected to Vattenfall's purpose and how each individual feels about their contribution. The results show that 85 per cent (83 per cent in 2022) of our employees would recommend Vattenfall as an employer. Furthermore, our survey shows that Vattenfall's culture is collaboration and cooperation based, that there is a high level of trust and respect, and good team spirit. Compared to the peer norm in the survey[1], we score significantly higher on psychological safety and D&I measures. Areas for improvement include more awareness of Vattenfall's purpose and strategy, as well as increasing customer focus. All in all, the engagement index, which is one of our five strategic targets (see page 18) was 80 per cent[2] which is the same as last year and up by 16 per cent in five years.

[1] The peer norm is the weighted average of employee survey results from a cross-section of Energy and Utilities companies (Global Energy& Utilities), derived from recent client studies conducted by WTW.

[2] Due to a change in the answering options in the survey in 2022, the results may differ by up to 3 p.p. in both directions.

Sofi Bryggman
Dam Safety Engineer

"I am excited to go to work every day, and I don't think there will even be a point where I run out of opportunities to learn new things."

Read more about Sofi's employee journey

Anca Velicu
Lead Strategy Advisor Offshore Wind, Diverse Energy Network UK Lead

"Recognising specific dates, events, or festivals such as the International Women's Day, Black History Month, or Holi enables me to reflect upon and deepen my appreciation for diverse perspectives and histories. It cultivates a personal commitment to empathy, understanding, and advocacy towards creating a more inclusive and equitable workplace."

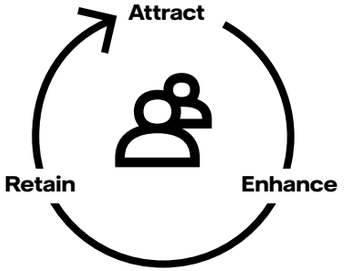
Read more about Anca's employee journey

Employer Rankings

We measure our progress e.g. via Universum & Trendence ranking. In 2023, Vattenfall remained ranked ninth (ideal employer) in Sweden in the category MSc Engineering. In Germany in the same category, we jumped from place 63 in 2022 to 43 in 2023. In Netherlands we were ranked 20th in the category STEM (23th place in 2022).

A people strategy fit for the future

There is a strong demand for talent and competence in the energy sector, and this trend continued in 2023. The driver is the accelerating energy transition but also the scarcity of critical competencies that are necessary to deliver fossil freedom. Securing and retaining talent is central, and from a strategic perspective we are focusing on three key areas.



Focus areas and initiatives

Attract – Attracting the right talent[1]
We want to target the people we need with a differentiated value proposition, a strong presence in recruiting, and by retaining leaders and experts.

Work with a purpose – we tackle issues that matter both for everyday lives and society at large.

Explore the full energy value chain with continuous opportunities to develop and grow in a challenging but supportive environment.

Open, fun, informal and diverse atmosphere in which to work, where the brightest minds come to collaborate, and people are empowered to succeed.

Examples of graduate trainee programmes
- International Trainee Programme
- IT & Strategy Talent Programme
- Framtidsprogrammet within Vattenfall Distribution

Examples of opportunities for students
- Thesis projects
- Summer jobs
- Internships
- Placements for working students.

Enhance – Development through self-directed learning
We want to develop our people to secure key competencies and skills for the future and enable a culture of self-directed learning.

Fostering an open, active, positive and safe learning culture in which our people continuously grow and develop.

Go beyond skills training and truly increase employee engagement and retention.
- Mentoring and coaching
- Learning catalogue with trainings, certifications, and other development opportunities
- Targeted initiatives for different stages in the employee journey.

Examples:
- **New as Manager Programme** – for all new managers
- **Leadership Focus Programme** – gives managers guidance for their leadership
- **Top Talent Programme** – for potential successors to management functions.

Read more on our Career page

Retain – A culture of performance and feedback
We focus on building a culture of performance and feedback. This supports our employees in encouraging each other to achieve new heights while maintaining a healthy work-life balance.

Fair compensation for high performance demonstrating continuous improvements through feedback. See page 75

Trust is the basis of a strong feedback culture and requires an inclusive and psychologically safe environment.
- Team workshops
- Recurring discussions in team and leadership meetings.

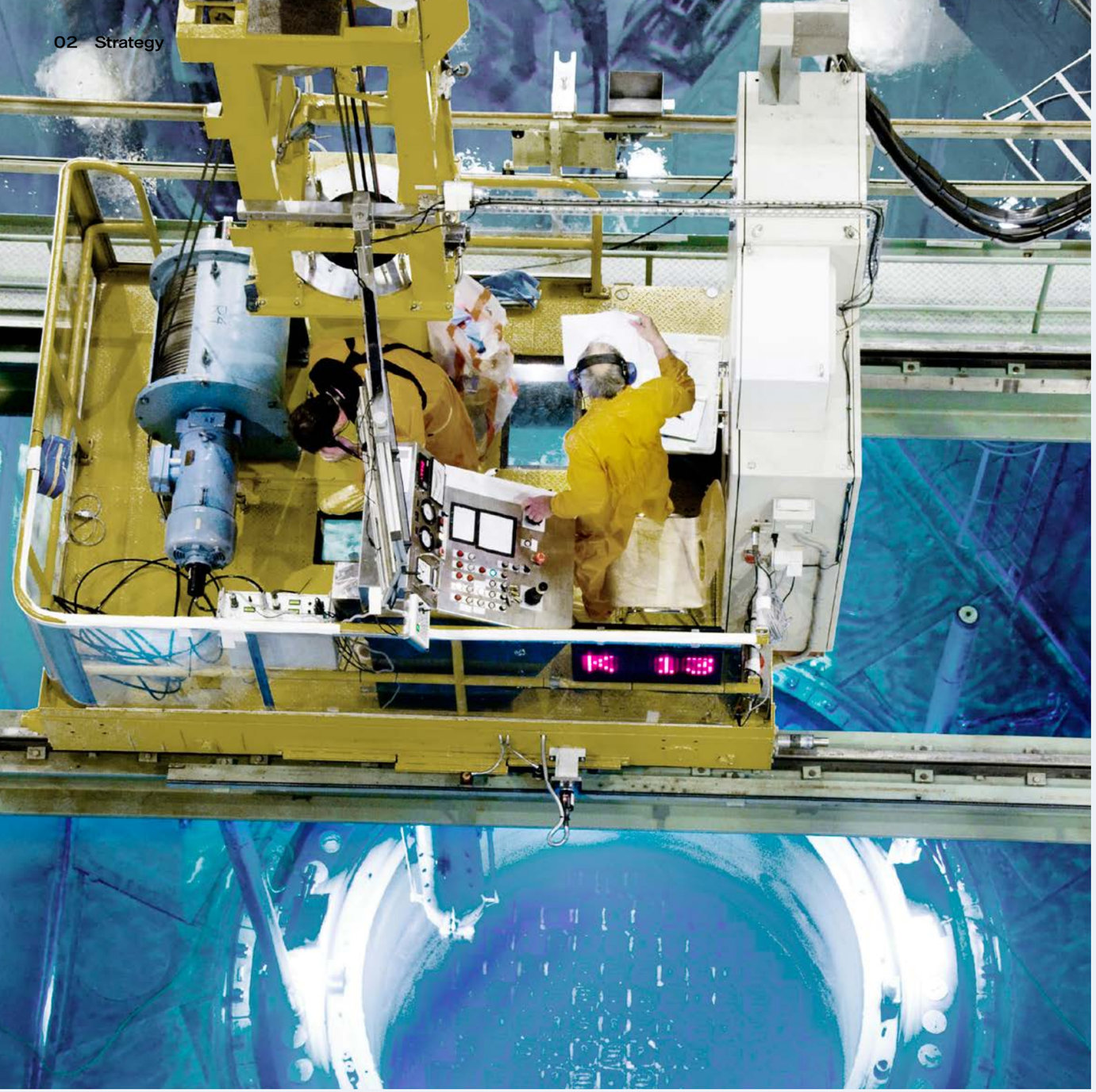
Remote collaboration in a hybrid office environment. State-of-the-art, flexible offices. See page 77

Mental and physical support-trained colleagues called mental first aiders that serve as a point of contact for employees experiencing mental health issues or emotional distress.

Reinforcement of culture through various culture-building initiatives.
- Young professionals network – Megawatt
- D&I-focused Diverse Energy Network See page 73
- Annual group-wide innovation competition.

Work-life balance – Leaders promote employee well-being and are supported by our internal platform – Leadership Toolbox. Other initiatives that are being tested across the organisation are meeting-free Fridays and flexible workplaces.

[1] All activities at Vattenfall in the area of recruitment and selection are carried out with diversity and inclusion in mind. In addition, we take responsibility for public security and safety by having a well-functioning and structured approach to pre-employment screening of all employees as part of our recruitment processes, as well as security vetting for the security classed positions.



Nuclear power

The revival of Swedish nuclear

The upcoming increased electricity demand in the wake of the energy transition in industry has put new nuclear back on the agenda.

Vattenfall is at the epicentre of an accelerating energy transition. Climate targets are high on the agenda in the EU and globally, as is the need for a transition of the industry and transport sectors. In Sweden this transition is based on the potential of replacing fossil fuels with fossil-free electricity and hydrogen. On top of that, the war in Ukraine has made the dangers of being dependent on foreign countries for energy supply evident, at a time when a doubling of the demand for electricity is expected over the next 15–20 years.

These factors lead to a huge and steeply rising demand for electricity, but there is a risk that the build out of fossil-free generation facilities will not keep pace. Meeting future demand will require a mix of all fossil-free energy sources such as wind, solar, hydro and nuclear, each offering unique qualities in terms of costs, construction timeframe, plannability, and scale.

The importance of the existing nuclear fleet

Support from the public to nuclear energy has increased particularly over the past three years, and the 2022 election delivered a majority in the Swedish parliament for building new nuclear plants.

"Sweden has six nuclear reactors in operation, of which Vattenfall is the majority owner of five, and it is, of course, our highest priority to secure the high availability and

safety standards of those facilities, says Desirée Comstedt, Head of New nuclear at Vattenfall."

"We have already been uprating most of our existing reactors, but when we look at the future demand for electricity in the energy transition, we are also looking at the possibility of prolonging the operation of our existing nuclear plants from the present plan of 60 years, to 70 or even 80 years."

Need for new nuclear capacity

While uprating and maintaining existing nuclear plants for prolonged operation will add capacity, Vattenfall has for some years assumed that new nuclear facilities will be needed after 2030 together with especially more on- and offshore wind power to match future demand.

No new nuclear plants have been built in Sweden in almost 40 years, so Vattenfall's top management and key nuclear people conducted a fact-finding tour to Canada, France, and the UK – countries that have recently built or are building new nuclear power plants. They met with suppliers, developers, operators, authorities, and decision makers from these three countries as well as from South Korea and the USA with the aim to deepen Vattenfall's knowledge even further on how to build with speed and cost efficiency.

Stable policies and a Swedish nuclear programme

A long-term, stable energy policy and permitting regime is necessary as changing frameworks and conditions will deter suppliers. There are more projects in the world than suppliers can deliver on, so it must be clear that Sweden is a country where you can have a successful new-build project with well-founded political and societal support.

"Along with stability and efficient and predictable permitting processes there is also a need for a Swedish nuclear programme with clear goals, in which the relevant authorities joini forces to create

> "It is vastly more complex to build new nuclear today than when we built our first reactors."
> Desirée Comstedt, Head of New nuclear.

the prerequisites for the goals to be realised," Comstedt stresses.

"It is vastly more complex to build new nuclear today than when we built our first reactors. The first developer will have to adapt this huge infrastructure project to our political framework, safety requirements, geological prerequisites, workers' legislation, and ensure the licence to operate, so the first reactor will be by far the most expensive."

In other words, one reactor alone will not be financially viable. A fleet of reactors should be part of the nuclear programme utilising the development, experience, and administrative work from the first and second ones. Volume is important to spread the costs and sustain an efficient supply chain – and not least to secure the long-term competencies for construction of new nuclear after a 40-year Hiatus. The final nuclear capacity should be determined based on the market needs and society's requirements on the electricity system.

Sharing the risk

An infrastructure project like a new nuclear programme has significant financial risks. A viable business case requires risk-sharing with the state to reduce risks and hence the cost of capital, which also results in lower cost for the electricity for consumers. The major risks that need mitigation are programme, (that the programme becomes large enough), construction (especially for the first units) and market (clarity on revenue). "Small modular reactors (SMR) are a partly new technology with reactors of 300–500 MW and lesser financial commitment. However, we have now concluded that risk-sharing is needed regardless of the type of reactor," says Comstedt.

Valuable insights

"When we in 2022 set up a feasibility study about establishing at least two SMRs near our existing Ringhals nuclear plant, we already had valuable insights into large-scale reactors from previous projects, but realised that we needed to gather information on SMRs," Comstedt says.

"In our study, we have investigated light-water reactors, which use the same fuel as Vattenfall's existing nuclear reactors. We have extensive experience of these reactors throughout the entire value chain, from procurement of fuel to the Swedish solution for a repository for spent nuclear fuel."

The feasibility study was completed as planned at the turn of the year and reached the conclusion that there are good opportunities for new nuclear at the Värö peninsula close to Ringhals. Vattenfall has now acquired property on the peninsula and the area is suitable to hold 3–5 SMRs or one large nuclear reactor, corresponding to roughly 1.5 GW. Preparations have started for the environmental impact assessment, and the evaluation of potential vendors is planned to be finalised during 2024.

"Our goal stands to have a first reactor in operation on the Värö Peninsula at Ringhals during the first half of the 2030s," says Comstedt.

Large vs. small nuclear reactors at a glance

- ⊕ Ready to deploy
- ⊕ Fast rout to high capacity
- ⊖ High financial risk

- ⊕ Shorter construction time
- ⊕ Outages affect power systems less
- ⊖ Less commercially mature

OPERATING LANDSCAPE

Vattenfall operates in a complex and interconnected business landscape where regulation and support systems play significant roles. As the energy transition accelerates, cooperation and collaboration is increasingly key to ensure flexibility and adaptability both financially and operationally.

Regulatory developments

Accelerating its fossil-free energy transition, Europe made significant progress in energy and climate policy in 2023. Throughout the year, the focus of decision makers remained on ensuring affordability of energy for citizens and industry alike.

Ensuring affordability

The EU emergency measures to tackle high energy prices, established in 2022, have gradually been phased out in many EU markets over the course of 2023. Some markets have chosen to introduce specific national rules in response to the high prices seen in 2022. In the UK, legislation continues to underpin the UK retail energy price cap until March 2024. In France, the retail energy price cap for residential consumers has been maintained in 2023, even though its level has risen twice during the year to take account of inflation, resulting in a slight price increase on electricity bills for consumers. In the Netherlands, a price ceiling regulation for B2C has been implemented creating composure and clarity for consumers and politicians.

In spring 2023, the European Commission tabled its proposal for a reform of the EU power market. After negotiations between EU institutions, an agreement was reached in December. The reform aims to make electricity prices less dependent on volatile fossil fuel prices, shield consumers from price spikes, accelerate the deployment of fossil-free energy generation and improve consumer protection. Member States are given different options on how to finance their energy transitions, leaving room for national implementation of the EU rules.

Meanwhile, work on the UK's renewable energy market arrangements (REMA) continued in 2023. REMA is reviewing the UK's electricity market arrangements to ensure they are fit to meet the government's target of a fully decarbonised electricity system by 2035, subject to maintenance of security of supply.

End of the year, the German government has agreed on an electricity price package worth EUR 12 billion to relieve the burden on energy-intensive industries, including EUR 5.5 billion to cap the transmission grid fees that have skyrocketed due to the necessary grid expansion. The package includes a reduction in the electricity tax for the manufacturing industry as well as the extension and expansion of the subsidy system for the reimbursement of CO_2 emission certificates.

The energy transition in policies

Sweden's presidency of the Council of the European Union in the first half of 2023 was marked by significant progress on energy and climate policy. The EU institutions agreed on major legislation including a more ambitious reduction target for the EU Emission Trading Scheme (EU ETS), a framework for renewable energy, and policies to decarbonise transport and residential heat.

The agreement on the EU ETS includes a CO_2 reduction target of 62 per cent by 2030, which is more ambitious than the previous 43 per cent target and will help the EU to achieve its overall climate target of reducing greenhouse gas emissions by 55 per cent by 2030. The EU framework for renewable energy paves the way for faster permitting of heat pumps, renewables, and the related distribution grid on national level. This is important because renewable energy will play a key role in the EU's energy transition together with the mentioned new policies for transport and residential heat. In combination, these policies will help reduce emissions from two sectors that are currently major sources of greenhouse gases.

At the national level, several European countries made changes in their energy and climate plans in 2023.

New heating legislation was passed in Germany to increase the share of renewables in housing installations to 65 per cent. Furthermore, the law stipulates that all types of heating must be climate neutral by 2045, at the latest. In France, the government introduced actions to phase out the use of gas-fired units, urging households to make their transition to more sustainable heat pumps.

Equally, the Netherlands is on track to meet their 2030 climate commitments with several energy policies being discussed on national level throughout 2023. The policy decision on a majority public ownership in heat infrastructure is part of the draft heat legislation.

In England and Wales, new consumer protection powers as well as price regulations have been given to the energy regulator, and the government has taken new steps to introduce heat network zoning, a system that has already been introduced in Scotland.

The Swedish government for example initiated an inquiry into the permit process for offshore wind with the aim of speeding up offshore wind development, just as a government inquiry presented a proposal for local incentives for onshore wind. At the same time, the previous assignment to the transmission system

operator to be responsible for offshore grid connections has been withdrawn. The UK is implementing measures to speed up offshore wind consenting.

In March 2023, France launched the Nuclear Alliance, a group of countries committed to nuclear energy. The alliance aims to promote the safe and sustainable use of nuclear energy, and to ensure the EU has a reliable and secure energy supply. This comes at a time when France has decided to build new nuclear. In May 2023, a bill on new nuclear was adopted by the French parliament. It confirms the plan for the construction of six new reactors between 2035 and 2045 and removes from the law the obligation to reduce the share of nuclear in the electricity mix to 50 per cent.

The Swedish government, supported by the Sweden Democrats, has taken three main initiatives in the second half of 2023 to enable new nuclear power: firstly, a regulatory initiative to allow for more reactors than the ten that are allowed today and on new sites than the existing. Secondly, promotional measures including an inquiry on more efficient permit processes, a revision of the nuclear waste programme and a revision of the application fees for new nuclear power. The inquiry will also look into the emergency planning zones. Thirdly, a roadmap was launched where the government introduces a target of 2,500 MW of new nuclear power by 2035 and an inquiry on risk sharing. A person in charge of coordinating all initiatives to enable nuclear power has also been appointed.

Increasing strategic autonomy

Europe's acceleration of fossil-free electricity build-out has led to a renewed policy focus on the resilience and diversification of the supply chain. A key topic discussed both at national and EU level. An increase of investments in renewable energy manufacturing capacity and supporting infrastructure has been called for by industry and politicians. To address manufacturing challenges across different technologies, the EU proposed the Net Zero Industry Act (NZIA). During 2023, it became apparent that the European offshore wind industry has been hit by a crisis, as a number of major projects were delayed or cancelled due to a worsening macro-economic business environment. In response, a European wind power action plan has been launched by the European Commission in autumn. The Action Plan sets out immediate actions to be taken together by the Commission, the Member States, and the industry; building on existing policies and legislation and focusing on six main areas: accelerating deployment through increased predictability and faster permitting, improved auction design, access to finance, fair and competitive international environment and skills as well as industry engagement and member state commitments. At the end of the year, a charter has been jointly signed by the European Commission, Member States and industry representatives to confirm commitments to the actions outlined.

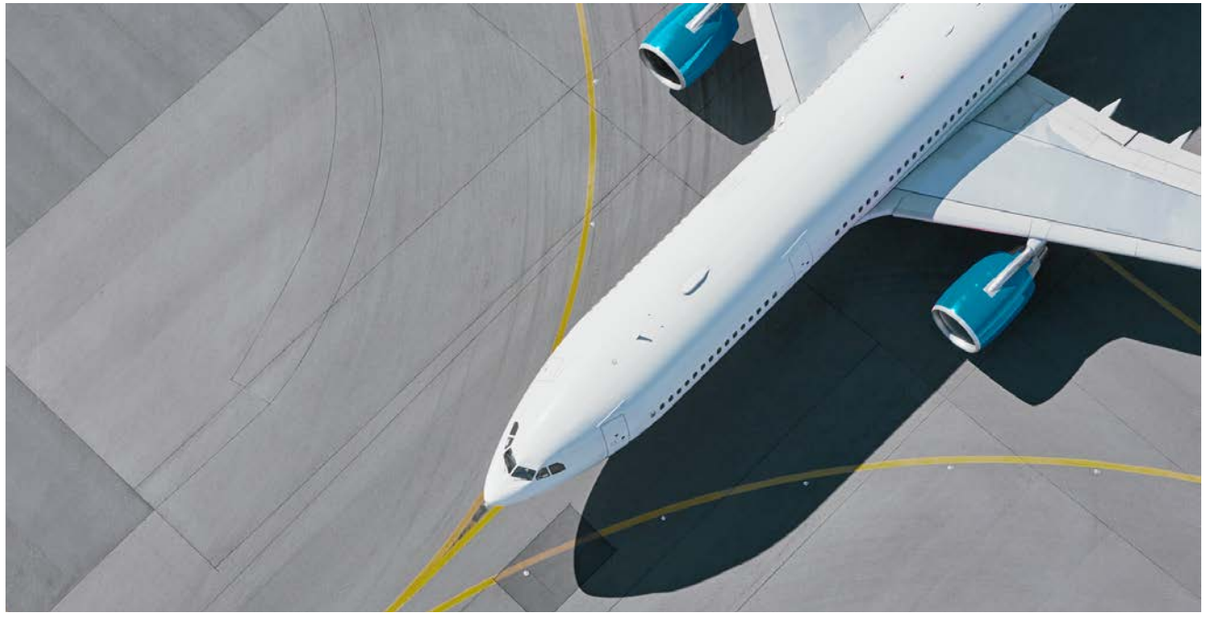
Political landscape

In July the Dutch government collapsed. The elections in November resulted in fifteen parties taking seat in the House of Representatives. The Partij voor de Vrijheid (Party for the Freedom, PVV) emerged as the largest party, obtaining 37 seats. The Labour-Green alliance took 25 seats. Overall the results can be seen as a move towards more right wing politics. Coalition talks are proceeding in 2024.

Partnering landscape

The fossil-free energy system needs a rapid massive built out in order to meet the climate targets – and that creates many opportunities. However, there is still uncertainty on how the energy transition will be executed; and competition has intensified across the energy value chain.

While the goal to decarbonise society is clear, there is still uncertainty about how different technologies will develop and regulatory frameworks and subsidies are in many cases still not finalised. The recent market development has sharpened the focus on energy policy, which has created even more momentum for the transition but also a greater push for state intervention in the energy markets. To some extent, this has created additional uncertainty. In this environment, financial strength and stability, flexibility, and diversification have become more important than ever. In light of this, resource sharing and collaboration have come in focus and partnerships have proliferated across the value chain. Some key areas include collaborations and partnerships to:



Expand fossil-free electricity

Partnerships aimed at enabling the expansion of fossil-free electricity while ensuring profitability and consideration for sustainability aspects.

- System integration
- Power purchase agreements
- Expanding the range of technologies
- Entering new geographical markets.

Develop and enable new technology

Partnerships aimed at expanding opportunities to electrify industry and other sectors as well as new fossil-free electricity generation and storage.

- Decarbonisation of hard-to-abate sectors
- Research collaborations
- Feasibility studies
- Entering new technological markets.

Support customer decarbonisation

Partnerships designed to increase service levels to customers through deeper integration as well as to enable decarbonisation by collaborating on asset ownership.

- Partnering with energy intensive industry players to support them on their decarbonisation journey
- Collaboration with service providers to increase service levels
- Collaboration with suppliers in related markets to enhance service integration, for example supply and installation of heat pumps
- Increasing service levels to end customers by collaborating with customers that provide e-mobility charging points at their premises
- Power-as-a-Service solutions.

Secure a sustainable supply chain

Supply chain resilience and sustainability have increasingly come in to focus where optimisation has made global supply chains fragile. However, cost is an important factor as competition is fierce.

- Collaboration with suppliers to ensure reliable and sustainable supplies
- Collaboration with other industry actors to increase leverage on supplier sustainability performance
- Research partnerships.

EV charging

We first need to make smart charging smarter

Making charging smarter encompasses a pallet of different elements in which Vattenfall is working with local authorities and provinces to help achieve the Dutch target of 1.7 million charging points by 2030. Pieter van Ommeren, Director at Vattenfall InCharge, explains what it takes to achieve this target.

“We can no longer wait for drivers of electric vehicles to come forward. We need economies of scale and a huge acceleration,” van Ommeren sums up the situation.

Data-driven rollout

In the Dutch provinces of North Brabant and Limburg, Vattenfall installed charging point number 8,000 in October 2023. As a special feature, 4,500 of the charging points in the second round were installed proactively, i.e. before electric vehicle (EV) drivers requested them. Data-driven forecasting and planning maps were used to map the best locations for charging points in consultation with local authorities and provinces, a first in Europe.

“We are creating a smart map for the coming years, as it were, and we are, slowly but surely, fitting all the pieces of the puzzle together,” van Ommeren says.

That map is based on the use of existing charging points, mobility information, vehicle and parking data, road displays, parking bays, and demographic data. Members of

the public are also involved in the plans. Vattenfall invites them to contribute their local knowledge that helps fine-tune the deployment policy.

Smart charging

It is not only the availability of charging points that matters, the price of charging also plays a major role in the decision of whether to go electric or not. On average, an electric car charges to the desired capacity within 40 per cent of the time it is plugged in. This means that, during the remaining time, the car is left plugged in unnecessarily. In addition, recharging usually takes place between 6 pm and 11 pm, a peak period for both grid load and energy price.

"This is the time of day when people come home from work, turn on their lights, start cooking, and watch TV: a lot is being asked of both the electricity supply and the grid at the same time, especially if we add charging electric cars to the mix," explains van Ommeren.

However, Vattenfall can shift the charging time to the non-peak and cheaper hours, giving flexibility. That shift is based on three pillars: grid load, price, and amount of renewable energy. Most importantly, the solution must fit within the car user's needs. Van Ommeren explains: "Smart charging is going to become the standard and our customers should be rewarded for it, for example through differentiated rates. We are going to see customers start charging smartly at a lower price."

Balancing the power grid

Flexible charging is not only beneficial for EV drivers, but also of great importance for grid operators. With the high demand for power and the addition of renewable energy from wind farms and solar panels, the grid is becoming overloaded and getting out of balance. With smart charging, Vattenfall InCharge contributes to temporarily relieving the grid in several ways. In Amsterdam, the Flexpower 3 research project first reduced the charging capacity of the charging points at the busiest time of day. In a follow-up phase, the researchers then looked at the capacity per district. If one car was charging, all available power could go to that car; with ten cars, that power was split between ten cars. "This really helped us to reduce the grid load," van Ommeren says.

"The feed-in of power from the car to the grid, known as vehicle-to-grid, is a further smart-charging feature but still in the proof-of-concept phase. An ISO protocol required for this purpose is not expected before 2025. So, mass rollout is still some time away, but all our new charging stations are ISO-ready."

Cybersecurity

In addition to a European-aligned ISO protocol, ensuring the security of charging station infrastructure is a hot topic.

"Since 1 October, we have been registered as a critical infrastructure provider," van Ommeren explains. "This is mandatory for everyone providing more than 300 MW of installed capacity. We are working daily to ensure the security of our software, of our platform, and IT environment. The requirements set by the European Union and the Dutch government naturally apply to all parties involved in the charging infrastructure. We are part of the leading group that is embracing, testing, and implementing the relevant protocols."

The car as part of the energy system

"There has been a lot of talk lately about smart charging and feeding power back to the grid, but I would like to stress that, in the coming years, we need to make sure that we first make smart charging even smarter," van Ommeren looks ahead.

To achieve this, we need to ensure that the charging station can determine a smart charging profile based on the individual customer's needs. This will allow the charging station to establish how full a particular car should be, when the driver needs to leave, how many kWh should be charged, and how the charging should be optimised so that the grid can be relieved as much as possible, the share of renewable energy optimised, and the price kept as low as possible. Also, customers will no longer need a charging card to start or stop a charging session.

"I believe that, in 10 years' time, the bulk of electric cars will charge using a smart charging profile that allows them to charge mainly at times when there is a lot of renewable energy available without overloading the grid. The driver will not have to use complicated apps. This will mean that the car really has become part of the energy system."

Charging stations in the cloud

What Vattenfall develops and tests in the public grid is sometimes copied into solutions for our B2B customers. At a Philips site where medical MRI scanners are manufactured, all charging stations from the three separate car parks are virtually clustered in the cloud. The system monitors at what times there is enough power left for the charging stations based on peak demand in manufacturing. That profile goes up and down all day and is cleverly distributed among the charging poles.

OPERATING SEGMENTS

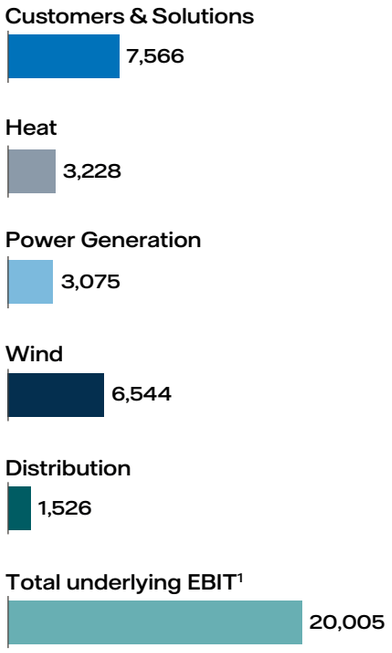
Vattenfall reports on its acitivites based on five operating segments; Customers & Solutions, Heat, Power Generation, Wind, and Distribution. The organisational structure is designed to reflect Vattenfall's overall strategy.

Operating Segments

Vattenfall reports on its activities based on five operating segments. These reflect the organisational structure – the business areas – except for the segment Power Generation, which is organisationally divided into the business areas Generation and Markets.

Underlying EBIT per segment

SEK million



[1] Exclusions and other contributions to the underlying EBIT are include in the total but not illustrated here. See page 116 for exact breakdown per segment.

[2] Excluding China as this market is generally unaccessible to western developers.

Customers & Solutions

Responsible for sales of electricity, gas, and energy services as well as e-mobility charging solutions. C&S also offers a broad range of decarbonised, decentralised solutions such as heat pumps and solar panels.

- A market leader in Sweden with nearly 0.9 million electricity contracts
- A market leader in the Netherlands with 4.5 million electricity and gas contracts
- A total of 5.3 million electricity and gas contracts in Germany with a leading position as electricity supplier in Berlin and Hamburg
- Operates 51,000 e-mobility charging points in Sweden, Germany, the Netherlands, and Norway.

See more on page 36

Heat

Responsible for heat operations (district heating and decentralised solutions) and gas-fired condensing plants.

- One of Europe's leading providers of district heating in large metropolitan areas with approximately 2.1 million household equivalents
- Partnerships with cities for the realisation of carbon reduction plans, supported by a track record of meeting previous reduction targets
- Heat production and distribution systems used as platforms to integrate other energy solutions, like district cooling, e-mobility charging solutions, wind, and solar.

See more on page 38

Power Generation

Responsible for hydro and nuclear power operations, the maintenance services business, and optimisation and trading operations, including certain large business customers.

- Operates a portfolio with 5.5 GW nuclear power capacity and 11.5 GW hydro power capacity across Sweden, Finland, and Germany
- One of Europe's largest producers of fossil-free electricity, with 37.4 TWh from nuclear power and 36.1 TWh from hydro power in 2023
- Provides professional asset-optimisation services and market access and is a leading player in commodites trading and power purchase agreements in north-western Europe.

See more on page 40

Wind

Responsible for development, construction, and operation of Vattenfall's wind farms as well as for large-scale solar power and batteries.

- One of the largest producers of onshore wind power in Denmark and the Netherlands
- One of the largest producers of offshore wind power in the world[2]
- 13.8 TWh of electricity generated from 5.4 GW in operated capacity
- Strong wind power pipeline with 2.3 GW in construction and over 2.7 GW in mature-stage development
- Forerunner in innovative solutions in solar and batteries, such as co-location.

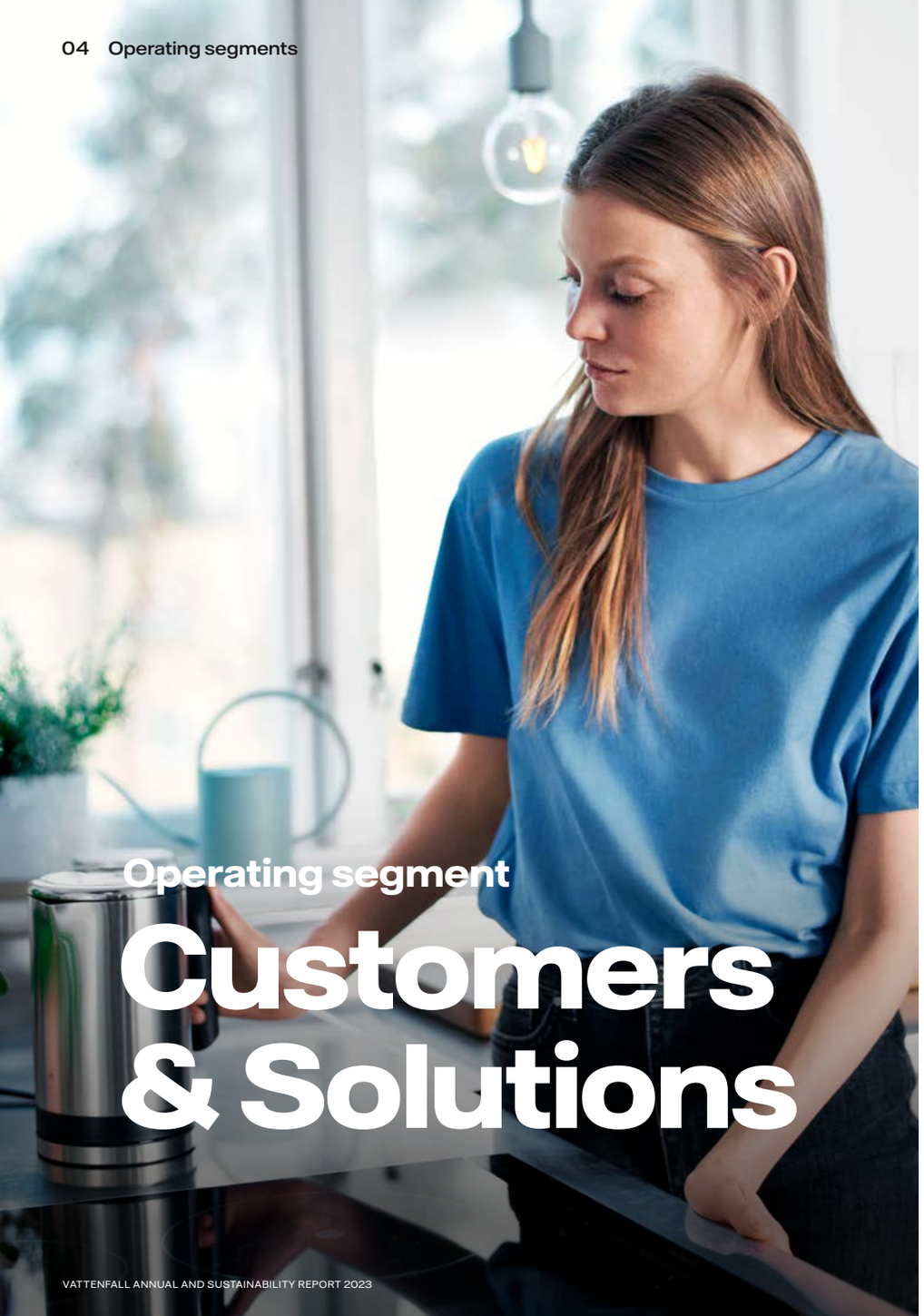
See more on page 42

Distribution

Responsible for electricity distribution operations in Sweden and the UK. Provides Power-as-a-Service through ownership and operation of electrical, storage, and charging infrastructure on long-term contracts.

- Leading operator of regional electricity distribution grids and among the top three largest actors in local grids in Sweden
- Distributes over 50 per cent of the electricity in Sweden
- Approximately 1.0 million business and private customers in Sweden
- Unit for operation and ownership of new grids in the UK, established in 2017.

See more on page 44



Operating segment

Customers & Solutions

Operations

Customers & Solutions provides electricity, gas, and energy solutions – including fossil-free electricity and biomethane – to retail and business customers, with 11.4 million customer contracts in Europe. We are one of the market leaders in the retail and business segments in Sweden (0.9 million electricity contracts) and the Netherlands (4.5 million electricity and gas contracts) and are among the leading energy suppliers in Germany (5.3 million gas and electricity contracts). In Denmark and Finland, we are a market challenger for sales of electricity, and in France for electricity and gas.

We operate 51,000 charging points throughout Europe and offer e-mobility charging solutions for people's homes and businesses, as well as public charging in towns and cities across our Swedish, Dutch, and German markets. We operate advanced smart charging solutions that support stable grids and the energy transformation. We also offer a broad range of decentralised decarbonisation solutions such as heat pumps and solar panels.

Business environment

After a turbulent year for the energy market in 2022, customers saw some price stability in 2023 – partly due to short-term regulations from governments. However, energy price uncertainty remains, including high price volatility throughout the day. Customers are becoming increasingly aware of their energy consumption and demand more transparency and control over their real-time usage, leading to an increase in dynamic tariffs and digitalised or in-app insight capabilities across the market.

In our continental markets, governments are heavily focused on the heating transition. Despite the clear pathway on transitioning towards sustainable heating solutions, such as heat pumps, the speed of adoption is still heavily dependent on national law making and subsidy schemes – for example, the German Building Energy Act (GEG).

Strategy and targets

We aspire to be the decarbonisation partner of choice and support our customers in the transition to fossil-free energy. In addition to providing customers fossil-free electricity options across markets, we are actively investing in our heating decarbonisation offerings, including fossil-free gas and heat pumps for B2C customers, and developing solutions for and with our B2B customers.

We invest in becoming a leading operator of e-mobility charging points in north-western Europe. We provide flexibility services that help customers optimise their energy consumption and balance the energy grid.

We offer a wide range of smart, data-driven, and decentralised sustainable energy solutions and services to private and business customers and continue our efforts within the electrification of transport and industry as well as decarbonisation in our continental markets.

Just transition – focus on the Netherlands

We are working to make the energy transition more obtainable for all – which includes accessibility and social responsibility. In the Netherlands, we work with FIXbrigade to install energy-saving measures, free of charge, that help households who are threatened by energy poverty reduce their energy bills and kick-start decarbonisation efforts. In July, we launched the high-temperature heat pump, with sales targeted toward social housing corporations. Our subsidiary Feenstra is reserving significant heat pump installation capacity for lower-income housing. We continuously investigate meaningful ways to make the transition more inclusive as we continue our efforts toward a just transition.

Developments in 2023

Our customer base expanded further, mainly due to growth in Germany where we reached 5.3 million customers. Our customer churn across markets was low. Despite a slight decrease in our absolute Net Promoter Score (NPS)[1] +11 compared to +16 in 2022, driven by the high prices that year – the NPS still indicates high customer satisfaction and that they appreciate a stable partner, which is further supported by the low churn. We continuously strive to provide an easy and simple customer experience and seek opportunities to strengthen our customer relationships.

We continued our decarbonisation efforts in our continental markets, supported by our strengthened SBTi targets. We further increased our fossil-free electricity share to 80 per cent and successfully launched our innovative high-temperature heat pump system in the Dutch market as an alternative to gas boilers. Plans are underway to expand sales further. In Germany, we acquired our first installation companies to transition gas customers to heat pumps, and we are exploring options to secure biomethane in the Netherlands, in response to the Dutch biogas blend-in obligations.

As society is being electrified, we are increasingly offering flexibility solutions to empower our customers to use their energy efficiently. We offer dynamic tariffs in our Swedish and German markets, and besides our existing customer apps in the Netherlands and Germany, we launched our new customer app in the Nordics, which enables customers to see consumption and energy prices. Both in the Netherlands and Nordics, we are introducing smart charging so our customers can charge at off-peak times and reduce their overall energy costs.

The expansion of the charging infrastructure for passenger electric vehicles continues. We operate and offer our EV customers 51,000 charging points. In 2023, we initiated partnerships with additional location partners in Sweden, such as the ventilation company Lindab, the property company Svenska Hus, and the finance company Storebrand. In Germany, our first public charging park with fast charging stations is now in operation in Berlin's Marzahn district, offering 15 charging stations with different charging capabilities – including ultra-fast chargers with a charging capacity of 360 kW. We have also closed several significant deals with customers such as Lufthansa and Gewobag. In the Netherlands, we are installing up to 1,000 charging points per month, and all of our newlybuilt public stations are ISO15118 and Vehicle-to-Grid ready (see page 32).

Planned activities

- Further develop decarbonisation roadmaps; Expand offering of fossil-free electricity and develop portfolio of energy solutions to enable the energy transition in our continental markets, including biomethane, heat pumps, and other energy solutions
- Expand flexibility offering, including storage solutions, to give customers steering and control over how and when to consume energy, reduce costs, and integrate decentralised energy solutions
- Growth in powering electrified transport – expanding our public charging network and providing competitive offerings to our consumers, including smart charging solutions to actively support the energy transition by increasing use of fossil-free electricity
- Continue our work with governments and organisations to address energy poverty and further work towards making the energy transition available to all.

[1] The Net Promoter Score (NPS) is a tool to measure customer loyalty and understand how customers perceive Vattenfall's products and services. The score is weighted 80% from Customers & Solutions and 20% from Heat, which reflects the composition of our customers.

Key data

	2023	2022
Net sales (SEK million)	216,339	183,151
External net sales (SEK million)	207,303	174,026
Underlying operating profit[1] (SEK million)	7,566	7,413
Sales of electricity (TWh)	113.5	93.5
– of which, private customers	27.6	27.1
– of which, resellers	36.3	20.7
– of which, business customers	49.6	45.7
Sales of gas (TWh)	44.1	46.4
Net Promoter Score (NPS) absolute[2]	+11	+16
Number of employees, (FTE[3])	3,641	3,289

[1] Operating profit excluding items affecting comparability.
[2] Weighted 80% from Customers & Solutions and 20% from Heat. For definition see page 200.
[3] Full time equivalents.

Financial results 2023

Net sales increased by 18 per cent compared to 2022. Underlying operating profit increased, mainly due to a growing customer base in Germany, an increase in the number of business customers in the Netherlands and higher sales to retail customers in France. Compared to year-end 2022, the customer base increased by 5 per cent to 11.4 million contracts. Electricity sales increased by 21 per cent compared to 2022, primarily attributable to higher sold volumes due to an increased customer base in Germany and higher volumes to retail customers in France. Gas sales decreased by 5 per cent due to a lower customer base and decreased average consumption per customer.

Operating segment

Heat

Operations

Operating segment Heat comprises Vattenfall's heating and condensing businesses, including waste-to-energy plants. We are one of Europe's largest producers and distributors of district heating to growing metropolitan areas in north-western Europe including Berlin, Amsterdam, Uppsala, and Bristol. We are pioneering district heating solutions in other UK cities as well. Our district heating supply still relies on the operation of some large, combined heat and power plants (CHPPs), but with the sustainability targets of Vattenfall, we have widened our portfolio to include technologies like e-boilers, third-party excess heat infeed (TPI), and thermal waste utilisation. We are increasing the share of flexible energy solutions such as large-scale heat pumps, utilisation of surplus renewable energies, storage options, and decentral micro CHPs. We are supplying heat to both B2B and B2C customers, including large private and publicly owned property companies and households. We see significant growth potential in the Netherlands, and the UK driven by transition of heat sources in these countries as well as property developments and densification in urban areas.

Business environment

The CO_2 emissions from the building sector in Europe account for more than a third[1] of the total CO_2 emissions where nearly 50 per cent of the heating is generated by natural gas[2]. District heating systems in urban areas are an important part of the heating sector decarbonisation since they allow for integration of flexible and sustainable energy sources such as geo- and aqua-thermal, power-to-heat, biofuels, and excess heat sources from third parties like industries and data centres thus reducing dependency on natural gas. Local district heating tends to be highly competitive as well as efficient compared to individual heating solutions like oil or gas boilers and heat pumps. The Dutch Ministry of Economic Affairs and Climate has announced the intention for compulsory public ownership of heat networks. Vattenfall shares the ministry's objective to strengthen the coordinating role of municipalities and has argued for local customisation in order to arrive at the most practical and efficient form of cooperation, whether public, private, or a combination thereof.

Strategy and targets

The 2022 energy crisis has made it even more evident that dependency on fossil fuels is untenable. For Vattenfall, decarbonising our heat operations follows our ambition to achieve net zero in 2040.

Vattenfall has finalised the strategic review of its Berlin heat business and has decided to sell the entire district heating business to the State of Berlin. The expected purchase price amounts to EUR 1.6 billion. The new owner will make additional substantial investments in the coming years, in order to generate 40 per cent of the district heating from renewable energy sources by 2030 and to achieve climate neutrality. With the sale, around 1,700 employees will move to the new owner. Vattenfall and the State of Berlin plan to close the transaction in the second quarter of 2024.

In Sweden, operations will be 100 per cent fossil-fuel free by 2025. We aim to grow our customer base by implementing smart hybrid and decentralised low-carbon heating and cooling solutions for attractive and reliable heat supply.

[1] European Commission, **In focus Energy Efficiency in buildings** (2020).
[2] European Commission, **An EU Strategy on Heating and Cooling** (2016).

An innovative adaption of a cooling plant

In 2023, the commissioning of our innovative project, QWARK3, has started in Potsdamer Platz, Berlin. Together with Siemens Energy and funding partners, we are attempting to integrate new high-temperature heat pump technology into existing district cooling infrastructure. In doing so, it transfers the excess heat produced by the cooling plant to the heat pump to be used for heating purposes. The project could provide approximately 30,000 households with hot water in the summer and 3,000 with heat in the winter. Besides the resource efficiency of adapting existing infrastructure, the project has certain environmental advantages such as reducing CO_2 emissions, water demand, and noise pollution. QWARK3 intends to be operational next year.

Developments in 2023

Vattenfall decided in December 2023 to sell the entire district heating business in Berlin to the State of Berlin. However, efforts to decarbonise the district heating supply continued throughout the year.

Investments have been made in a project that integrates surplus heat from third parties into the district heating network in Berlin. A new combined heat and Power (CHP) plant will use steam from the adjacent municipality-owned waste incinerator, and a large electrically driven industrial heat pump will utilise the waste heat contained in the discharge water from the adjacent, also municipality-owned, waste water treatment plant. This project integrates major third-party sources of renewable heat and is one of the main building blocks of the Berlin asset portfolio.

Vattenfall stopped commercial operation of the Moorburg plant and subsequently sold it to Hamburger Energiewerke (HEnW). On 1 March 2023, the HEnW acquired the company with 94 employees, buildings, the remaining components, and the associated property from Vattenfall.

In the UK, we are working to enable existing housing stock and new housing to connect to heat networks. This includes the construction of a district heating network at Brent Cross Town in north London and our first project in Scotland in a joint venture with the Midlothian Council. Construction is well under way in both projects. In January 2023, Vattenfall Heat UK acquired Bristol Heat Networks Ltd and is working with Bristol City Leap; a trailblasing large-scale, multi-pronged initiative aimed at achieving carbon neutrality for the city's energy infrastructure by 2030 (see page 46).

Vattenfall paused the development of a biomass plant for the district heating network in Diemen following a revoked permit in the Council of State. Vattenfall has entered into talks with Dutch authorities about possible other sustainable alternatives that can be timely developed to provide heat to the 84,000 customers concerned.

Rising fuel prices have hit the district heating sector in Sweden hard. It has become significantly more expensive to produce district heating. At the same time, also the cost of alternative forms of heating has increased significantly, largely driven by high electricity prices, high inflation, and increased interest rates.

Planned activities

- Continue to utilise excess heat from the cooling water of existing and future data centres in Amsterdam
- Developing geothermal heat sources in Amsterdam and Lelystad
- Further expansion of the low-carbon infrastructure of district heating in UK cities
- Advancing evaluation of the "Fossil Eye" project together with Tekniska verken and Umeå Energi, with the aim of identifying the amount of fossil plastics in waste and to trace their source so as to minimise that waste fraction
- Starting the commercial operation of the industrial-scale, high-temperature heat pump at Vattenfall's cooling centre in Berlin's Potsdamer Platz.

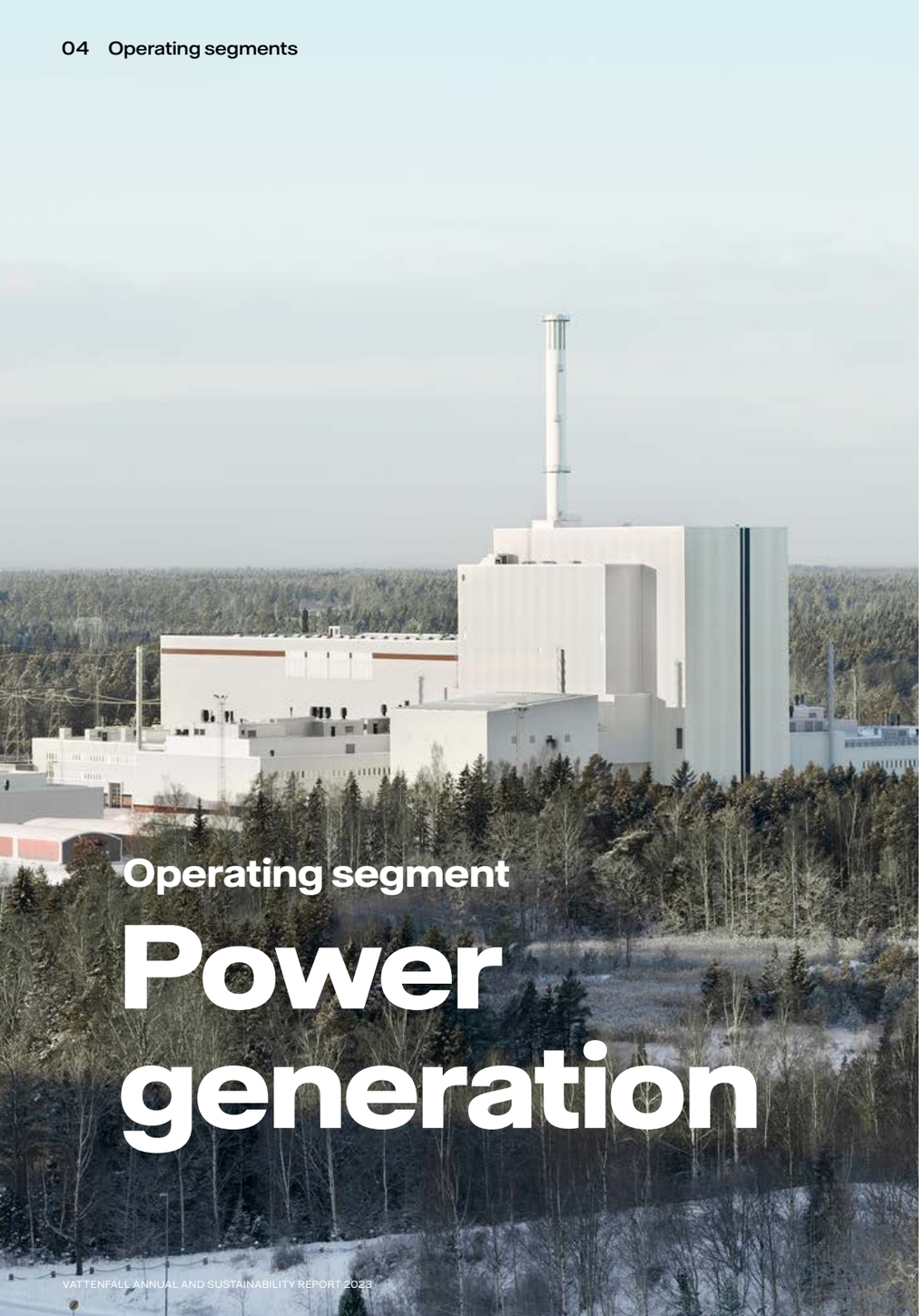
Key data

	2023	2022
Net sales (SEK million)	44,202	60,505
External net sales (SEK million)	25,844	20,933
Underlying operating profit[1] (SEK million)	3,228	-3,578
Sales of heat (TWh)	3,228	14.1
Electricity generation (TWh)	13.6	16.6
CO_2 emissions (Mtonnes)	7.8	9.4
Nitrogen oxides, NOx (ktonnes)	4.3	4.6
Sulphur dioxide, SO_2 (ktonnes)	1.1	1.2
Particulate matter, PM (ktonnes)	0.1	0.1
Number of employees, (FTE[2])	3,227	3,188

[1] Operating profit excluding items affecting comparability.
[2] Full time equivalents.

Financial results 2023

Net sales decreased by 27 per cent compared with 2022. The underlying operating profit increased mainly as a result of price adjustments for heating in Berlin and the Netherlands, which compensate for the higher fuel costs in 2022. In addition an updated contract and pricing strategy in Berlin affected the result positively. This was somewhat offset by a lower underlying operating profit in Sweden largely driven by higher biofuel prices. Improved spreads following lower prices for gas lead to an overall positive impact on the underlying operating profit.



Operating segment

Power generation

Operations

The Power Generation operating segment comprises the Generation and Markets business areas.

Generation produced a total of 73.5 TWh (80.1) of electricity in 2023 in our hydro and nuclear power plants across the Nordics. Vattenfall's total installed hydro power capacity of 8,800 MW generated 36.1 TWh (40.5) of electricity. At year-end, Vattenfall's Nordic reservoir levels were at 56 per cent (59 per cent), which is one per centage point below normal. The combined installed capacity of nuclear power was 5,500 MW and generation totalled 37.4 TWh (39.6).

Business Area Markets maximises the value of Vattenfall's portfolio by optimising and dispatching, hedging, and sourcing for Vattenfall's assets, third-party assets, and sales positions.

Business environment

Hydro and nuclear power are the two most important large-scale dispatchable fossil-free means of electricity generation in the Nordic markets. Amid the rise of large-scale intermittent electricity production from wind and solar PV, they are facing increased competition while becoming more valuable in ensuring security of supply. The shift creates business prospects in energy storage and dispatchable fossil-free electricity production. However, there are major uncertainties regarding future market design and the political landscape.

The electricity market in 2023 has been characterised by lower prices both in the Nordics and on the continent. Price area differences have come down and price spikes have reduced compared to 2022. Despite the wholesale market calming down somewhat, the market volatility remains on a relatively high level. There is also an increased interest from industrial customers for corporate Power Purchase Agreements (cPPA).

Strategy and targets

Vattenfall's ambition is to be a world leader in the operation of both nuclear and hydro power with high safety and sustainability standards as well as cost-efficient fossil-free electricity production with high availability. The safe decommissioning of our closed nuclear reactors is also a core part of our responsibilities, including the feasibility of the full nuclear power cycle demonstrated when the radioactive waste and spent fuel is placed in final repositories.

Flexibility is essential to adapt to market changes in power generation and ancillary services and to maximise the value of our assets, but also to maximise the input of renewable electricity into the grid. Vattenfall is developing algorithms to reach the speed required to profitably manage intermittent electricity generation and the new requirements being implemented in the balancing markets in EU countries.

The Markets business area provides Vattenfall's access to the wholesale market and has a competitive edge in optimising assets, sourcing, and trading. As part of these activities, we capture value from flexibility, helping to stabilise Vattenfall's results in the face of further planned renewables build-out. We empower fossil freedom for customers, for example by sourcing Guarantees of Origin and biomethane.

Hydro expansion

For the first time in almost 30 years Vattenfall has started pre-studies for expansion of large-scale hydro power at four existing locations in Sweden. The pre-studies in the Lule River are conducted at the existing hydro power plants Porjus, Harsprånget, and Messaure, and in the Ume River at the Juktan hydro power plant. If results are positive, Vattenfall could potentially add 720 MW of fossil-free generation capacity to the Nordic electricity system. Even though it will not add water volume it will increase our flexibility to act on a volatile market. "It's fantastic that we are planning for new hydro power in Sweden. The hydro power reservoirs are Sweden's largest batteries, important for Sweden today and in the coming years. The flexibility that hydro adds to the Swedish grid is almost invaluable," says Johan Dasht, head of Hydro Nordic.

Developments in 2023

Hydro power
We continued to increase hydro power capacity through refurbishments and upgrades combined with outage optimisation measures.

The work of constructing a new dam at Lilla Edet in Göta river continued and has now entered the next phase with the construction of the second cofferdam. The new dam will be completed in 2025.

All Swedish hydro power plants are to be provided with modern environmental permit conditions that align with the EU water framework directive through a legal process foreseen to continue for some twenty years. The process was halted by the Swedish government in order to ensure that it will not jeopardise hydro power's important role in the Swedish electricity system. An assessment of the consequences of renewed permit conditions was done by Svenska Kraftnät, the Swedish TSO, and it shows that all scenarios analysed have a huge impact on hydro power's balancing capacity, production, and availability. More clarity and guidance from the government is expected.

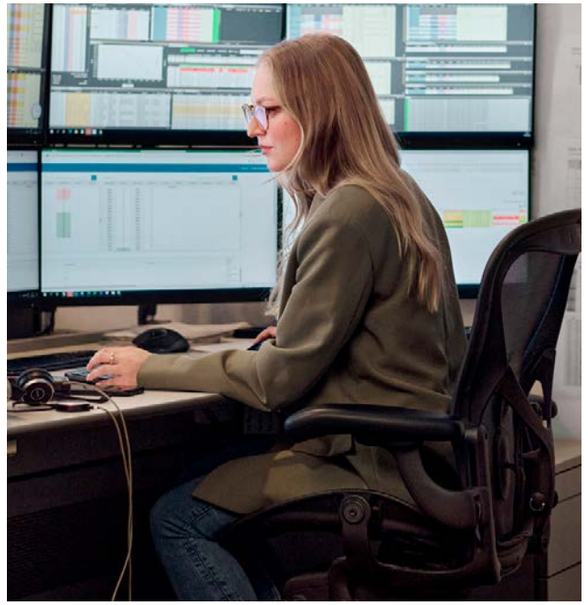
Nuclear power
Average availability for Vattenfall's nuclear power was 80.5 per cent (83.6). The repairs of the pressuriser at Ringhals' Reactor 4 that began in 2022 was finalised in the spring of 2023. Forsmark suffered generator problems during 2023, and the total produced energy at Forsmark was 24.3 TWh, down by 12 TWh from 2022 which was a record year. Overall, nuclear power generation decreased by 2.2 TWh, totalling 37.4 TWh.

The Swedish Nuclear Fuel and Waste Management Company (SKB) has signed a collaboration agreement with Skanska for expanding the existing final repository for short-lived radioactive waste in Forsmark. SKB has also been granted an environmental licence to increase the quantity of spent nuclear fuel in the Clab interim storage facility from 8,000 tonnes to 11,000 tonnes. The Radiation authority SSM has accepted an increase above 8,000 tonnes, taking the licensing process under the Swedish Nuclear Activities Act to the next step.

Vattenfall is pursuing new nuclear and is preparing applications for new nuclear reactors in connection with the Ringhals nuclear power plant, see further on page 26.

Decommissioning and dismantling operations in both Sweden and Germany are progressing.

Markets
Balancing market, credit, and liquidity risks remains a top priority. Imbalance costs from renewables and power sourcing have increased, and the energy market's need for flexibility as well as the value of flexibility have become more important. Therefore, activities to contract third-party flexibility have been scaled up. We see our provision of cPPAs to industrial customers as crucial in delivering fossil-free energy.



Planned activities

- Dismantling activities at Ringhals Reactors 1 and 2 are to commence in 2024
- Power upgrade of Forsmark 1 by 50 MWe
- Upgrade of capacity for the Clab interim storage facility to ensure safe storage of radioactive material
- A programme for biodiversity has been decided within Hydro Nordic, and projects enhancing biodiversity in or close to our rivers will be initiated in cooperation with stakeholders and universities
- Continue efforts to become top quartile in balancing/intraday management by improving models and weather forecasts to strengthen sourcing-related risk management
- Strengthen Guarantees of Origin & low-carbon gases sourcing, as needed in each Vattenfall core country
- Grow contracting of third-party flexibility, while also increasing support for investments in new flexible Vattenfall assets
- Follow-up on open actions and improvements identified during the health and safety reviews.

Key data

	2023	2022
Net sales (SEK million)	207,510	205,788
External net sales (SEK million)	37,760	28,193
Underlying operating profit[1] (SEK million)	3,075	14,332[2]
Electricity generation (TWh)	73.5	80.1
Sales of electricity (TWh)	11.3	15.6
– of which, resellers	9.4	13.8
– of which, business customers	1.9	1.8
Gas sales (TWh)	0.4	0.9
Number of employees, (FTE[3])	7,474	7,219

[1] Operating profit excluding items affecting comparability.
[2] The value has been adjusted compared with information previously published in Vattenfall's financial reports, see note 1 Accounting policies, risks and uncertainties
[3] Full time equivalents.

Financial results 2023

Net sales increased by 1 per cent. Underlying operating profit decreased significantly mainly attributed to a negative price effect from continental hedges, lower prices in the Nordics as well as lower production volumes. Vattenfall's Nordic hedges had an offsetting effect and resulted in higher achieved prices in the Nordics. Lower production volumes from hydro power as well as a decrease in nuclear availability mainly due to a delayed restart of Ringhals 4 and an outage at Forsmark 2 had an additional negative impact. A higher realised trading result had a countering effect.

Operating segment

Wind

Operations

Vattenfall is one of the pioneers of wind power in Europe, both on- and offshore. We operate a portfolio of more than 1,428 wind turbines with a total operated capacity of 5.4 GW across five countries. In 2023, we also continued to expand our efforts within large-scale solar photovoltaic (PV), mainly in Germany and the Netherlands, as well as battery storage solutions.

Business environment

During 2023, the sector has been impacted by continued turbulence and uncertainty in both the financial and energy markets. At the same time, global drive towards full decarbonisation and energy independence is increasing and thus the need for new wind and solar power assets – which are the cheapest new-built power sources[1] – has increased even further in 2023. Both wind and solar power are expected to see strong double-digit growth in Vattenfall's markets by 2030 and beyond. Additionally, battery storage solutions, which are often co-located with wind and solar assets, are seeing high interest and growth, driven by the electricity price volatility and grid constraints across Europe. This industry growth has led to intensified competition between both new and established renewables players and to supply chain bottlenecks, which are putting project delivery under pressure.

[1] Bloomberg New Energy Finance, H1 2022 LCOE Update.

Strategy and targets

In order to remain a leader in the energy transition, Vattenfall focuses on developing, constructing, and operating on- and offshore wind farms, large-scale solar PV, and co-located battery storage. At year-end 2023, Vattenfall had 2.3 GW renewable capacity under construction and an operated capacity of 5.4 GW. We aim to further strengthen our project pipeline across all our renewable energy technologies while managing increasing risk levels cautiously.

We continue to focus on forging partnerships with industrial off-takers of renewable electricity to support them in their decarbonisation endeavours as well as to stabilise revenues for our renewables projects and make them bankable. We seek to be a frontrunner in sustainability to accelerate fossil freedom with the power of renewables and facilitate co-existence of renewable energy development with society and a rich natural environment. We continue to focus on reducing greenhouse gas emissions, increasing circularity, working with suppliers to sustainably source goods and services, protecting biodiversity, and fostering social sustainability. As a majority of our wind operations' carbon footprint comes from its materials, Vattenfall is committed to procuring low carbon steel and concrete with tangible targets with partners in the First Movers Coalition and SteelZero Initiative, respectively.

Furthermore, in March, Vattenfall signed the Dutch Renewable Energy Agreement on International Responsible Business Conduct (IRBC) committing to make value chains in the renewable energy sector more sustainable (see page 81).

HKZ inaugurated with nature-inclusive design

Hollandse Kust Zuid (HKZ) was inaugurated in September 2023 and is expected to be fully operational in 2024. The wind farm is located in the North Sea, 18-36 kilometres off the Dutch coast, and its 139 turbines have a total capacity of 1.5 GW. Besides adding much needed fossil-free electricity capacity, HKZ has taken biodiversity to heart and implemented circular economy principles. In cooperation with the organisation 'De Rijke Noordzee', we have introduced nature-inclusive design measures and will monitor the impact during the operating phase. Some of the measures include water replenishment holes in the foundations and artificial rock reefs. Each of these measures actively allow biodiversity to thrive. Furthermore, three turbines are fitted with recently developed recyclable blades that are easier to disassemble and enhance reuse of the raw materials.

Developments in 2023

Offshore wind
The Hollandse Kust Zuid (1.5 GW) installation was realised. Read more about the details above (page 42). In Germany, we exercised our option to develop Nordlicht II (630 MW), adding to our confirmed Nordlicht I project (980 MW). The Danish Vesterhav projects (344 MW) are equally well underway, maintaining our strong focus on the local wildlife impact. In our Danish Kriegers Flak wind farm, a sustainable solution for aquaculture is being tested, and in Denmark, Vattenfall supports a nature-based solution to coastal protection with benefits for biodiversity. In Sweden, development of the Swedish West Coast projects continues. In the UK, Vattenfall has divested the Norfolk Offshore Wind Zone to RWE. The agreement with RWE is the best way forward for Vattenfall and the Norfolk projects. Vattenfall remains committed to the UK, for example, the 798 MW Muir Mhor floating offshore wind farm in development with JV partner Fred.Olsen Seawind.

Onshore wind
During 2023, several onshore projects moved forward, seeing the inauguration of Grönhult in Sweden and South Kyle in the UK. Final investment decisions for the Bruzaholm (138 MW) and Velinga (67 MW) projects were taken and construction is ongoing. For Bruzaholm, we included sustainability measures on the Balance of Plant[1] contract, including low-CO_2 concrete and biodiesel for all site machinery. Dutch Windplan Blauw (132 MW) and A16 (34 MW) are currently under construction. At the decommissioned project Eemeerdijk, all wind turbine blades and additional composite materials from nose cones and nacelles were sent to recycling, putting us ahead of our waste recycling targets. Additionally, we made significant progress in our development portfolio, and secured irrevocable permits for Clashindarroch II (UK, 77 MW), Wolfsberg (DE, 16 MW), Vargträsk (SE, 84 MW), and Stormyrberget (SE, 250 MW).

Large-scale solar PV and batteries
In 2023, the development of our large-scale solar PV and battery storage pipeline continued. Furthermore, we initiated our first agrivoltaic pilot, an innovative combination of solar PV with agriculture to optimise land usage, in the Netherlands. Simultaneously, construction started for the three Dutch solar projects Echteld (12.8 MWp), Goirle (14.5 MWp), and Sas van Gent (19 MWp). In Sweden, the construction of two large battery projects has been initiated at Hjuleberg (30 MW) and Höge Väg (25 MW) wind farms. In Germany, construction of the 76 MW agri-PV project Tützpatz has started.

[1] Balance of Plant (BoP) refers to all supporting components and auxiliary systems needed to deliver the energy, other than the generating unit itself.

Planned activities

- Encourage more industry partnerships to support decarbonisation beyond our own sector
- Collaborate with suppliers to alleviate supply-chain bottlenecks
- Apply and further develop minimum sustainability requirements and award criteria for major procurement tenders
- Continue maturing our health and safety practices through workshops and information campaigns to ensure physical and psychological safety on site
- Work towards Vattenfall's Supplier CO_2 Emission Reduction (SCORE) target to reduce emissions from supplier goods and services by 50 per cent between 2020 and 2030 (see page 57)
- Continue to increase knowledge around the environmental impacts of our wind and solar farms within our Environmental R&D programme and take mitigating actions and steps to enhance biodiversity and co-use.

Haringvliet Zuid hybrid energy park

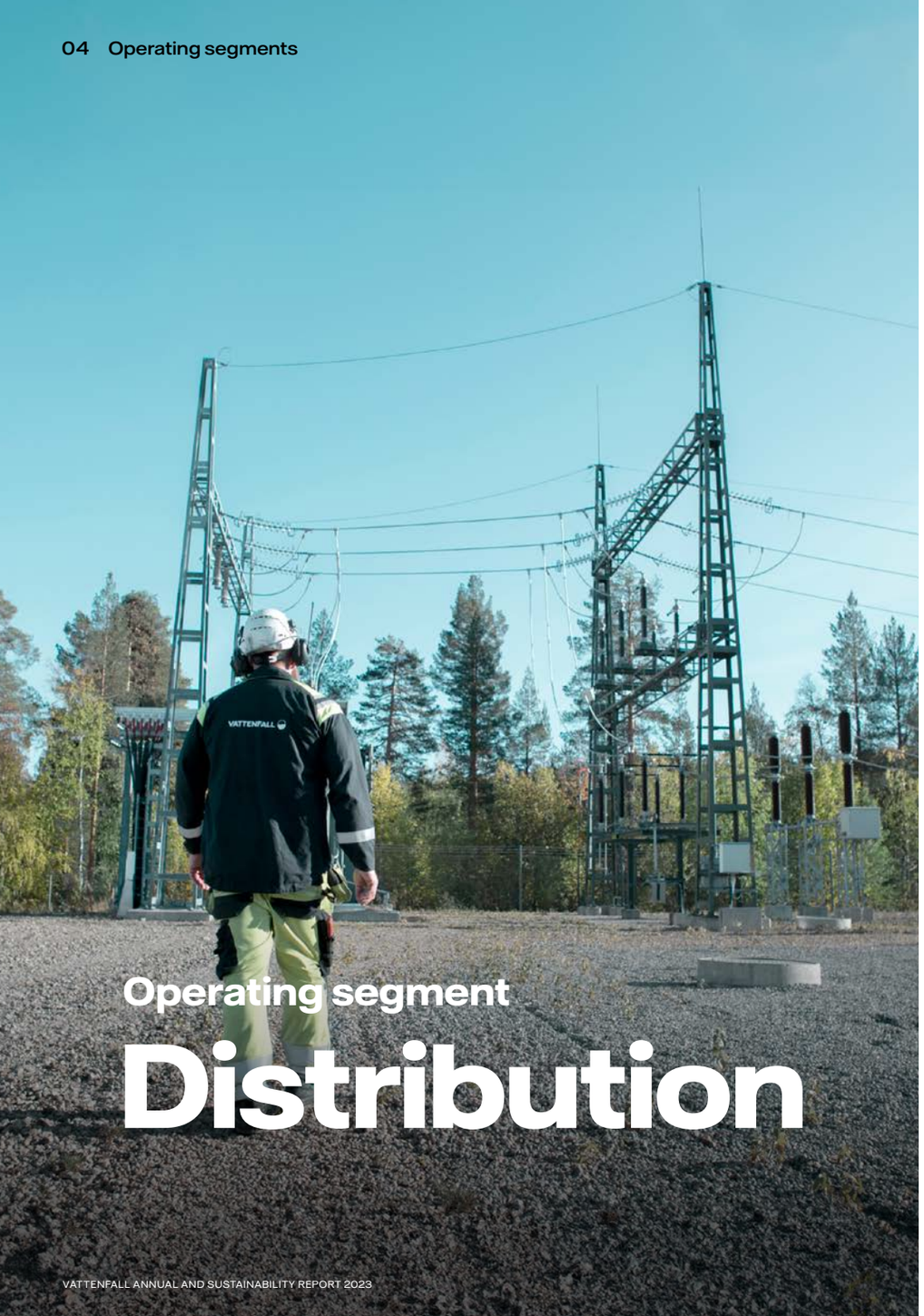
Key data

	2023	2022
Net sales (SEK million)	25,373	29,109
External net sales (SEK million)	8,537	4,308
Underlying operating profit[1] (SEK million)	6,544	16,479
Electricity generation – wind power (TWh)	13.8	12.2
Number of employees, (FTE[2])	1,708	1,521

[1] Operating profit excluding items affecting comparability.
[2] Full time equivalents.

Financial results 2023

Net sales decreased by 13 per cent compared to 2022. Underlying operating profit decreased by 60 per cent mainly due to lower electricity prices. Higher personnel costs, maintenance costs and depreciation mostly related to new assets had an additional negative impact. Positive effects came from the newly inaugurated offshore wind farm Hollandse Kust Zuid that also accounts for the majority of the increased electricity generation which rose by 12 per cent.



Operating segment

Distribution

Operations

Operating segment Distribution consists of regulated electricity distribution operations in Sweden and in the UK as well as offerings in the unregulated Power-as-a-Service (PaaS). It is primarily a regulated business supervised by national regulators.

In Sweden, Vattenfall owns and operates around 139,000 km of electricity grids and has approximately one million business and private customers. Vattenfall is the largest owner and operator of regional grids and one of the three largest owners of local grids. In the UK, Vattenfall is one of 16 licensed Independent Distribution Network Operators (IDNOs) that develop and own local grids. The PaaS offering enables electrification of the industry and heavy transport sectors by acquiring, building, owning, and operating electrical infrastructure tailored for each customer.

Business environment

Electricity grids are more important than ever. Latest forecast suggest that Swedish electricity demand will more than double by 2045 – from around 140 TWh in 2020 to about 330 TWh by 2045[1]. The increase in demand is primarily driven by the industry and transportation sectors' need for decarbonisation. Simultaneously, renewable electricity production, which needs to be connected to the grid, is forecasted to be at least double by 2030[2]. Major parts of the regional electricity grid were built in the 1960s–70s, and large investments are therefore needed for a robust and reliable distribution of electricity.

Our market context is becoming more complex and uncertain as demands and expectations from both customers and society are increasing in areas such as quality of delivery, lead times of network connections, sustainability, climate adaptation, data security, resilience, and increased expectations on infrastructure not being visible in the landscape.

Strategy and targets

The 2022 energy crisis has made it even more evident that a robust and cost-efficient grid is a prerequisite for the energy transition. We aim to enable distribution of twice as much electricity in our grid by 2030 with 99.99 per cent continuity of supply. To accelerate the expansion and renew the electricity grid, it is important to have long-term and stable market prerequisites, and we are working on alleviating bottlenecks such as regulations, permitting processes, and our access to contractors.

Our strategy is deeply rooted in the sustainability agenda, focusing on biodiversity, reducing CO_2 emissions in our supply chain, and ensuring the health and safety of our contractors, and employees. How we do business and use our resources is just as important as what we do to improve our sustainability performance. Thus, we are committed to contributing to a just energy transition that works for people, society, and the environment. We are focusing on implementing new innovative solutions and services, such as flexible grid solutions and digital customer interfaces. At the same time, we strive to develop our existing assets and develop our relationships with customers, stakeholders, and suppliers.

[1] Energiföretagen Sverige, **Sveriges elbehov 2045** (2023).
[2] Energimyndigheten, **Scenarier över Sveriges energisystem 2020** (2021).
[3] **Scenario Elektrifiering Färdplan 2040**, Svensk Vindenergi, (2021).

Arholma Microgrid

Vattenfall Eldistribution secures the electricity supply on Arholma in the Stockholm archipelago through a local energy system (a so-called microgrid) with new smart technology, energy storage, and solar cells. The microgrid is a local, small-scale energy system with smart control of local electricity production via solar cells and energy storage with batteries. The project allows for easier integration of decentralised renewable energy sources and complement the more conventional energy supply approaches. Consequently, the micro grid should improve the security of supply, voltage quality, and reliability while being faster and cost-efficient for the grid customers on Arholma. The project provides an example of how smart technology in electricity distribution can facilitate the energy transition and fossil freedom.

Developments in 2023

The number of connection requests for new housing to the local grid has decreased during the year, although the total number of connection requests are at same levels as 2022 based on high inflow to connect solar panels. During 2023 Vattenfall Eldistribution connected more than 18,000 solar PV installations to the grid, which is twice as much as in 2022. Connection requests to the regional grid (consumption and generation included) has increased significantly with an exponential growth during the last few years. The number of connection request for 2023 stayed at nearly the same level as previous year, at the same time the total capacity of the connections requested for generation doubled.

The legal proceedings regarding the electricity grid companies' revenue frames for 2024–2027 have continued during the year. The Energy Market Inspectorate recently decided on a model for revenue frameworks for the period 2024–27. The model is based on a capacity preservation approach and applies a weighted average cost of capital (WACC) with a long-term perspective. The WACC for 2024–27 is set at 4.53 per cent (real before tax). The move to a more long-term perspective is positive.

PaaS is an established business model in Sweden and under development in Netherlands and Denmark. In 2023, we have signed several PaaS contracts, such as Cinis Fertilizer in northern Sweden and electrification of canal boats for Stromma in Amsterdam. Our IDNO business in the UK have now signed more than 90 contracts.

To improve sustainability performance in our supply chain we have implemented sustainability criteria for suppliers' bidding in our larger tenders.

Planned activities

- Major investments of in average SEK 8–10 billion per year until 2030 in regional and local grids to meet high growth in electricity demand, connect new customers, and increase quality of delivery
- Advance solutions for more efficient grid usage including new types of grid tariffs, load steering to avoid high peaks, and roll-out of new smart meters for customers in Sweden
- Reduce emissions from supplier goods and services by 50 per cent by 2030 in accordance with Vattenfall's supplier CO_2 Emission Reduction target
- Continue to test new environmentally beneficial technologies and ways of working such as testing of new switchgears on high-voltage level with CO_2 reducing potential and implementing biodiversity enhancement measures in substations
- Expand the IDNO business in the UK and the PaaS offerings in Sweden, Netherlands, and Denmark.

Key data

	2023	2022
Net sales (SEK million)	11,139	12,497
External net sales (SEK million)	10,445	11,733
Underlying operating profit[1] (SEK million)	1,526	2,070
Investments (SEK million)	6,861	5,525
SAIDI[2]	132	157
SAIFI[3]	1.9	2.1
Number of employees, (FTE[4])	1,606	1,340

[1] Operating profit excluding items affecting comparability.
[2] SAIDI: System Average Interruption Duration Index. Refers to Sweden.
[3] SAIFI: System Average Interruption Frequency Index. Refers to Sweden.
[4] Full time equivalents.

Financial results 2023

Net sales decreased by 11 per cent compared with 2022. The underlying operating profit decreased by 26 per cent, due to a temporary reduction of the electricity grid tariff during 1 July–31 December 2023, as well as higher personnel costs, maintenance costs and depreciation as a result of growth. This was counteracted by extraordinary high costs for the transmission network during 2022.

UK's largest single harbour water source heat pump at Castle Park Energy Centre

Bristol

Bristol Heat Network – local heat and benefits for local people

Vattenfall is working with Bristol City Leap, a Bristol City Council and Ameresco joint venture, to develop a citywide heat network to help decarbonise the city.

It has been six years since Vattenfall entered the UK district heating market. Momentum grew and through partnerships with local authorities and developers, Vattenfall is now building heat networks in three cities, London, Edinburgh, and Bristol. Expertise from colleagues in continental Europe has been invaluable to this success.

In the UK, just 2 per cent of heating demand is supplied by heat networks, and the Climate Change Committee states that this figure will need to rise to 18 per cent for the UK to reach net zero by 2050.

Bristol in the south west of England was the first UK city to declare a climate emergency, setting the ambitious target of becoming carbon neutral by 2030. To meet the target, the city needed an energy partner and in early 2023, Bristol City Council launched Bristol City Leap, a world-first city partnership to bring in GBP 1 billion of investment to decarbonise the city.

The right low carbon solutions for the right properties
Vattenfall is working with Bristol City Leap, a joint venture between Bristol City Council and renewable energy and energy efficiency company, Ameresco. In the partnership, Vattenfall is engaging in multiple initiatives aimed at accelerating fossil-free energy investment in Bristol and helping towards decarbonising the city. Working with customers, the involved organisations will collaborate to tackle both energy efficiency and the heat decarbonisation of buildings. This is done by assessing and rolling out the right low carbon solutions for the right properties, such as energy efficiency measures and of course district heating.

"Vattenfall's role in the partnership is to make district heating happen in Bristol," says Jenny Curtis, Managing Director at Vattenfall Heat UK. As part of Bristol City Leap, Vattenfall acquired the heat networks in operation and under construction from Bristol City Council. Vattenfall continues to build on this great work and is now delivering heat to the equivalent of 5,000 homes. As part of this, Vattenfall now operates the UK's largest single harbour water source heat pump at Castle Park Energy Centre, where water is taken from the nearby floating harbour to provide heating to local homes and businesses. Vattenfall plans to expand the city's existing heat networks, ultimately linking them to create a citywide network.

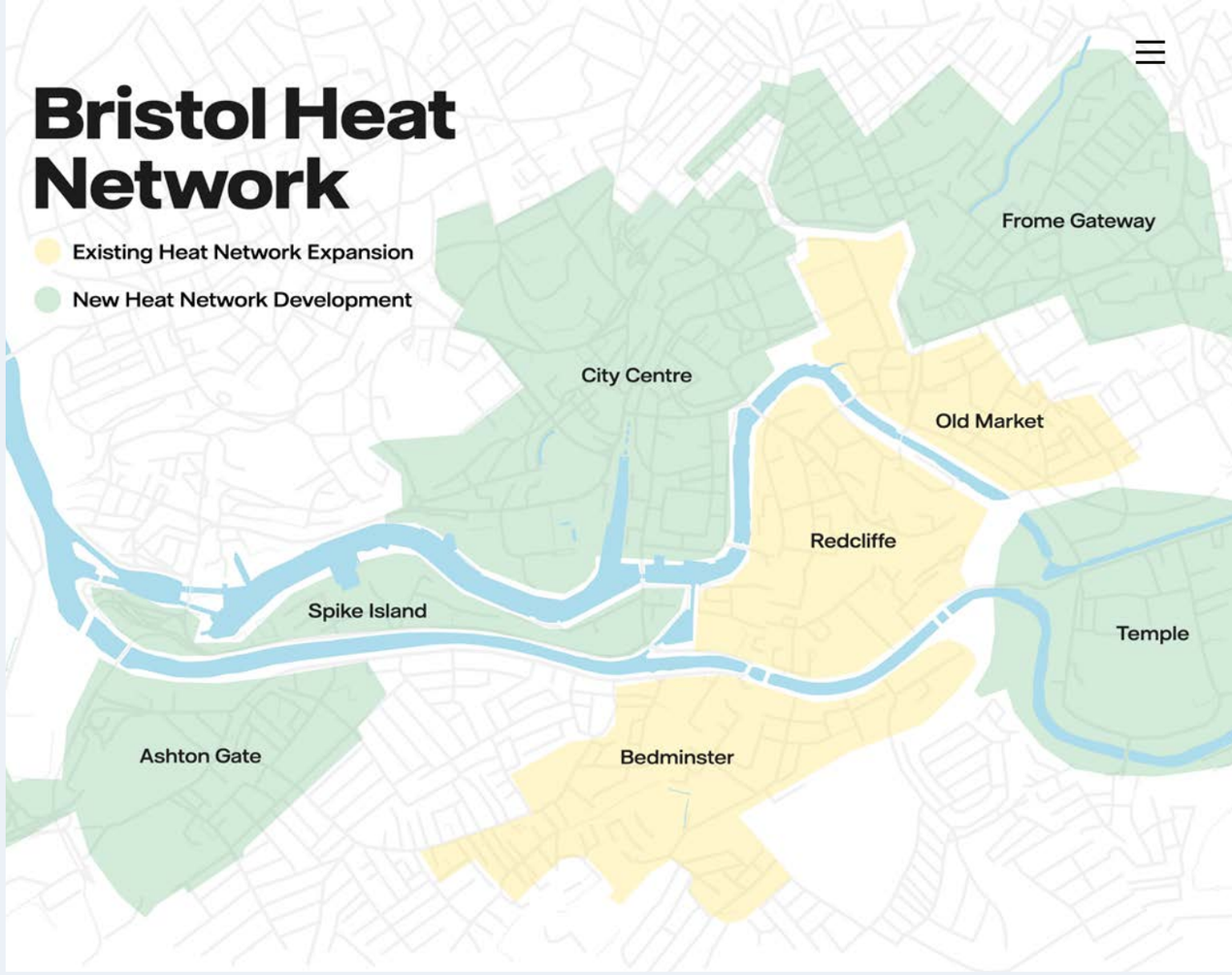
One third of the UK's emissions come from heating, and district heating can protect communities against energy volatility, as well as reduce emissions, improve air quality, and create local jobs, while providing reliable heating.

Local jobs and economic growth
Jenny Curtis could not be prouder, "Bristol City Leap is expected to contribute an estimated GBP 61 million of social value, supporting Bristol City Council's ambitions for communities to thrive. This includes the creation of local jobs during the construction of the heat network, part of an estimated GBP 55 million worth of contracts delivered by local suppliers. A GBP 1.5 million Community Energy Fund, funded by Vattenfall and Ameresco, has also been established for the development of low carbon energy initiatives. This includes the opportunity for local organisations to develop connections or supply heat to the Bristol Heat Network, which is considered to be a UK first for community funding and the industry. It's a huge opportunity for the city."

> "Our ambition for the UK is to partner with five to eight cities by 2030, and Bristol, in the south west of England, is the blueprint for what's possible."
> Jenny Curtis, Managing Director for Vattenfall Heat UK

Over the 20 year-long Bristol City Leap term, Vattenfall will expand the Bristol Heat Network to deliver heating to homes and businesses across the city. This work will deliver jobs and economic growth, stimulating the development of a specialist local supply chain, with skills that will enable it to support heat network installation. Taking care of local communities is important when installing infrastructure, and we are working with key stakeholders to minimise the disruption to residents. Combining the installation of heat pipes with other developments, like planned road works, is one way to achieve this.

Future-proofing cities
District heating is future-proofing cities like Bristol by providing heating and hot water to local people, using local sources of heat that can be utilised as they become available. The low carbon heating industry continues to raise awareness and give information about the options.



Over the 20 year-long Bristol City Leap term, Vattenfall will expand the Bristol Heat Network to deliver heating to homes and businesses across the city.

With district heating there is a lack of understanding and an element of behaviour change is needed, as the UK is not used to shared heating solutions.

"The UK is far behind continental Europe in the implementation of low carbon heating initiatives," says Jenny Curtis. There is a lack of guidance for home and business owners in the UK when considering their options. This is why the UK government plans to implement zoning, a collaboration of central and local government, industry, and local stakeholders, aiming to accelerate heat network roll-out. This initiative will identify and designate areas as heat network zones, where these are the best solution to offer low carbon heating to the consumer.

SUSTAINABILITY

Vattenfall is working to enable the fossil freedom that drives society forward. We are committed to respecting the environment and human rights throughout our value chain, from our suppliers to our customers and the local communities we serve.

Sustainability is the business

At Vattenfall, one of our core beliefs is that sustainability is the business. It is a fundamental and fully integrated part of our operations and strategy.

Our sustainability efforts at a glance

"Sustainability is the business" means our business areas are directly responsible for their sustainability performance and are therefore required to consider material social and environmental topics in their respective strategies and business plans (see page 35). These are then compiled at Group level, where our most important social targets (employee engagement and Lost-Time Injury Frequency rate) and an environmental target (CO_2 emissions) are given equal weight to the financial targets (see page 18).

Vattenfall is working for fossil freedom: we are committed to building a future where everyone can choose fossil-free ways to move, make and live. We recognise the importance of continuously pushing for positive impact in areas that are most material from a financial, and sustainability perspective.

The table on the right provides an overview of topics which are covered in the sustainability section.

Type of disclosure	General	Environment	Social	Governance
Description	Vattenfall's general contributions and interactions with its surroundings.	Vattenfall's decarbonisation journey and environmental stewardship where it operates.	Vattenfall's efforts to maintain focus on the human perspective during the energy transition.	Vattenfall's efforts to operate with integrity and foster a world-class work environment.
Topics	• Total value creation • SDGs • Stakeholder engagement • Materiality.	• Climate Change • Biodiversity and ecosystems • Water • Resource use and circular economy.	• Human rights • Integrity and compliance • Sustainable supply chains • Diversity and Inclusion.	• Compensation, training and development • Real estate and facility management • Health and safety • Tax.
Highlights in 2023	**SEK 34.3 billion total value created.**	**Reduced absolute Scope 1+2 emissions by 17% compared to 2022 and 15.3 Mt of CO_2e since 2017.**	**1,643 managers and other relevant employees attended integrity training.**	**Lost Time Injury Frequency reduced to 1.5 from 2.1 in 2019.**
Read more	Pages 50-55	Pages 56-65	Pages 66-74	Pages 75-80

Total value creation

Vattenfall strives to create value for society and the environment by working for fossil freedom that drives society forward. In our model for total value creation, we attempt to quantify, in monetary terms, our impacts – both positive and negative – from economic, social, and environmental perspectives.

Translating different forms of value into financial terms is complex and comes with a high level of uncertainty. The figures should therefore be seen as indicative rather than definite. Vattenfall regularly reviews and updates the approach as new and better tools are developed (see page 173 for the methodology). For example, we have introduced "experimental" categories for transparency and completeness purposes; however, the methods to measure the value being created or lost is still immature and thus unreliable to be fully included. Understanding where and how we create value is instrumental for improving our decision-making and shaping our strategy moving forward. In 2023, Vattenfall's estimated total value creation was SEK 34.3 billion and, if including "experimental" categories, that figure would reduce to SEK 18.9 billion.

Mixed signals

Compared to 2022, this year saw environmental losses reduce by SEK 2.2 billion and social value increase by SEK 3 billion despite economic value falling by SEK 7.5 billion. The economic hurdles of 2023 impacted Vattenfall's profit significantly (see page 8), overshadowing our gains on the environmental front due to a further reduction of Scope 1 and 2 CO_2 emissions. Similarly, more social value was created by spending more on personnel this year.

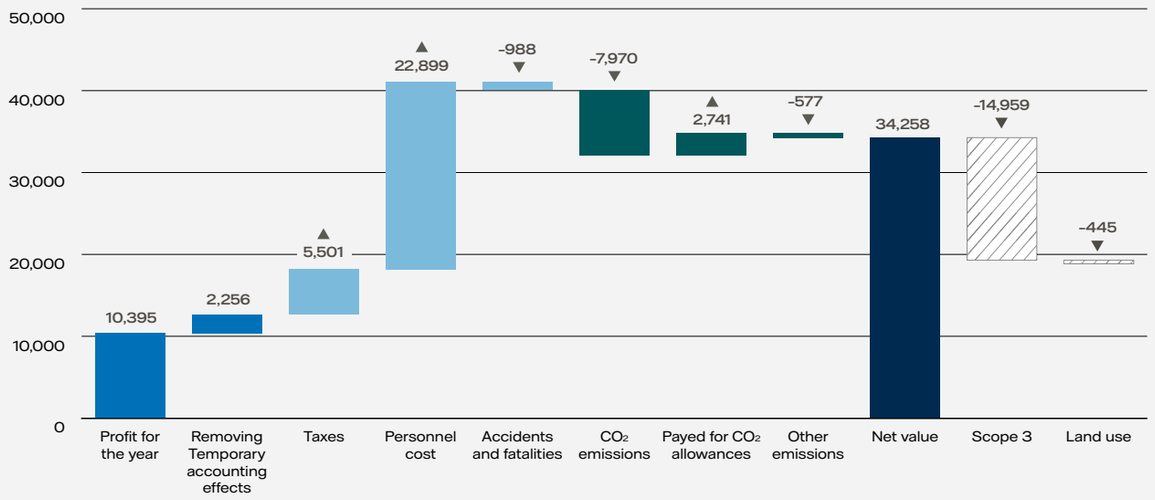
Areas of improvement

Vattenfall strives to provide a transparent reflection of our sustainable business practices and the value it creates for the business, society and the environment. The variables in Economic, Social, and Environmental value categories are complete, reliable, and paint a balanced picture. However, like any model, the total value creation model has limitations. For example, we know our positive impact extends beyond these variables by, for example, investing in distribution (see page 45); our ambition to have a net-positive impact on biodiversity by 2030 (page 59), and our human rights action plan (page 66). These efforts are not yet included in our social and environmental value creation categories and we will continue to look for reliable and complete data to base our calculations on.

Nevertheless, we do have variables for which there is some data available and there is a reasonable understanding of the impacts such as Scope 3 emission and Land-use. These variables are categorised as experimental to signal that they are not fully complete or the method to which the value was calculated is still immature. Vattenfall believes that sharing the most important sustainability information transparently is essential to drive society towards fossil freedom and this is why we include these experimental variables eventhough they are subject to change and will be improved.

Value creation

SEK million



Economic value

Vattenfall's SEK 10.4 billion profit does not accurately reflect the economic value created as it includes large temporary accounting effects attributable to the realisation and valuation of electricity and fuel contracts that have been entered into in previous years. Hence these effects have been removed bringing the total economic value to SEK 12.7 billion.

Environmental value

As Vattenfall decarbonises on the road to net zero, the costs associated with our CO_2 and other emissions will decrease at the same rate. The effects of our efforts will be gradual. We place great focus on our full value chain and have set science-based targets to ensure continuous and meaningful climate action (read more on pages 56–58). However, we also pay for our CO_2 allowance in accordance with the EU ETS. Our estimated environmental value loss is SEK 5.8 billion.

Social value

We strive to identify our impacts on people and society, although much of the social value we create – investments in community improvements – and the costs we cause – impacts on people's health and human rights – can be difficult to quantify. We have included taxes, wages, and costs related to employee or contractor accidents. Health costs associated with non-CO_2 emissions are included in the "Other emissions" category in the environmental section. Our estimated social value creation is SEK 27.4 billion.

Experimental values

To expand coverage of our impacts, we have also gathered metrics such as CO_2 emissions from our supply chain (Scope 3) and estimated costs from land use and biodiversity based on standard restoration costs (based on Vattenfall's Global Biodiversity Score analysis 2020). Our estimated value loss from these variables is SEK 15.4 billion.

UN Sustainable Development Goals

Vattenfall's activities contribute to the achievement of the UN's Sustainable Development Goals (SDGs), a collection of 17 global goals adopted in 2015 by more than 150 countries.

Vattenfall's contribution to the UN Sustainable Development Goals
Vattenfall contributes to all 17 goals to varying degrees. Our impacts on and contributions to all the goals are important. Here, however, we have grouped the goals to show where we contribute at a global level through our strategy; where we contribute locally through our ways of working; and where we contribute indirectly through our actions.

THE GLOBAL GOALS
For Sustainable Development

Global

Strategic SDGs with global impact

Vattenfall contributes to the goals through its commercial operations. Contributions to these goals have global impacts and are the result of implementing our strategy, in particular with respect to climate change and consequences for the energy system.

Local

Responsible operations SDGs with local impact

Vattenfall contributes to the goals through its ways of working. Our responsible operations contribute locally, in the form of e.g, health and safety or internal diversity standards, or by implementing local biodiversity projects at our sites, where we operate.

Indirect

Responsible supply chain SDGs with indirect impact

Vattenfall contributes to the goals through its engagement and influence in the value chain on suppliers and partners. By engaging with suppliers and partners who meet our social and environmental standards, we ensure that they make positive contributions to the goals that are most relevant for developing countries.

In 2016, we identified the six SDGs that are most relevant for Vattenfall and where we can have the most meaningful global impact. These remain valid internally, as reflected in our strategy, as well as for our stakeholders, as confirmed by our materiality analysis (see page 53 for more information). Examples of our contributions to the most relevant sub-targets of the six goals are described below:

SDG	Sub-target	Summary of our impact	Page
	**7.2** Substantially increase the share of renewable energy in the global energy mix by 2030.	Vattenfall has continued to grow and develop its fossil free energy pipeline that span various renewable energy sources and technologies, such as wind farms, solar parks, and battery storage. Currently, Vattenfall operates 5.4 GW of capacity in wind and solar power.	42-43
	**9.4** Upgrade infrastructure and retrofit industries to make them sustainable by 2030.	Vattenfall has developed and maintained energy infrastructure for years. Hence, sustainable retrofitting activities, such as those in our heat operations in Berlin or upgrades, like those in our hydro operations, are core to our business.	38-45
	**11.6** Reduce the adverse environmental impact of cities by 2030.	We operate 51,000 charging points, install heat pumps in homes, and develop microgrids for communities to enable the decarbonisation of cities and their surroundings.	36-47, 66, 77
	**12.2** Achieve the sustainable management and efficient use of natural resources by 2030. **12.5** Substantially reduce waste generation through prevention, reduction, recycling and reuse by 2030.	Vattenfall strives to maximise the value of resources in its value chain, such as using excess heat from various third parties for local heating networks or recycling or repurposing old wind turbine blades. More than 95 per cent of residual products from our combustion plants are sold for re-use mainly to the construction industry.	38-39, 42-43, 63-65 63
	**13.1** Strengthen resilience and adaptive capacity in relation to climate-related hazards and natural disasters.	Climate risks are part of our Enterprise Risk Management (ERM). Examples of climate adaptation measures include strengthening our hydro power dams and weatherproofing our grid infrastructure against anticipated future climate risks.	56-58, 90-91
	**17.17** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.	Together with a plethora of academia, public, and private partners, Vattenfall has magnified its impact. From creating international responsible business conduct agreements to evaluating the feasibility of new nuclear power, these partnerships drive society forward.	36-42, 54-55, 81-82

Materiality

Vattenfall diligently monitors, assesses, and reports on material topics on which our business has significant impact or which significantly impact our business. The results help us shape our strategic focus areas to ensure that we meet the expectations of our stakeholders in the future. In 2023, Vattenfall has updated its approach to determining materiality and reporting to better align with the EU Corporate Sustainability Reporting Directive (CSRD).

Determining materiality

1. Process:

In contrast to the 2022 materiality assessment in which we collected over 4000 survey responses and conducted approximately 60 internal and external interviews across ten different stakeholder groups and in nine countries, the 2023 process was based on quantitative and qualitative internal expert assessments. Experts first individually assessed the impact and financial materiality of the topics, sub-topics, and sub-sub-topics (hereafter, "topics") from the European Sustainability Reporting Standards (ESRS) on which they have expertise. The experts then gathered in groups, one for the environmental topics, one for the social and governance topics, to perform a calibration. Finally, the environmental, social, and governance topics were discussed by the experts, business, risk, and finance representatives, as well as senior management, to perform a final calibration and validation.

Across all phases of the process, results were checked against a number of key internal documents, including the 2022 materiality assessment, the human rights assessment and action plan, as well as the environmental action plan. Deviations or unexpected results were explicitly discussed.

2. Assessment criteria:

Vattenfall applied a double materiality assessment inspired by CSRD principles. We were able to systematically assess the extent to which the company impacts these topics (referred to as impact materiality) and the extent to which these topics could impact the company's financial performance (referred to as financial materiality).

a. *Assess impact materiality*
   Topics are evaluated on the following dimensions: scale, scope, irremediability, taking into account risks and opportunities.
b. *Asses financial materiality*
   Topics are evaluated on their propensity to impact both positively and negatively the six capitals (i.e. financial, manufacturing, natural, human, intellectual, and social and relationship) as well as the extent to which the topic has already presented a risk or opportunity today.

3. Outcomes:

Six topics were deemed to be material: Climate change, Biodiversity and ecosystems, Circular economy, Health and safety, Workers in the value chain, and Rights of indigenous peoples. Of those, climate change has been consistently amongst the most material topics over the past few iterations, while the others have not been consistently "material" according to the previous methodology but have often been highlighted as upcoming topics or hygiene factors.

Renewable energy and affordable energy no longer appear as separate topics; this is due to the structure and topics of the ESRS – these topics are incorporated in other material or disclosure-worthy topics such as Climate change, and Human rights – and the application of the new assessment criteria. Considering all these changes, Vattenfall believes that these material topics are well aligned with its mission to enable fossil freedom that drives society forward.

Impact table

Material Topic	Impact materiality	Financial materiality	Impact prevention and mitigation activities see pages 85-91
Climate change See pages 56-58	The majority of operational emissions are related to the use of fossil fuels in district heating. Within our value chain, our main emission drivers are those relating to fossil gas sold to end consumers, and extraction and production of fuels and materials which we use in our operations.	Climate change can have a significant impact on Vattenfall's business. It poses physical risks to the integrity of hydro power dams, critical nuclear functions, combustion plants and network infrastructure. Other important risks include stricter regulations, bottlenecks impacting permitting for growth areas, and supply chain issues.	Vattenfall has set targets to achieve net-zero emissions in its full value chain by 2040 and is working to reduce the carbon footprint of its operations and across its value chain. While transforming our operations, we help society to transform to fossil freedom.
Biodiversity and ecosystems See pages 59-60	We impact biodiversity and ecosystems, particularly during the construction of new assets and operation of the existing ones, for example around our power line corridors. There are impacts on biodiversity associated with our value chain, for example fuel and material extraction.	Not addressing negative impacts on biodiversity and ecosystems would expose Vattenfall to legal, financial and reputational risks. Biodiversity-related requirements are already part of the permitting processes for new assets.	Vattenfall strives to integrate a net positive impact on biodiversity way of working by 2030. By implementing a broad range of biodiversity enhancing measures, both at existing sites and in new builds, we contribute to maintaining a healthy ecosystem and a living planet.
Circular economy See pages 63-65	Using primary and critical materials creates pressure on the environment. We use a significant amount of fuels in our combustion and nuclear power plants and utilise other materials for construction of new assets. Hazardous and radioactive waste is generated at our combustion and nuclear power plants.	Improper sourcing and waste management can result in financial, legal, and reputational risks. There is a risk associated with the supply of critical materials needed for the energy transition. Furthermore, increasing legal requirements could raise costs of decommissioning activities.	We consider the full life cycle and transform our operations to become more circular. We have set a target to fully recycle wind turbine blades by 2030, and we are reusing waste heat from partners in our heat grids.
Health and Safety (own workers) See pages 78-79	Workers put themselves at risk to physical harm, every day to work towards fossil freedom. The H&S culture of a company determines the workers' safety in activities from performing maintenance on power lines to constructing wind farms to carrying out office work.	A poor health and safety culture would expose Vattenfall to range of risk detrimental to the company's performance including but not limited to legal liability claims, fines, reputational risks, and worker productivity.	Vattenfall strives for a world-class health and safety culture and has integrated LTIF as a strategic target metric for the group to ensure continuous measurement, and improvement.
Workers in the value chain See pages 68-72	The purchasing choices and practices, we uphold in our value chain, have an impact on the lives of the people who work within them. Responsible business conduct in the value chain is crucial to maintain safe, healthy, and equitable working conditions.	If we do not ensure compliance with labour laws, respect of human rights nor work to prevent and mitigate against human harm in our value chain, we risk severe regulatory and reputational damage. Furthermore, it may disrupt supply chains causing project delays.	Vattenfall has a sustainable supply chain roadmap to ensure compliance with labour laws from our tier-one suppliers and partners, and it works to go beyond, driving progress in five focus areas: CO_2, Circularity, High-risk minerals, Human Rights, and Health and safety.
Rights of indigenous peoples See pages 54, 66-67	Our operations and new projects in northern Sweden potentially have impacts on indigenous people and reindeer husbandry. The main activities that can have negative impacts are hydro power, wind power and distribution of electricity.	Permitting of new and existing activities in areas where indigenous people live and act, will need to take their legitimate needs and rights into account. That means that activities might be subject to restrictions or not be possible in certain areas.	We strive to maintain good knowledge of the challenges of reindeer husbandry and to maintain a good dialogue with affected indigenous people. We follow current research and cooperate with others to minimise negative consequences of our activities.

Disclosure-worthy topics: Stakeholder engagement (p. 54), Water (p. 61), Human rights (p. 66), Diversity and inclusion (p. 73), Compensation, training and development (p. 75), Real estate and facility management (p. 77), and Tax (p. 80).

Stakeholder engagement

Understanding, responding to, and being able to balance the varied views, interests and priorities of stakeholders is an important part of Vattenfall's role in society. Stakeholder engagement is of paramount importance, as it exemplifies Vattenfall's commitment to operate responsibly, ensuring our capacity to further enable a transition to fossil freedom.

Stakeholder group	Examples of how we engage
Employees	• Surveys • Workers councils • Training and development
Customers	• Customer support processes • Consumer panels • B2B events
Local communities	• Community engagement meetings • Open door events • Community benefit funds • Round-table discussions
Suppliers and partners	• Annual supplier summit • Supplier dialogues
Industry peers	• Industry coalitions and partnerships • Memberships in trade associations
Investors	• Industry events • Annual capital markets day • Questionnaires
Policy makers and regulators	• Open dialogue with policy makers • Open consultations • Proactive outreach
Non-governmental and international organisations	• Dialogues and meetings
Academic institutions	• Research partnerships

Ambitions, targets and key metrics

At present, we do not have a specific target or key metric for stakeholder engagement as it is dependent on the context and the needs of the stakeholders. Nonetheless, we are constantly exploring the possibility of finding a suitable key metric. We give some examples for each stakeholder group in the table to the left.

Our aim is to empower our stakeholders to feel engaged and included in the journey to fossil freedom and to bring value to the communities in which we operate.

Activities in 2023

Insights gained from engaging with stakeholders assist us in identifying appropriate solutions and making well-informed decisions that maximise our positive impact and mimise the negative impact. Our approach to engagement is adaptable and tailored to the unique requirements of various stakeholders, markets, and local contexts. Several examples are provided below.

We collaborated with regions and municipalities on how to accelerate the energy transition. For example, in Sweden, we are participating in the AGON forum where representatives from energy-intensive industries, the municipalities in the region, Svenska Kraftnät, and Vattenfall work together with focus on shortening lead times for permits.

We have engaged schools and the younger workforce via school visits, internships, and apprenticeships. For example, in the UK, Vattenfall supported Catalyse Change to offer work experience placement for young women and non-binary changemakers interested in exploring career opportunities in the low-carbon and sustainability sector.

In the Netherlands, the onshore wind farm Klaverspoor was put into operation in April, and throughout the design of the wind farm, Vattenfall placed high priority on ensuring that, together with surrounding wind projects, the project benefited the surrounding community. Inhabitants receive a yearly contribution to make their home more sustainable. The project was able to offer 25 per cent ownership to the Energietransitiefonds Brabant that will use this to benefit the energy transition in the surrounding communities.

Vattenfall supported local organisations around our assets. For example, we financially supported and collaborated with the Royal Netherlands Sea Rescue Institution (KNRM). Vattenfall's contributions will be used to make KNRM more sustainable, for example by investigating the possibility of using electrified tractors to launch the lifeboats from shore. KNRM and Vattenfall also plan to organise emergency exercises and marine safety training together as part of the collaboration.

Finally we hosted open door events. For example, in the UK, we hosted more than 500 visitors at our onshore wind farms – from family fun days to school visits and open-door weekends. With the youngest visitor just four years old, the visits gave the chance to get behind the scenes and ask questions of the teams involved in maintaining the wind farms.

Challenges and planned activities
Vattenfall operates in multiple different markets and business areas. Our stakeholder engagement practices vary and are flexible to suit the context of our different activities. However, it is crucial for Vattenfall to consistently engage with our stakeholders, in particular local communities affected by our operations, in a meaningful and inclusive way. We will continue to work to formalise our stakeholder engagement approach and explore ways to measure and disclose how we ensure a just transition for our stakeholders.

Governance
Stakeholder engagement is governed locally to fit the conditions and context of each market. The Vattenfall Project Governance Principles, which apply throughout the Group, serve as a framework to ensure that the diverse local interests are duly acknowledged, represented, and catered to in our projects.

Frameworks, partnerships and standards
- UN Guiding Principles on Business and Human Rights
- OECD guidelines for multinational enterprises

Read more
Human Rights Policy
Human rights progress report
Human Rights Action Plan
Society stakeholders - Engagement and dialogue - Vattenfall

Stakeholder engagement in practice

Boosting employment opportunities and sourcing locally - Scotland
In June the onshore Vattenfall-developed and -constructed wind farm South Kyle was inaugurated. The 240 MW wind farm is now owned by Greencoat UK Wind and operated by Vattenfall. During the development and construction of the wind farm, Vattenfall worked closely with stakeholders to make sure that local communities and the region benefitted from the project, with a particular focus on maximising job opportunities. Vattenfall did this by, for example, working with community leaders and local stakeholders to ensure that details about job opportunities onsite were widely publicised in the area. Vattenfall also partnered with East Ayrshire Council's Employment and Skills team and the DWP (UK government Department for Work and Pensions) to connect job coaches with Vattenfall's contractors. As a result, 67 per cent of the construction workforce for the project was local. In addition, 43 million GBP worth of contracts went to companies based in Southwest Scotland.

Read more

Supporting consumers - the Dutch Energy Emergency Fund
After assessing the impact of the high energy prices on vulnerable households, Vattenfall together with partners, launched an emergency fund in 2022 to support these households. In collaboration with the founding partners and NGOs Schuldenlab and Geldfit, we advocated for establishing a comprehensive nationwide emergency fund.

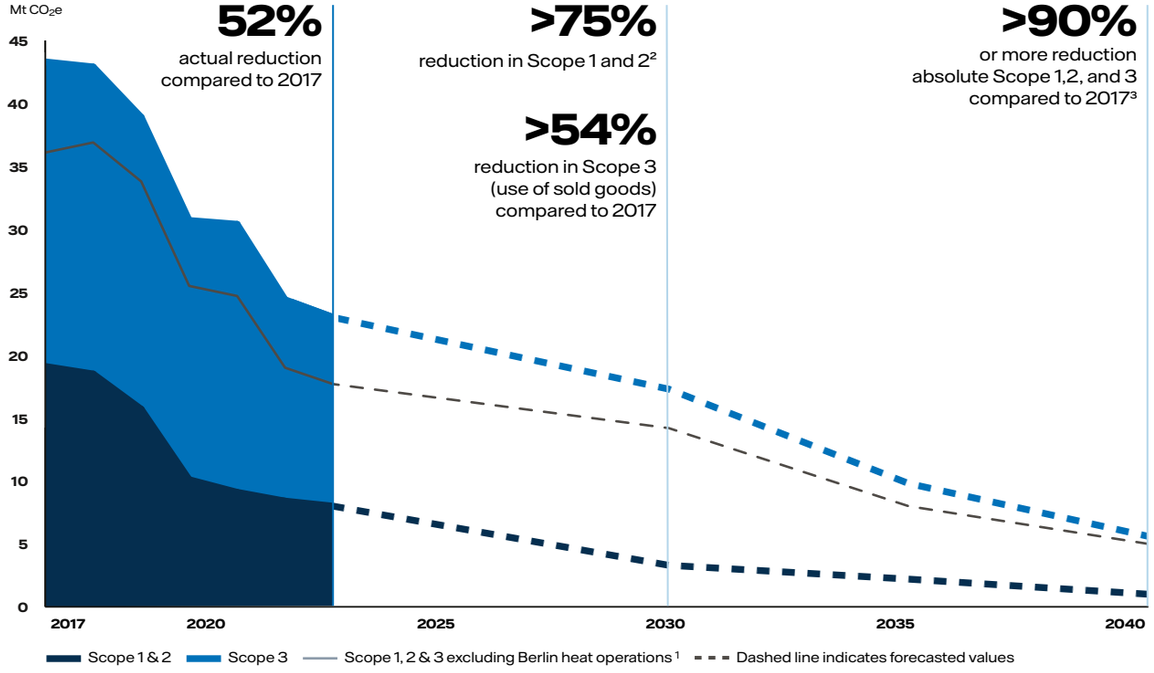
In February 2023, the National emergency fund was officially launched, endowed with a total funding of over 60 million EUR, with equal contributions from energy suppliers and the Ministry of Social Affairs. We directed our customers with payment difficulties towards the emergency fund, to bridge the financial gap between what a customer was obligated to pay and what they could afford. The calculations were conducted by an independent foundation which examined the income and energy expenditures. In the course of 2023, our collection efforts and that of our peers, enabled us to support over 45,000 households in the settlement of their energy bills.

Read more

Climate Change

At Vattenfall, our goal is to help society break free from its dependency on fossil fuels, and we are committed to building a future where everyone can choose fossil free ways to move, make and live. We believe this is the only way in which society can progress. We commit to being net zero by 2040.

Absolute CO_2e emissions trajectory



[1] Vattenfall is in the process of recalculating the baseline and target levels due to divestment of the Berlin heat business.
[2] Vattenfall's Scope 1 and 2 target of >77% reduction in emissions intensity by 2030 corresponds to around >75% reduction in absolute emissions.
[3] Vattenfall's Scope 1 and 2 target of >93.5% reduction in emissions intensity by 2040 corresponds to around >90% reduction in absolute emissions.

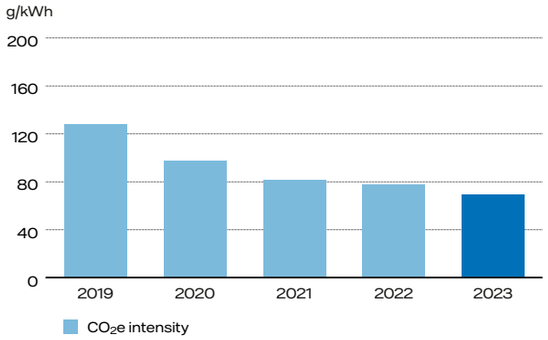
Ambitions, targets and key metrics
In our journey towards fossil freedom, we focus on the climate impacts of our entire value chain – those associated with our own operations as well as with the operations of our suppliers and customers. We seek collaborations to decarbonise fossil-heavy processes which have an impact beyond our borders.

Our net-zero 2040 target has been approved by the Science Based Targets Initiative (SBTi), increasing our ambition further, especially when it comes to Scope 3 emissions. To reach our target, we will have to achieve a 90 per cent or more reduction in absolute emissions across our entire value chain, spanning our Scope 1, 2 and 3 emissions, by 2040. We will then neutralise any remaining emissions with carbon removals (see graph to the left for our planned target trajectory).

Vattenfall's electricity production from wind and solar is growing strongly. In addition, hydro and nuclear will continue to play an important role in the energy transition by enabling the electrification of society with fossil-free power. Vattenfall's business and private customers in Sweden have long benefitted from 100 per cent fossil-free electricity, and they were joined by private consumers in the Netherlands in 2022. In Germany, the aim is for all customers to be supplied with fossil-free electricity by 2030, and for businesses in the Netherlands by 2035 at the latest.

Further development of solutions such as pumped hydro, batteries, and storage solutions will enable more renewable capacity and are needed for a more flexible energy system.

Vattenfall Scope 1 and 2 CO_2e intensity



We commit to reduce scope 1 and 2 GHG emissions 77% per kWh by 2030 and 93.5% per kWh by 2040 from a 2017 base year.

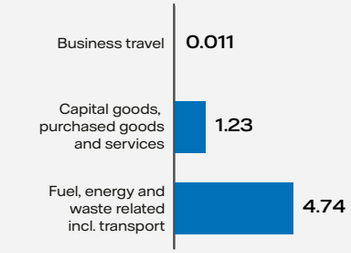
Emissions along the value chain in 2023

Suppliers

Mtonnes CO_2e

Other indirect emissons

Scope 3



Targets 2030

Business travel
Remain under 50% of 2019 emissions

Our suppliers' emissions
Scope 3: Capital goods, purchased goods and services: 50% reduction in emission intensity by 2030 compared to 2020

Suppliers (Scope 3)

Scope 3 emissions are today our biggest carbon footprint source and will become even more significant as we continue to decarbonise our own operations.

Within our supply chain, our main emission drivers (Scope 3) are those relating to electricity sold to end consumers, extraction and production of fuels which we use in our operations and sourcing of materials, such as concrete and steel, which are primarily used in the construction and/or maintenance of our assets. We work together with our suppliers to make climate-smart decisions in the procurement process and encourage suppliers to disclose their climate impacts, for example through the Carbon Disclosure Project (CDP). Through being a member of the First Movers Coalition (FMC), we demonstrate our commitment to increasing the share of emerging technologies which are critical to the net-zero transition of our procurement practices.

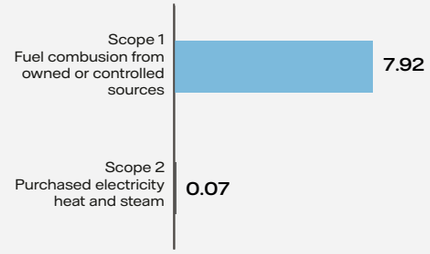
We continue to assess our activities from a life cycle perspective and have conducted a number of large projects to investigate our potential for reducing supply chain emissions. Through research and development, we continue to explore areas which can optimise resource use, focusing on reuse and recycling of materials; material substitutions which favour more energy efficient alternatives; and application of breakthrough technologies. Examples include our assessment of wind farm construction processes, and our increased use of concrete with lower carbon emissions at our hydro power operations.

Vattenfall Operations

Mtonnes CO_2e

Direct and indirect emissions

Scope 1 Scope 2



Targets 2030

Own emissions[1]
Scope 1 and 2: 77% reduction in emissions intensity by 2030

Sold electricity emissions[1]
Scope 1 and 3 (from all sold electricity) by 77% per kWh by 2030, and 94% per kWh by 2040

SCIENCE BASED TARGETS

Vattenfall Operations (Scope 1 and 2)

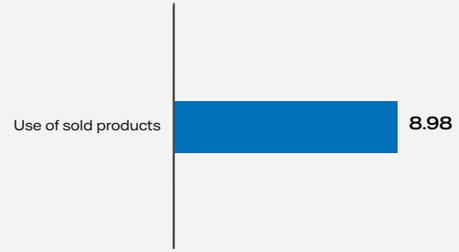
Vattenfall's Scope 1 emissions mostly arise from using fossil fuels to produce heat for our district heating grids, while our Scope 2 emissions are from the energy we purchase for our own operations. In 2023, our total Scope 1 and Scope 2 emissions' intensity continued to decrease, declining to 69 gCO_2e/kWh in 2023 from 78 in 2022. This is below our 2025 target of 86 g CO_2e/kWh and we are currently on track to reach our 1.5° SBTi target. The reduction in our operational emissions is primarily due to the sale of Eemshaven fossil power plant from Vattenfall's portfolio and also an increase in the wind power production capacity. Our wind capacity now stands at 5,443 MW, and our solar capacity stands at 75 MW, bringing our total installed capacity to 5,518 MW compared to 3,877 MW in 2022. In addition, 68 MW wind and solar has been divested partly or entirely during the period and the production is reported by others.

Customers

Mtonnes CO_2e

Other direct emissions

Scope 3



Targets

Our customers emissions[1]
Scope 3: use of sold products >54% reduction in absolute emissions by 2030

SCIENCE BASED TARGETS

SCIENCE BASED TARGETS

Net zero by 2040
90% or more reduction in absolute emissions across the full value chain[1]

Customers (Scope 3)

Our customers' emissions (so called "use of sold products") include the emissions associated with the use of fossil gas, which is sold to customers. A key step of decarbonising this part of our footprint will be to transition our customers away from fossil gas to alternative ways of heating their homes and businesses and to power industrial processes. We will increase the availability and choice of heat pumps to help replace traditional gas boilers, increase use of biogas and continue expanding our heat networks, which will enable more homes and businesses to access low carbon heat. In 2023, we have reduced emissions resulting from use of sold products. Our "use of sold products" emissions decreased from 9.6 Mt of CO_2e in 2022 to 9.0 Mt of CO_2e in 2023, having primarily been driven by reduced sales of fossil gas. We anticipate this trend to continue as Vattenfall enables our customers to transition away from fossil gas.

[1] The base year for the science-based targets is 2017. For further details on Scope 1, 2 and 3 emissions data, please see page 183.

Challenges and planned activities
To reach net zero 2040, Vattenfall commits to reduce Scope 1, 2 and 3 (sold electricity) GHG emissions intensity >93 per cent by 2040 from a 2017 base year, and absolute Scope 3 (use of sold products and all remaining Scope 3) emissions >90 per cent within the same time frame. Together, this equates to an absolute reduction of >90 per cent across all Scopes by 2040. In addition to this, Vattenfall commits to reduce Scope 1, 2 and 3 (sold electricity) GHG emissions intensity >77 per cent and absolute Scope 3 (use of sold products) GHG emissions >54 per cent, both by 2030 from a 2017 base year.

Phasing out coal-fired heat and power generation by 2030 is a key milestone on the road to achieving our net-zero target. We have already phased out coal in the Netherlands, have shut down a coal-fired power plant in Germany, and will complete the remaining coal phase out in Germany by 2030 at the latest. Remaining dependency on fossil gas will be reduced to a minimum by expanding the use of a variety of low CO_2 emitting technologies such as geo- and aqua-thermal heat sources, power-to-heat solutions and seasonal storage options. In parallel, we are expanding our partnerships in order to integrate a higher share of third-party excess heat infeed. Any remaining required gas assets will be fit to be powered by fossil-free hydrogen or biogas.

Scope 3 emissions are widely regarded as being the most challenging emissions to tackle as many categories are not directly associated with the company. However, by setting Scope 3 targets, Vattenfall's climate actions can have a much wider impact and will unlock new innovations and collaborations in the full value chain.

Governance
Climate is fully integrated into Vattenfall's steering and governance and overall responsibility for managing climate change issues is placed at group executive level where the CEO has ultimate responsibility. The CEO reports to Chair of the Board of directors and follows up operations via quarterly Business Performance Meetings in which climate aspects, such as target progress, are included.

Frameworks, partnerships and standards
- Greenhouse Gas (GHG) Protocol
- Carbon Disclosure Project (CDP)
- Science Based Targets initiative
- Task Force on Climate-related Financial Disclosures (TCFD)

Read more
- Reducing CO_2 emissions – Vattenfall
- Our CO_2 roadmap towards net-zero by 2040 – Vattenfall
- Vattenfall first Swedish energy company to get net-zero target approved by SBTi – Vattenfall
- For more details on how we manage climate change-related risks, see Risk Management on page 90

Waste Heat Recovery in Berlin
A 700 kW heat pump has been installed in Berlin-Buch to make use of the waste heat from the cogeneration (CHP) plant. The team at the CHP plant had been looking for a way to utilise excess heat which was previously discharged into the environment, as the temperature was too low for other purposes. The heat pump solves this problem by raising the waste heat temperature and delivering it to the city heating network, which serves 10,000 apartments and 500 buildings including hospitals and schools. According to the heat pump manufacturer, this reduces CO_2 emissions by 620 tonnes/year.

Biodiversity and ecosystems

Vattenfall is committed to protecting and reducing our impact on nature and biodiversity. Our goal is to ensure that our actions and activities do not significantly harm ecosystems and species, and therefore, we strive to integrate a Net Positive Impact approach in our work.

Vattenfall power line corridor

Ambitions, targets and key metrics

Vattenfall is working towards a net-positive impact on biodiversity by 2030. We've set biodiversity targets at business unit level, but currently not at group level. We are updating our biodiversity strategy and developing a biodiversity roadmap with well-defined actions and targets which will set us on the right track to achieve our future ambition.

In the meantime, we continue to reduce our biodiversity impacts and implement enhancement measures, fostering the "no-net-loss" principle. We conduct environmental impact assessments as an integrated part of our business processes and due diligence procedures. When assessing new projects' potential impacts, we always follow the mitigation hierarchy – prioritising avoidance and minimisation measures. In the case of unavoidable impacts, we collaborate with authorities and stakeholders to develop suitable compensatory measures.

Activities in 2023

Across Vattenfall, we target biodiversity enhancement initiatives in relation to our power and heat generating assets, research and development activities and offices. Besides the examples highlighted in our operating segments (see pages 35–45), we actively engage in a variety of biodiversity-related initiatives, with the following examples of activities conducted in 2023.

Vattenfall decided to invest SEK 65 million into a biodiversity programme over the next five years in Hydro Nordic which will be used for both research and implementation of concrete measures. The programme includes, amongst other things, developing, testing and evaluating additional measures to increase biological diversity in regulated waters, such as measures taken in dredged outlet channels downstream of power plants and favouring coastal vegetation along eroded shorelines. The programme is a voluntary commitment beyond the necessary steps for renewing environmental permits. It is carried out in collaboration with universities and county administrative boards.

At Ray wind farm in the United Kingdom, the merlin continues to thrive under ongoing protection efforts which were established during construction and continue throughout operation. Since 2017, a total of 23 merlin chicks have fledged at the site, including five in 2023.

An expanded trial of the innovation project, Spoor AI technology, was launched at Aberdeen Bay Offshore Wind Farm in the United Kingdom. In the project, AI technology is used to track seabirds in the immediate vicinity of offshore wind turbines together with Spoor, a pioneering Norwegian AI start-up. The aim is to validate the technology and learn more about seabird avoidance behaviour and collisions.

Vattenfall Hydro Germany was awarded a certificate for species protection on buildings by Kulturbund, an acknowledged nature conservation association, honouring our actions for the protection of kestrels and bats at our Hohenwarte and Eichicht sites.

In the Tützpatz project in Northeast Germany, Vattenfall is pioneering agrivoltaics. The 79 MW project combines agriculture (organic egg production) with solar power electricity production.

In Berlin, we have continued our work with Tiny Forests. We have planted a 300m^2 tiny forest with native trees next to our biomass plant in Märkisches Viertel. These condensed urban forest areas provide habitats for plants and animals and contribute to carbon sequestration, whilst additionally supporting social participation of local communities.

The CLIMB (Changing Land Use Impact on Biodiversity) project, co-financed by Vattenfall and a number of partners representing different sectors, was finalised during 2023. Within the project, a new model to quantify biodiversity impacts was developed and the model was applied in a powerline project as part of method development. The project was inventoried with an older version of the Swedish standard for nature inventories, so the test was applied theoretically. The model is planned to be tested in a number of new projects across Vattenfall in 2024.

Challenges and planned activities

The three pillars in our biodiversity strategy – implement, measure, and build knowledge through biodiversity research and development – continue to be central to our future activities. Implementation of biodiversity measures is a stepwise process which is achieved through consistent long-term work. Examples of planned activities in our business areas include:

- Environmental adaptation of hydro power
- Increased evidence-based knowledge and development of new local solutions for our wind projects
- And continued implementation of biodiversity enhancing measures in our power line corridors.

During 2024, the work to align our reporting on biodiversity and ecosystem impacts, risks and opportunities to the EU Corporate Sustainability Reporting Directive and its corresponding standards will continue. One main challenge is to measure biodiversity systematically across our organisation and its activities, as well as across the entire value chain. Our goal is to improve how we work with our suppliers to address biodiversity impacts in the supply chain, based on earlier assessment of our group level biodiversity footprint (Global Biodiversity Score). Our efforts to develop methodologies to measure losses and gains at both project- and group-level will continue, and we aim to improve and expand our target setting to effectively measure our impact on biodiversity.

Governance

Biodiversity targets are set in our Environmental Action Plan, which is decided by the Executive Group Management and followed up annually.

Frameworks, partnerships and standards

- Global Biodiversity Score
- CLIMB

Read more

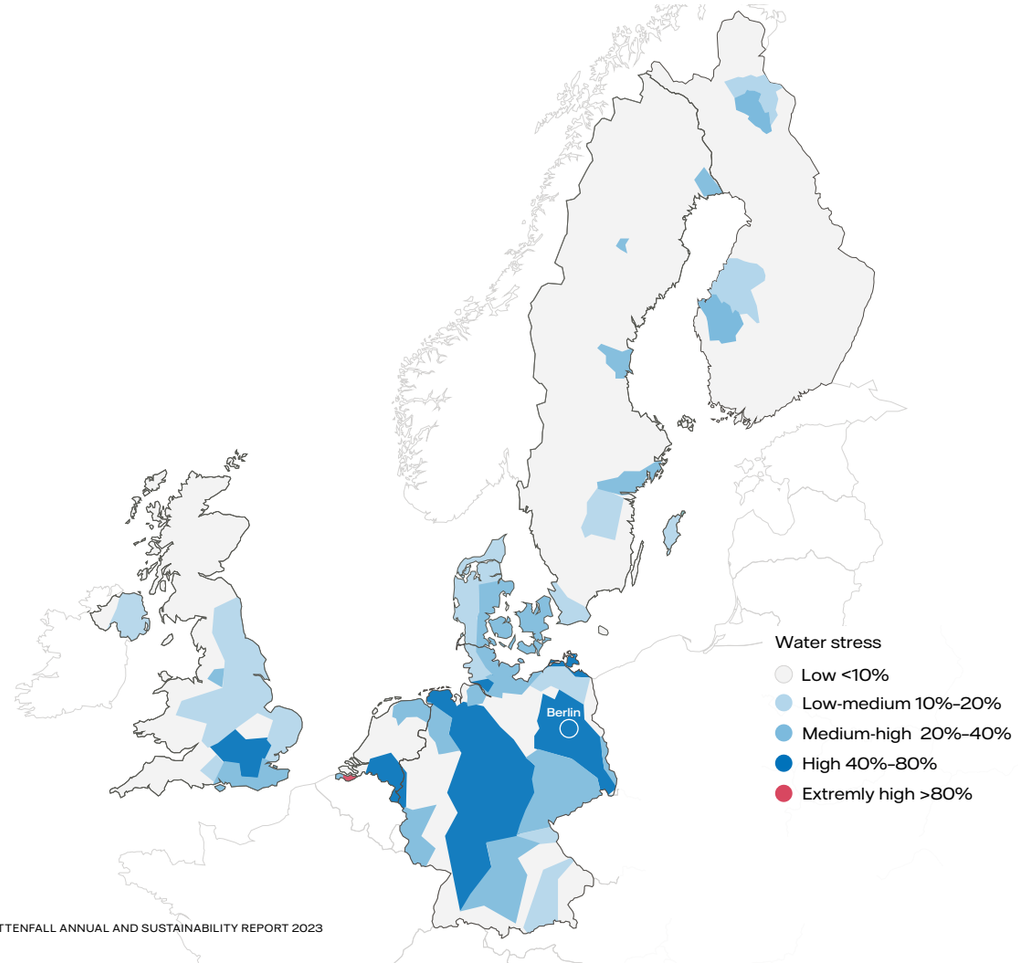
- Biodiversity considerations - Vattenfall
- Biodiversity projects in Vattenfall
- Bird & bat research in offshore wind
- Climb web page

Capercaillie conservation at Bruzaholm

In Bruzaholm wind farm, Sweden, Vattenfall adopts an innovative approach towards multifunctional landscapes and ecosystem which services that balances capercaillie conservation with wind power generation. Since 2022, Vattenfall has collaborated with the Swedish University of Agricultural Science, using AI-based software to map and monitor capercaillie habitat across four Swedish locations. The AI-based recognition system looks promising, achieving high detection rates, with validation to be performed through GPS tracking and eDNA analysis. Phase one ends in 2024.

Water

Vattenfall relies on water for our operations and is committed to using water resources responsibly and sustainably, striving to optimise water-use, minimise impacts on water quality, and balance the needs of hydro power production and flow regulation. We also aim to mitigate operational impacts on aquatic ecosystems through nature restoration and biodiversity enhancement projects.

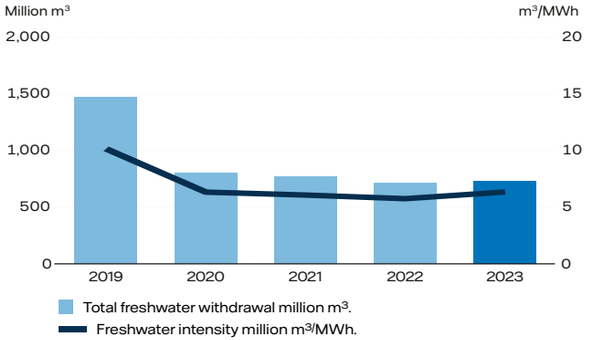


Ambitions, targets and key metrics
At Vattenfall, water drives our hydro power operations and cools our thermal and nuclear power plants. We do not have a target to reflect our ambition currently. However, we do have a myriad of key metrics to reflect our efforts in this area (see below and on page 62).

As we shift to fossil free energy, we invest more in renewable sources like wind and solar, which reduces our reliance on water to cool our operations but can increase the need for frequency control in hydro power. The transition of Vattenfall's portfolio to align with the net-zero climate target by 2040, involves a switch in fuels and upgrades of power plants, which contributes to reduced water requirements for thermal operations.

The graph illustrates how in 2023, we withdrew 733 million m³ of freshwater, of which 729 was subsequently discharged. The majority of the water withdrawn was used in cooling operations. In 2023, our water intensity[1] was 6.3 m³/MWh, compared to a figure of 5.8 m³/MWh in 2022 and a baseline of 11.9 m³/MWh in 2018. Our freshwater withdrawal and water intensity had steadily declined over the past five years but in 2023 due to a reduction in overall production our water intensity has been slightly increased. Overall, this trend equates to a water intensity decrease of 47 per cent over the last six years across our operations.

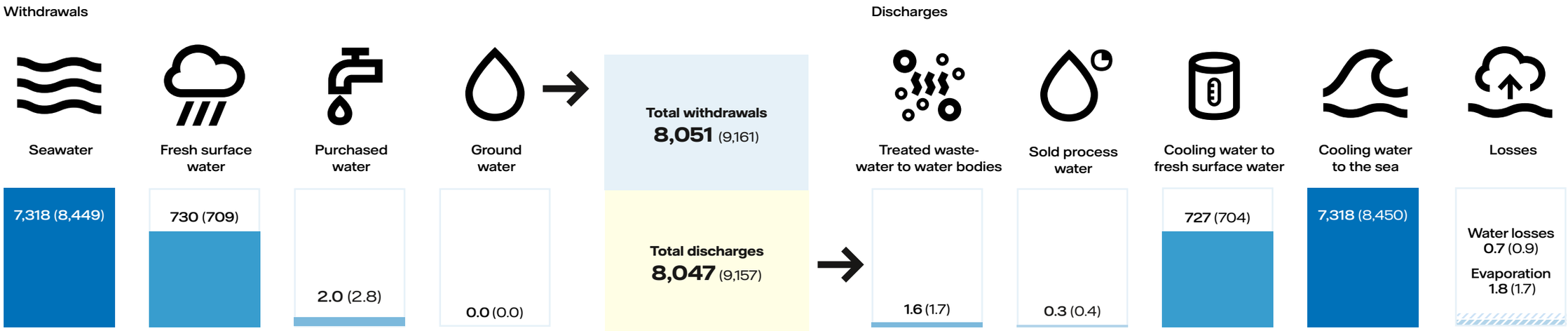
Total freshwater withdrawal and freshwater intensity



[1] Freshwater withdrawal of our heat plants per unit of electricity and/or heat produced.

47%
Decrease since 2018
in absolute use of freshwater

Total withdrawals and discharges of water[1], million m³



[1] Water consumption (Total withdrawals – Total discharges) equals to 4 million m³.

Activities in 2023

Water used for cooling within our thermal and nuclear power plants is discharged to natural water bodies at a slightly higher temperature than when it was withdrawn. If the overall temperature of the water body exceeds a threshold temperature, the water cannot be used for cooling due to technical characteristics of the plant and to ensure compliance with permit conditions to protect downstream aquatic ecosystems.

In such eventualities that the temperature threshold is exceeded, the plant will need to reduce production to use less water or be temporarily halted. Alternative solutions, such as cooling towers with closed cooling cycles, are used for some plants to reduce water use and impacts.

Vattenfall owns and operates several heat and combined heat and power plants in Northeastern Germany, which is classified as an area under high water stress. Our plants in this region used and discharged approximately 198 million m³ of freshwater during 2023, equivalent to 27 per cent of our total freshwater use. Within Vattenfall, hydro power accounts for over a third of our total electricity generation. Hydro power operations and dams affect the landscape, water flows, and natural habitats in the area. We invest in measures to strengthen local habitats and increase biodiversity, research to enable fish migration with limited production losses, and implement initiatives to lower the risks of erosion and sedimentation around our hydro power assets. Further details can be found on page 59.

Challenges and planned activities

We are working to reduce impacts on water resources and biodiversity in aquatic ecosystems. Going forward there is a high focus on the recertification of our Swedish hydro power fleet to align with requirements of the EU Water Framework Directive. We are also working to further increase transparency regarding how we use water.

From a life cycle perspective, part of our water footprint is in our supply chain. We are striving to improve our understanding of water use in the supply chain and how we can reduce impact, and are planning to increase efforts in this area. We are also developing a group-wide corporate water strategy, to supplement our environmental policy and our Environmental Action Plan, and further increase transparency on how we work to ensure sustainable management of water resources.

Governance

Water ambitions are set in our Environmental Action Plan, which is decided by the Executive Group Management and followed up annually.

Frameworks, partnerships and standards

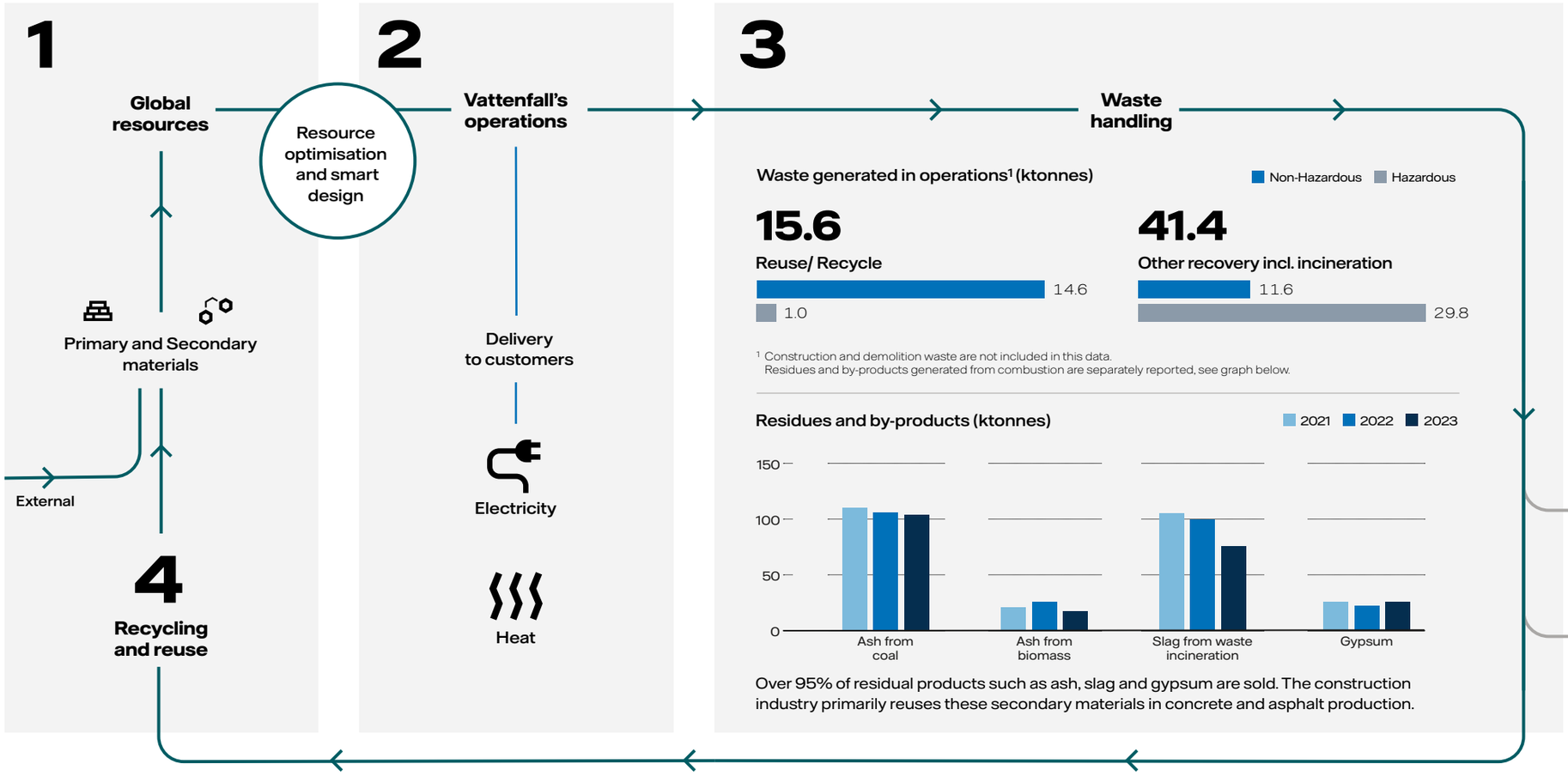
- CDP water

Read more

Sustainable resource use – Vattenfall
Biodiversity considerations – Vattenfall

Resource use and circular economy

Vattenfall has the ambition to transition towards a circular business. This means we will work to maximise the value of resources across our value chain, and with our partners, and ensure the responsible use and reuse of all resources. We also acknowledge that circular resource management is a prerequisite to reach climate targets.



Ambitions, targets and key metrics

We aim to become more circular by gaining insights into our resource streams. We want to reduce our impact on the global resource pool by understanding how our resource use fits into the wider system. We currently minimise our impact in numerous ways throughout the value chain, and see digitalisation and innovation as key drivers to improve circular performance. We will keep improving our resource use as we learn more and develop our capabilities. With this approach, we will move towards a more circular business model.

One way in which we work towards circular resource management is by setting specific targets to improve resource management. Vattenfall aims to ensure sustainable life-cycle practices for assets when they reach their end-of-life. For example, the majority of a wind turbine's mass can be recycled, but the turbine blades pose a challenge. Vattenfall has a landfill ban on blades and a 100 per cent recycling target to be achieved by 2030 (50 per cent by 2025).

Activities in 2023
Our 2023 activities and resource optimisation routes are depicted in the infographic on page 63 and described in more detail in the corresponding text below.

1. Global resources:
The fuel used in our operations is a significant material inflow to Vattenfall, including nuclear fuel (uranium), biomass, gas, coal, and waste. We utilise other materials for construction of new assets such as wind farms and distribution infrastructure, and for maintaining our existing assets. Key construction materials used include steel, concrete, aluminium, and copper.

2. Resource optimisation and smart design
We work to reduce the use of primary raw materials and favour materials which are fossil-free, recycled or biogenic. We strive to minimise material quantities which are required in our operations and explore resource optimisation and smart design applications through conducting life-cycle analyses (LCA). We conduct and publish Environmental Product Declarations (EPD) for electricity from wind, hydro and nuclear power. EPD/LCA data have been used to build a solid base for our sustainable supply chain work, and in combination with expert knowledge and pipeline projections, informed our 2023 undertaking of the Materials Assessment Project. The data and insights produced by the project will help to improve our decision-making, guide our sustainable supply chain efforts (see page 71), Scope 3 decarbonisation efforts and material strategies (see page 57).

3. Waste handling
Through smart design, capturing by-products, and increasing recycling rates, we aim to minimise non-hazardous waste streams. Hazardous and radioactive waste is handled safely and according to strict regulations. We operate our radioactive waste-handling facilities with strict operating guidelines and employees with access to radiologically controlled areas are trained in radiation protection. High-level, long-life radioactive waste, consisting primarily of spent nuclear fuel and core components, is carefully shielded during handling and transportation, and when stored, the waste is encapsulated to prevent radioactive contamination, with storage type and location being determined by the waste's radioactivity characteristics.

To minimise our waste streams where feasible, the level of declassified waste from the decommissioning of our nuclear reactors in Sweden and Germany should be as high as can reasonably be achieved, taking into account consequential effects such as e.g. generation of secondary waste, adverse health and safety impacts, and other safety-related aspects. Having been successfully declassified, material can be used by other parties. For example, concrete from facilities in German nuclear sites has been reused as filling masses, diverting waste whilst simultaneously making this material available for use elsewhere.


Uppsala CHP plant

4. Recycling and reuse
Vattenfall supports society's efforts to reduce and recycle waste: however, residual waste streams remain. In addition, some waste needs to be removed from the resource pool because of its harmful content. Other materials, such as plastics and cellulose, have a limitation on how many times they can be recycled. Vattenfall utilises industrial and municipal waste as fuel in our waste-to-energy plants in some of our district heating grids, allowing for energy to be recovered from residual waste streams. Furthermore, we capture by-products, when possible, allowing for future use. For example, we sell over 95 per cent of by-products such as ash, slag and gypsum from Vattenfall's combustion plant production process to the construction industry for reuse as secondary materials in concrete and asphalt production.

Challenges and planned activities
With the ambition to change to a more circular business, and contribute to transition of society to a circular economy, we need to continue to define our circular roadmap. Actions going forward will focus on how we source goods and materials and design our assets in smarter and more circular ways, how we run resource efficient operations and maintain the value of resources used, and how we can work together with partners to change unsustainable resource flows and processes (see more on page 71).

We also work to increase transparency and reduce impacts in our supply chain. We are dependent on critical raw materials to enable the transition to fossil freedom, for example when constructing new production assets and infrastructure. To meet our target to cut supply chain CO_2 emissions intensity in half (see more on page 56), we will also need to have a high focus on how we can use resources in smarter ways, and increase sourcing of low-carbon and recycled materials in cooperation with suppliers and partners. In addition, reducing our resource footprint will also significantly contribute to reducing impacts on biodiversity.

To deliver on our landfill ban and recycling target for turbine blades, we engage in research into material recycling of composite waste and test applications to reuse the material. We work to recycle decommissioned assets to the greatest extent possible and investigate life-cycle extension measures. We work to substitute and reduce use of hazardous substances.

Governance
Circularity ambitions are set in our Environmental Action Plan, subsequently approved by the Executive Group Management, and followed-up annually.

Read more
- Sustainable resource use - Vattenfall
- Life Cycle Assessments for Vattenfall's electricity generation 2023
- S-P-01435 - Electricity from Vattenfall's wind farms (environdec.com)
- S-P-00088 - Electricity from Vattenfall's Nordic Hydro power (environdec.com)
- S-P-00923 - Electricity from Vattenfall's Nuclear Power Plants (environdec.com)

Hollandse Kust Zuid

Circular wind turbine blades
Alongside increasing our wind capacity through construction of the Hollandse Kust Zuid project, we have further been able to incorporate a portion of wind turbines which have recyclable blades into the project. Whilst a limited supply of such blades currently exists, we have already reserved blades for use in the construction of future projects, too. This will help us to increase our provision of fossil-free energy capacity whilst taking into account wider climate and environmental impacts.

Human rights

Respecting internationally recognised human rights is a fundamental part of Vattenfall's work in the energy transition. Our human rights work is based on the UN Global Compact, ILO Declaration on Fundamental Principles and Rights at Work, the OECD's guidelines for Multinational Enterprises, and the UN's Guiding Principles for Business and Human Rights.

Ambitions, targets and key metrics
Our aim is to continuously improve, monitor, track, and transparently report on our ability to manage human rights risks and to have a positive impact. Although we do not have a target or key metric to reflect our ambition currently, we are constantly evaluating potential key metrics to reflect our efforts.

Activities in 2023
We regularly evaluate our risks and impacts to minimise negative effects and create positive ones, using the OECD framework. We regularly conduct evaluations as we enter into new relationships, businesses, partnerships and projects. In addition, we engage third-party experts for comprehensive human rights assessments every 3–5 years. Our latest assessment in 2021 identified 16 key human rights issues, with nine prioritised: community engagement, environmental impacts, grievance mechanisms, indigenous peoples, just transition, occupational health and safety, human rights defenders, high-risk sourcing, and supplier labour conditions.

For actions related to Environmental impact and Occupational health & safety, see pages 56 and 78.

Summary of actions per prioritised issue

Grievance & access to remedy	• Assessed our whistleblowing system against the 8 UNGP effectiveness criteria, identifying accessibility as main gap • Implemented a dedicated public complaints procedure following the German Due Diligence Act.
Indigenous peoples	• Updated and published our best practices guide "Approach towards indigenous peoples in Sweden". Read more here • Had contact with four Sami villages around a hydro power plant on the Luleå river to discuss questions and concerns and identify mitigation measures, similar meetings were held for new wind power and distribution line development projects.
Supplier & contractor labour conditions	• Conducted risk assessments on several product categories, specifically reviewing the forced labour risk(s) in the supply chain • Launched several initiatives to address supplier and contractor labour conditions, such as forced labour, migrant workers, wages, overtime, and health & safety, and we will continue our efforts in these areas and others that are relevant.
Sourcing from high risk countries	• Mapped current and expected high risk material use, resulting in a prioritising of materials[1] in terms of volumes and risks (security of supply, CO_2 and human rights risks) • Engaged with strategic suppliers to address identified risks and participated in multi-stakeholder dialogues to increase leverage and drive the change at industry level.
Just Transition & responsible decommissioning	• Evaluated transition-related impacts and key stakeholder groups, prioritising local communities, customers, and employees • Defined commitments to address impacts on these stakeholders. Read more here
Human Rights Defenders	• In connection to identifying high risk minerals in our supply chain, increased our understanding of rightsholders, defenders and other stakeholders • Developed questionnaire and held dialogues to increase awareness with selected suppliers operating in countries or industries that carry risks for human rights defenders.
Community engangement	• Reviewed our community principles against human rights framework and just transition principles • Launched an internal forum to standardise practices for meaningful engagement and share best practice.

[1] Prioritised materials are: concrete, steel, nickel, aluminum, copper, chromium, rare earth elements, cobalt, and graphite.

Challenges and planned activities
As Vattenfall operates in many different markets and business areas, we acknowledge that our risks may vary depending on the context of our activities. In addition, due to changes in operations, locations, and external context, Vattenfall's salient human rights risk may change over time. Therefore, we are determined to stay vigilant on these changes, both by conducting frequent risks assessments and by collaborating with suppliers and industry peers. Challenges and planned activities for each of our salient human rights issues can be found in our human rights progress report. We will continue to align our practices in accordance with the UNGPs, OECD guidelines for multinational enterprises, and any relevant upcoming legislation.

Governance
Vattenfall's CEO together with the Executive Group Management has the overall accountability for human rights within Vattenfall. The Board of Directors monitors progress on an annual basis.

Frameworks, partnerships and standards
- UN Global Compact
- UN Guiding Principles on Business and Human Rights
- OECD Guidelines for Multinational Enterprises
- ILO Core Conventions

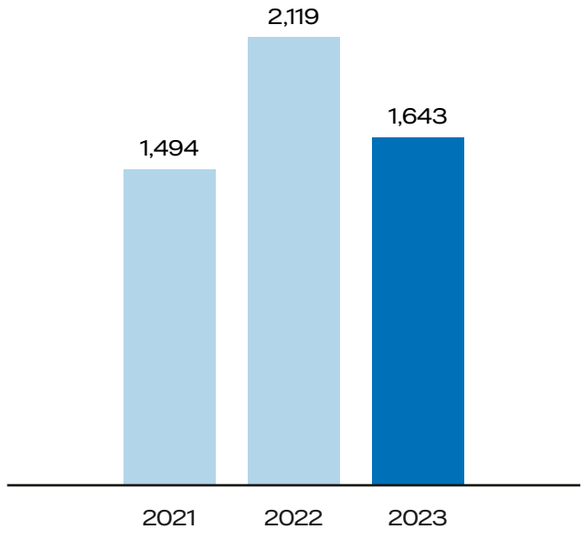
Read more
- Human Rights Policy
- Responsibility towards Indigenous Peoples
- Human rights assessment 2021
- Human Rights Action Plan
- Code of Conduct and Integrity
- Whistleblowing and complaints – Vattenfall
- Code of Conduct for Suppliers and Partners
- Human rights progress report
- Statement on slavery and human trafficking

Just transition
Vattenfall joined the Energy for A Just Transition collaboration at its inception in 2022. By sharing and learning from others, we can strengthen our own work and ideally find ways to work together for even greater impact. In 2023, following discussions on just transition strategies, challenges, best practices, expert insights, and more, the collaboration has deftly packaged the learnings into a toolkit that companies can use to guide them on their just transition journeys.

Integrity and Compliance

Vattenfall has a zero-tolerance policy for bribery and corruption. We require that all our employees act in accordance with our Code of Conduct and Integrity. We have also established a robust supply chain compliance framework to proactively prevent, mitigate, and remediate risks and meet legal requirements when dealing with counterparties.

Vattenfall Integrity Programme
Number of managers and other key personnel trained



5,256
Total trained through Vattenfall Integrity Programme since 2021

Ambitions, targets and key metrics
Our aim is to continuously improve, monitor, track, and transparently report on integrity and compliance topics; however, we do not have a target to reflect our ambition currently. We do have a myriad of key metrics (see below and on page 70) to reflect our efforts in this area.

Activities in 2023
Activities for internal Integrity and Compliance:
Vattenfall uses an annual Integrity and Competition Law Compliance Survey to monitor risks. The survey is completed by approximately 380 managers yearly.

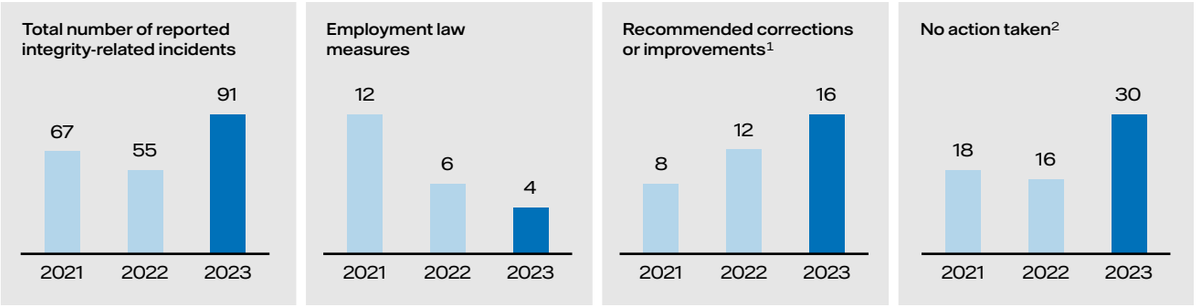
Furthermore, Vattenfall continued maintaining integrity by various awareness activities. Extensive integrity trainings were provided, such as the Vattenfall Integrity Programme (VIP), which is mandatory for managers at certain levels and other key personnel. The VIP includes both e-learnings and instructor-led training on integrity topics.

Also, we continued to develop the whistleblowing function to comply with legal requirements. Suspected misconduct within Vattenfall must be reported to the employee's immediate manager or to the whistleblowing function, for example via the online Whistleblowing Channel. Reported incidents and improprieties are subject to a lessons-learned process to ensure continuous improvement within the company.

Internal instructions and guidelines were significantly updated to ensure a better internal understanding of Vattenfall's ethical standards and legal requirements within the integrity field, including on bribery and other forms of corruption and competition law.

Parts of the organisation were reviewed to detect and mitigate integrity related risks.

Whistleblowing incidents



Of the 91 incidents, 17 concerned suspected non-compliance with our anti-corruption and competition law instructions. Currently there are no pending integrity-related court cases against Vattenfal.

[1] Such as updates of steering documentation or additional training.
[2] As no confirmed misconduct was identified after initial review.

Activities for Supply Chain Compliance:
Vattenfall continued to enforce its compliance measures to prevent, detect, act, and mitigate risks and meet legal requirements. This includes an annual supplier risk assessment, counterparty screenings, new supplier risk assessment, sustainability on-site audits, and sustainability assessment of partnerships.

As a major improvement to the assessment and regular surveillance of counterparty risk in ongoing business relationships, Vattenfall has activated a continuous supplier monitoring process in which counterparties are monitored based on their associated risk level determined.

The Supplier Risk Assessment Tool (SRAT) created a risk heat map in 2023 with 104 high-risk suppliers across all sourcing streams that were validated through internal dialogues, resulting in several follow-up measures, including sustainability audits, additional sustainability requirements for tenders and supplier awareness sessions.

Furthermore, we conducted two supply chain compliance training sessions for new hires in procurement which were attended by 50 participants and an annual refresher training for buyers to redo every three years that was attended by 149 participant. For employees that interact with coal, gas and biomass suppliers, we conduct a Know-Your Counterparty (KYC) training every three years and voluntarily sustainability training. The KYC training was attended by around 150 particpants and the sustainability training by approximately 280.

A quality check of internal procurement processes and gap analysis to the legal requirements from the German Act on Corporate Due Diligence Obligations in Supply Chains was conducted. The gaps identified were closed accordingly.

Moreover, we evaluated the effectiveness of our compliance framework (see page 174 for more information) and updated the necessary compliance

checks in the supplier contracting process for goods and services, in light of emerging legal requirements on supply chain due diligence.

Vattenfall also published a guide for suppliers and partners on fulfilling the expectations outlined in the company's Code of Conduct, covering governance, human rights, environment, and business ethics.

Finally, we continue to monitor the legal and regulatory landscape related to supply chain due diligence, such as the EU Corporate Sustainability Due Diligence Directive.

Challenges and planned activities
Challenges and planned activities for internal integrity and compliance:
We have conducted and will continue to conduct risk assessments related to integrity. The two greatest integrity risks that we have identified, based on the potential damage to Vattenfall and our stakeholders, are non-compliance with relevant anti-trust laws and corruption incidents, including breaches of our procurement and conflict of interest policies.

Challenges and planned activities for supply chain compliance:
We are facing a scattered landscape of laws on supply chain due diligence requirements in our different core business countries that we will continue to closely observe and monitor to ensure to always meet all legal requirements when dealing with counterparties.

The high complexity of our supply chain due diligence system poses a challenge to ensure that all employees dealing with counterparties adhere to the requirements. We will continue to develop checks and performance indicators to ensure a well-governed process with full implementation of our supply chain due diligence system.

Vattenfall aims to finalise the onboarding of business units to the newly activated counterparty screening process in 2024.

We have reviewed and intend to publish an updated Code of Conduct for Suppliers and Partners in 2024, defining our requirements and expectations to safeguard that our suppliers and partners share our values.

However, the tighter internal governance and due diligence requirements will increase the volume of counterparty reviews in the future and put pressure on scarce internal resources.

Governance
The activities and progress related to internal integrity are approved by the head of Corporate Legal & Integrity and Legal Nordic and the activities are reported to the Executive Group Management (EGM) and the Board of Directors on an annual basis.

For the steering of counterparty due diligence, a company-wide Counterparty Due Diligence Steering Committee (including EGM members) and various escalation boards are established within Vattenfall that are ultimately reviewed by the Head of Sustainability.

Frameworks, partnerships and standards
- Member of the Partnering Against Corruption Initiative (PACI), a cross-industry collaboration launched by the World Economic Forum
- Member of the Business Integrity Forum of Transparency International Sweden
- UN Global Compact
- UN Guiding Principles
- OECD Guidelines

Read more
- Code of Conduct and Integrity
- Code of Conduct for Suppliers and Partners
- The Guide – a Guide to the Vattenfall Code of Conduct for Suppliers and Partner

Overview of supply chain compliance

	Good and services	Waste and biomass	Coal	Natural gas	Nuclear fuels
Number of counterparties	24,680	190	1	N/A	12
Country of origin	Main sourcing countries are Sweden, Germany, and the Netherlands, and a small number of suppliers in other European and Asian countries.	For waste, most comes from Sweden and Germany, and a small share comes from the UK. Recycled wood waste is sourced either from Sweden or other northern European countries.[1] Woody biomass is sourced from Sweden (72%), Germany (16%), Latvia (8%); the rest of Europe accounted for 3%.[2]	South Africa	Vattenfall does not hold direct contracts with natural gas producers, the gas is sourced through European gas hubs.	Uranium supplied to Vattenfall was produced in Canada and Australia.
Threshold for screening	All counterparties with a contracts value over 30,000 SEK.	Differing thresholds to conduct screenings are applied across the organisation, which are currently being aligned.	All coal counterparties.	All natural gas counterparties.	All nuclear fuels counterparties.
Screenings conducted	4, 113	162	N/A	N/A	28
Threshold for sustainability site audits	Before onboarding, suppliers from high-risk countries and/or when providing high risk product categories with contracts over EUR 100,000 are regularly audited (every three years).	Differing thresholds for sustainability audits are applied across the organisation, which are currently being aligned.	All coal sub-suppliers that are part of Bettercoal are audited through on-site mine assessments (every four years).	There are no audits conducted on gas suppliers as we use the wholesale market to obtain gas for our own consumption and for our customers.	All nuclear fuel suppliers are regularly audited (every three to six years).
Number of sustainability site audits conducted	41	48	N/A	N/A	3
Share of new suppliers that have undergone social/-environmental assessments	100%	100%	N/A	N/A	100%
Share of new suppliers from high-risk countries that have undergone social/environmental assessments	100%	No new suppliers from high-risk countries.	N/A	N/A	No new suppliers from high-risk countries.
Industry Initiatives	Industry initiatives in Goods and Services are often product or industry depended which is why there are several, including the Solar Stewardship Initiative, International RBC Agreement for the Renewable Energy Sector, First Movers Coalition, German Energy Industry Dialogue.	When sourcing woody biomass, we seek to fully comply with EU and national sustainability (and emission reduction) requirement. All purchases for the international market in 2023, were sourced only from suppliers within the EU that are certified by the Sustainable Biomass Program (SBP) and/or the Forest Stewardship Council (FSC).	Vattenfall remains a Bettercoal member to continue to drive improvements in the coal supply chain. A dedicated South Africa Working Group within Bettercoal was founded and made first relevant steps to make impact in the South African supply chain.	Vattenfall supported the development of the Gas Taskforce initiated a year earlier by the Bettercoal initiative aiming to investigate whether the model used to address sustainability risks of coal producers can be applied to the natural gas supply chain.	Vattenfall is an active member of the World Nuclear Association, participating in the Uranium Stewardship Programme, which established the common policy document, Sustaining Global Best Practices in Uranium Mining and Processing.

[1] More than half of the total amount (measured in generated energy, TWh) of waste and biomass fired in Vattenfall's CHPs and heat-only boilers, is waste, including recycled wood waste.
[2] The woody biomass used for our CHPs and heat-only boilers in Germany, the Netherlands, and Sweden was a low value by-product sourced domestically.

Sustainable supply chain

At Vattenfall, we are committed to responsible practices in and beyond our corporate boundaries. By creating sustainable supply chains, we aim to deliver positive impact for society and the environment, achieve resilience and drive business. Going beyond legal requirements and aiming to deliver impact underpin the philosophy of our sustainable supply chain work.

Sustainable Supply Chain Focus Areas	Ambition	2023 Achievement	Read more
CO_2	50% reduction in Scope 3: Capital goods, purchased goods and services emission intensity by 2030.	Conducted an assessment of Vattenfall's supply chain targets to improve steering mechanisms.	Page 57
Circularity	Transform towards a circular business.	Forecasted future material inflow and prioritised materials based on volume, supply risk, climate impact and social risk (high-risk minerals).	Page 63
High-risk minerals	Not available.		
Human rights	Specific ambitions are defined per prioritised areas published in our Human Rights Action Plan.	Updated Human Rights Policy and ambitions and made progress in the nine prioritised areas.	Page 66
Health & Safety	Targets are under development.	Initiated a pilot on on-site contractors health and safety.	Page 78

Ambitions, targets and key metrics

While a summary of our ambitions in key supply chain focus areas can be found in the table, Vattenfall does not have a target or key metric to reflect our ambition currently. We are constantly evaluating potential key metrics to reflect our efforts.

Activities in 2023

Vattenfall's activites toward building a sustainable supply chain are encapsulated by the sustainable supply chain roadmap, which consists of a two-step approach – first, to ensure compliance in our supply chain (further described on page 68) and, second, to drive positive change and add value across our supply chain. In 2023, Vattenfall saw the full integration of this roadmap into the new five-year procurement strategy for Goods & Services.

Furthermore, we continued engaging in various national and international industry initiatives and multi-stakeholder dialogues, aiming to increase leverage in sustainable supply chain work, including our work in the Solar Stewardship Initiative, the International RBC Agreement for the Renewable Energy Sector, First Movers Coalition, WindEurope, German Energy Industry Dialogue, ASF Roadmap.

As a member of WindEurope, Vattenfall worked to harmonise supplier questions in wind sector reflecting the WindEurope Industry Principles to avoid supplier fatigue, create a level playing field, and increase effectiveness.

We, together with the multi-stakeholder dialogue of the German energy industry, developed and published a common human rights risk assessment of the energy supply chain and started working groups on identified risks. Another joint project was to produce a roadmap for a circular and net-zero IT sector by 2050 initiated by the Atea Sustainability Focus (ASF) Advisory Board following the 2021 ASF report.

Vattenfall has established a central database of expected material volumes purchased until 2030 to understand our critical material need, prioritisation of key materials based on their expected volumes, supply risk, human rights risk and emission factor, and develop strategies for the prioritised materials to mitigate the identified risks.

Furthermore, we developed trainings for suppliers that operate in high-risk industries and/ or countries, focusing on the Code of Conduct for Suppliers and Partners, supply chain risks and due diligence mechanisms that can enable our suppliers to mitigate the identified risks.

Additionally, we launched a supply chain transparency pilot, aiming to identify tools to deliver full transparency of supply chains with a special focus on high-risk minerals and product categories.

Finally, we have aligned our category procurement strategy with ISO guidelines and integrating sustainability in our category strategy to go beyond compliance, such as assessing categories materiality from a GHG, circularity or human rights perspective and how to deliver positive impact.

Challenges and planned activities
Further increasing transparency will be key to understand the real impact of our sourcing activities in the up-stream end of our supply chains. This especially applies within high-risk products and materials, enabling more sustainable choices and building resilient supply chains.

It will be critical to not only understand the impact our sourcing activities have on communities and environment in our upstream supply chain, but also to measure and monitor the positive change we aim to deliver.

Vattenfall intends to continue increasing our leverage through multi-stakeholder and industry initiatives, addressing complex supply chain issues and establishing industry standards for a more sustainable supply chain sector. This goes hand-in-hand with further collaborations with our peers and partners aiming to increase our positive impact.

Vattenfall is increasingly concerned about situation of the Uyghur forced labour in the Xinjiang region as reports emerge of more sectors affected by unacceptable labour practices. Forced labour in any form is unacceptable to Vattenfall and we will continue to further improve the due diligence measures for all relevant sectors.

We will revise and update our inventory for sustainability-related requirements to implement in supplier tenders with a special focus on enhancing the content and improving the IT surface to enable self-sufficient usability for all buyers.

Governance
The Sustainable Supply Chain Roadmap connects to an existing governance structure within the procurement organisation that involves different fora for progress reporting, decision making and alignment and is approved by the Chief Procurement Officer.

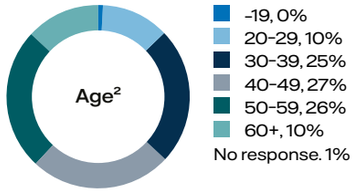
Frameworks, partnerships and standards
- ISO20400
- UNGP
- OECD
- Solar Stewardship Initiative
- International RBC Agreement for the Renewable Energy Sector
- First Movers Coalition
- German Energy Industry Dialogue

Read more
- Sustainability Policy
- Human Rights Policy
- Human Rights Action Plan
- Human Rights Progress Report
- Modern Slavery Statement
- Environmental Policy

Measuring and improving social impact
Vattenfall launched the Social Impact KPI project to measure and improve social sustainability. The first pilot focused on identifying KPI linked to workplace health and safety for contractors. The project revealed that most existing KPIs are “lagging” as they measure undesirable events instead of preventative actions. The identified social impact KPI within contractor health & safety will be piloted in 2024. Social impact KPIs could be used to improve social sustainability in other areas in the future.

Diversity and inclusion

Vattenfall believes that a diverse mix of employees accelerates our work towards fossil freedom. Diversity is embedded in our values and represented at the highest level of management, with six members out of ten being female, including our CEO. Our vision is to be recognised[1] as the most inclusive place to work in the energy industry.



-19, 0%
20-29, 10%
30-39, 25%
40-49, 27%
50-59, 26%
60+, 10%
No response. 1%

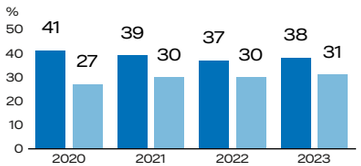
Sweden, 49%
Germany, 25%
Netherlands, 19%
Denmark, 3%
United Kingdom, 2%
Poland, 2%
Finland, 0%
France, 0%
Belgium, 0%
Norway, 0%

Male, 68%
Female, 30%
Non-binary, 1%
No response, 1%

Official language/s in the country of residence is also my first language, 89%
Official language/s in country of residence is one of my first languages, 3%
Official language/s in country of residence is not (one of) my first languages, 8%

Sweden, 35%
Germany, 23%
Netherlands, 11%
Denmark, 3%
United Kingdom, 2%
Poland, 2%
Prefer not to say, 12%
Unknown, 8%
Other, 4%

Female manager and hires



% of female manager hires
% of female managers

For more key metrics about our workforce. See page 75

[1] In the UK, Vattenfall received a gold accreditation from the organisation Committedd 2 Equality and a silver award from the organisation Investor in People.
[2] Data reflects voluntary, anonymous, self-identification in the employee engagement survey.
[3] Vattenfall employees represent 98 known nationalities.

Ambitions, targets and key metrics
Female manager hires
Vattenfall has set a target that at least 35 per cent of all managers hired are to be female. We track this target through KPIs that widely impact bonuses. While some disciplines and business units more readily attract and retain women and thus set higher targets, there remains a challenge in some areas of the business.

My Opinion
The Diversity and inclusion (D&I) Index in Vattenfall's My Opinion survey monitors how employees rate their manager's efforts in driving Diversity and Inclusion. The survey also includes targeted questions to measure how diverse, equitable and inclusive the employee experience is across Vattenfall.

Global Diversity, Equity and Inclusion Benchmarks (GDEIB)
To gauge D&I maturity, we also used the GDEIB, created by the Center for Global Inclusion. The goal is to achieve the Progressive level in most areas of the GDEIB by the end of 2024.

Activities in 2023
Vattenfall's commitment to D&I is founded on three pillars:

Embedding D&I in everything we do
To further advance our talent attraction processes and build on the fair and equitable practices already in place, a number of changes were implemented using the recommendations from the external empirical study "Collaboration for inclusive recruitment" conducted by Mitt Liv and the Stockholm School of Economics.

Thinking broadly and driving all dimensions of diversity
Mentorship and inspiration: Executive Group Management continues to commit to broadening perspectives by participating in "reverse mentoring" with Vattenfall's "NextGen Council." At every level, employees are actively encouraged to engage in mentoring programmes.

Designated and significant days recognised: Pink Shirt Day to bring attention to anti-bullying and a zero tolerance for harassment; International Women's Day was a week of profiling inspirational Vattenfall women; European Diversity Month was celebrated with a variety of intersectional events across the organisation.

Women in Energy: What started as a trade show event has grown to 1,500 followers on LinkedIn. By raising awareness, offering peer-to-peer support, and networking to women in the global energy industry, Vattenfall has contributed to the sector while building a brand that is attractive to women.

The Diverse Energy Networks continued to grow in size, engagement, and importance, serving as a first point of contact for employees interested in D&I. These influential bodies capture local issues and lobby for change. They also participate in external events, such as pride parades with the focus in 2023 being the Christopher Street Day Parade in Berlin.

Including everyone; our managers lead the way
The D&I Index in Vattenfall's engagement survey monitors how employees rate their manager's efforts

in driving D&I, designed to reflect that while everyone has a role to play, the manager is fundamental in creating culture.

Tools to support managers in driving D&I include a *"Leadership Toolbox"* with self-led workshops; the newly launched *"Licence to Hire"* programme; and the *"Inclusive Leadership Journey"* to increase self-awareness and leadership development.

Challenges and planned activities

Societal norms and cultural sensitivities limit collection of comprehensive employee data covering all of the dimensions of diversity. This presents a challenge as data driven decision-making is critical in the D&I work to better understand the employee experience and needs. We aim to undertake the following in upcoming years:

The **Inclusive Leadership Journey**, launched as a pilot in 2023 to increase self-awareness and guide leaders in building inclusive experiences and environments for their people. The programme includes a self-assessment and comparison with the team's experience, a workshop to explore the findings and a plan of action. It will be assessed, developed, and expanded in 2024.

"**Licence to Hire**", a dynamic and immersive eLearning programme, will be rolled out to the organisation, becoming a priority for managers and recruiters in 2024. The initiative is based on the findings from the empirical study "Collaboration for Inclusive Recruitment".

A **D&I calendar of activities, supported by a D&I roadmap** to recognise and celebrate diversity across Vattenfall and beyond will be the foundation for activities during 2024.

An **employee engagement and advocacy programme** enabling employees to have a voice as allies and advocates for diversity, equity, and inclusion, to be piloted during 2024.

Vattenfall Fellowship, a programme to support employees approaching retirement.

Vattenfall signs, a sign language learning programme that delivers greater accessibility to Vattenfall for the hearing impaired.

Governance

Vattenfall's new D&I Director and country leads are responsible for the strategy and corresponding work. They report to the Chief D&I Officer which is a two year rotating role within the Executive Group Management.

Frameworks, partnerships and standards

- Global Diverse, Equity and Inclusion Benchmarks (GDEIB)
- Equal by 30
- Diversity Charter
- MittLiv
- Unicus

Read more

Diversity and Inclusion - Vattenfall

Keti Koti

Marking the 150th anniversary of the abolition of slavery on Keti Koti, a day of reflection and celebration, the Diverse Energy Network Netherlands hosted several events. Notably, the Keti Koti event on 6 July featured a historical film, panel discussion, and insights from our new D&I Director. This initiative emphasised a commitment to fostering connections among employees as well as to external actors in driving diversity and inclusion forward at the company as well as in society at large. Additionally, Vattenfall partnered with OSCAM for an art exhibition and served Surinamese-Antillean lunches for a week, promoting cultural awareness and unity. These activities both honoured the past and promoted freedom, equality, and solidarity in our community.

Read more here

Compensation, training and development

Attractive compensation and benefit offerings, along with engaging learning and development opportunities are vital. We need to retain and nurture people with the right capabilities to successfully execute Vattenfall's strategy. In a rapidly changing world, it is paramount to continuously enhance and develop the skills of our employees to stay relevant and accelerate the energy transition.

Employee key ratios[1]

We have gathered key employee ratios to understand Vattenfall's workforce. Employee numbers refer to full time employees (FTE) and are reported as a snapshot at year end 2023.

	No. of employees	Women	Men	-29	30-49	50-
Managers	2,309	31%	69%	1%	60%	39%
Country						
Sweden	10,509	30%	70%	12%	50%	38%
Finland	84	59%	41%	13%	61%	26%
Denmark	626	26%	74%	9%	61%	29%
Germany	4,976	27%	73%	11%	53%	36%
Netherlands	3,909	27%	73%	13%	52%	35%
UK	466	30%	70%	11%	73%	16%
Poland	377	30%	70%	18%	78%	5%
France	48	48%	52%	15%	69%	17%
Norway	1	100%	0%		100%	
Total	**20,995**	**29%**	**71%**	**12%**	**53%**	**35%**
Of which, part-time	1,535	15%	4%			
Of which, temporary	902	4%	4%			

[1] Gender composition of the Board of Directors is 27% female, 73% male. See page 106–107 for details.

	Part time	Temporary
Country		
Sweden	2.9%	1.8%
Finland	2.0%	7.2%
Denmark	0.8%	1.8%
Germany	6.8%	2.7%
Netherlands	22.0%	13.5%
UK	3.1%	0.9%
Poland	1.2%	8.6%
France	0.0%	0.0%
Norway	0.0%	0.0%
Total	**7.3%**	**4.3%**

Ambitions, targets and key metrics

Vattenfall does not have dedicated targets, but our ambition is to enable our people to learn continuously. Notably, 100 per cent of our employees are included in an annual mandatory training such as Code of Conduct and Integrity but also job-specific trainings. In 2023, we have 211,000 hours in total on internally facilitated trainings, organised on group level. Externally facilitated trainings and department specific trainings are not included in this number.

Activities in 2023

Vattenfall created development and career paths to help our people grow personally and professionally, and show them which learnings and trainings can help them improve their competences and skills. By accessing our free learning programs and knowledge libraries, employees are empowered to prepare for future roles and develop technical, digital, interpersonal or sustainability skills.

This is linked to our efforts to develop our Performance Management process to build a culture of continuous development and feedback that empowers individuals and teams to reach their full potential. In 2023, this process included about 12,500 employees[1]. For senior executives (N-1 – N-2), we piloted a "People Conference" concept focusing on tying individual development potential and aspiration to specific business challenges and Vattenfall's objectives.

Additionally, Vattenfall has investigated ways to make it more transparent and easier to see which trainings are mandatory and recommended for different roles in the organisation, linked to development paths and available onboarding/training programs. Mandatory e-learnings and trainings are on topics like code of conduct, but can also be role-specific such as electrical safety.

To realise our strategy, upskilling and reskilling programs have been initiated on new or critical topics such as pumped hydro, small modular reactors, electrical engineering, leadership, and IT. As an example, Vattenfall's IT department organised three "skills weeks" full of inspiration and training sessions on the topics of data engineering and science, IT security and collaboration & communication

Complementing this effort to up- and reskill, we launched the "future academy" in January 2023; it is a platform for employees to develop universal skills, such as interpersonal, digital, cognitive skills to be consumed in the flow of work: bite-sized and available on-the-go in podcast, blog/article or video format.

To ensure Vattenfall's compensation remains in line with the market, we have focused on ùnderstanding industry benchmarks and analytics. Specifically, we investigated compensation for scarce and critical competencies and made adjustments to the compensation packages to make them competitive and attractive. In addition, a particular focus has been placed on the gender pay gap analysis, as Vattenfall strives to ensure paying equally for skill and performance regardless of who you are. The analysis indicates a positive trend when it comes to closing any gender pay gaps within the Vattenfall Group.

Also, the central Learning & Development (L&D) organisation that supports learning and development across the Vattenfall Group has been restructured to break silos and make high-quality learning experiences accessible for all.

[1] In Germany, select departments and some subsidiaries have separate and local processes.

Challenges and planned activities
Vattenfall's work in remote locations requires presence of competences in those rural areas, which is hard to find and organise. Hence, continuation of upskilling and reskilling programs for people in rural areas will be essential to develop competences needed for work on the grid and power plants in remote locations.

Also, results from exit interviews show that 28 per cent of employees leaving Vattenfall refer to limited career development opportunities. Thus, we will need to continue developing our performance and development approaches in the upcoming year.

Furthermore, we believe that a healthly feedback culture is essential for Vattenfall's cross-generational workforce and thus, we will continue to pilot initiatives to improve feedback culture in teams.

Additionally, we will diversify learning formats using podcasts, blog posts, webinars, vlogs, etc. and offering multilingual content to meet learners' preferences, spur engagement and to be more inclusive.

Vattenfall's specialist roles require long learning journeys before mastering all aspects of the role. Therefore, we intend, through in-house experts, to create continuous knowledge and competencies transfer in the workforce. Moreover, specific learning academies will be implemented to drive learning across the organisation on strategic topics such as leadership, digital skills, project management and new technologies such as generative artificial intelligence.

Vattenfall will continue to focus on our strengths and improvement areas to become one of the most attractive employers in the countries where we operate, and to secure Vattenfall's future workforce, growth, and continued success.

Also, a common framework for organisational levels, scopes of work, and growth paths will be developed, which will further support our work towards ensuring and harmonising competitive and fair compensation throughout the organisation.

Governance
Compensation is managed within the Compensation & Benefits department, headed by the Director of Compensation & Benefits and supported by a team of specialists.

Training and development resides with the newly installed Learning and Development Director who closely collaborates with the learning specialists distributed across Vattenfall's business areas.

Frameworks, partnerships and standards
- Talent 25
- Högskolan Väst
- Stockholm School of Economics
- KSU

Read more
- Awareness and learning – Vattenfall
- Integrity and education – Vattenfall
- Training at Ringhals – Vattenfall
- Policy for Swedish state owned companies
- Renumeration policy

Vattenfall's remuneration philosophy
Vattenfall aims to attract and retain a talented and skilled workforce. Vattenfall also strives for equal pay for competence and performance, and to drive an engaging culture that will secure the critical know-how and talent in a competitive market. Vattenfall's remuneration policy outlines the general guidelines for compensation programmes and benefits at Vattenfall and has been developed based on market benchmark and in line with the guidelines for Swedish state-owned companies. Remuneration at Vattenfall aims to be fair and sustainable, while reflecting local labour laws, collective labour agreements and the local market. It recognises individual performance meeting Group objectives and rewards professional competence. Variable pay programmes strengthen the connection between performance and reward and help attract, retain, and motivate employees below the senior executive level.[1] Remuneration at Vattenfall consists of a base salary, short- or long-term variable incentives based on the individual's and/or the company's performance, pension and other statutory or voluntary benefits in accordance with local law and market conditions[2] in the countries where we operate.

[1] The levels that are eligible for variable pay are outlined by the Swedish State Ownership Policy and Principles for State-Owned Enterprises. See more on page 104.
[2] This includes 98% of employees covered by collective bargaining agreements.

Real Estate and Facility Management

Vattenfall's Real Estate and Facility Management (RE&FM) aims to develop sustainable solutions for climate, biodiversity, and resource use, and provide sustainable offices for employee wellbeing.

Ambitions, targets and key metrics
In line with Vattenfall's environmental policy and strategy, RE&FM developed its sustainability roadmap covering the following focus areas, illustrating the direction towards creating sustainable offices:

- Energy – increasing energy efficiency, using fossil-free energy
- Waste – reducing the total waste amount, increasing reuse and recycling
- Water – reducing freshwater usage, reusing water in offices
- Biodiversity – promoting biodiversity at offices
- Materials – increasing circularity of materials in real estate constructions and facility services
- Supply chain – reducing CO_2 emissions of purchased goods and services, ensuring sustainable requirements in contracts and tenders
- Wellbeing – increasing employee wellbeing in the offices.

Activities in 2023

Energy
Offices in Edinburgh, Penzance, Amsterdam, Zoeterwoude, Weesp, Berlin implemented energy efficiency measures, such as lighting, heating, cooling and technical sensors. While in the Nordics there was a focus on installing solar panels, heat pumps, specifically in Kiruna, Arjeplog, Arvidsjaur and Trollhättan, and we are investigating energy management systems.

Waste
Vattenfall's larger offices have complete several waste initiaitives such as switching to reusable cups in the Netherlands and bio-composting green waste in Berlin. Furthermore, we have greater insight into inhouse waste for Hexham and Edinburgh offices. In Västerås and Nyköping, we are testing additional waste fractions, new signage and wastebins as part of a pilot.

Water
Sustainable water usage has seen small, local and continuous improvements at Vattenfall locations. However, to drive large scale impact, we have initiated water usage monitoring initiatives at several locations in the Netherlands for advanced insights.

Materials
In 2023, Vattenfall focused on applying circular principles when refurbishing and renovating offices. As a result, the Arnhem office reused approximately 85 per cent of the partition walls, glass cassettes and doors, 90 per cent of the furniture and all IT equipment. Meanwhile, the offices in Edinburgh and Penzance received the highest SKA accolade for sustainability, SKA Gold. Also, we introduced most environmental-friendly paper available on the market and extended usage of ecological, chemical-free cleaning products in German offices

Wellbeing
To increase employee well-being through office environments, Vattenfall has implemented the WELL standard at the Berlin and Amsterdam offices, where the buildings received WELL Platinum and Gold certification, respectively. Berlin Südkreuz was the first building in Germany to receive this high certification.

Biodiversity
Vattenfall concluded an investigation with an external ecologist, of 122 properties in Sweden to prioritise 10 locations to develop biodiversity plans for further inventory, measures and maintenance. Furthermore, we implemented biodiversity enchancing measures such as insect hotels, new native plants and trees for birds, insects and pollinators at Ringhals power plant and Zoeterwoude. In Berlin, we also created a green roof at Berlin Südkreuz, improved the "tiny forest" concept, and promoted species-rich sward and wildflowers at several Berlin properties (see page 59).

Challenges and planned activities
Improving the availability and quality of data remains a priority as it is key for reporting and target setting. Hence, we started a project for automatised data collection. Similarly, we will investigate potential CO_2 emissions reduction in the real estate and facility supply chain. We continue to engage the landlords of our leased offices to provide sustainable offices. For example, we intend to undertake the following:

- Continue work to implement energy management in the Nordics and further implement energy efficiency measures in all countries
- Execute the final project phase to achieve our goal of Zero Waste office in Amsterdam in 2025. Similar initiatives are planned for Swedish locations
- Investigate measuring water consumption and initiate pilots on reducing water usage
- The planned office in Jokkmokk will be built in line with BREEAM-SE Excellent. Opening of leased office in Hamburg in 2024, aim for Ecolabel Hafencity Platinum as well as WELL Core Gold certification.

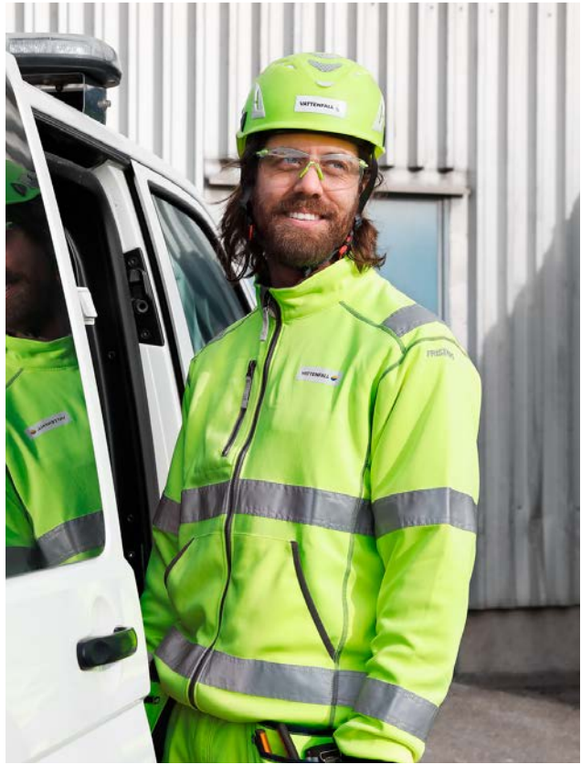
Governance
The Focus areas were approved by the international RE&FM team and the work is led by a dedicated team.

Frameworks, partnerships and standards

- BREAAM-NL
- BREEAM-SE
- Ecolabel HafenCity (DGNB)
- SKA Rating
- WELL v2
- Zero Waste Certification

Health and safety

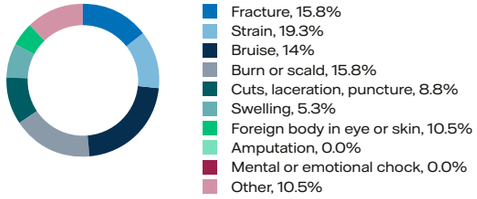
Vattenfall's purpose to enable fossil freedom that drives society forward can only be realised by operating in a safe, inspiring, and caring work environment for everyone working at and for Vattenfall. Therefore, Health and Safety (H&S) is at the heart of Vattenfall's strategy and a key component in running a sustainable business.



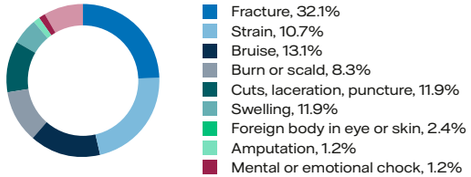
Ambitions, targets and key metrics
Vattenfall aims to achieve world-class H&S. World-class H&S means being ranked in the top three, in H&S performance and reporting, compared to our competitors, using indicators to promote and monitor H&S improvements and benchmarks.

Our long-term goal is zero accidents, injuries, or work-related illnesses. Tragically in 2023, Vattenfall had one work-related contractor fatality. Extensive investigations are being conducted to gain insights into the causes and to determine follow-up measures. It is of the utmost importance that similar incidents are prevented in the future. We have a robust process to learn from incidents. Generally, incidents are followed up by a Root Cause Analysis. Then, the insights are used to update H&S procedures, such as continuous assessment and risk identification processes, as well as to adapt training and implement new preventive and corrective actions. Our H&S policy states that work must stop, if an employee or contractor is in danger. The hierarchy of controls is stated in the Code of Conduct and Integrity and in Intelex for managing risks.

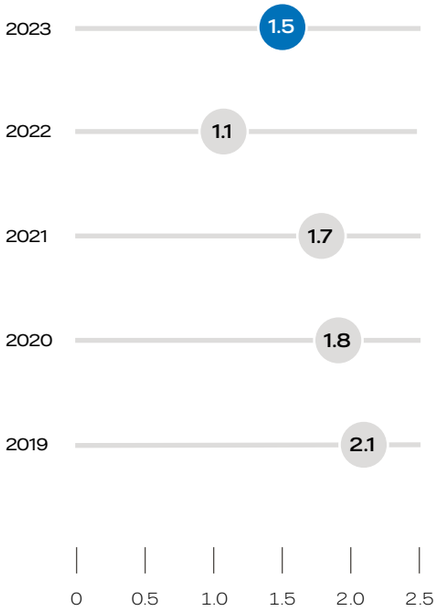
Types of injuries (LTI) – Employee



Types of injuries (LTI) – Contractors



LTIF internal employees 2018–2022



LTIF[1] – Lost Time Injury Frequency for employees

	Sweden	Germany	Netherlands	Total[2]
LTIF internal employees	1.9	1.9	0.5	1.5
Fatal accidents	0	0	0	0
High consequence LTI[3]	1	0	1	2
Total LTI	32	16	3	51
TRIF[4]	3.5	3.1	2.9	3.1
Severity rate[5]	0.032	0.022	0.040	0.029
Worked hours (million)	17.3	8.4	6.5	34.8
External (contractors)				
Fatal accidents	1	0	0	1
High consequence LTI	1	0	0	1
Total LTI	37	18	12	73
TRI	77	32	24	146
Sick leave per country				
Men	2.4%	4.4%	3.7%	3.0%
Women	3.6%	4.4%	5.8%	4.0%
Total	**2.7%**	**4.4%**	**4.2%**	**3.3%**

[1] LTIF is expressed in terms of the number of lost time work injuries (per 1 million hours worked), i.e., work-related accidents resulting in absences longer than one day, and accidents resulting in fatality. Pertains only to Vattenfall's employees.
[2] Includes Denmark and the UK.
[3] A high consequence LTI is an LTI with an actual or expected absence of more than six months.
[4] TRI(F): Total Recordable Incident (Frequency).
[5] (Number of days lost due to injuries employees, LTI) x 1,000 / total hours worked. Fatality = 200 days.

In 2023, employees and contractors submitted a total of 26,398 hazard reports of which the most common types were “Exposed to high current,” “Electric arc,” and “Fire/explosion.” Hazards are defined and documented in instructions. Risks are identified locally via different risk assessment processes after investigations into incidents and hazard reporting.

The frequency of accidents leading to absences from work (LTIF) increased by 35 per cent in 2023 from 1.1 to 1.5 for employees. The number of workdays of absence due to accidents among employees was 1,001. In 2023, a total of 124 accidents that resulted in absence from work were reported to Vattenfall. The most common types of accidents included fractures, strains, and bruises. During 2023, Vattenfall started collecting hours worked by external workforce to calculate the combined LTIF of 1.8.

Activities in 2023

In 2023, Vattenfall started implementing the company-wide three-year H&S strategy with eleven objectives within four focus areas.

1. Management accountability

During 2023, top management has been working towards achieving the targets set to drive leadership development and employee engagement in world-class H&S by making personal safety leadership commitments and conducting safety reviews. This is to clearly demonstrate management’s commitment. The CEO’s all Manager meetings and the Executive Group Management meetings always have H&S on the agenda. Furthermore, the CEO hosted the introduction speech for Vattenfall’s Mental Health month in September. At the Vattenfall Supplier Summit 2023, H&S had a prominent place in the event to emphasise Vattenfall’s commitment to H&S and the request for close B2B collaboration in this important area.

2. Contractor H&S management

Vattenfall has a long-term ambition to strengthen the H&S performance of contractors, extending our approach beyond our corporate borders. In 2023, Vattenfall formed six teams covering different themes for H&S contractor management based on knowledge gathered in 2022.

3. Healthy work environment

All employees at Vattenfall are covered by occupational health care. Training in occupational health and safety is provided based on local work requirements. Non-occupational medical and health care services vary in different countries due to differences in legislation and social security systems. In 2023, several initiatives were initiated to develop a healthy work environment. For example, employees across Vattenfall participated in the World Day for Safety and Health at Work in April. This year the topic was Psychological Safety. Teams gathered either physically or online to discuss this topic in more detail, having watched the inspiring pre-recorded lecture that was created for this day. Additionally, Vattenfall has started working on a group-wide standard against harassment.

4. H&S culture

Vattenfall’s operations are potentially dangerous, but accidents, incidents, injuries, and work-related illnesses are preventable. We therefore encourage an H&S culture where best practices are shared, and active hazard reporting is used to detect and mitigate serious hazards and risks before they result in incidents. In 2022, Vattenfall commenced the rollout of the Critical Control Management (CCM) programme that has now been successfully piloted in our wind business. Building on the insights gained during the pilot, further rollout is underway across the business, with the goal of making Vattenfall a fatality-free company. In addition, a new H&S Policy was approved during 2023, based on three pillars; Be Safe, Take Care and Speak up, to provide guidance for behaviour. The roll-out of the new policy will be supported by communication activities during 2024.

Challenges and planned activities

During 2023, we saw an increase in electrical incidents. Therefore, Vattenfall is taking several initiatives to try to prevent future incidents. A thorough root cause analysis of electrical incidents during the past three years has been conducted to understand the trends and to find keys to use going forward. The Vattenfall Electrical Safety Team (VEST), consisting of Business Area electrical safety experts, is being formed with the aim to reduce incidents related to electrical safety. Vattenfall has run cross-Business Area workshops on electrical safety in the fatality programme, CCM. Furthermore, a decision has been taken to speed up the implementation of the CCM programme during 2024.

Another challenge Vattenfall is facing, is the rise in work-related illness. As an outcome of the Insights report, based on last year’s project to learn more about how we work with and improve employee mental health, work will be done to create a strategic plan, including specific goals to be a part of the world-class H&S strategy from 2025 onwards. A mental health Best Practice Forum is also being started for sharing successful tools and working methods across Business Areas. Other activities towards addressing work-related illness are; various health apps are being piloted in different countries to evaluate if they should be introduced, employees are being trained as Mental Health First Aiders to provide initial support for colleagues experiencing signs of mental health issues, and the training module “Supporting colleagues with mental health issues” for managers will also be made available to employees.

Governance

Accountability lies with our Head of People and Culture and CEO. Depending on scope and budget, H&S decisions are approved by the H&S Leadership team lead by Vice President H&S, H&S steering comittee, and EGM.

Frameworks, partnerships and standards

- Frameworks: VGBE, WANO, IAEA, G+ and national standardisation organisations
- Standards: ISO 45001, ISO 31001, ISO 45003
- Partnerships: Bristol University

Read more

- Code of Conduct and Integrity
- H&S Policy

Tax

Vattenfall regards taxes as an important component in our commitment to grow sustainably, responsibly, and in a socially inclusive way. Taxes are handled in a compliant and efficient way. We aim for increased tax transparency.

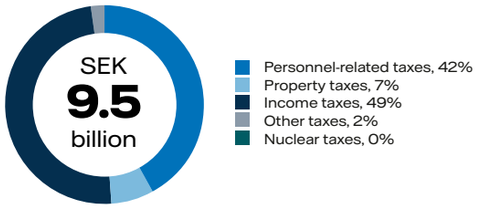
Total taxes paid by country[1]

Tax history, by country[2]

SEK million	Sweden	Germany	Netherlands	Other	Total
2023	4,388	4,325	-145	912	9,480
2022	2,155	1,290	2,069	3,294	8,808
2021	6,002	2,511	1,221	748	10,482
2020	4,203	1,814	453	229	6,699

[1] The historical data has been adjusted to clarify actual taxes paid strictly in a given year compared to previously published.

Total taxes 2023 per tax type



Total taxes paid, by type[2]

SEK million	Sweden	Germany	Netherlands	UK	Denmark	Finland	France	Norway	Poland	Total
Personnel-related taxes[1]	2,627	828	417	52	0	3	34	1	37	3,999
Property taxes	475	30	24	90	0	10	0	0	0	629
Income taxes[3]	1,181	3,433	-604	313	207	138	27	0	0	4,695
Other taxes	105	34	18	0	0	0	0	0	0	157
Nuclear taxes	0	0	0	0	0	0	0	0	0	0
Total taxes paid	**4,388**	**4,325**	**-145**	**455**	**207**	**151**	**61**	**1**	**37**	**9,480**

[1] Including social security costs.

[2] Tax payments +; refunds –

[3] Does not include deferred taxes. The income taxes accrued in P/L amounts to SEK 3,115 million, see Note 13 to the consolidated accounts. The paid tax amounts are equal to the paid tax in the cash flow statement and consist mainly of preliminary tax payments both also refunds and additional tax payments for previous years. The difference between income taxes according to P/L are paid tax according to cash flow statement of 1,580 million SEK are mainly due to the additional income tax payment in Germany made in 2023 related to 2022 very high taxable income.

Ambitions, targets and key metrics

Vattenfall has submitted its country-by-country reporting for 2023 required by law in all of the countries where Vattenfall operates. The Tax policy focuses on compliance and efficiency. Vattenfall aims for an open and transparent relationship with the tax authorities and to be transparent towards other external stakeholders. When possible, Vattenfall enters into country-specific tax-enhanced relationship systems, with the benefits conferred of having a direct contact in the local tax authority, higher tax certainty, and no tax audit risks or exposures.

Vattenfall's business generates considerable tax revenue for the national, regional, and local authorities in the countries we work. In addition to corporate income tax, Vattenfall pays operational taxes on production, employment, and property. Total taxes reported in Vattenfall's income statement for 2023 amounted to SEK 9.5 billion where of corporate income taxes SEK 3.1 billion. Vattenfall's effective tax rate in 2023 was 35.9 per cent, expressed as a per centage of consolidated profit before tax. This corresponds to SEK 5.8 billion.

Activities in 2023

Vattenfall has confirmed, and the Board of Directors have approved, the Tax Policy in December 2023. We do not conduct any aggressive tax planning activities nor have any business activities in countries listed as tax havens. Vattenfall supports the trend towards more tax-transparency and thus participates in various relevant projects and networks, such as:

- The Fair Tax Mark, an independent verification that demonstrates our commitment to responsible tax conduct
- The CSR Europe initiative for Responsible Tax including a development of a collaborative platform with tool and index to assess how companies perform in terms of tax transparency and responsible tax behaviour
- Within Tax Executive Council, Vattenfall has participated in the further development of the "Good tax governance in practise" document.

Challenges and planned activities

- Apply for re-accreditation of the Fair Tax Mark
- Launch of the CSR Europe initiative for Responsible Tax including a development of a collaborative platform with tool and index
- Update and approve Vattenfall's Tax Policy to ensure Vattenfall remains at the forefront of responsible tax conduct.

Governance

The Group and Country Tax functions ensure that the Group's business activities are conducted proactively and in accordance with laws and regulations, i.e., in a responsible manner. The Group Tax function reports to the Board of Directors and Audit Committee regarding tax policy matters and provides updates on tax regulations. The Audit Committee receives quarterly updates on the tax position of the Group. Vattenfall's tax policy is approved by the Board of Directors on a yearly basis.

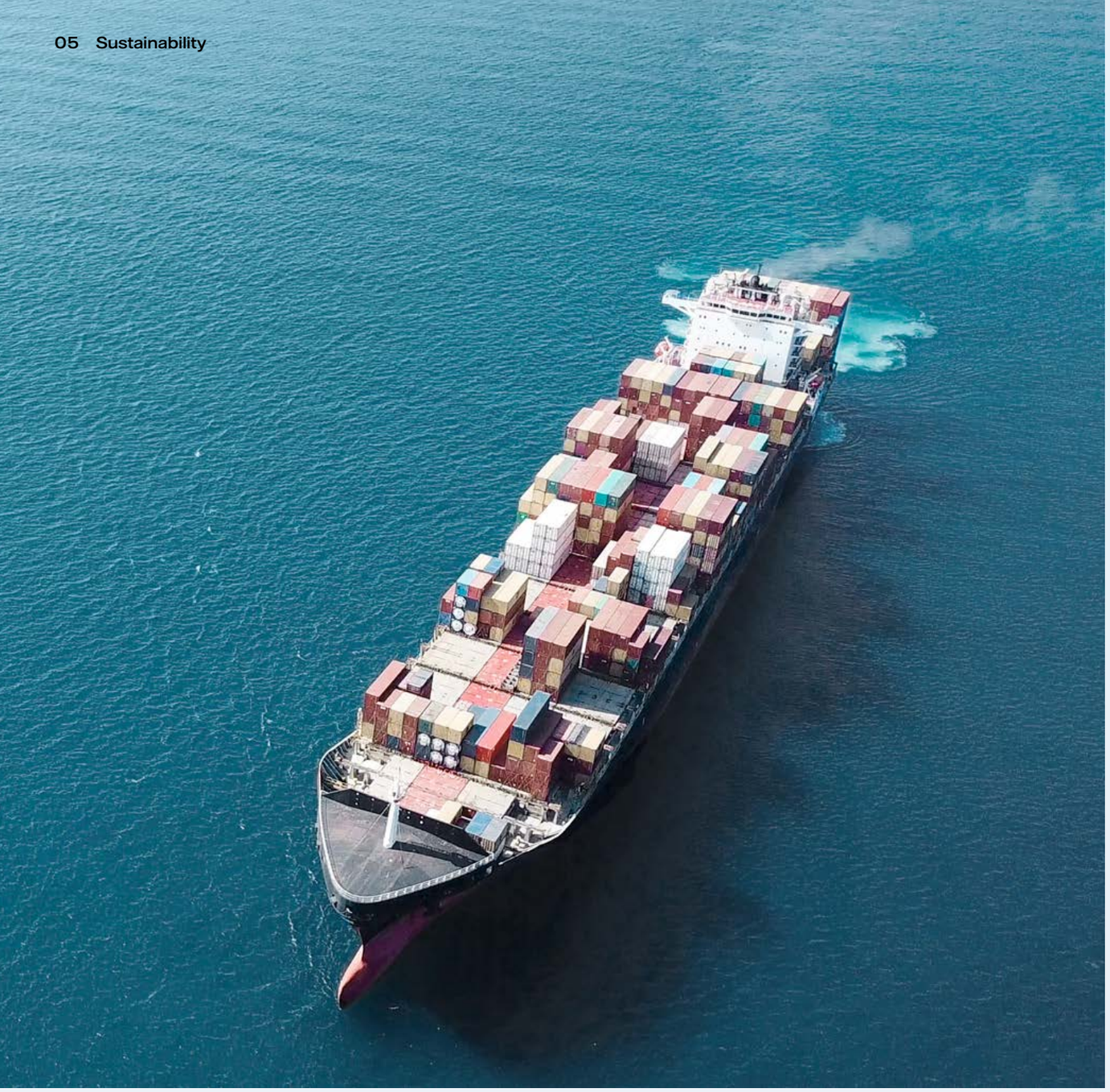
Frameworks, partnerships and standards

- European Union's public Country-by-Country Reporting (CBCR) Directive
- the Fair Tax Mark accreditation
- Dutch Tax Covenant model and framework

Read more

Tax policy – Vattenfall

→ See Note 13 to the consolidated accounts, Income taxes, for more financial tax related information.



A multi-stakeholder approach to sustainable supply chains

Addressing risks in renewable energy supply chains

The International Responsible Business Conduct (RBC) Agreement for the Renewable Energy Sector brings together businesses, civil society organisations, trade unions, knowledge institutions, and the Dutch government with the aim of promoting responsible business conduct.

It is Vattenfall's purpose to enable the fossil freedom that drives society forward, and this includes a responsibility to identify, prevent, mitigate and remedy potential and actual adverse impact on people, the environment, and biodiversity in our supply chains.

Wind turbines and solar panels are reliant on minerals whose extraction is associated with adverse impacts on local communities, deforestation, and the loss of natural habitats. They are also associated with risks such as forced labour and unsafe working conditions.

To demonstrate our commitment to address these risks, Vattenfall in March 2023 signed the five-year International RBC Agreement for the Renewable Energy Sector – a Dutch multi-stakeholder initiative applying RBC standards such as the UN Guiding Principles on Business and Human Rights and the OECD Due Diligence Guidance for Responsible Business.

Vattenfall is playing a key role
The International RBC agreements are voluntary, and the sectors initiate dialogues with civil society, trade unions, and the Dutch government, to generate broad support. For the energy transition to be just for both workers and local communities, changes need to happen "everywhere, all at once" – and no company can tackle these challenges alone. That is why Vattenfall played a key role in the development of the International RBC Agreement for the Renewable Energy Sector.

"Vattenfall took part in the very first meeting and kept pushing to get the initiative agreed upon by relevant parties," says Arjan Pouw, Senior Sustainability Advisor and Vattenfall's representative in the steering committee. "We did this, because we believe collaboration is key to addressing our most salient risks (see page 66), and because of the added value of a multi-stakeholder approach."

The agreement brings together a wealth of knowledge and perspectives with its 30 renewable energy companies, three banks, investors or pension funds, four industry organisations, three civil society organisations, two trade unions, and one knowledge institution – in addition to the Dutch government.,

"The decision to sign the International RBC Agreement in the Netherlands goes well with Vattenfall's policies and ongoing work in the field of human rights," says Helene Biström, Head of Business Area Wind. "Ambitious plans to increase renewable energy sources in Europe must go hand-in-hand with responsible procurement throughout the supply chain."

Principle of continuous improvement
All companies in the agreement will be assessed yearly by the agreement's secretariat on their implementation of the six due diligence steps in the OECD Due Diligence Guidance. To enable this assessment,

> "Ambitious plans to increase renewable energy sources in Europe must go hand-in-hand with responsible procurement throughout the supply chain."
> Helene Biström, Head of Business Area Wind

including a traffic-light score, the parties have developed an assessment framework.

The first assessments, which will be conducted in March 2024, will serve as the baseline for measuring progress. Within two months of these assessments, the companies will share their due diligence action plans with concrete enhancement targets. Underlying it all is the principle of continuous improvement, which is fundamental to due diligence.

Vattenfall and the other companies will, moreover, be supported in their due diligence by the civil society organisations, trade unions, and knowledge institution in the agreement. These parties will provide country specific information, engage on the most salient risks, as well as on the integration of marginalised groups – such as women, children, migrant workers, indigenous peoples, and human rights defenders – in due diligence. And in an era where mandatory human rights due diligence laws are being announced and adopted at a rapid pace, the role of multi-stakeholder initiatives such as the International RBC Agreement in developing standards through an inclusive and engaged approach, is critical in defining the principles against which companies will be assessed.

Business critical human rights and environmental due diligence
Many companies have joined the agreement since the kick-off, spurred in part by the key factor that makes this initiative so much stronger than many others. To ensure that companies participating in renewable energy tenders conduct human rights and environmental due diligence, the Dutch government has tied its tender criteria to the International RBC Agreement.

Participation in the agreement is not a requirement as such, since the companies may meet the criteria by showing that they are participants in an equivalent initiative or by demonstrating that they are conducting the equivalent due diligence, but the tenders provide a strong incentive to join. And being able to show that you are conducting due diligence is business critical.

> "... in an era where mandatory human rights due diligence laws are being announced and adopted at a rapid pace, the role of multi-stakeholder initiatives such as the International RBC Agreement in developing standards through an inclusive and engaged approach, is critical... "

Engaging with voices on the ground
The parties to the agreement also aim to address adverse impacts in renewable energy supply chains by developing and implementing so called collective projects. These projects are founded in the parties' commitment to engage with voices on the ground – including workers, local communities, indigenous peoples, environmental interest groups, human rights and environmental defenders, civil society organisations, community-based organisations, and customers.

Several collective projects in mining contexts in both Asia and Latin America are under discussion, and the parties are also looking into how to engage with rights-holders and drive impact in relation to the risks of Uyghur forced labour in renewable energy supply chains. In addition to this, the parties are working on increasing the traceability of primarily their steel and copper supply chains.

> "[Collective] projects are founded in the parties' commitment to engage with voices on the ground."

Enhanced transparency
The parties to the agreement are furthermore working towards enhanced transparency of the renewable energy sector as such.

Helene Biström concludes: "At Vattenfall, we look forward to bringing this transparency into action and to improving the due diligence of the sector together with our partners in the agreement. It is by working together that we increase our leverage and create positive impact."

RISK MANAGEMENT

We apply conscious and balanced risk-taking and review business transactions both from profitability and risk perspectives. Our risks are managed based on a sound risk culture throughout the entire company, with the aim of supporting our short-term objectives and achieving our long-term strategic goals. In accordance with the Swedish Corporate Governance Code and the Risk Policy, adopted by the Board of Directors, Vattenfall's risk management framework ensures thorough identification and management of risks and acceptable risk exposure.

Enterprise Risk Management

The purpose of Enterprise Risk Management (ERM) is to manage risks to which Vattenfall is exposed in order to support value creation, ensure risk awareness, and balance risk against reward. ERM at Vattenfall involves analysing and monitoring all types of risks. It is based on the risk management standards of the Committee of Sponsoring, Organisations of the Treadway Commission (COSO) and the "three lines" model. Learn more on page 102.

ERM process

Strategy & Objective Setting
What are we trying to achieve?

Event Identification
What might affect the achievement of Vattenfall's strategy and objectives?

Risk Assessment
Which of these events are the most important?

Risk Tolerance Setting
What level of risk is acceptable?

Risk Response
What should we do about it?

Control Activities
Did it work?

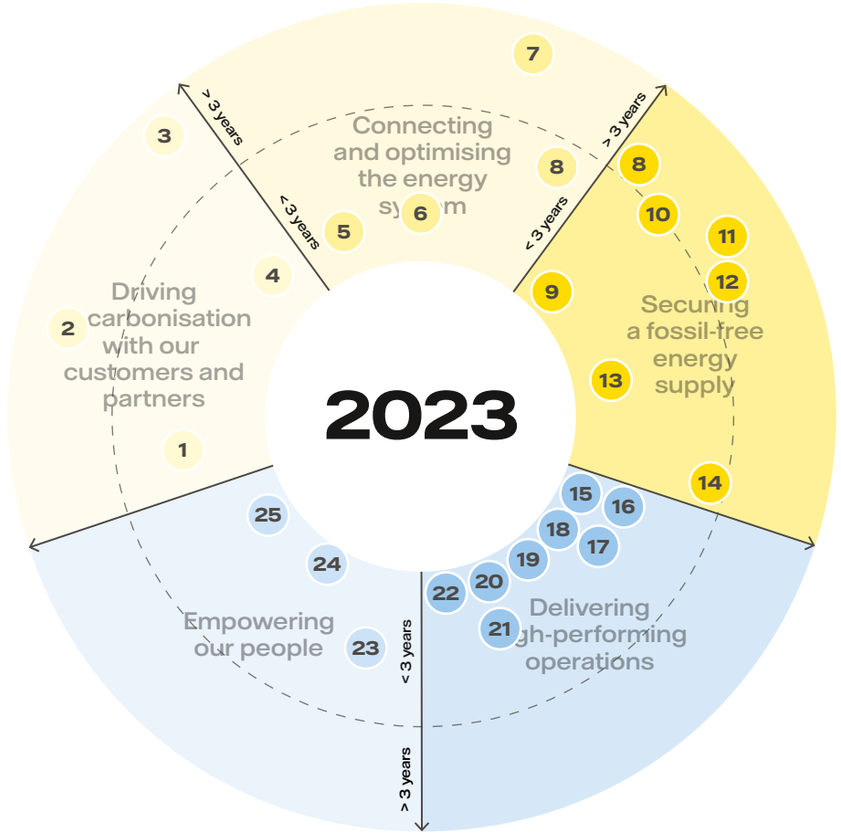
Reporting & Communication
What is the status?
Who needs to know about it?

The objectives for each business unit are based on Vattenfall's strategy and are established during the business planning process. When setting these objectives, risks that might hinder their achievement are identified. In our risk management process, risks are quantified and analysed with respect to both financial and non-financial consequences. These risks are then assessed against our risk tolerance, and decisions are made regarding suitable risk measures. Furthermore, each business unit's most important risks and risk management measures are followed up as part of the financial monitoring. After aggregating the risks, a composite overview of our risk situation is produced. The potential financial impacts are linked to financial key data that are used for the steering of the company. Information is provided on a regular basis to the Executive Group Management and the Board of Directors.

Our approach to sustainability risks
Environmental, social and governance (ESG) risks have always been part of enterprise risk management (ERM) at Vattenfall. While they were handled within our usual ERM approach, they have not been highlighted separately so far. The ESG risks belong to the category of sustainability risks and Vattenfall is currently verifying further enhancement possibilities for the reporting of sustainability risk, also to be compliant with the upcoming requirements regarding the Corporate Sustainability Reporting Directive (CSRD) (also see page 52). Furthermore, this investigation also offers further improvement possibilities related to the management of sustainability-related risks and opportunities in our strategy and governance processes

Overview of strategic and operational risks

The graph outlines key risks split by strategic focus area and the time horizon for when each risk might start to have an impact on Vattenfall.

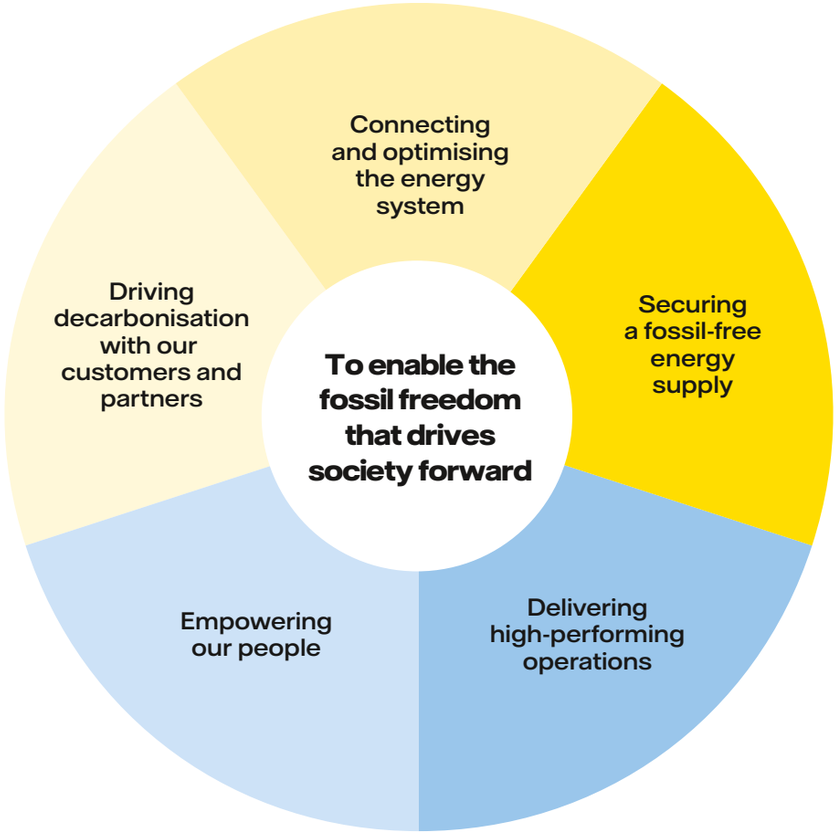


[1] Arrows indicate how the probability and/or impact for Vattenfall developed during the year.

Risks related to		Trend[1]
Driving decarbonisation with our customers and partners		
1	Loss of market share and customers	→
2	Insufficient regulatory framework to stimulate our (industrial) customers to decarbonise fast enough	↗
3	Risk that technologies to decarbonise with hydrogen or electricity do not reach competitiveness	→
4	Customers not being able to pay their invoices/going bankrupt	↗
Connecting and optimising the energy system		
5	Inability to ensure satisfactory security of supply due to grid capacity constraints, extreme weather conditions or delays in permitting processes for building new grids	↗
6	Risk of continued regulatory instability (distribution revenue frames in Sweden)	→
7	Risk of inability to adapt appropriately to new technologies, incl. process automatisation to adapt to the increasing share of intermittent electricity generation and flexible demand	→
Securing a fossil-free energy supply		
8	Political risks such as changes in energy market design	↗
9	Risk of reduction of electricity consumption due to macroeconomic downturn	↗
10	Investments in renewables without subsidies add long-term market risk	→
11	Risk of not being able to expand the fossil-free generation due to slow permit processes	→
12	Risk of not being able to expand the fossil-free asset portfolio because of high competition for new projects from a wide range of investors from other sectors	↗
13	Economic feasibility of projects being under pressure because of surging prices for input material and procurement risk	↗
14	Risk of not reaching growth targets (e.g. in solar business) due to sustainability risks in the supply chain, e.g. suppliers failing in sustainability screening	→
Delivering high-performing operations		
15	Operational asset risks (power availability, dam failure, hazardous emissions, physical climate change risks)	→
16	Political risks, including sustainability and climate-related regulations	↗
17	Project execution risk because of high number of large projects	→
18	Security risks including cyber risks, as well as physical security risks	↗
19	Risk of data and privacy breaches	→
20	Risk of fraud and unethical conduct could also harm brand or lead to loss of our licence to operate	→
21	Ethical and security risks from adoption of generative artificial intelligence	↗
22	Gas shortage risk for combined heat and power production	↘
Empowering our people		
23	Inability to secure the competence needed	↗
24	Work environment risks (accidents, incidents, mental health)	→
25	Pandemic risk	↘

Strategic and operational risks

The Vattenfall strategy wheel illustrates our integrated business model and what is needed to succeed with our strategy. Learn more on page 16.

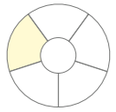


With the current geopolitical environment and the economic development and outlook in Europe, the energy market situation is challenging. This is amplified by high inflation levels and strained supply chains, especially affecting the offshore wind sector. During 2023, energy prices came down compared to 2022, but market volatility continues to be at relatively high levels. Our risk/return profile is changing with the ongoing growth in intermittent renewable generation and continuous changes in the energy market structure (e.g. decentralisation, electrification, and sector coupling), as well as with changes in energy policies in general. Furthermore, competition for new projects increased with a wider range of potential investors entering the market from outside of the traditional utilities sector.

It is widely known that much more investments in fossil-free power generation, distribution, storage as well as energy management systems are essential for the European energy transition. Thus, these developments present not only risks but also opportunities, which influence both our operational and strategic activities. In this chapter we focus on the risk dimension. Long-term market price risk remains one of our largest risks (our risk management regarding short- and mid-term market price risks is described on page 92). The relative importance of market price risks is increasing for Vattenfall because of the significant changes in subsidy schemes – especially evident within offshore wind. To mitigate this risk, we are seeking to strike an optimal long-term balance between the various portfolio components. We believe that our integrated business model offers a diversified risk profile, as value can shift from a business unit in one part of the value chain to another over time. In addition, the combination of power generation and customer sales offers a natural hedge. Furthermore, some of our revenues come from stable, regulated activities, such as electricity distribution, which improves the overall risk picture even further.

Vattenfall has installed a robust governance to create transparency on potential risk situations at an early stage and taking suitable measures to deal with them. There is therefore no recognisable threat to the company's existence in 2024.

In the below sections, we have highlighted key risks and related actions per strategic focus area. The main risks are presented as well as how they are managed. Arrows indicate how the risk for Vattenfall developed during the year. Many of the risks are directly interrelated with corresponding opportunities. For example, a failure to decarbonise our asset portfolio at the pace required by our stakeholders is a risk that might result in loss of customers. But a successful asset transformation, on the other hand, could be a competitive advantage as it will strengthen our reputation as a decarbonisation partner.



Risks related to driving decarbonisation with our customers and partners

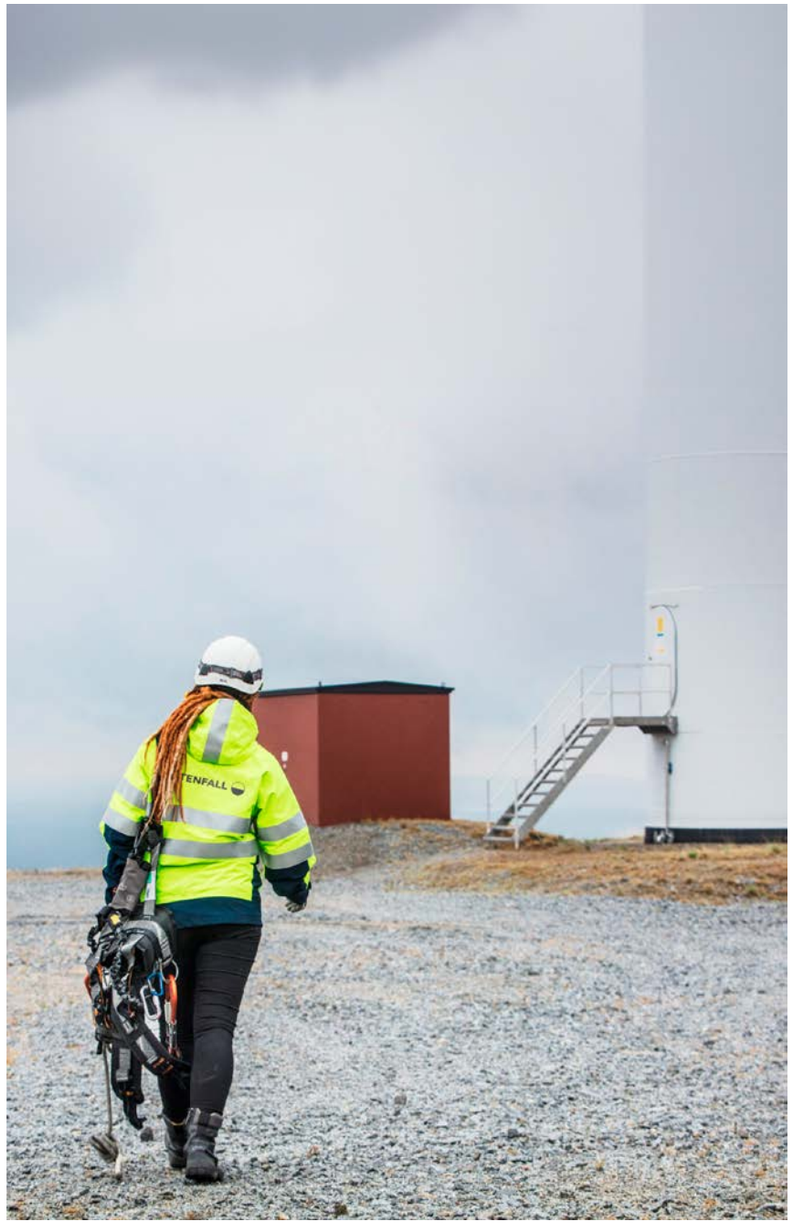
We promote electrification and climate-smart energy solutions in areas where we have a competitive advantage. We do this together with our customers and partners.

Risks

- → Loss of market share and customers because of inability to meet expectations of customers and partners (for example inability to develop and provide sufficient solutions to support decarbonisation efforts)
- ↗ Risk of insufficient regulatory framework to stimulate our (industrial) customers to decarbonise fast enough
- → Risk that technologies to decarbonise with hydrogen or electricity do not reach competitiveness
- ↗ Risk of customers unable to pay their invoices or even going bankrupt because of significantly higher prices in the energy market.

Risk management activities in 2023

- Reducing our cost-to-serve and maintain economies of scale through digitalisation and by growing our customer sales business
- Supply large customers with renewable energy and support them in achieving their sustainability goals. For example, Hollandse Kust Zuid wind farm has been inaugurated in 2023, part of the wind farm has been sold in 2022 to BASF and Allianz. Vattenfall is also offering corporate Power Purchase Agreements (PPAs) (see page 41)
- Partnering with industries to electrify and decarbonise industrial processes, for example HYBRIT, production of sustainable biofuel in collaboration with Preem and sustainable aviation fuel together with Shell, LanzaTech, and SAS (see pages 11 and 31)
- Contribute to the phase out of fossil fuels in the entire transport sector by using our fossil-free electricity and developing charging infrastructure. For example, the wind energy agreement with Volvo that will buy half of the electricity produced at Bruzaholm wind farm over a 10-year period starting in 2025 (see page 22)
- Developing energy solutions, such as charging solutions (see page 36)
- Expansion in e-mobility charging solutions in Germany and the Netherlands (see page 37). For example, Vattenfall ensures efficient operation and regular maintenance for the Lufthansa in Germany. Furthermore, an agreement was signed to establish publicly accessible charging infrastructure of Berlinovo's (major real-estate company in Berlin) properties
- Piloting alternative heating solutions, such as high-temperature heat pumps. For example, a new heat pump was launched in the Netherlands in November 2022 (see page 38)
- Acquisition of two German installation companies to secure sales of complete offerings for heat pumps and photovoltaic systems
- Development of a software to support holistic CO_2 management for business customers to enable them to measure and report CO_2 emissions and to identify CO_2 reduction measures
- Utilisation of AI in Gustavsberg, Sweden, to improve the energy efficiency of buildings
- Expanded customer base and network for district heating. Furthermore, a heat network in Bristol was acquired that will be expanded, also new networks will be developed there
- See also the section Credit Risk below (see page 94).



Risks related to connecting and optimising the energy system

We are focusing on maximising the value of flexibility and promoting a stable and cost-efficient grid infrastructure.

Risks

- ↗ Inability to ensure satisfactory security of supply because of grid capacity constraints, extreme weather conditions, or delays in permitting processes for building new grids
- → Risk of continued regulatory instability regarding the revenue frames for electricity distribution in Sweden (see pages 29 and 44)
- → Risk of inability to adapt appropriately to new technologies, including process automatisation to adapt to the increasing share of intermittent electricity generation and flexible demand.

Risk management activities in 2023

- Development of smart solutions that can reduce the frequency and duration of outages and enable customers to monitor and control their energy consumption
- Implementation of load steering and new tariffs that support flexibility
- Complementary solutions such as Power-as-a-Service help bridging the gap until new infrastructure is in place (see page 44)
- In Amsterdam, we have a large project, Flexpower, where we are among the first in Europe that provide a service where the charging power varies depending on the grid situation and – in the future – current price levels
- Influencing work related to changing regulation to speed up permitting processes (see pages 29 and 44)
- Further development and implementation of algorithms for physical planning, optimisation, and dispatch areas to support management of flexibility (see page 44).

Risks related to securing a fossil-free energy supply

Our focus is on growing in new fossil-free energy generation, maximising the value of our existing assets and implementing our CO_2 roadmap.

Risks

- ↗ Political risks such as changes in energy market design due to challenges in the energy market caused by networks stressed by increasing intermittent generation and potentially increasing costs of electricity
- ↗ Risk of reduction of electricity consumption due to macroeconomic downturn
- → Investments in renewables without subsidies add long-term market risk
- → Risk of not being able to expand the fossil-free generation as planned because of slow permit processes and difficulty in securing permits due to biodiversity impacts
- ↗ Risk of not being able to expand our fossil-free asset portfolio as planned because of high competition for new projects from a wide range of investors from other sectors
- ↗ Economic feasibility of projects under pressure because of surging prices for input material and procurement risk, incl. risk of increasing competition for critical and low carbon materials for construction of fossil-free assets
- → Risk of not reaching growth targets (e.g. in the solar business) due to sustainability risks in the supply chain, such as suppliers failing in sustainability screening.

Risk management activities in 2023

- CO_2 emissions from our suppliers to be cut by half from 2020 to 2030 in the capital goods category (see page 56) and sustainability criteria to be used for tenders (see page 69)
- CPPAs and LTAs to reduce medium and long term market risk (see page 92) as well as strong focus on high-performing operations (see section below)
- Vattenfall exercised its right to develop the Nordlicht II offshore wind power project off the German North Sea coast (see page 42)
- Investment in technologies such as solar power and battery storage as well as new business models e.g. agrivoltaics
- Investigating possibilities of deploying Small Modular Reactor technology (see page 26)
- Influencing work addressing the need for shorter permitting processes (see page 29)
- Further decarbonisation of Heat Berlin by a high-temperature heat pump at Potsdamer Platz and Germany's largest heat storage at Reuter West
- Continued improvements of sustainability performance, including human rights action plan, environmental action plan, and sustainable supply chain roadmap (see pages 59, 66, and 71)
- To ensure diversification of the supply chain and availability of resources, we cooperate with suppliers and peers e.g. through First Movers' Coalition (see page 10).

Risks related to delivering high-performing operations

We are focusing on being both competitive and cost effective, and leveraging opportunities in digitalisation. We are also taking social and environmental responsibility throughout our value chain.

Risks

- → Operational asset risks – such as power availability, dam failure or environmentally hazardous emissions – might have material negative financial and non-financial consequences. This also includes risks attributable to climate change / physical risks (see pages 90–91)
- ↗ Political risks, including sustainability and climate-related regulations (e.g. CSRD and LkSG)
- → Project execution risk because of high number of large projects
- ↗ Security risks including cyber risks, (e.g. phishing and espionage), as well as physical security risks
- → Risk of data and privacy breaches
- → Risk of fraud and unethical conduct which could disrupt operations and have negative impact on people and environment. It could also harm our brand, damage trust or lead to the loss of our licence to operate
- ↗ Ethical and security risks stemming from adoption of generative artificial intelligence (GenAI)
- ↘ Gas shortage risk for combined heat and power production.

Risk management activities in 2023

- Monitoring of regulatory changes and market development trends as well as analysis of short- and long-term impact
- Monitoring and analysis of stakeholder expectations and proactive engagement and activities
- Management of operational asset risks involves a systematic inspection programme, continuous control of plant conditions and effective maintenance. New methods for monitoring and predictive maintenance are being deployed, which further improves our resilience to disruptions
- Applying and improving Business Continuity Management processes
- New cyber security awareness training mandatory to all employees. We constantly monitor cyber attacks, and work to counter attacks and implement safeguards.
- Keeping Levelised Energy Cost (LEC) competitive is a key focus
- Groupwide projects for the implementation of risk management and other processes for new and upcoming sustainability regulations
- Internal instructions have been formulated and roles and responsibilities defined in Vattenfall's Environmental Management System and the Code of Conduct for Suppliers and partners
- Work to increase awareness and ensure compliance with the Code of Conduct and Integrity, for example through training (see page 68)
- We have formulated internal instructions and defined roles and responsibilities to effectively manage security risks and to ensure compliance with the various internal and external security regulations
- Defined standards to ensure ethical and secure use through the roll-out of an Acceptable. Use of GenAI Systems Policy across Vattenfall, centrally steered piloting-initiatives, and dedicated training of users.

Risks related to empowering our people

We are focusing on securing necessary competence while improving the employee journey and providing a safe work environment.

Risks

- ↗ Inability to secure or retain the competencies needed to succeed in transforming and building our business
- → Work environment risks relating to accidents and incidents as well as risks regarding the mental health of employees
- ↘ Pandemic risk.

Risk management activities in 2023

- Attract new talent and competencies, retain people with critical capabilities and develop the skills of our employees (see pages 24 and 75)
- Diversity & Inclusion activities (see page 73)
- Annual employee survey conducted to monitor key aspects from the employees' perspective and contribute to guide the development of Vattenfall as a workplace (see page 73)
- Offer a more flexible work situation and adapt to changing work habits as well as our employees' needs (such as remote working and smarter-working concepts)
- Monitoring and controlling Health and Safety risks are covered in the various risk management systems of the respective units. We perform thorough analyses of past accidents and work to prevent future issues (see pages 78–79)
- Group-wide mental health programme with seminars to increase awareness
- Digital events for employees, covering many areas of Vattenfall's operations, climate ambitions, and business opportunities.

Climate-related risk management

With accelerating climate change, understanding and mitigating climate risks are increasingly important – and climate aspects need to be factored in already in the systems design to ensure security of supply.

Climate change affects our operations and activities
The changing climate affects Vattenfall both through physical changes to the environment we operate in and through the social changes associated with the fossil-free transition. We are committed to our goal of working for fossil-freedom while maintaining a strong focus on adapting to change. This enables us to ensure that we have a resilient business and that we can act on future opportunities. Vattenfall has assessed how the shift to a fossil-free world will impact our operations and assets and aligned our strategy to support a science-based target that limits global warming to no more than 1.5°C. We support the disclosure of climate-related risks and opportunities in accordance with recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), see page 173.

Climate scenarios to understand and manage risks and opportunities
Vattenfall has a clear focus on understanding risks and opportunities relating to our projects, assets, and working methods. Climate-related risks are risks that are linked to the impacts of climate change on an organisation, which can be categorised into two groups:

Transition climate risks: Risks related to the transition to a low-carbon economy; examples of risk drivers are changes in policy, regulation, technology, and customer preferences.

Physical climate risks: Risks related to the physical impacts of climate change. Physical climate risks can be chronic – slow, longer-term shifts in climate patterns, such as changes in mean temperature, annual precipitation, or mean sea level, or sudden onsets of risk events, such as storms, floods, and wildfires.

Climate risks are explicitly included in our Enterprise Risk Management process as well as taken into consideration in investment decisions for all large long-term projects and commitments.

Climate scenarios are potential representations of the Earth's future climate and developed based on its current observed state and on predictions of how greenhouse gases concentrations in the atmosphere will change as a result of future human activities. Vattenfall has assessed physical climate risks considering climate scenarios – the so-called Representative Concentration Pathways (RCP) – developed by the Intergovernmental Panel on Climate Change (IPCC). They portray potential future emissions scenarios and the resulting solar radiative forcing by 2100. The RCP 4.5 and RCP 8.5 scenarios were chosen as they represent two different possible future outcomes, which provide a relevant range for which different risks can be assessed. See the table to the right for differences between the scenarios.

During 2020–2021, an analysis was commissioned of how key climate parameters such as temperatures, wind speed, and precipitation are projected to change according to different climate scenarios. These findings further strengthen our work on climate scenario analyses for our activities and markets. The projections were developed by the Swedish Meteorological and Hydrological institute (SMHI).

The analysis spans the time period 2041–2070, compared to the reference period 1971–2000 and is focused on Northern Europe. The variation in outcomes is wide and variable across the different markets, but generally the change is greater in the Nordic region, and in inland regions compared to coastal regions where the sea acts as a buffer.

	RCP 4.5 Scenario (+2°C)	RCP 8.5 Scenario (+4°C)
Description	Intermediate climate scenario based on limited emissions and with international climate policies, where the global temperature increase stabilises at just below 2.0° C by 2100. Emissions peak around 2040 and then decline.	High-end scenario, where emissions continue to accelerate, and the temperature increase stabilises at just below 4°C by 2100. Climate change projections based on RCP 8.5 are typically more severe than under RCP 4.5 and can be used as a worst-case scenario.
Assumptions	• Population slightly below 9 billion by 2100 • Low agricultural land use due to increased yields and lower meat production • Extensive focus on reforestation • Low energy intensity and powerful climate policies.	• Population increase to 12 billion by 2100 • High methane emission and high agricultural land use due to land needs for grazing and crops • High dependence on fossil fuels • High energy intensity, limited climate policies.
Outcomes[1]	The average temperature and precipitation are projected to increase, especially in the Nordic and in winter. For Sweden and Finland, the average winter temperature could increase by 2–5°C and the maximum daily rainfall by up to +20%. The snow season will be shorter, and the spring flood more distributed.	The average temperature and precipitation are projected to increase and effects are more pronounced for the RCP 8.5 scenario. For Sweden and Finland, the average winter temperature could increase by approximately 3–7°C, and the maximum daily rainfall by up to +24%. Impacts on the snow cover and spring flood are larger than for RCP 4.5.

[1] Refers to outcomes in Northern Europe.

Climate-related risks and opportunities

In 2022, a detailed analysis of climate risks was conducted to identify and assess material risks and measures, covering all Vattenfall's business areas and both physical and transition risks. During 2023, focus has been on updating and improving risk assessments through scenario analysis, and to improve disclosures in alignment with requirements in the EU Taxonomy on assessing and reporting climate risks.

Physical risks – examples	Drivers: Temperature • Precipitation • Extreme weather • Wind • Fires	
Description	**Potential consequences**	**Mitigation measures**
Extreme rainfall resulting in high river flows	Increased need for spilling water in hydro power plants, risk of debris and landslides along rivers	Adjusted regulation of flow, investments to increase dam and spillway capacity
Infrastructure damage from extreme weather events	Wind-felling of trees from reduced ground frost, increased wildfire risk due to droughts	Continuous work to strengthen the electricity grid and infrastructure, increased preparedness
Warmer temperatures affecting heating and cooling demand	Reduced heating demand in winter, increased cooling demand in summer	Financial projections are managed as part of the long-term market outlook and business planning
Snow and ice formation problems affecting infrastructure	Increased snow/ice formation in the northern Nordic region, reduced problems in the south	Continuous work to strengthen the electricity grid and infrastructure, increased preparedness
Supply chain disruptions attributable to climate change.	Increasing risk of supply chain disruptions from e.g. water scarcity, storms, and flooding.	Diversification of the supply chain; risk mapping; and supplier dialogues on vulnerabilities

Transition risks – examples	Drivers: Legal • Market • Technology • Reputation • Policy	
Description	**Potential consequences**	**Mitigation measures**
Loss of revenue when transitioning from fossil to renewable asset portfolio	Reduced profit	Strategic road map for energy transition, including new opportunities
Inability to meet customer expectations	Loss of market share and/or customers	Focus on delivering on strategy; providing sustainable energy solutions; customer dialogues
Stranded assets due to new demands and requirements	Financial consequences and brand damage	Strategic road map for energy transition with 1.5°C–science-based target approach
Policy/regulatory developments misalign with Vattenfall's strategy	Financial consequences and brand damage	Pro-active monitoring of policy and regulatory developments; stakeholder dialogues
Increased use of intermittent energy sources e.g. wind and solar.	Impacts on operational planning, increased need for balancing with other energy sources	Investments in storage/batteries, flexible assets and related commodities

Challenges

Climate change is already affecting Vattenfall's assets and operations, and its impacts are expected to increase. The overall conclusion of studies we have conducted to date, is that we are well equipped to adapt to a changing climate. For physical risks impacting energy infrastructure or critical functions, adaptation measures for managing risks are in place and work is continuously ongoing to mitigate risks and reduce vulnerability to external disruptions.

To a large extent this work is also driven by today's weather-related risks and the natural variability of physical parameters, such as wind, flooding, droughts, or wildfires. The changing climate means that, where relevant, the margins and efforts are adjusted to account for larger changes and variability. This involves both adapting hydro power dams to be able to manage larger future flows; ensuring cooling solutions for exposed infrastructure; and weather-proofing the grid. It also means a sharper focus on improving our understanding and resilience through better forecasts for production planning and by strengthening our preparedness for extreme weather events.

Planned activities and opportunities

There are also many opportunities linked to the transition to a fossil-free society, such as increased demand for renewable energy – which is the main growth area for Vattenfall – and opportunities for partnering with industry to reduce climate impacts of materials and processes. Vattenfall also has a large share of hydro power, which is a valuable asset for balancing the energy system (see page 40) and we are investing in new storage solutions such as batteries.

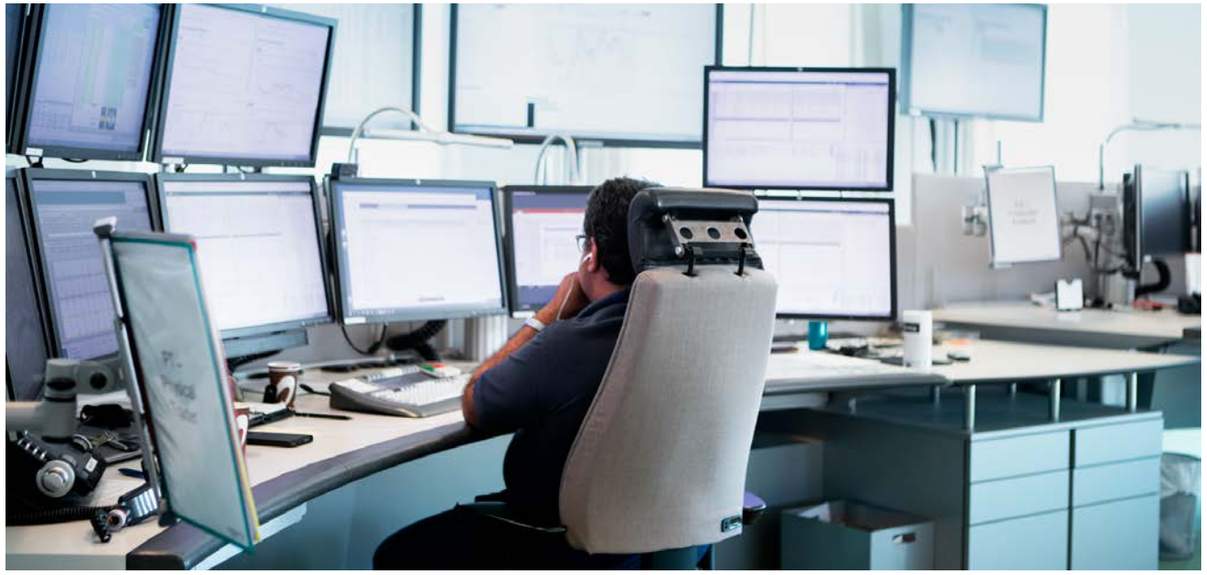
Vattenfall is monitoring climate change-related research closely and is actively participating in initiatives to further our understanding of consequences and adaptation needs. We believe that understanding and adapting corporate strategies to the changing business environment will be a prerequisite for remaining successful and resilient as a company. It will also provide a competitive edge to those who manage to capture the opportunities linked to the transition. Going forward, we are increasing focus on climate risk assessment and ensuring our disclosures are aligned with requirements according to the Corporate Sustainability Reporting Directive.

Pen y Cymoedd wind farm and battery park

Financial risks

Market risk - commodities including electricity

Market risk for electricity and commodities refers to the risk of adverse changes in electricity or commodity prices and is monitored daily. Market risk includes the risk of a change in volumes, especially in the Nordic market where hydro power production is highly dependent on precipitation.



Risk management activities
Through our asset ownership and sales activities, we are exposed to electricity, fuel and CO_2-emissions allowance prices, which in turn are affected by numerous factors, such as the global macroeconomic situation, local supply and demand as well as political decisions. We are active in the wholesale trading market and hedge our electricity position and fuel requirements through physical and financial forward contracts and long-term customer contracts. The latter pertain to longer time horizons where there is no liquidity in the futures market and stretch as far as 2035.

Most volumes are hedged for the beginning of the time horizon, with declining volumes towards the end.

The Vattenfall Risk Committee (VRC) decides how much of the generation should be hedged within the mandate issued by the Board of Directors. Sales volumes are to a large extent hedged back-to-back. To measure electricity price risk, we use methods such as Value at Risk (VaR) and Gross Margin at Risk along with various stress tests.

Portfolio structure
With the current portfolio structure, the dominant market risk exposure is coupled to Nordic nuclear and hydro power generation. We generate a substantial share of regulated revenue from electricity distribution and heat as well as (partially) subsidised wind power, which diversifies the risk exposure in our portfolio. However, Vattenfall has price exposure between electricity and used fuel/emissions allowances on the continent. This has a lower risk profile than the outright power exposure in the Nordic countries. Price risk for uranium is limited, as uranium accounts for a relatively small share of the total cost of nuclear power generation.

Nordic market
Vattenfall uses hedging instruments to steer the market price risk of the Nordic production portfolio, which mainly consists of outright power positions from nuclear, hydro, and wind generation. The table to the right shows the average indicative Nordic hedge prices and the estimated Nordic hedge ratio as per 29 December 2023. The hedge ratio does not represent the share of hedged production volume but describes the share of risk-reduction by hedging relative to an unhedged portfolio. The hedge ratio is estimated based on an internal risk management model that uses simulations to reflect – in a realistic, interlinked way – both future price risk and the volume risk associated with hydro power generation. The volume risk is managed through analyses and forecasts based on historical weather data, including factors such as precipitation and snowmelt.

Continental markets
Similar to the Nordic market, Vattenfall uses hedging instruments to manage the market price risk of the continental electricity production. This portfolio mainly consists of spread production (including power, gas, coal, and emissions positions), price-indexed district heating contracts as well as outright wind power production and pumped hydro storage.

Ancillary trading
In addition to the market risk mentioned above, the CEO has a risk mandate from the Board of Directors to allow some discretionary risk taking and trading. Most of our risk exposure in the ancillary trading portfolio is based on market valuation (mark-to-market). In cases where no market prices can be observed, modelled prices are used (mark-to-model). Mark-to-model positions arise mainly in asset and sales-related portfolios (see Note 36 to the Consolidated accounts, Financial instruments). Management of such valuation models is strictly regulated, and approval is required from the risk organisation before they may be used.

Average indicative Nordic hedge prices and hedge ratio as per 29 December 2023

	2024	2025	2026
Hedge prices, EUR/MWh	46	50	44
Hedge ratio, %	61	50	9

Liquidity risk

Liquidity risk is the risk of Vattenfall not being able to finance short-term payment commitments or its longer-term capital needs and arise if asset values at maturity do not match liabilities and other derivatives.

Risk management activities

Access to capital and flexible financing solutions is ensured through several types of debt issuance programmes and credit facilities.

Short-term financing

The Group target for short-term accessibility to capital is that funds corresponding to no less than 10 per cent of consolidated net sales, or the equivalent of 90 days stressed liquidity needs of the business (which-ever is higher) shall be available. As per 31 December 2023, available liquid assets and/or committed credit facilities stood at 28 per cent (2022:102 per cent) of consolidated net sales.

Long-term financing

The maturity profile of our debt portfolio is shown in the chart to the right.

Vattenfall is committed to maintaining financial stability, which is reflected in the long-term targets for our capital structure. On 6 July 2021, Moody's affirmed Vattenfall's long-term A3 and short-term P-2 ratings, and its Baa2 rating for hybrid bonds. At the same time, the rating outlook was revised from negative to stable. On 26 November 2021, Standard & Poor's affirmed Vattenfall's long-term BBB+ rating and short-term A-2 rating as well as its BB+ rating for hybrid bonds. The rating outlook was changed from postitive to stable on 15 December 2023.

During 2023, Vattenfall issued a GBP 250 million hybrid bond with the first reset date after 5.25 years as a replacement for the maturing USD 400 million hybrid bond issued in 2015.

Interplay between Market / Credit / Liquidity Risk

Prices for electricity, fuels, and emissions fluctuate and have always been variable over time. Due to the nature of our core business activities, we are naturally exposed to the resulting market risk. As described above, we hedge via wholesale term-market contracts and long-term customer contracts to reduce this market risk. These contracts in turn increase credit risk as there is a risk that these counterparties may not meet their obligations to us. One common method to manage credit risk is the use of collaterals (margin call agreements for wholesale markets). While these are useful tools for the mitigation of credit risk and required by exchanges, it increases liquidity risk. With changing prices the amount of collateral that needs to be provided between counterparties changes as well. In extreme market price movements this can lead to instant large cash outflows that need to be short term financed. On the other hand, changing prices can also lead to extreme cash inflows. These can put strain on counterparties and even drive them into an own liquidity shortage which subsequently translates back into a credit risk for Vattenfall. Reducing credit and liquidity risks by lower hedge activity, leads again to an increase in market price risk. Thus, all three risks (market, credit and liquidity risk) are interlinked and mutually dependent. The management of this triangle of market, credit and liquidity risk requires an especially well-balanced approach and clear steering principles.

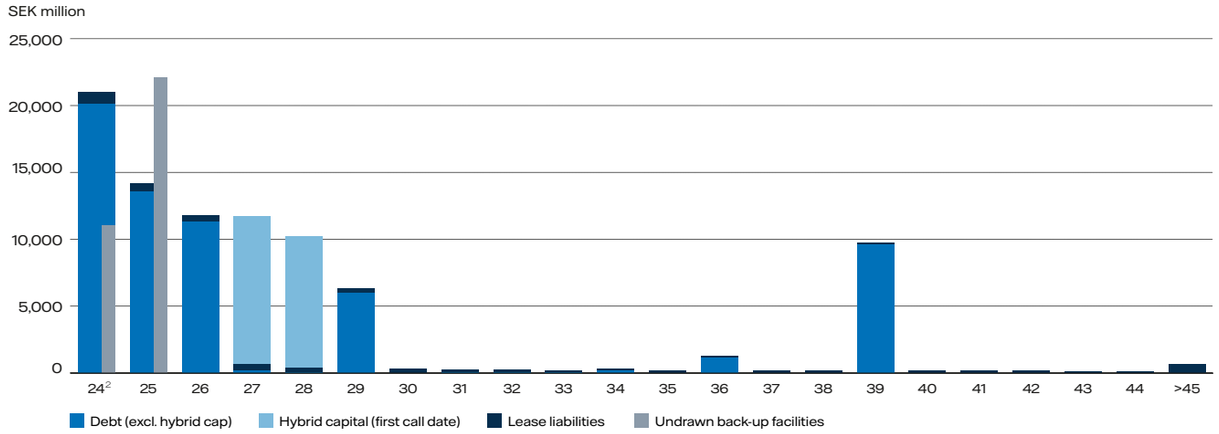
Borrowing programmes and committed credit facilities

		Maximum aggregated amount, in millions		Maturity		Used portion, %		Reported external liabilities, SEK million	
	Currency	2023	2022	2023	2022	2023	2022	2023	2022
Borrowing programmes									
Commercial paper	SEK	–	–	–	–	–	–	–	–
Euro Commercial paper	EUR	10,000	6,000	–	–	55	74	20,034	50,354
Euro Medium Term Note	EUR	10,000	10,000	–	–	19	56	61,941	62,269
Committed credit facilities									
Revolving Credit Facility[1]	EUR	2,000	2,000	2025	2025	–	–	–	–
Committed credit facilities	EUR	1,000	4,300	2024	2023				

[1] Back-up facility for short-term borrowing.

Committed credit facilities consist of a EUR 2.0 billion Revolving Credit Facility that expires on 5 November 2025 and of EUR 1.0 billion committed credit lines that expires on 8 December 2024. The maturity structure pertains to the debt portfolio excluding loans from minority owners and associated companies, which amounted to SEK 10,783 million for 2023 (10,597). Further information about the maturity structure of loans is provided in Note 29 to the Consolidated accounts, Interest-bearing liabilities and related financial derivatives.

Maturity profile for Vattenfall's loans as per 31 December 2023[1]



[1] Excluding loans from minority owners and associated companies.
[2] Excluding short term debt (SEK 20,283 million).

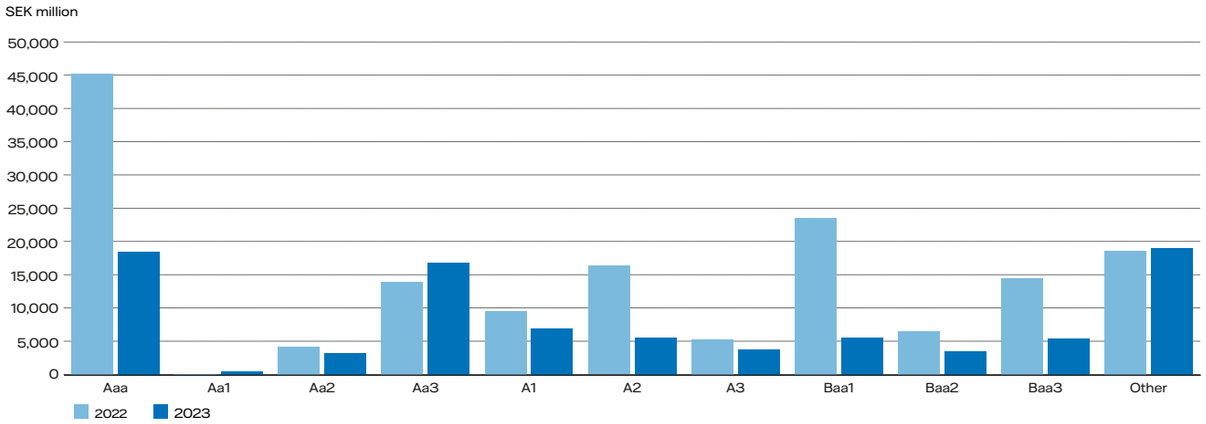
Credit risk

Credit risk is the risk that a counterparty cannot or will not meet its obligations to Vattenfall and the risk exists across all activities.

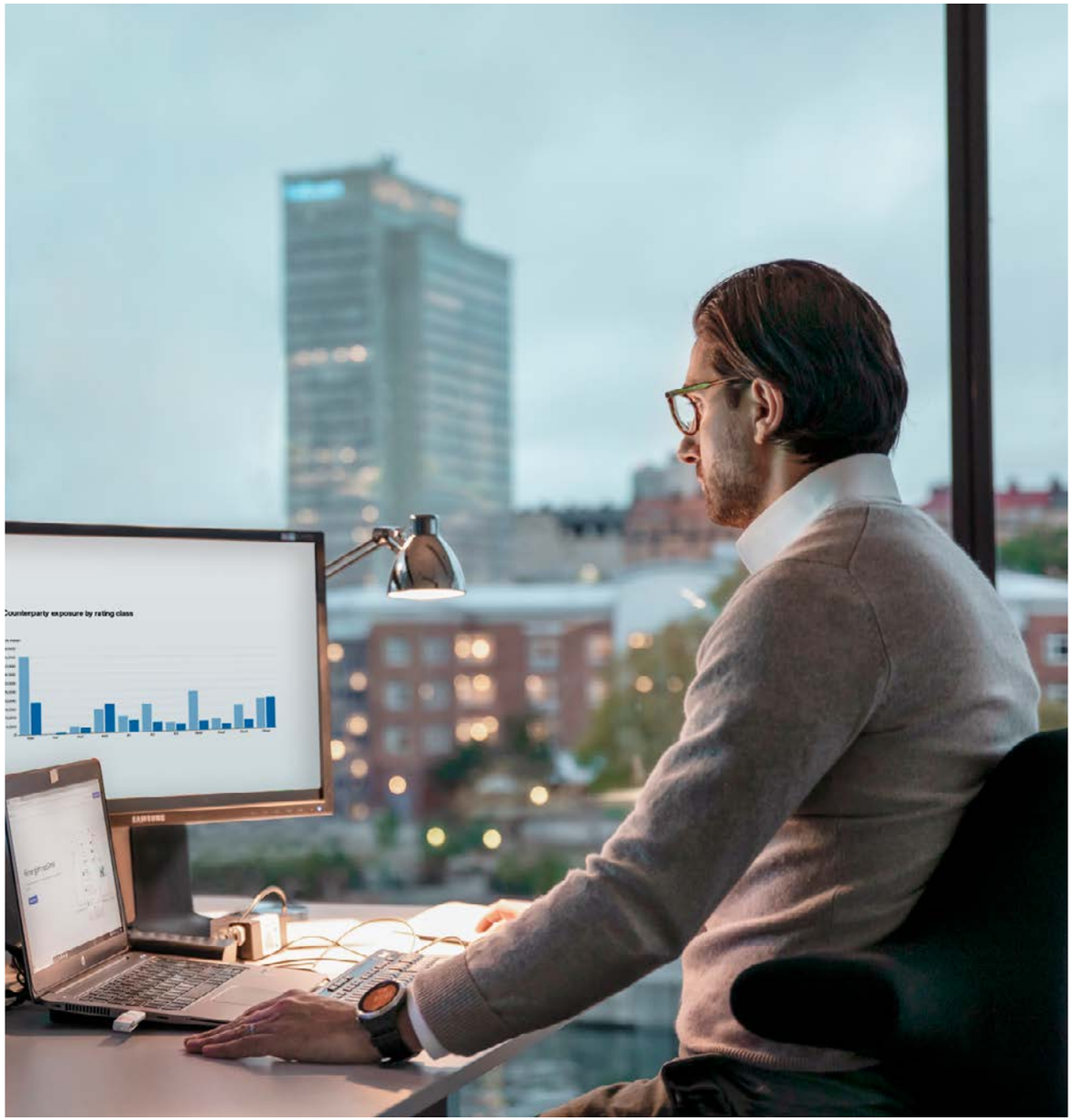
Risk management activities

We have a strict framework for governing and reporting credit risks to ensure that risks are monitored, measured, and minimised so that the total credit exposure is kept at an acceptable level. The company's credit risk management involves counterparty analysis, reporting of credit risk exposures, contract negotiations, and proposals for risk mitigation measures (such as requiring collateral). Credit risk exposures per rating class is shown in the chart below in SEK million.

Counterparty exposure by rating class



The chart shows exposures to Vattenfall's counterparties where the exposure is greater than SEK 50 million per counterparty, by rating classification according to Moody's rating scale. Counterparties are reviewed and approved in line with Vattenfall's credit mandates and policies. Smaller exposures are considered to have such a large diversification effect that the net risk for Vattenfall is judged to be low. Procurement and heat sales exposures are not included. Other financial assets (that are neither past-due nor impaired) are considered to have good creditworthiness.



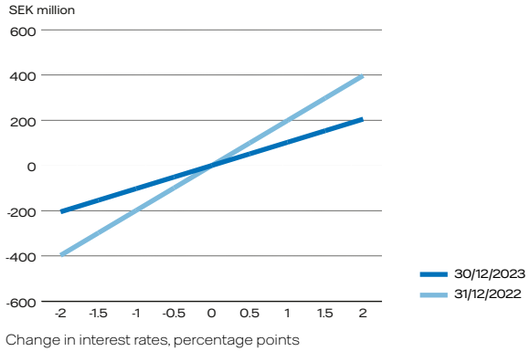
Interest rate risk

Interest rate risk refers to the risk of negative impact from changed interest rates on the consolidated income statement and cash flow.

Risk management activities

We quantify interest rate risk in our debt portfolio in terms of duration, which describes the average term of fixed interest. The target duration of 2-to-6 years is based on the company's current financing need and desired interest rate sensitivity in net interest income/expense. The duration of the Vattenfall's debt portfolio at year-end was 3.53 years (3.20) including hybrid capital. See the table for the remaining fixed rate term in our debt portfolio.

Interest rate sensitivity, excluding loans from minority owners and associated companies



The interest rate sensitivity analysis shows how changes in interest rates affect the Vattenfall Group's interest income and expenses (before tax) within a 12-month period given the Group's current structure of borrowing at fixed interest rates. With the same method and an assumption that interest rates would rise by 100 basis points, the impact on the Vattenfall Group's equity after tax would be SEK –81 million (–158), including derivatives and Hybrid Capital, but excluding loans from minority owners and associated companies. All figures in nominal amounts.

Remaining fixed rate term in debt portfolio

	Debt		Derivatives		Total	
SEK million	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
< 3 months	8,045	56,081	-276	9,187	7,769	65,267
3 months–1 year	33,113	23,126	-1,688	-5,178	31,426	17,948
1–5 years	46,218	57,043	1,278	3,002	47,497	60,045
> 5 years	22,125	27,352	709	-7,238	22,834	20,114
Total	**109,502**	**163,602**	**24**	**-227**	**109,525**	**163,375**

The portfolio includes loans and interest rate derivatives in order to steer the duration of borrowing. Negative amounts are explained by the use of derivatives, such as interest rate swaps and interest rate forwards. The sum of derivatives is not equal to zero due to currency effects. Figures are exclusive of loans from minority owners and associated companies, totalling SEK 10,783 million for 2023 (10,597). The average financing rate as per 31 December 2023 was 3.75% (3.52%). All figures in nominal amounts.

Currency risk

Currency risk refers to the risk of negative impact from changed exchange rates in the consolidated income statement and balance sheet.

Risk management activities

We have limited transaction exposure, since most generation, distribution and sales of electricity take place in the respective local markets. Sensitivity to currency movements is therefore relatively low. All transaction exposure that exceeds a nominal value equivalent to SEK 10 million is hedged immediately when it arises. The target for hedging translation exposure is to, over time, match the currency composition in the debt portfolio with the currency composition of the Group's funds from operations (FFO).

Vattenfall's largest exposure is in EUR, totalling SEK 66,566 million (97,209). Of this amount, 40 per cent (27 per cent) was hedged at year-end. For further information, see Note 38 to the consolidated accounts, Specifications of equity. A 5 per cent change in exchange rates, for example, would affect the Group's equity by approximately SEK 3.6 billion (5.0), where an appreciation of the currencies shown in the table in Note 38 to the consolidated accounts, Specifications of equity, would result in a positive change in equity.

Debt portfolio, by currency, in millions

	Debt		Derivatives		Total	
Original currency	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
DKK	158	6,109	–	–	158	6,109
EUR	77,520	113,007	4,745	5,688	82,265	118,695
GBP	18,129	15,151	-4,788	-3,135	13,341	12,016
JPY	1,420	9,488	-1,420	-1,581	0	7,907
NOK	0	0	0	0	0	0
PLN	0	0	0	0	0	0
SEK	12,274	15,676	1,486	2,971	13,761	18,647
USD	0	4,171	0	-4,171	0	0
Total	**109,502**	**163,602**	**24**	**-227**	**109,525**	**163,374**

The table shows currency risk in the debt portfolio and the currencies that Vattenfall is exposed to. Figures above are exclusive of loans from minority owners and associated companies, totalling SEK 10,783 million (10,597). All figures in nominal amounts.

CORPORATE GOVERNANCE REPORT

This report includes information on corporate governance during the 2023 financial year, as prescribed by law and the Swedish Corporate Governance Code. Overall issues on corporate governance are handled in this report, while specific risk issues are handled in the Risks and Risk Management section in the Annual and Sustainability Report. The Corporate Governance Report has been reviewed according to RevU 16 by the company's external auditor.

Corporate Governance Report

This report includes information on corporate governance during the 2023 financial year, as prescribed by law and the Swedish Corporate Governance Code. Overall issues on corporate governance are handled in this report, while specific risk issues are handled in the Risks and Risk Management section in the Annual and Sustainability Report. The Corporate Governance Report has been reviewed according to RevU 16 by the company's external auditor.

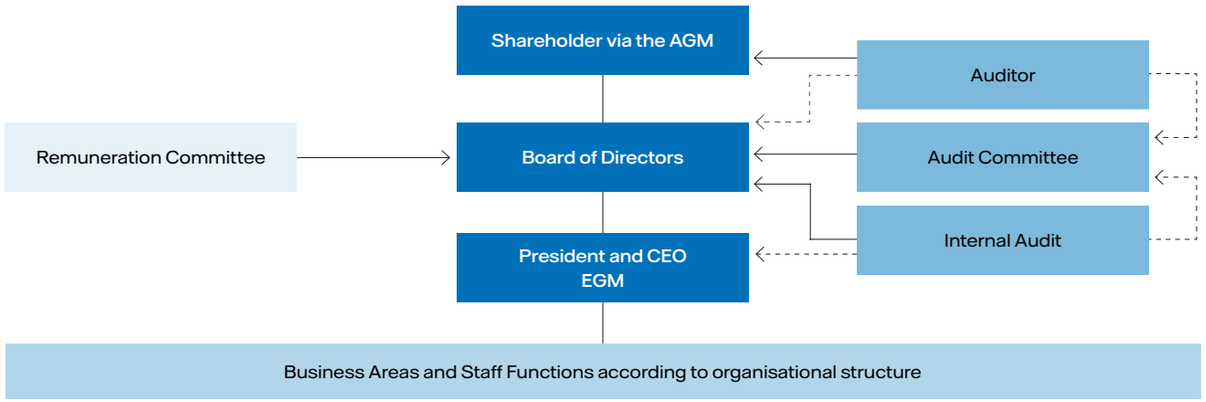
During 2023, work at Board and CEO level continued to be partly characterised by the turbulent electricity market. A number of major decisions have been made in line with Vattenfall's strategy. Among others, further investments in new wind farms have been decided and a feasibility study on building new nuclear reactors has been completed, as a basis for future decisions.

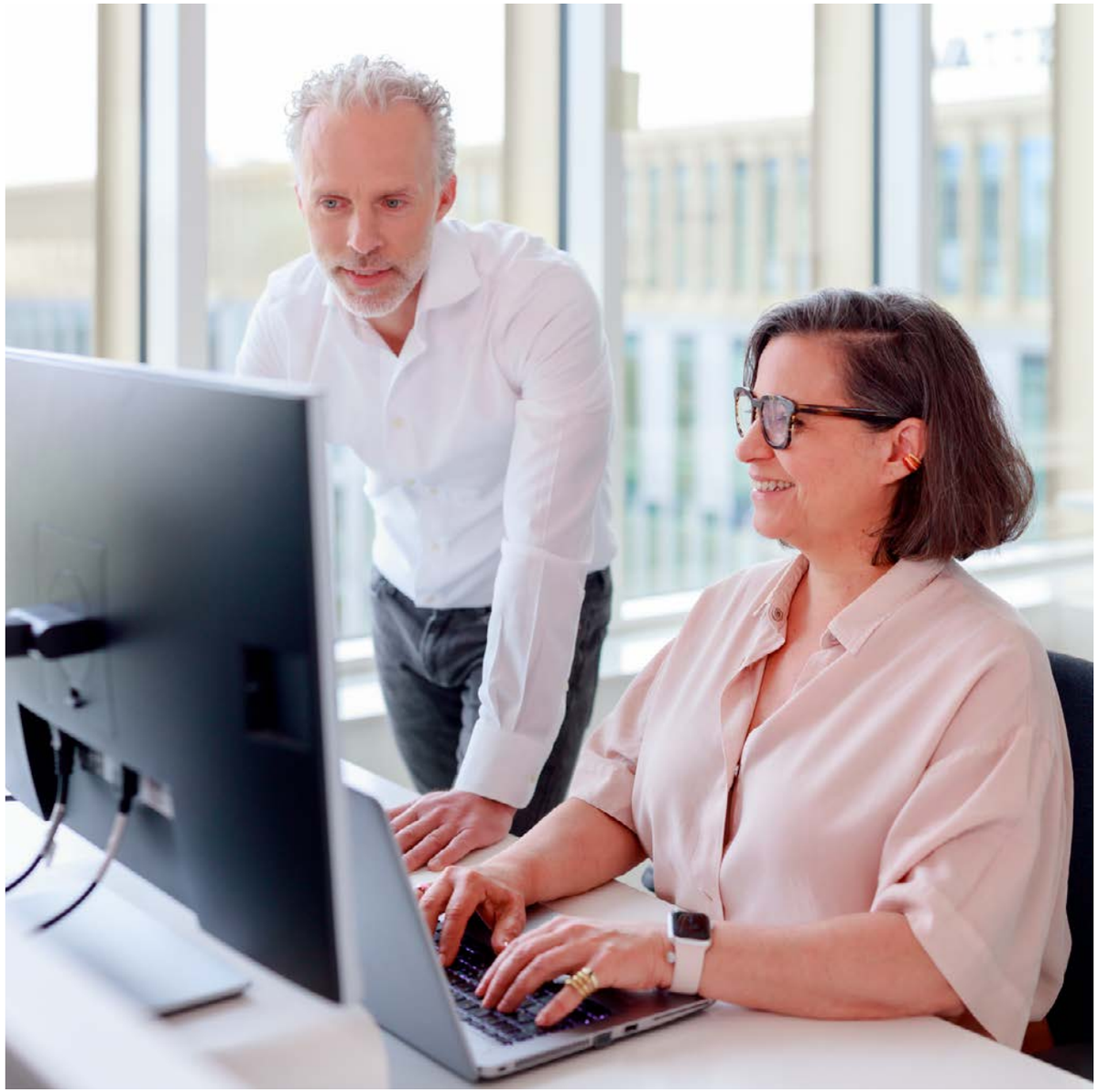
A well-functioning corporate governance – with an effective organisational structure, internal control and risk management – helps Vattenfall to manage its business towards set targets and in accordance with Vattenfall's principles.

Vattenfall's corporate governance model

The Parent Company of the Vattenfall Group, Vattenfall AB, is a Swedish public limited liability company with registered office in Solna. Vattenfall AB is thereby subject to the provisions of the Swedish Companies Act. The main decision-making bodies are the Annual General Meeting (AGM), the Board of Directors and the President. The AGM elects the Board of Directors, which in turn appoints the President, who is responsible for the day-to-day administration of the company in accordance with the Board's guidelines and instructions.

Governance and reporting structure





Application of the Code
Vattenfall adheres to the Swedish Corporate Governance Code ("the Code", available in Swedish and English at www.bolagsstyrning.se). Since Vattenfall is wholly owned by the Swedish state, there is no need to protect minority shareholders. For this reason, the provisions on shareholders' right of initiative prior to general meetings (the Code, point 1.1) and the reporting on board members' independence (points 4.4 and 4.5) do not apply.

For the same reason, Vattenfall has no nomination committee (the Code, chapter 2). The nomination process for the Board and auditors is conducted in accordance with the Swedish state's ownership policy and is described below. Thus, the references to the nomination committee in points 1.2, 1.3, 4.6, 8.1 and 10.2 are not applicable either. However, information on the nomination of board members for new election or re-election is posted on the company's website in accordance with point 2.6. Election of an AGM chairman is done at the AGM in accordance with the stipulations of the Swedish Companies Act and the Swedish state's ownership policy.

Important external and internal rules and regulations for Vattenfall

External rules and regulations
- Swedish and foreign legal rules, particularly the Swedish Companies Act and the Swedish Annual Accounts Act
- The Swedish state's ownership policy and principles for state-owned enterprises 2020
- The Swedish Corporate Governance Code ("the Code")
- Stock exchange rules for fixed-income instruments registered on Nasdaq Stockholm
- International Financial Reporting Standards (IFRS) and other accounting rules
- The Global Reporting Initiative (GRI) Standards and the UN Global Compact as well as reporting according to Green Bond Principles, Science Based Targets and the Task Force on Climate-related Financial Disclosures (TCFD).

Internal rules
- The Articles of Association
- The Board's and committees' Rules of Procedure, including the CEO instruction and the instruction for reporting to the Board
- The Vattenfall Management System (VMS), including the Code of Conduct and Integrity, and other internal governance documents.

Vattenfall AB's Articles of Association and continuously updated information about corporate governance at Vattenfall are available on Vattenfall's website, group.vattenfall.com (original Swedish documents are available on group.vattenfall.com/se). The website is also a source for previous corporate governance reports and documentation from the most recent general meetings, and links to the Swedish state's ownership policy.

Shareholder and general meetings

Vattenfall AB is wholly owned by the Swedish state. The right of the state, as a shareholder, to make decisions about Vattenfall's affairs is exercised at the Annual General Meeting (AGM) and other general meetings. By law, the AGM of Vattenfall AB is to be held yearly within six months after the end of the financial year and not later than 30 April, in accordance with the Swedish state's ownership policy.

Through a general meeting resolution on the content of the Articles of Association, the shareholder makes decisions on the company's operations. The application of the Swedish state's ownership policy and principles for state-owned companies is decided at the general meeting.

Steering and targets from the Shareholder
Based on a decision by Swedish Parliament in 2010, Vattenfall AB's Articles of Association stipulate that the objective for the company's activities is to generate a market rate of return by, directly or indirectly through subsidiaries and associated companies, operating a commercial energy business that enables the company to be among the leaders in developing environmentally sustainable energy production.

The Swedish state's ownership policy stipulates that to promote long-term sustainable value creation in state-owned enterprises, sustainable business is integrated in corporate governance. Companies with state ownership shall work for a healthy and safe work environment, respect for human rights, good and decent working conditions, equality and diversity, reduced climate and environmental impact, handling of climate-related financial risks and opportunities, good business ethics and active work on anti-corruption, ensure that no abuses occur due to their special status of being state-owned and exhibit responsible conduct in the tax area.

In accordance with the Swedish state's ownership policy, the company's financial targets are decided on by a general meeting. The current financial targets were decided at an extraordinary general meeting on 12 December 2017:
- Capital structure: Funds from operations/adjusted net debt of 22–27 per cent
- Profitability target: Return on capital employed of 8 per cent
- Dividend policy: The dividend should amount to 40–70 per cent of profit after tax.

The achievement of these targets is described in the Annual and Sustainability Report on page 19.

Annual General Meeting 2023
Vattenfall held its 2023 AGM on 26 April. The company's owner, the Swedish state, participated at the AGM through its owner representative. The general public had the opportunity to participate on-site as well as via webcast. Members of Parliament were given the opportunity to ask questions during the AGM, and an open Q&A session was arranged after the meeting, in accordance with the Swedish state's ownership policy. Ingemar Engkvist, Per Lindberg and Carola Puusteli were elected as a new Board members. Viktoria Bergman and Tomas Kåberger left the Board.

The 2024 AGM will be held on 29 April in Solna, Sweden.

Extraordinary General Meeting 2023
Vattenfall held an extraordinary general meeting on 25 October 2023. At the meeting, Pär Ekeroth was elected as a new Board member. He succeeded Daniel Kristiansson, who had left the Board when he left his position at the Swedish Government Offices. Similar to the AGM, the Extraordinary General Meeting was open to the public and Members of the Swedish Parliament were entitled to put forward questions at the Meeting.

Duties of the Annual General Meeting
- Elect the Board of Directors, the Chairman of the Board and the auditors, and decide on their fees
- Adopt the income statement and balance sheet for Vattenfall AB and the Vattenfall Group
- Decide on distribution of the company's profit
- Grant discharge from liability for the board members and the President
- Approve the remuneration report
- Decide on guidelines for remuneration of senior executives
- Decide on other matters of business prescribed by law or the company's Articles of Association.

Board of Directors

The Board's duties

The Board is the company's highest administrative body. Its fundamental duties are laid out in the Swedish Companies Act and the Code. Further duties are laid out in its Rules of Procedure and the instructions adopted each year by the Board. The Rules of Procedure and instructions regulate such matters as reporting to the Board, allocation of duties between the Board, the President and the Board's committees, the Chairman's duties, the form and content of board meetings, and the evaluation of the work of the Board and the President.

The Board shall, according to its Rules of Procedure, set the overarching targets for Vattenfall's operations, decide on Vattenfall's strategy for achieving those targets, and ensure that suitable systems are in place for monitoring and controlling Vattenfall's operations, risks and financial position in respect of the set targets. The Board is responsible for approving major investments, acquisitions and divestments and for, annually or following significant change, adopting central policies and instructions. Part of this is to define appropriate guidelines to govern the company's conduct in society, with the aim of ensuring its long-term value creation capability. The Board shall identify how sustainability issues impact the company's risks and business opportunities and allocates stakeholder engagement issues to the CEO. Also, the Board shall approve certain important contracts, including contracts between Vattenfall and the President and other senior executives.

Vattenfall has formulated a strategy to reach its goal of fossil freedom. Decisions and investments made are steered by this. The annual planning for the Board and its committees includes recurring items in several of the areas for sustainable business which are identified in the Swedish state ownership policy. These areas are furthermore included as an integral part of the handling of concrete board matters and are also handled by the Executive Group Management. Vattenfall's strategic focus areas in themselves constitute sustainability objectives. Among others, sustainability aspects such as climate and environmental impact and human rights are included in the Board's handling of the strategy and in the business planning process.

The Board's duties pertain to Vattenfall AB as well as the Vattenfall Group. Vattenfall's General Counsel serves as secretary to the Board of Directors.

The Chairman is responsible for – among other things – ensuring that the board members receive relevant information, contacts with the owner on ownership matters, and serving as a liaison between the owner and the Board. According to the Rules of Procedure, the Board – through the Chairman – shall coordinate its views with representatives of the owner when the company is facing particularly important decisions.

Board meetings

The Board shall hold eight to twelve regular board meetings every year. In addition to the regular meetings, the Board is convened when necessary. The agenda of every regular meeting shall include the following items of business:

- The Group's business situation
- Financial report for the Group
- Reports from board committees, when committee meetings have been held
- Matters that are not handled by the President in the day-to-day administration
- Other matters of material importance for the Group.

In addition, certain recurrent items of business are included on the agenda, in accordance with the yearly planning in the Board's Rules of Procedure. Investments approved by the Board are followed up by the Board one year after their commercial operation date. Strategy issues are discussed in depth at an annual board seminar where the Executive Group Management also participates. The Board shall on an ongoing basis be informed on circumstances of importance for the best possible insight in the business and which facilitate an overall assessment of Vattenfall's situation.

The Board met eleven times in 2023, including the statutory meeting. The board members' attendance is found on pages 106–107. The Board held a meeting at one of the Group's operational units. This meeting was held in Esbjerg and was combined with a study visit at the wind power business.

Appointment of the Board

For companies that are wholly owned by the Swedish state, uniform and common principles for a structured nomination process apply. These principles are set forth in the Swedish state's ownership policy and supersede the Code's rules on drafting work for decisions on the nomination of board members and auditors.

The board nomination process takes place in the Swedish Government Offices and is coordinated by the Ministry of Finance. The expertise required is analysed on the basis of the enterprise's operations, situation and future challenges, board composition and board evaluations performed. As part of its work in the board nomination process, the government Offices also conduct their own ongoing evaluation of the board of each state-owned company. Any recruitment need is then determined, and recruitment work is

The Board's yearly planning

The Board's main items of business in 2023

- Items according to the Rules of Procedure
- The market situation and the market, liquidity and credit risks at the energy markets
- Acquisitions and divestments
- Items on Swedish nuclear business
- Strategy, bidding, partnership and investments with regard to new on- and offshore wind farms and solar power plants
- The heat business in Berlin
- District heating investments
- Agreement on Power-as-a-Service with H2GS AB.

begun. Once this process has been completed, the nominations are publicly announced in accordance with the Code. Vattenfall provides orientation training for new directors who are elected by the AGM.

The Swedish state's ownership policy, which is the diversity policy applied with regard to the Board, stipulates that the selection of board members shall be made from a broad recruitment base in order to make use of the expertise of both women and men as well as individuals with various backgrounds and experience. Discrimination associated with gender, transgender identity or expression, ethnic affiliation, religion or other belief, disability, sexual orientation or age is prohibited.

At the 2023 AGM, the owner's representative presented a reasoned statement on the Board's composition. In summary, the board members were judged to have relevant skills, experience and background for the company's operations, development phase and conditions in general. The Board as a whole was considered to have a versatility and breadth that reflected the requirements of the state's ownership policy. The gender balance on the Board, however, did not achieve the government's goal, meaning a minimum of 40 per cent board representation for both women and men with regard to AGM-elected directors.

More detailed information on the board nomination process is provided in the Swedish state's ownership policy, at www.regeringen.se.

The Board's composition

Vattenfall's Articles of Association stipulate that the Board of Directors shall have, in addition to the employee representatives, a minimum of five and a maximum of ten members without deputies. The directors are elected annually by the Annual General Meeting, which also elects the Chairman of the Board.

In 2023, no member of the Executive Group Management (EGM) was a director on the Board. This is in line with the Swedish state's ownership policy. Similarly, none of the Board members elected by the AGM was employed within the company. By law, the unions are entitled to appoint three board members plus three deputies, and they exercised this right.

Biographical information about the board members is provided on pages 106–107.

Guidelines for directors' fees

Directors' fees for Board and committee work are set by the owner at the AGM, in accordance with the Swedish state's ownership policy. Information on directors' fees in 2023 is provided in the Annual and Sustainability Report, Note 42 to the consolidated accounts, Number of employees and personnel costs.

Evaluation of the Board's and the President's work

The Board annually evaluates the President and its own work as part of efforts to develop work forms and effectiveness. This evaluation is conducted under the direction of the Chairman and is reported to the Board and the owner.

In 2023, an evaluation was carried out, with the help of an external consultant, with follow-up from the evaluation 2022. The evaluation used a questionnaire for the Board as a whole, which each of the members and deputies answered. The questions addressed Vattenfall's current challenges, management and organisation, the Board's efficiency, composition and expertise, and its relationship with the owner, chairman and CEO. The President, the CFO and the Secretary to the Board also answered the questionnaire. The evaluation was reported and discussed at the Board meeting in February 2024. As a follow-up to the written evaluation, the Chairman held individual discussions on a voluntary basis with each of the members elected by the AGM and collectively with the employee representatives.

Board committees

The Board has established two committees and Rules of Procedure for these. At the statutory board meeting, the Board appointed a number of directors elected by a general meeting for each committee, of whom one serves as committee chair. Information on the committees' composition and attendance is provided on pages 106–107.

The committees report their work to the Board at the next regular board meeting, whereby the committee chair presents a report accompanied by minutes from the committee meetings. Except for a few matters handled by the Audit Committee, the committees are only drafting bodies and make recommendations to the Board. The Board's legal responsibility under company law for the company's organisation and administration of the company's affairs is not constrained by the committees' work.

Audit Committee

The Audit Committee oversees Vattenfall's financial reporting and is responsible for meeting with Vattenfall AB's external and internal auditors on a regular basis in order to stay informed about the planning, focus and scope of the company's audit. The Audit Committee is also responsible for discussing coordination of the external and internal audit work and views of the company's financial risks. The committee prepares Internal Audit's budget, the Internal Audit Charter and the internal audit plan for resolution by the Board. It has the right, on behalf of the Board, to decide on other services than auditing that Vattenfall may procure from the Group's auditors.

The Audit Committee meets prior to Vattenfall's publication of interim reports and when warranted by the prevailing conditions. The CFO and head of Internal Audit serve in a reporting role. The external auditors attend all regular meetings and report on their observations of the audit.

The Audit Committee's most important duties are:

- To oversee Vattenfall's financial reporting, including sustainability reporting
- With respect to financial reporting, to monitor the effectiveness of Vattenfall's internal control, internal audit and risk management
- To stay informed about the audit of the annual report and consolidated accounts
- To review and monitor the auditor's impartiality and independence
- To assist in the drafting of recommendations for decisions on the election of auditor by the Annual General Meeting
- To review and oversee the management of market and credit risks
- To conduct an annual evaluation of the external auditors' work.

Remuneration Committee
The Remuneration Committee's duties include serving as a drafting body to ensure implementation and compliance with the guidelines, approved by the Annual General Meeting, for remuneration of senior executives. Where applicable, it conducts drafting work for any special reasons that may exist in an individual case to deviate from the guidelines. It also conducts work for the Board's remuneration report and, ahead of the AGM, monitoring and following up the auditors' review. The President serves in a reporting role on the Remuneration Committee.

The Remuneration Committee's most important duties are:

- To conduct drafting work for board decisions on matters regarding remuneration principles, and on remuneration and other terms of employment for members of the Executive Group Management and other senior executives
- To monitor and evaluate application of the guidelines for remuneration of senior executives, which the Annual General Meeting is required to make a decision on by law, as well as remuneration structures and levels of remuneration in the company
- To conduct drafting work for the Board's decisions regarding overarching remuneration principles, such as the general existence of, amount and structure of variable remuneration (for employees who are not senior executives).

Auditor

The Swedish state's ownership policy stipulates that the owner is responsible for election of auditors and that the auditors are to be appointed by the Annual General Meeting. Proposals for election of auditors and for auditors' fees are submitted by the Board and drafted by the company. The auditors are elected for a mandate period of one year, in accordance with the main rule in the Swedish Companies Act. Vattenfall's Articles of Association stipulate that the company shall have one or two auditors with or without one or two deputy auditors, or a chartered accounting firm as auditor.

The AGM 2023 re-elected PricewaterhouseCoopers AB as auditor. The accounting firm appointed Authorised Public Accountant Eva Carlsvi as auditor-in-charge.

The auditor's audit assignment includes a review of the annual report, the consolidated accounts, the corporate governance report, the sustainability reporting and compliance with the guidelines for remuneration of senior executives. In addition, the auditor performs a review of the half-year interim report. The auditor has access to minutes of board meetings and board committee meetings. The Audit Committee has approved guidelines for how procurement of other services than auditing shall take place from the auditor.

At the 2023 AGM, the auditor reported on the audit work in 2022 and on its review of compliance with the guidelines for remuneration of senior executives. The auditor reported on its review of the year-end accounts for 2023 to the entire Board at the board meeting in February 2024 (without the presence of any person from the Executive Group Management), and also reported on its observations at the board meeting in December 2023.

The auditor's fees are payable according to an approved invoice. The Group's auditing costs are described in more detail in the Annual and Sustainability Report, in Note 15 to the consolidated accounts, Auditor's fees, and in Note 15 to the Parent Company accounts, Auditor's fees.

CEO and Group Management

The President of Vattenfall AB, who is also Chief Executive Officer (CEO) of the Vattenfall Group, is responsible for the day-to-day administration in accordance with the Swedish Companies Act. Anna Borg was the CEO in 2023. An account of the President's remuneration is provided in the Remuneration Report and in the Annual and Sustainability Report, Note 42 to the consolidated accounts, Number of employees and personnel costs.

The CEO has set up internal bodies for governance of the Group and makes decisions independently or with the support of these bodies. The most important of these are the Executive Group Management (EGM) and the Vattenfall Risk Committee (VRC). The EGM focuses on the Group's overall direction and addresses – within the framework of the CEO's mandate from the Board of Directors – matters of importance for the Group. In the EGM, the Head of Strategic Development covers overall sustainability issues. The VRC focuses on decisions pertaining to risk mandates and credit limits, among other things, and exercises oversight of the risk management framework.

Both bodies convene monthly and also conduct preparatory drafting work on matters that are to be decided by the Board of Directors. Ahead of decisions made by the President in the EGM or VRC on certain major investments and transactions, the risk unit performs an independent risk analysis, which makes up part of the decision-making documentation.

The President follows up operations via quarterly Business Performance Meetings. At these meetings, outcomes, forecasts, important events and challenges – including the status of Vattenfall's strategic targets – are analysed with the management of each business unit. Yearly deep-dives into sustainability topics – challenges, progress and actions for coming year – are performed with the top management of each business area.

Biographical information about the members of the EGM is provided on pages 108–109.

Internal Audit

Internal Audit is an independent and objective function that evaluates, recommends and monitors improvements to the effectiveness of Vattenfall's risk management, internal controls and governance processes throughout the Group. This also applies to compliance with Vattenfall's governance documents, including the Code of Conduct and Integrity. The function is directly subordinate to the Board of Directors and Audit Committee. It performs its work risk-based and in accordance with an established internal audit plan.

Internal Audit's budget, the Internal Audit Charter and the internal audit plan are drafted by the Audit Committee and decided on by the Board of Directors. The Head of Internal Audit reports administratively to the President and informs the management teams of the business units and other units about audit activities that have been performed. The Head of Internal Audit also submits a report to the Audit Committee at each regular Committee meeting.

Internal governance

Principles and strategy

Vattenfall's purpose is to enable the fossil freedom that drives society forward, and the strategy in brief means that:

- Vattenfall has set out to be a leader in the energy transition, as a profitable business,
- Sustainability is at the core of Vattenfall's strategy, guiding the ambition level and where we grow,
- Fossil-free electricity generation is the foundation for value creation, and
- Value and robustness through integration and diversification.

In addition to this are the financial targets, decided on by the general meeting and further described under "Shareholder and general meetings" above. Group scorecards support by linking to financial, non-financial and operational requirements, for instance with regard to CO_2 emissions and fossil-free generation capacity. Reporting back to the Board is performed as part of the quarterly reporting.

Vattenfall creates value for customers and shareholder by pursuing sustainable business in attractive markets with favourable conditions for returns, and where we can leverage our competitive advantages. Vattenfall's strategy is well aligned with the UN's Agenda 2030 Sustainable Development Goals and will drive Vattenfall to make an important contribution to the global sustainable development agenda.

Governing business ethics

Vattenfall's Code of Conduct and Integrity builds upon the four Vattenfall principles – open, active, positive and safety – and contains a number of rules built on the "think first" approach. It also includes references to the Vattenfall Management System (VMS), which elaborates on these rules. The Code of Conduct and Integrity has been communicated throughout the Group and is available on the intranet in several language versions, corresponding to the countries where Vattenfall has business operations. Information about the Code of Conduct and Integrity is provided in connection with new hiring and training. An e-learning programme on application of the Code of Conduct and Integrity is mandatory for all Vattenfall employees.

To ensure ethical and non-corrupt conduct throughout the organisation, Vattenfall requires all employees to act in accordance with the company's ethical guidelines, which are set forth in the Code of Conduct and Integrity as well as in internal instructions. Vattenfall believes that free competition plays a decisive role for a market to function effectively and has zero tolerance for bribery and corruption. An important step in ensuring this is the recurrent training that is conducted within the Vattenfall Integrity Programme, which is described on page 68.

Vattenfall's employees and other stakeholders have the opportunity to report serious improprieties anonymously through a whistleblowing function, either internally through a web-based whistleblowing channel or externally to one of the locally appointed external ombudsmen (attorneys). Internal reports can also be made directly to any member of Internal Audit or to the local Whistleblowing Coordinator.

Read more about reported incidents in the Annual and Sustainability Report on page 68. Ongoing legal processes are described in Note 40 to the consolidated accounts, Contingent liabilities. Examples of sustainability initiatives and principles that Vattenfall has aligned itself with or supports are listed on page 170.

The three lines model

Vattenfall applies the "three lines model", for management and control of risks in general, based on the framework of the Institute of Internal Auditors.

1. The first line is primarily represented by units associated with the provision of products or services to the organisation's customers, such as Business Units and certain Staff Functions. It is responsible for executing the strategy and managing risks.
2. The second line provides control, expertise, support, monitoring and challenge on risk-related matters. It consists of Staff Functions governing the organisation, among them Health & Safety, Environment, Integrity, Security, Group Internal Financial Control and Risk Management.
3. The third line is made up of internal audit, which oversees and evaluates the first and second lines (as described above).

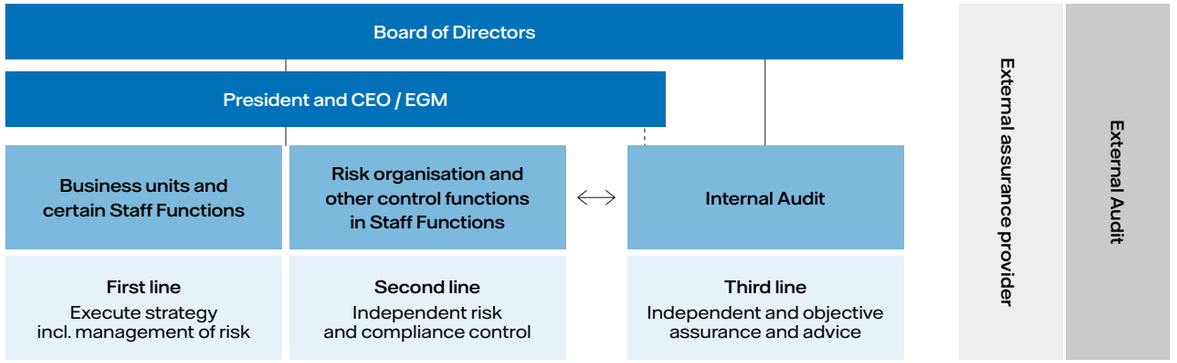
Vattenfall Management System

The most important internal rules for governing Vattenfall are found in the Vattenfall Management System (VMS). The VMS is the group system to develop, align and implement the rules and requirements decided by the Board, the President and the Group Staff Functions. It covers the group steering, while local management systems cover specific business and functional steering. The VMS consists of binding policies and instructions. It is an integrated management system that applies for the entire Vattenfall Group, with the limitations that may arise from legal requirements.

Vattenfall's policies lay out the company's direction in the areas of

- Code of Conduct and Integrity, as described above,
- Remuneration, outlining general principles of remuneration and benefits in Vattenfall, in line with the guidelines decided by the Annual General Meeting,
- Dam safety,
- Nuclear safety,
- Risk, see further pages 83–95 in the Annual and Sustainability Report, and
- Sustainability, where governance is based on an overall policy. In addition, specific policies exist for various sustainability areas:
- Environment
- Health and safety
- Human rights
- Code of Conduct for Suppliers and Partners, and
- Taxes.

Three lines model



The valid codes of conduct and sustainability policies are published on group.vattenfall.com. The Board of Vattenfall AB approves all policies except the policies on dam safety and nuclear safety; however, within these areas, regular reporting is conducted to the Board.

The content of the policies is concretised in instructions within the VMS, such as in special instructions for matters concerning competition law and for countering bribery and corruption. Instructions in the VMS also include concretisations of the content of the Board's Rules of Procedure, such as allocation of responsibilities and risk mandates.

Instructions shall be implemented in the relevant parts of the organisation and be adhered to by the defined target groups and units. Special routines are in place to ensure adherence to the management system also by subsidiaries. All policies and instructions are accessible for employees on the intranet. E-learning exists in several areas connected to VMS documents. Vattenfall does not require any acknowledgement by employees or management that they have read the content. Implementation and adherence are regularly followed up, and identified issues are addressed. All policies and instructions are regularly reviewed and updated.

Vattenfall's environmental management system is integrated in the VMS. At year-end 2023 nearly 100 per cent of Vattenfall's production and distribution portfolios had certified environmental management systems in accordance with ISO 14001. In addition, all of the Group's business units are certified for occupational health and safety according to ISO 45001. A number of business units have certificates on energy management in accordance with ISO 50001.

Vattenfall's Organisation

The organisational structure comprises six Business Areas: Heat, Wind, Customers & Solutions, Generation, Markets and Distribution. The Business Areas are organised in five operating segments, where Generation and Markets make up a single operating segment (Power Generation). Central Staff Functions support and direct the business activities. For further information see pages 36–45.

The company structure differs from the business structure. Decisions are made primarily in the business organisation and, to the extent necessary or suitable, by subsidiaries' boards. Governance is conducted financially, non-financially (such as through Staff Functions), and operationally. Unit scorecards and the VMS are the most important governance tools. The business performance steering model consists of an annual business planning process and monthly reporting and follow-up of forecasts and actual results.

In accordance with legislation both within the EU and in the UK, operations of the electricity distribution network shall be separated from sales and generation of electricity (unbundling). For Vattenfall, this entails, among other things, that electricity distribution operations are conducted in separate subsidiaries that have the actual decision-making rights in respect of the company's day-to-day operations, as well as for decisions needed to ensure operation, maintenance and development of the network. The Head of the Distribution Business Area is not member of any decision-making forums outside of the Business Area.

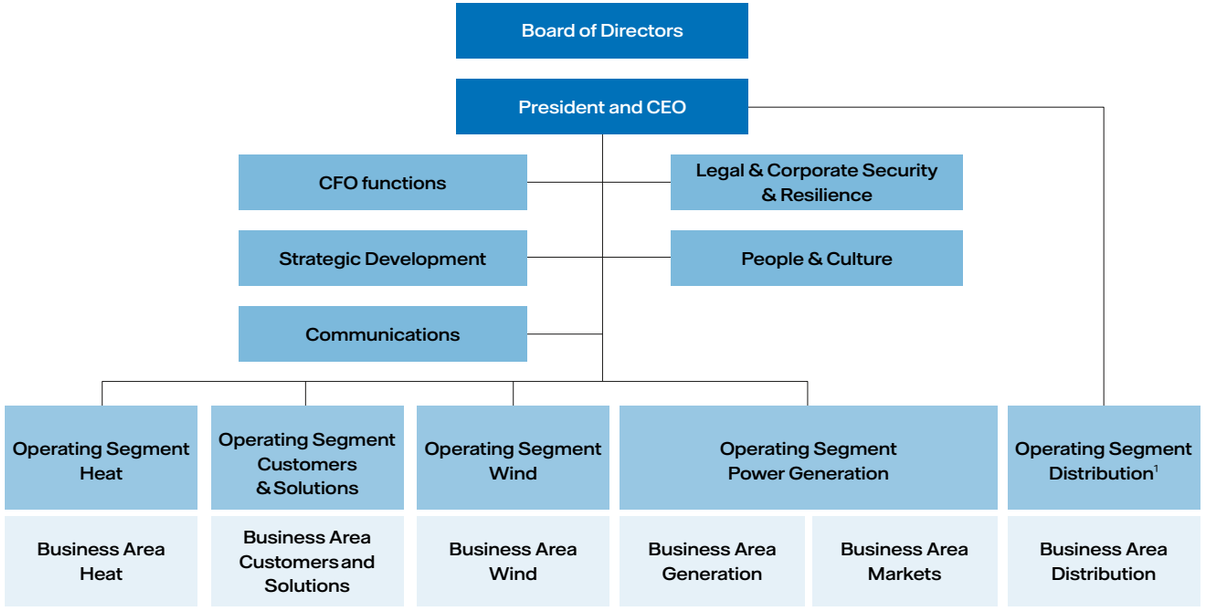
Risk management organisation

The Risk Management organisation is headed by the Chief Risk Officer (CRO) and is responsible for monitoring and control of risks in general. The CRO is accountable for the risk management framework (as described on page 84) and is responsible for ensuring risk governance and risk control. Included in this responsibility are processes related to, among other things, new products and certain contracts with long durations. The CRO provides information on a regular basis to the Vattenfall Risk Committee and to the Executive Group Management as well as to the Board and the Board's audit committee.

Integrity organisation

The aim of integrity work at Vattenfall is to preserve the integrity and to protect the reputation of Vattenfall.

Organisation



[1] Vattenfall's electricity distribution operations are unbundled from other operations, in accordance with Swedish and UK legislation.

Integrity work at Vattenfall is organised according to the three lines model:

1. Ownership: The line organisation, which is responsible for compliance with laws and regulations within the unit
2. Control and advice: The integrity organisation, with reporting to the Group's General Counsel
3. Quality assurance: The Internal Audit unit.

The Integrity organisation's area of responsibility covers antitrust matters, antibribery and anti-corruption, conflicts of interest, inside information, awareness of Vattenfall's Code of Conduct and Integrity, and coordination of Vattenfall's whistleblowing function. Within its scope, the Integrity organisation supports Vattenfall in identifying, mitigating, managing and monitoring the risk of non-compliance with laws, regulations, rules, standards and codes of conduct, relevant to its activities. Work is carried out in accordance with an annual plan and regular follow-ups are performed. The annual integrity work is summarised in an integrity report to the Board.

Current integrity issues in 2023 are described in more detail in the Annual and Sustainability Report on page 68.

Guidelines for remuneration of senior executives

The 2023 Annual General Meeting adopted guidelines for remuneration of senior executives. These guidelines are based on the Swedish Government Offices' principles, which form part of the Swedish State's ownership policy, with a deviation as to how the principles are applied in Vattenfall's subsidiaries. This deviation means that instead of the definition of senior executive in the Swedish Government Offices' principles, senior executives shall be defined on the basis of whether they have a significant impact on the Group's earnings, through use of the International Position Evaluation (IPE) model. Managers with positions of IPE 68 and higher are to be considered as senior executives. The Board's explanation for this deviation is stated in the guidelines, which are found on Vattenfall's website, group.vattenfall.com and in the 2022 Annual and Sustainability Report, pages 107 and 108. The Swedish Government Offices' principles are available on the government Offices' website, www.regeringen.se.

Actions with respect to agreements with senior executives were during 2023 continuously reported to the Remuneration Committee and the Board, which also decided on the entering into such agreements. Independent external remuneration consultants provided benchmark data prior to decisions on remuneration. Remuneration and compliance with the adopted guidelines are described in the Remuneration Report and in the Annual and Sustainability Report, Note 42 to the consolidated accounts, Number of employees and personnel costs. The proposed guidelines ahead of the 2024 AGM are shown on pages 110–111.

Internal control over financial reporting

Vattenfall Group appreciates high quality in financial reporting in achieving a trusting relation with key stakeholders. This section describes the most important elements in Vattenfall's system of internal control and risk management in conjunction with financial reporting, as prescribed by the Swedish Annual Accounts Act and the Code. Vattenfall's framework for this control is based on the updated framework "Internal Control – Integrated Framework" from 2013, which has been developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this framework, internal control is defined as "a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting, and compliance". Vattenfall's overall risks and risk management are further described in the Annual and Sustainability Report, pages 83–95.

Control environment

The control environment is based on the delegation of authority between the Board and the President, which is set forth in the Board's Rules of Procedure, along with the reporting requirements set by the Board. The Board has also adopted Vattenfall's Code of Conduct and Integrity, which lays out the overarching rules governing conduct for all employees.

The Board of Directors has ultimate responsibility for internal control over financial reporting, according to the Swedish Companies Act and the Code. In this context the Board shall ensure that the company's organisation is structured in such a way that the bookkeeping, treasury management and the company's financial conditions in general are controlled in a satisfactory manner.

The Board's audit committee monitors the status of internal control over financial reporting on behalf of the Board and makes recommendations and proposals to ensure the reliability of the reporting. The committee also informs the Board about the results of the audit and about the ways in which the audit contributed to the reliability of the financial reporting and about which function the committee has had.

The VMS (described on page 102) contains steering rules for all identified entity level controls, including roles and responsibilities, authority and risk mandates, decision-making processes, risk management, internal control, as well as ethics and integrity issues. The VMS lays out the grandparent principle and four eyes principle for decision-making. An instruction and IT solution is in place for assignment of Group internal authority concerning invoicing, among other things. The VMS also stipulates which decision-making, oversight and advisory bodies exist within the Group, on top of those required by law.

Vattenfall has an internal financial control (IFC) process, organised in Group Finance. Its overall purpose is to ensure that the Vattenfall Group has internal controls in place which provide reasonable assurance that the risk of material misstatements in the financial reporting is mitigated. Vattenfall also has a limited number of key controls for non-financial reporting.

Risk assessment
The Board addresses the Group's risk assessment and risk management process for the financial reporting at an overarching level. The Board's audit committee conducts evaluation and monitoring of risks and quality in financial reporting and other enterprise risks. The Audit Committee maintains regular contact with the Group's internal and external audit functions to gather input to continuous risk assessments.

A continuous Enterprise Risk Management (ERM) process makes it possible to quantify and compare financial risks. The risk department reports the findings in the ERM process to the Executive Group Management, to the Vattenfall Risk Committee and ultimately to the Audit Committee and the Board.

For the financial reporting, the IFC process serves as the framework for internal control that identifies and defines risks for material misstatements in the reporting. These are overseen by the CFO function through an annual self-assessment of the effectiveness of process and IT general controls for units in scope of IFC. The scope is based on a materiality and risk analysis. The CFO function is also responsible for performing regular analyses of risks related to financial reporting and for updating this framework.

Control activities and monitoring
The Board monitors and addresses the Group's financial situation at every regular board meeting, with a starting point from the financial report submitted by the President and the Chief Financial Officer (CFO).

The Audit Committee conducts the Board's monitoring of the effectiveness of internal control and regularly receives status reports on the Group's internal control over financial reporting, in accordance with the IFC process. A financial report, including a report on accounting and sustainability issues, is presented at every regular Audit Committee meeting, and tax issues are reported on and followed up on a regular basis. The Audit Committee, in turn, reports to the Board on its most important observations and recommendations. The timing and forms of this reporting are set in the Board's and Audit Committee's respective Rules of Procedure.

The Executive Group Management holds regular follow-up meetings with the heads of the Business Areas and Staff Functions regarding the financial outcome. Operations are followed up on a quarterly basis via Business Performance Meetings.

Internally, Vattenfall applies the "three lines model" (described on page 102) for internal control over financial reporting. In this context, the second line includes the Group Internal Financial Control Officer (IFCO), who is responsible for monitoring and control of risks in the financial reporting. The Group IFCO is responsible for the IFC process, which aims to strengthen the governance structure and effectiveness of controls. Continuous improvements to the IFC process are ensured through an annual evaluation and updating process. Information about ineffective controls is provided to internal and external audit. Each incidence of ineffectiveness is risk-assessed in consultation with the first line. Information about these risks is provided to the risk organisation. An IFC status update is provided semi-annually to the Audit Committee.

During 2023, the IFC process has been updated to include first line tasks and roles needed to increase the formalisation of controls at local level. The roll-out of the updated process is ongoing, with the aim to have it fully implemented by 1 January 2025.

The Vattenfall framework for internal financial control includes processes for self-assessments, monitoring, reporting and improvement of control activities in order to prevent, discover and correct material misstatements in the financial reporting. Written confirmation of adherence to internal and external stipulations, via signing of internal representation letter, is part of these processes.

Information and communication
The Group's steering documents are accessible via Vattenfall's intranet. The forms for managing internal and external communication are documented in a VMS instruction which aims to ensure that Vattenfall is in compliance with legal as well as stock exchange rules, the Swedish state's ownership policy (including principles for external reporting), and other obligations. Accounting and reporting principles are laid out in a joint manual for the entire Group. Updates and changes in these policies and principles are communicated on a continuous basis via the intranet as well as at meetings with representatives of the Group's Business Areas and Staff Functions.

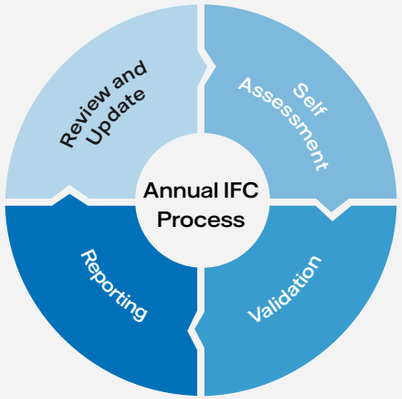
Reporting and follow-up reporting to the Board and EGM are part of monitoring activities. Internal and external audit and the Chief Risk Officer (CRO) also report on their observations to the Board's audit committee. Furthermore, the semi-annual status report from IFC is a basis for the assessment.

Financial reporting includes interim reports, the year-end report and the annual report. In addition to these reports, financial information is provided to the Group's external stakeholders via press releases and Vattenfall's websites, in accordance with the Swedish Securities Market Act, among other things. Presentations and conference calls for financial analysts, investors and the media are held as a rule on the same day that reports are published.

The Internal Financial Control (IFC) Process valid 2023
The process with be updated in 2024

Review and Update
Implement improvements and correct errors in the IFC process and the IFC framework (list of IFC controls). Define the IFC scope for the forthcoming year.

Reporting
Quarterly IFC status reporting and half-year/ year-end report to the Audit Committee.



Self Assessment
A yearly questionnaire used to evaluate the status of the IFC control points and identify the need for corrective action.

Validation
Complementary evaluations of IFC control points, e.g. via on-site validations.

Board of Directors

MATS GRANRYD (1962)
Chairman of the Board
Education: Mechanical M.Sc.
Other assignments: Board member of SVT (Sverige Television) 2021. Chairman of the board COOR (2017–). Director General GSMA (2016 –). Member of the UN Broadband Commission (2017–).
Previous positions: Member of the board Swedbank (2017–2020). Member of the board ENVAC (2013–2017). Group CEO Tele2 (2010–2015). Positions within Ericsson (1995–2010).
Elected: 2020
Committee assignment: Member of the Remuneration Committee
Board meeting attendance: 11/11
Committee attendance: 4/4

ANN CARLSSON MEYER (1966)
Board member
Education: Bachelor's degree in Personnel, Work and Organization.
Current position: CEO Systembolaget AB.
Other assignments: Board member in The Confederation of Swedish Enterprise, The Swedish Trade Federation, SNS.
Previous positions: CEO at Apoteket AB, leading positions within ICA, Board member in Martin & Servera, Axfood AB, Ramirent OY.
Elected: 2019
Committee assignment: Renumeration Committee, Chair
Board meeting attendance: 11/11
Committee attendance: 4/4

PÄR EKEROTH (1974)
Board member
Education: M.Sc. in Business and Economics.
Current position: Senior Advisor, Ministry of Finance.
Other assignments: Board member of SJ AB.
Previous positions: Senior Manager, PwC Corporate Finance.
Elected: 2023
Committee assignment: Member of the Audit Committee
Board meeting attendance:1/1
Committee attendance: –

INGEMAR ENGKVIST (1957)
Board member
Education: Ph.D Nuclear chemistry with focus on nuclear waste management.
Current position: Self-employed Executive Advisor.
Other assignments: Board member of ISEC Monitoring Systems AB.
Previous positions: Chief Executive Officer, World Association of Nuclear Operators, London (2020–2022). Board member of World Association of Nuclear Operators (2020–2022). Director, World Association of Nuclear Operators, Paris Centre (2016–2019). Chief Executive Officer, E.ON Kärnkraft Sverige (2010–1016). Chairman of the Board of Directors, OKG AB (2010–2016). Board member, Ringhals AB (2010–2016), Board member, Forsmark Kraftgrupp AB (2008–2016). Board member, Svensk Kärnbränslehantering AB (2008–2016).
Elected: 2023
Board meeting attendance: 7/8

HÅKAN ERIXON (1961)
Board member
Education: B.Sc. International Business Administration and Economics.
Previous positions: Board member of Tijtall AB (2012–2023), Board member of Onto Holdings Limited (2022–2023), Chairman of the Board of Hemnet Group AB (2017–2022), Chairman of the Board of TransferGalaxy AB (2019–2020), Board member of Opus Group AB (2018–2020). Chairman of the Board of Capacent Holding AB (2015–2019). Chairman of the Board of Orio AB (publ) (2012–2017). Member of the Nasdaq OMX Stockholm AB Listing Committee (2010– 2016). Senior Advisor, Corporate Finance, Swedish Government Offices, which included work for the Swedish National Debt Office (2007–2010). Board member of Carnegie Investment Bank AB (2008– 2009). Board member of Vasakronan AB (2007–2008). Positions within UBS Investment Bank Ltd, London (1997–2007), including Vice Chairman of the Investment Banking Division. Positions within Merrill Lynch International Ltd, London (1992–1997).
Elected: 2011
Committee assignment: Member of the Audit Committee
Board meeting attendance: 11/11
Committee attendance: 5/5

Board of Directors, cont.

PER LINDBERG (1959)
Board member
Education: Mechanical M.Sc, Ph.D Industrial Management and Work Organization.
Current position: Senior advisor, Peymar.
Other assignments: Chairman of the Board of Permascand AB and Nordic Brass Gusum AB. Board member of Boliden AB, Valmet Oyj, and ReOcean AB.
Previous positions: President & CEO, Epiroc AB (2018–2020). President & CEO, BillerudKorsnäs AB (2012–2017). President & CEO, Billerud AB (2005–2012). President, Korsnäs AB (2001–2005). Vice President, Investment AB Kinnevik (2004–2005).
Elected: 2023
Committee assignment: Member of the Audit Committee
Board meeting attendance: 5/8
Committee attendance: 3/3

CAROLA PUUSTELI (1965)
Board member
Education: International Business School.
Current position: Vice President Strategy & Technology (Power & Grid segment) at Schneider Electric.
Other assignments: Board member of Interpartner (Denmark), Halton (Finland) and Polarium (Sweden).
Previous positions: Founder & Managing Director of Cots Sarl (2003–2006). Various positions within Industrial Services & Automation, ABB (1994–2003). Managing Director of Infrasonik Sarland, creation and management of the subsidiaries in France, UK, USA and Poland (1989–1994).
Elected: 2023
Committee assignment: Member of the Remuneration Committee
Board meeting attendance: 6/8
Committee attendance: 3/3

FREDRIK RYSTEDT (1963)
Board member
Education: M.Sc. Business and Economics.
Current position: Executive Vice President and CFO of Essity Aktiebolag (publ).
Other assignments: Board member of Vinda International Holdings Limited.
Previous positions: Chief Financial Officer, Country Senior Executive, Nordea Sweden (2008–2012). Chief Financial Officer, Electrolux Group (2001–2008). Chief Financial Officer (2000–2001) and Head of Business Development (1998–1999), Sapa Group. Positions within the Electrolux Group (1989–1998), including as Vice President and Head/Director of Mergers & Acquisitions (1995–1998).
Elected: April 2017
Committee assignment: Audit Committee, Chair
Board meeting attendance: 8/11
Committee attendance: 5/5

ROBERT LÖNNQVIST (1979)
Employee representative
Education: 3-year upper secondary degree in electrical installation. Further education in project management, labour law and health & safety.
Current position: Employee representative for Seko Facket för Service och Kommunikation. Vattenfall employee since 2007, currently as Project Manager at Vattenfall Services Nordic AB.
Other assignments: Member of the European Works Council. Assignments for Seko.
Elected: 2017
Board meeting attendance: 10/11

ROLF OHLSSON (1961)
Employee representative
Education: Mechanical M.Sc.
Current position: Employee representative for Akademikerrådet at Vattenfall. Vattenfall employee since 1998, currently as full time representative for Akademikerna at Forsmarks Kraftgrupp AB.
Other assignments: Employee representative on Forsmarks Kraftgrupp AB's board. Chairman of Akademikerrådet i Vattenfall.
Elected: 2017
Committee assignment: Member of the Audit Committee
Board meeting attendance: 11/11
Committee attendance: 4/5

Deputy employee representatives

JEANETTE REGIN (1965)
Employee representative
Education: Secondary school diploma and two-year education in healthcare.
Current position: Employee representative for Unionen. Responsible for Sales Heat at Gotlands Energi AB.
Elected: 2011
Board meeting attendance: 10/11

ANDERS BOHLIN (1965)
Employee representative (deputy)
Education: Energy Engineer.
Current position: Research Engineer at Strategic Development, Vattenfall AB.
Other assigments: Member of the European Works Council. Vice Chairman, Unionen Vattenfall.
Elected: 2019
Board meeting attendance: 11/11

CHRISTER GUSTAFSSON (1959)
Employee representative (deputy)
Education: Four-year education in technology.
Current position: Employee representative for Ledarna. Vattenfall employee since 1986, currently in the the engineering department, Forsmarks Kraftgrupp AB.
Other assigments: Representative for Energy & Technology, Confédération Européenne des Cadres (for energy issues). Chairman of Ledarna at Vattenfall and European Works Council at Vattenfall.
Elected: 2013
Board meeting attendance: 11/11

JOEL HERSAN (1979)
Employee representative (deputy)
Education: 3-year upper secondary degree in electricity distribution. Further education in project management, leadership, labour law and health & safety.
Current position: Deputy Employee representative for SEKO Facket för Service och Kommunikation. Vattenfall employee since 1999, currently as Team Manager at Vattenfall Services Nordic AB.
Other assigments: Assignments for SEKO.
Elected: 2023
Board meeting attendance: 8/8

PERSONS WHO LEFT THE BOARD OF DIRECTORS IN 2023

Viktoria Bergman
Tomas Kåberger
Lennart Bengtsson (former Deputy Employee Representative)

Executive Group Management

ANNA BORG (1971)
President and CEO
Vattenfall employee since: 2017 and 1999–2015
Education: Master in Economics and Political Science.
Previous positions: CFO, Vattenfall (2017–October 2020), Senior Vice President, Business Area Markets, Vattenfall (2017), Senior Vice President, Nordic Klarna (2015–2017), Vice President, Marketing and Sales Nordic, Vattenfall (2013–2015), Vice President B2C Sales Europe, Vattenfall (2011–2013), Vice President, Sales Nordic, Vattenfall (2009–2011), Management positions in Strategy, Business Development, Project Management and Trading, Vattenfall (1999–2009).
Other assignments: Board member FAM and Ruter Dam.

In 2023, Anna Borg did not have any significant share-holdings in companies with which Vattenfall has business relations.

KERSTIN AHLFONT (1971)
Senior Vice President, Chief Financial Officer
Vattenfall employee since: 1995
Education: M.Sc. Eng.
Previous positions: Vice President Human Resources (2015–2020) Head of Finance Region Nordic (2014–2015), Vice President Controlling and Continuous Improvement Business Division Production (2012–2014), Head of Project Management Office (2010–2012). Long-standing experience from various management positions within Vattenfall such as Business Group Pan Europe (2009–2010), Business Unit Heat Nordic (2000–2009), Product Manager Specialist (1998–2000), Consultant Vattenfall Energisystem AB (1996–1998) and trainee 1995–1996).
Other assignments: No other assignments.

CHRISTIAN BARTHÉLÉMY (1971)
Senior Vice President, Head of People & Culture
Vattenfall employee since: 2009
Education: Master's in Business Administration.
Previous positions: Vice President Special Projects (2020), Program Director groupwide Outsourcing (2015–2020), Vice President/Head of Real Estate and Facility Services, Head of Facility Services Continental/UK (2011–2015), Program Manager Optimization Program Vattenfall Service Unit Germany (2009–2011); Manager, KPMG Advisory (2001–2009).
Other assignments: Chairman of the Board Vattenfall GmbH.

HELENE BISTRÖM (1962)
Senior Vice President, Head of Business Area Wind
Vattenfall employee since: 2021 and 1983–2010
Education: MSc in Mechanical Engineering.
Previous positions: Executive Vice President Commercial BillerudKorsnäs AB (2019–2021), CEO Infranord (2017–2019), CEO Norrenergi (2011–2014), Member of Group Management Vattenfall AB (2007–2010). Chairman of the Board Sveaskog and Cramo, Board member of Statkraft AS, KTH and Pöyry (2014–2017).
Other assignments: Board member of Boliden AB.

ANNE GYNNERSTEDT (1957)
Senior Vice President, General Counsel and Secretary to the Board of Directors and responsible for Corporate Security & Resilience
Vattenfall employee since: 2012
Education: LL.B.
Previous positions: General Counsel, Secretary to the Board and member of executive management of SAAB AB (2004–2012). General Counsel and member of executive management of the Swedish National Debt Office (2002–2004). Corporate Legal Counsel, SAS (1987–2002).
Other assignments: Board member of Swedish Space Corporation.

Executive Group Management, cont.

MARTIJN HAGENS (1971)
Senior Vice President, Head of Business Area Heat and Customer & Solutions
Vattenfall employee since: 2003
Education: M. Sc. Industrial Engineering and Management.
Previous positions: Head of Business Area Customers & Solutions, Vattenfall (2015–2023) A.I. Head of Business Area Heat, Vattenfall (2022–2023). Head of Heat Continental/UK, Vattenfall (2014–2015). Head of Customer Service, Vattenfall (2011–2013). Head of Customer Care Centre, Nuon (2008–2010). Program Director Unbundling, Nuon (2006–2007). Nuon Consultancy Group & Lean Competence Center, Nuon (2005–2006). Head of Customer Care B2B, Nuon (2003–2004). Management Consultant, Accenture (1996–2002).
Other assignments: Managing Director of Vattenfall N.V. Netherlands.

ÅSA JAMAL (1972)
Senior Vice President, Head of Group Communications
Vattenfall employee since: 2022
Education: BA Political Science and Economics.
Previous positions: SVP Head of Communications, Telia Company (2019–2020), VP Head of Communications Sweden, Telia (2017–2020), SVP Communications, HR and Public Affairs, Bonnier Broadcasting/TV4 (2012–2017), Managing Director and Partner, JKL (2006–2012), Consultant, JKL (2000–2006).
Other assignments: Chairman of the Board of Kasthall, Board Member of Stiftelsen Affärsvärlden.

ANDREAS REGNELL (1966)
Senior Vice President, Head of Strategic Development
Vattenfall employee since: 2010
Education: B.Sc. Econ.
Previous positions: Head of Nordic Business Strategy, Vattenfall (2014–2015). Head of Strategy and Sustainability, Vattenfall (2010–2013). Senior Partner and Managing Director, Managing Partner of Nordic Region, The Boston Consulting Group (1992–2010). Analyst and Account Manager, Citibank (1989–1992).
Other assignments: Chairman of the Board of Green Cargo AB. Board member of HYBRIT Development AB. Board member of Energiföretagen Sverige – Swedenergy AB.

ANNA-KARIN STENBERG (1956)
Senior Vice President, Head of Business Area Markets
Vattenfall employee since: 2018 and 2008–2011
Education: Bachelor of Science in Business Administration and Economics.
Previous positions: Vice President Controlling BA Markets, Head of Corporate Control, Telia Company (2015–2018), CFO Praktikertjänst (2011–2015), CFO Business Group Nordic Vattenfall (2008–2011), Global Manager Atlas Copco ASAP (1999–2008), BA Controller Atlas Copco (1997–1999), CFO ABB Signal (1995–1996), Business Controller Corporate Research ABB Ltd (1991–1995); Head of Treasury Consulting, ABB World Treasury Center (1985–1991), Group Finance ASEA/ABB (1982–1984).
Other assignments: Board member RISE AB.

TORBJÖRN WAHLBORG (1962)
Senior Vice President, chef Business Area Generation
Vattenfall employee since: 1990
Education: M.Sc. Eng.
Previous positions: Head of Business Region Nordic (2014–2015). Head of Business Division Nuclear (2012–2013). Head of Business Division Distribution and Sales (2010–2012). Head of Business Group Nordic (2010). Positions in Vattenfall's Polish operations (1997–2010), including as country manager (2008–2009).
Other assignments: Board member of the Confederation of Swedish Enterprise. Chairman of the Board of EnergiFöretagens Arbetsgivareförening (EFA) AB.

ANNIKA VIKLUND (1967)
Senior Vice President, Head of Distribution Business Area
Vattenfall employee since: 2006
Education: Computer Science, MBA.

Previous positions: Managing Director Vattenfall Eldistribution (2010–2015,2017–), Vice President Distribution Nordic, Vattenfall (2011–2015), Head of Local Networks, Vattenfall Distribution (2008–2010), Head of Marketing, Vattenfall Distribution (2006–2008), Nordic Resource Manager IBM Global Service (2005–2006), Client Unit Executive Manager Public Sector IBM Sweden (2004–2005), Consultant Manager IBM Global Services (1998–2003).
Other assignments: Board member Teracom Samhällsnät and Wise Group AB.

The electricity distribution operations are unbundled from Vattenfall's other operations in accordance with Swedish and British legislation. The head of Business Area distribution it therefore not a member of the EGM.

AGM proposal

The Board's proposed guidelines for remuneration of senior executives
These guidelines cover the President and other members of the Group management. They also cover board members, to the extent their remuneration is not decided by the Annual General Meeting. The guidelines are designed in accordance with the Swedish government's principles for remuneration and other terms of employment for senior executives of state-owned companies, decided on 27 February 2020 (www.regeringen.se), with a deviation as to how the principles are applied in Vattenfall's subsidiaries (see additional information under Explanation for deviations from the government's principles). The guidelines shall apply to remuneration agreed upon, and changes made to already agreed remuneration, after the guidelines have been adopted by the 2024 Annual General Meeting.

The guidelines' promotion of the company's business strategy, long-term interests and sustainability
Vattenfall has defined a strategy with the purpose to enable fossil freedom that drives society forward. The business strategy is further described on the web page https://group.vattenfall.com/who-we-are/about-us/our-goals-and-strategy.

A prerequisite for the successful implementation of Vattenfall's business strategy and safeguarding of its long-term interests, including its sustainability, is that Vattenfall is able to recruit and retain qualified personnel. To this end, it is necessary that Vattenfall offers competitive remuneration. These guidelines enable Vattenfall to offer the senior executives a competitive total remuneration.

Types of remuneration, etc
The remuneration has to be competitive, capped, appropriate and not market-leading in relation to comparable companies, and may consist of the following components: Fixed cash salary, severance pay, pension benefits and other benefits. Variable remuneration must not be paid to senior executives.

Premiums for retirement and survivors' pension benefits shall be defined contribution solutions that do not exceed 30 per cent of fixed annual cash salary, unless benefits are provided through a group pension plan applied to an enterprise. In that case, the contributions are determined by the terms and conditions of the pension plan. Any expansion of a group pension plan above the pay level covered by the plan has to be on a defined contribution basis where the maximum contribution is 30 per cent of the part of salary above the cap. The minimum retirement age must not be under 65 years.

If a salary swap scheme is offered, the solution has to be cost-neutral.
Other benefits may include, among others, company cars. Compensation in connection with work incapacity due to illness shall follow the terms and conditions for sick pay and disability pension set out in applicable collective agreements. Any expansion of group disability insurance above the pay level covered by collective agreement has to correspond to market practice.

As regards employment relationships governed by non-Swedish legislation, the appropriate adjustments may be made concerning pension benefits and other benefits so as to follow mandatory rules or established local practice; in doing so, the overall purpose of these guidelines has to be satisfied as far as possible.

It shall be avoided that a board member or deputy board member is engaged as a consultant in the company and thus receives consultancy fees in addition to the director's fee. If this is the case, the assignment shall be examined by the Board of Directors on a case-by-case basis, be clearly separate from the ordinary board assignment, limited in time and regulated by written agreement between the company and the member. The remuneration for such assignments shall be consistent with these guidelines.

Termination of employment
If the company gives notice of termination, the period of notice must not exceed six months and severance pay must be limited to at most twelve months' salary. Severance pay is to be paid monthly and consist only of the fixed monthly salary with no pension benefits or other benefits added. In case of new employment or some other additional paid assignment or income from business activity, remuneration from the terminating company shall be reduced by an amount equivalent to the new income during the period covered by salary for notice of termination and severance pay. No severance pay is paid if the employee gives notice of termination. Severance pay is paid until the agreed age of retirement at the latest and is never paid after the age of 65 years.

Additionally, remuneration may be paid for non-compete undertakings. Such remuneration shall compensate for loss of income and shall only be paid in so far as the previously employed executive is not entitled to severance pay. The remuneration shall amount to not more than 60 per cent of the monthly income at the time of termination of employment and be paid during the time the non-compete undertaking applies, however not for more than 12 months following termination of employment.

Salary and employment conditions for employees
Remuneration to senior executives shall not be market-leading in relation to comparable companies but should be moderate in character. In the preparation of the Board's proposal for these remuneration guidelines, salary and employment conditions for employees of the company have been taken into account by including information on the employees' total income, the components of the remuneration and increase and growth rate over time, in the Remuneration Committee's and the Board's basis of decision when evaluating whether the guidelines and the limitations set out herein are reasonable.

The decision-making process to determine, review and implement the guidelines
The Board has established a Remuneration Committee. The members of the Remuneration Committee are independent of the company and its executive management. The Committee's tasks include preparing the Board's decision to propose guidelines for remuneration to senior executives. The Board shall annually prepare a proposal for guidelines and annually submit it to the general meeting for decision. The Remuneration Committee shall also follow and assess the application of the guidelines for remuneration to senior executives as well as the current remuneration structures and levels of remuneration in Vattenfall. The President and other members of the executive management do not participate in the Board's processing of and resolutions regarding remuneration-related matters, in so far as they are affected by such matters.

The Board certifies that the remuneration in question is in compliance with the guidelines set by the general meeting in such way that before a decision is made on remuneration and other terms of employment for a senior executive, written documentation shall be available that shows the company's total cost. The proposal for decision shall be drafted by the Board's Remuneration Committee and thereafter be decided by the Board. The company's auditors shall perform a review to ensure that the set remuneration levels and other terms of employment have not been exceeded and, in accordance with the Swedish Companies Act, shall once a year – not later than three weeks before the Annual General Meeting – issue a written statement as to whether the adopted guidelines have been adhered to.

Deviations from the guidelines
The Board of Directors may temporarily resolve to deviate from the guidelines, in whole or in part, if in a specific case there is special cause for the deviate and a deviation is necessary to serve the company's long-term interests, including its sustainability, or to ensure the company's financial viability. The Board makes the decision on deviation from the guidelines. As set out above, the Remuneration Committee's tasks include preparing the Board of Directors' resolutions in remuneration-related matters, which includes any resolutions to deviate from the guidelines. In such a case, the Board of Directors shall disclose the deviation and the reasons therefor.

Explanation for deviations from the government's principles
The deviation from the government's principles for terms of employment for senior executives of state-owned companies was decided on by the owner at the 2023 Annual General Meeting. The deviation entails use of a generally accepted ranking model instead of the definition of senior executive of a subsidiary in the principles for remuneration. The Board is of the opinion that the following, special reasons exist for deviating from the principles.

Like other international groups, Vattenfall governs its operations from a commercial perspective and not according to the legal company structure.
For commercial and legal reasons, the Vattenfall group has approximately 300 subsidiaries. Through application of the government's principles for subsidiaries, a very large number of executives would be considered to be senior, without them having any significant influence on the Group's earnings.

The proposed deviation reflects these circumstances. The criteria used to define what constitutes a senior executive are the individual subsidiary's size based on sales, the number of employees and number of steps in the value chain, as well as the requirements on the individual executive for innovation, knowledge, strategic/visionary role and international responsibility. The International Position Evaluation (IPE) model is used as support for determining in a systematic manner which positions can be considered to be senior. The Board's conclusion is that, in addition to the members of the Executive Group Management, executives in positions of IPE 68 or higher should be considered to be senior.

Proposed distribution of profit
The Annual General Meeting has at its disposal retained profits, including profit for the year, totalling SEK 102,858,512,434. The Board of Directors proposes that the profits be distributed as follows:
To be distributed to the shareholder:
SEK 4,000,000,000
To be carried forward: SEK 98,858,512,434.

The proposed distribution corresponds to a dividend of SEK 30.37 per share. The dividend is proposed to be paid on 10 May 2024.

Statement by the Board of Directors pursuant to the Swedish Companies Act, Chapter 18, Section 4
Based on the Parent Company's and Group's financial position, earnings and cash position, the Board of Directors is of the opinion that the proposed distribution of profits will not lead to any material limitation of the Parent Company's or Group's ability to make any necessary investments or to meet their obligations in the short and long term. In view of the above, the Board of Directors finds the proposed dividend, totalling SEK 4,000,000,000 to be carefully considered and justified.

The Board of Directors' and the President's assurance upon signing the Annual and Sustainability Report for 2023
The undersigned certify that the consolidated accounts and the Annual Report have been prepared in accordance with International Financial Reporting Standards (IFRS), as endorsed by the European Commission, for application within the EU, and generally accepted accounting principles, respectively, and give a true and fair view of the Parent Company's and the Group's financial position and earnings, and that the Administration Report for the Parent Company and the Group presents a fair overview of the development of the Parent Company's and the Group's operations, financial position and earnings and describes significant risks and uncertainties that the companies in the Group face. In addition, the undersigned certify that the sustainability data and the statutory sustainability report according to the Swedish Annual Accounts Act Chapter 6 11§, as defined in the GRI Index on pages 171–172, have been prepared in accordance with the GRI Standards, and have been adopted by the Board of Directors.

Solna, 21 March 2024

Mats Granryd, Chairman of the Board

Per Lindberg | Ann Carlsson Meyer | Håkan Erixon | Carola Puusteli

Ingemar Engkvist | Pär Ekeroth | Robert Lönnqvist

Rolf Ohlsson | Jeanette Regin | Fredrik Rystedt

Anna Borg, President and CEO

Our auditor's report was submitted on 27 March 2024
PricewaterhouseCoopers AB

Eva Carlsvi
Auditor-In-Charge, Authorised Public Accountant

Aleksander Lyckow
Authorised Public Accountant

FINANCIAL INFORMATION

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Financial information

Amounts in SEK million unless indicated otherwise.

Notes to the Consolidated accounts

Notes to the Parent Company accounts

Vattenfall's financial performance

Underlying operating profit amounted to SEK 20.0 billion in 2023, a decrease of SEK 15.1 billion compared with 2022. Lower contributions from operating segments Power Generation, Wind and Distribution was partially offset by higher contribution from Heat and Customers & Solutions.

Amounts in SEK million	2023	2022
Net sales	290,168	239,644
Operating profit before depreciation, amortisation and impairment losses (EBITDA)	39,685	30,513
Underlying operating profit before depreciation, amortisation and impairment losses	40,340	53,521
Operating profit (EBIT)	16,991	12,645
Underlying operating profit	20,005	35,075[1]
Profit for the year	10,395	21
Funds from operations (FFO)	30,058	42,194
Net debt	68,424	3,858
Adjusted net debt	139,518	76,765
Electricity generation, TWh	100.9	108.9
– of which, hydro power	36.1	40.5
– of which, nuclear power	37.4	39.6
– of which, fossil-based power	13.3	16.3
– of which, wind power	13.8	12.2
– of which, biomass, waste	0.3	0.3
Sales of electricity, TWh	168	165.3
Sales of heat, TWh	13.5	14.1
Sales of gas, TWh	44.5	47.3
CO_2 equivalents, Mtonnes	7.9	9.5
Work-related accidents, number (LTIF)	1.5	1.1
Number of employees, full-time equivalents	20,995	19,638
Key ratios		
Return on capital employed, %	5.3	4.2
Net debt/equity, %	49.1	3.0
FFO/adjusted net debt, %	21.5	55.0
Adjusted net debt/EBITDA, times	3.5	2.5

[1] The value has been adjusted compared with information previously published in Vattenfall's financial reports.

Sustainability reporting
In addition to reporting on financial performance, Vattenfall also reports on its sustainability performance. In accordance with Ch. 6 § 11 of the Swedish Annual Accounts Act, Vattenfall has chosen to prepare the statutory sustainability report as a separate report from the Annual Report. The Sustainability Report was delivered to the auditor at the same time as the Annual Report. The Sustainability Report, which can be found on pages 7, 18, 24–25, 50, 52–76, 78–79, 84–91, 102–103, and 175–189 of this printed document, pertains to Vattenfall and its subsidiaries.

Wholesale price trend
The average Nordic electricity spot prices were 60% lower in 2023 than in 2022, mainly owing to higher precipitation, more wind and higher temperatures having a downward pressure on the Nordic prices. Continental prices were largely influenced by well-filled gas stocks, high generation from renewable energy sources and increased nuclear power generation in France.

Electricity generation
Total electricity generation in 2023 was 100.9 TWh (108.9). Hydro power generation amounted to 36.1 TWh (40.5). Nordic reservoir levels were at 56% (59) of capacity at year-end, which is 1 per centage point below the normal level.

Nuclear power generation decreased by 2.2 TWh to 37.4 TWh (39.6), due to the delayed restart of Ringhals 4 and lower availability from Forsmark 2. Combined availability for Vattenfall's nuclear power plants for 2023 was 80.5% (83.6). Forsmark had an availability of 83.7% (90.1) and generation of 24.3 TWh (25.5). Ringhals had an availability of 70.0% (73.5) and generation of 13.1 TWh (13.9).

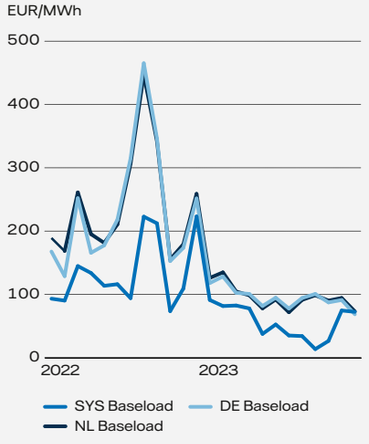
Electricity generation from wind power during 2023 amounted to 13.8 TWh (12.2), corresponding to an increase of 12% mainly owing to new capacity from (Hollandse Kust Zuid in the Netherlands).

Fossil-based power generation totalled 13.3 TWh (16.3).

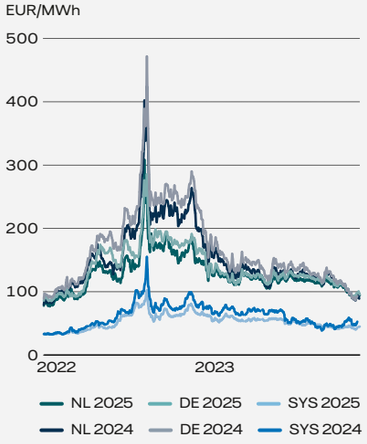
Sales of electricity, heat and gas
Sales of electricity, excluding sales to Nord Pool Spot and deliveries to minority shareholders, increased by 14.5 TWh to 125.9 TWh (111.4) mainly driven by an increased German customer base and higher volumes sold to to retail customers in France. Sales of gas decreased by 1.8 TWh to 44.5 TWh (47.3) due to a lower customer base and decreased average consumption per customer. Sales of heat decreased by 0.6 TWh to 13.5 TWh (14.1) as a result of warmer weather.

Vattenfall's price hedging
Vattenfall continuously hedges its future electricity generation through sales in the forward and futures markets. Spot prices therefore have only a limited impact on Vattenfall's earnings in the near term. With the current portfolio structure, the dominant market risk exposure is coupled to Nordic nuclear and hydro power generation. We generate a substantial share of regulated revenue from electricity distribution, and heat as well as (partially) subsidised wind power, which diversifies the risk exposure in our portfolio. However, Vattenfall has price exposure between electricity and used fuel/emissions allowances on the continent. This has a lower risk profile than the outright power exposure in the Nordic countries. Price risk for uranium is limited, as uranium accounts for a relatively small share of the total cost of nuclear power generation.

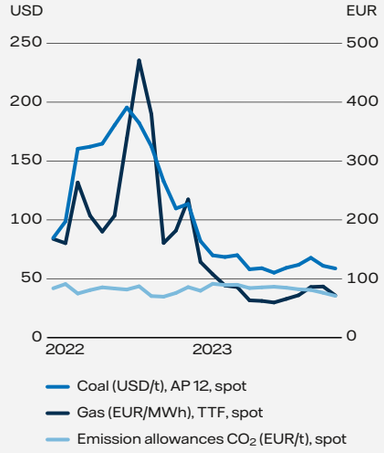
Electricity spot prices in the Nordic countries, Germany and the Netherlands, monthly averages

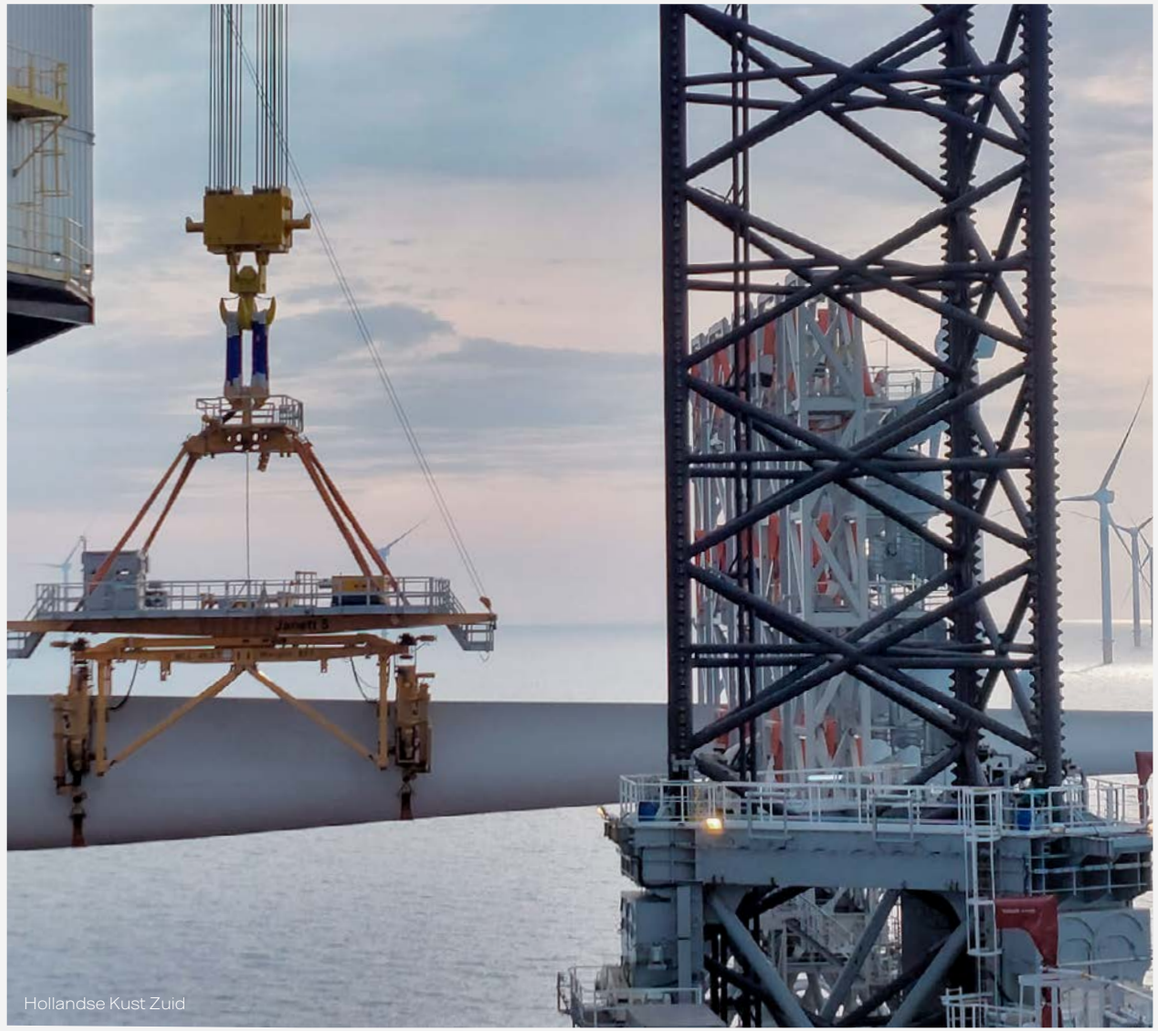


Electricity futures prices in the Nordic countries, Germany and the Netherlands



Price trend for coal, gas and CO_2 emission allowances




Hollandse Kust Zuid

Comments on the consolidated income statement

Sales

	External net sales		Internal net sales		Total net sales	
	2023	2022	2023	2022	2023	2022
Customers & Solutions	207,303	174,026	9,036	9,125	216,339	183,151
Power Generation	37,760	28,193	169,750	177,595	207,510	205,788
Wind	8,537	4,308	16,836	24,801	25,373	29,109
Heat	25,844	20,933	18,358	39,572	44,202	60,505
Distribution	10,445	11,733	694	764	11,139	12,497
Other[1]	279	451	9,678	8,079	9,957	8,530
Eliminations	–	–	-224,352	-259,936	-224,352	-259,936
Total	290,168	239,644	–	–	290,168	239,644

[1] Other pertains mainly to all Staff functions, including Treasury and Shared Service Centres.

Consolidated net sales increased by SEK 50.5 billion (including positive currency effects of SEK 16.8 billion). The increase is mainly attributable to higher prices in customer sales and to some extent increased volumes in the business segment in France

Underlying operating profit

Amounts in SEK million	2023	2022
Operating profit (EBIT)	16,991	12,645
Depreciation, amortisation and impairment losses	22,694	17,868
Operating profit before depreciation, amortisation and impairment losses (EBITDA)	**39,685**	**30,513**
Items affecting comparability excl. impairment losses and reversed impairment losses	655	23,008[2]
Underlying operating profit before depreciation, amortisation and impairment losses	**40,340**	**53,521**
Operating profit (EBIT)	16,991	12,645
Items affecting comparability[1]	3,014	22,430[2]
Underlying operating profit	**20,005**	**35,075[2]**

[1] See definitions and calculations of key ratios for definition of this Alternative Performance Measure.
[2] The value has been adjusted compared with information previously published in Vattenfall's financial report.

The underlying operating profit decreased by SEK 15.1 billion, which is explained by:

- Lower profit contribution from the Power Generation operating segment (SEK –11.3 billion) mainly as a result of a negative effect of price hedging on the Continent, lower electricity prices in the Nordics and lower production volumes. This was partially offset by a positive effect of Nordic price hedging.
- Lower profit contribution from the Wind operating segment (SEK –9.9 billion) driven by lower electricity prices. Higher personnel costs, maintenance costs and depreciation mostly related to new assets had an additional negative impact.
- Lower profit contribution from the Distribution operating segment (SEK –0.5 billion), which is explained by a temporary reduction in the electricity grid fee during the period 1 July–31 December 2023 as well as by higher personnel costs, maintenance costs and depreciation as a result of growth.
- Higher profit contribution from the Heat operating segment (SEK +6.8 billion) mainly as a result of price adjustments for heat in Berlin and the Netherlands, which compensate for the higher fuel costs in 2022.
- Slightly higher profit contribution from the operating segment Customer & Solutions (SEK +0.2 billion) as a result of an increased number of electricity customers in Germany, more business customers in the Netherlands as well as increased customer sales in France.
- Other items, net (SEK –0.3 billion).

Operating segments

	Rörelseresultat (EBIT)		Underliggande rörelseresultat	
	2023	2022	2023	2022
Customers & Solutions	7,571	7,416	7,566	7,413
Power Generation	2,457	-7,949	3,075	14,332[2]
Wind	6,646	16,436	6,544	16,479
Heat	434	-3,790	3,228	-3,578
Distribution	1,530	2,086	1,526	2,070
Other[1]	-1,638	-1,503	-1,925	-1,590
Eliminations	-9	-51	-9	-51
Total	16,991	12,645	20,005	35,075

	2023	2022
Underlying operating profit	20,005	30
Items affecting comparability (for specification, see Income statement)	-3014	-22,430
Financial net	-769	-12,732
Profit before income taxes	**16,222**	**-35,132**

[1] Other pertains mainly to all Staff functions, including Treasury and Shared Service Centres.
[2] The value has been adjusted compared with information previously published in Vattenfall's financial report.

The underlying operating profit for the Customer & Solutions operating segment increased by SEK 0.2 billion compared to 2022 mainly due to a growing customer base in Germany, an increase in business customers in the Netherlands and higher sales to retail customers in France. The underlying operating profit for the Power Generation operating segment decreased by SEK 11.3 mainly attributed to a negative price effect from continental hedges, lower prices in the Nordics as well as lower production volumes. The underlying operating profit for the operating segment Heat increased by SEK 6.8 billion mainly as a result of price adjustments for heating in Berlin and the Netherlands, which compensate for the higher fuel costs in 2022. The underlying operating profit for the Distribution operating segment decreased by SEK 0.5 billion, due to a temporary reduction of the electricity grid tariff during 1st July – 31st December 2023, as well as higher personnel costs, maintenance costs and depreciation as a result of growth. This was counteracted by extraordinary high costs for the transmission network during 2022. Read more about the Group's operating segments in Note 7 to the consolidated accounts, Operating segments.

Items affecting comparability that affected operating profit

Amounts in SEK million	2023	2022
Capital gains	240	312
Capital losses	-184	-122
Impairment losses	-6,520	-90
Reversed impairment losses	4,161	668
Provisions	1,243	-2,968[1]
Unrealised changes in the fair value of energy derivatives	-1,594	-17,709
Unrealised changes in the fair value of inventories	-662	-2,406
Other infrequent items affecting comparability	302	-115
Total	**-3,014**	**-22,430**

[1] The value has been adjusted compared with information previously published in Vattenfall's financial reports.

Items affecting comparability during January–December 2023 amounted to SEK -3.0 billion, which mainly relates to impairment losses, reversed impairment losses, changes in the fair value of energy derivatives and changes in provisions.

Items affecting comparability during January–December 2023 amounted to SEK -22.4 billion, most of which pertains to changes in market value for energy derivatives and inventories (SEK -20.1 billion). The increase in provisions pertains mainly to the nuclear operations.

Costs for CO_2 emission allowances

Costs for CO_2 emission allowances for own use amounted to SEK 6.2 billion in 2023, compared with SEK 4.2 billion in 2022. The increase is mainly attributable to higher average prices for CO_2 emission allowances.

Research and development

Vattenfall conducts research and development (R&D) to contribute to and support the execution of its strategy in both the short and long term. In 2023 Vattenfall invested SEK 464 million (479) in R&D. For further information on Vattenfall's R&D activities, see page 23.

Financial items

Financial items amounted to SEK -0.8 billion in 2023, compared to -12.7 billion in 2022. The decrease was primarily driven by the higher return from the Nuclear Waste Fund which contributed positively during 2023.

Taxes

For 2023, the Group reports a positive tax expense of SEK 5.8 billion based on a reported profit before tax of SEK 16.2 billion SEK. The effective tax rate amounts to 35.8%, which is a high tax rate compared with a theoretical tax rate. The explanation for the high tax rate is primarily due to a write-down of deferred tax assets in Germany. For 2022, the Group reported a small tax income of SEK 0.1 billion. For more information, see the Group's Note 13, Income taxes.

Comments on the consolidated balance sheet

Capital employed

Amounts in SEK million	31 December 2023	31 December 2022
Intangible assets: current and non-current	24,583	21,390
Property, plant and equipment	263,031	276,901
Participations in associated companies and joint arrangements	4,140	7,094
Deferred and current tax assets	14,523	16,293
Non-current noninterest-bearing receivables	639	811
Contract assets	119	226
Inventories	18,602	20,969
Trade receivables and other receivables	44,884	54,016
Prepaid expenses and accrued income	17,284	20,775
Unavailable liquidity	5,446	2,996
Other	1,183	805
Total assets excl. financial assets	**394,434**	**422,276**
Deferred and current tax liabilities	-15,151	-14,849
Other noninterest-bearing liabilities	-1,824	-2,108
Contract liabilities	-10,651	-9,809
Trade payable and other liabilities	-39,041	-48,797
Accrued expenses and deferred income	-22,855	-23,105
Other	-1,297	-1,562
Total noninterest-bearing liabilities	**-90,819**	**-100,230**
Other interest-bearing provisions not related to adjusted net debt[1]	-6,852	-10,114
Adjustment related to assets/liabilities held for sale	25,278	6,109
Capital employed[2]	**322,041**	**318,041**
Capital employed, average	**320,041**	**299,461**

[1] Includes personnel-related provisions for non-pension purposes, provisions for tax and legal disputes and certain other provisions.

[2] See Definitions and calculations of key ratios for definitions of this Alternative Performance Measure.

Financial position

Amounts in SEK million	2023	2022
Reported cash and cash equivalents and short-term investments	52,270	172,386
Committed credit facilities (unutilised)	33.3	70,067

Cash, bank and similar assets and short-term investments fell by SEK 120.1 billion compared to 31 December 2022. Confirmed credit facilities consist of a Revolving Credit Facility of EUR 2.0 billion with a maturity date of November 2025, and a Committed Credit Facility of EUR 1.0 billion with a maturity date of 8 December 2024.

As per 31 December 2023, available liquid assets and/or committed credit facilities amounted to 27.6 per cent of net sales. Vattenfall's target is to maintain a level of no less than 10 per cent of the Group's net sales, but at least the equivalent of the next 90 days' maturities.

Interest-bearing liabilities and net debt as per 31 December

Amounts in SEK million	2023	2022
Hybrid Capital[1]	-20,987	-21,931
Bond issues and liabilities to credit institutions	-61,956	-63,937
Short-term debt, commercial papers and repo	-20,071	-71,017
Liabilities to associated companies	-718	-930
Liabilities to owners of non-controlling interests	-10,065	-9,667
Other liabilities	-7,312	-9,283
Total interest-bearing liabilities[1]	**-121,109**	**-176,765**
Cash and cash equivalents	27,682	106,540
Short-term investments	24,588	65,846
Loans to owners of non-controlling interests in foreign Group companies	415	521
Net debt[1]	**-68,424**	**-3,858**

[1] See Definitions and calculations of key ratios for definitions of this Alternative Performance Measure.

Net debt increased by SEK 64.6 billion to SEK 68.4 billion and adjusted net debt increased by SEK 62.8 billion to SEK 139.5 billion compared to 31 December 2022. This is mainly derived from negative cash flow after investments (SEK 63.9 billion), where of margin calls amounted to SEK 74.1 billion.

Adjusted gross and net debt as per 31 December

Amounts in SEK million	2023	2022
Total interest-bearing liabilities	-121,109	-176,765
50% of Hybrid Capital[1]	10,494	10,966
Present value of pension obligations	-28,092	-27,812
Provisions for gas and wind operations and other environment-related provisions	-15,404	-11,454
Provisions for nuclear power (net)[2]	-46,011	-53,930
Margin calls received	287	2,142
Liabilities to owners of non-controlling interests due to consortium agreements	10,065	9,667
Adjustment related to assets/liabilities held for sale	3,429	1,031
Adjusted gross debt	**-186,342**	**-246,155**
Reported cash and cash equivalents and short-term investments	52,270	172,386
Unavailable liquidity	-5,446	-2,996
Adjusted cash and cash equivalents and short-term investments	**46,824**	**169,390**
Adjusted net debt[3]	**-139,518**	**-76,765**

[1] 50% of Hybrid Capital is treated as equity by the rating agencies, which thereby reduces adjusted net debt.

[2] The calculation is based on Vattenfall's share of ownership in the respective nuclear power plants, less Vattenfall's share in the Swedish Nuclear Waste Fund and liabilities to associated companies. Vattenfall has the following ownership interests in the respective plants: Forsmark 66%, Ringhals 70.4%, Brokdorf 20%, Brunsbüttel 66.7%, Krümmel 50% and Stade 33.3%. (According to a special agreement, Vattenfall is responsible for 100% of the provisions for Ringhals.)

[3] See Definitions and calculations of key ratios for definitions of this Alternative Performance Measure.

In their assessments of a company's credit strength, the rating agencies and analysts regularly make a number of adjustments of various items on the balance sheet in order to arrive at a figure for adjusted gross and net debt. Vattenfall's calculations of its adjusted gross and net debt are shown in the table above.

The adjusted net debt was also affected by higher provisions for future decommissioning of wind power (SEK 3.9 billion) and higher pension provisions (SEK 0.3 billion) which was offset by lower provisions for nuclear power (SEK 7.9 billion)

Equity

The Group's equity increased by SEK 10.5 billion. The increase is mainly attributable to the profit for the period of SEK 10.4 billion and shareholder contributions from minority shareholders totalling to SEK 5.9 billion. In addition, Vattenfall has paid a dividend to the Swedish state of SEK 4.0 billion and has a negative effect in other comprehensive income of net of SEK 2.1 billion.

Comments on the consolidated statement of cash flows

Cash flow from operating activities

Amounts in SEK million	2023	2022
Funds from operations (FFO)	30,058	42,194
Cash flow from changes in operating assets and operating liabilities (working capital)	-54,682	-41,040
Cash flow from operating activities	-24,624	1,154

Funds from operations (FFO) fell by SEK 12.1 billion primarily due to lower underlying operating profit before depreciation and impairments (EBITDA). The cash flow from changes in working capital amounted to SEK -54.7 billion. The biggest contributing factor was the net received and paid margin calls (SEK -74.1 billion). This was partly offset by reduced working capital in the segments Power Generation (SEK +6.3 billion) and Customers & Solutions (SEK +3.6 billion) as well as in treasury operations (SEK +5.1 billion). In addition, the working capital was affected by the reduction in inventory (SEK +2.1 billion).

Cash flow from investing activities

Amounts in SEK million	2023	2022
Replacement investments	18,498	12,280
Growth investments	23,842	12,344
Total investments	**42,340**	**24,624**
Total investments	**3,060**	**751**
– of which, shares	1,746	11

Investments are specified in the to the right.

Specification of investments

Amounts in SEK million	2023	2022
Hydro power	883	785
Nuclear power	1,747	1,687
Gas	144	255
Wind power	19,782	16,341
Biomass, waste	25	38
Total electricity generation	**22,581**	**19,106**
Fossil-based power	1,104	1,013
Heat networks	1,688	1,471
Other	693	183
Total CHP/heat	**3,485**	**2,667**
Electricity networks	6,861	5,525
Total electricity networks	**6,861**	**5,525**
Purchases of shares, shareholder contributions	1,438	652
Other	2,728	1,831
Total investments	**37,093**	**29,781**
Accrued investments (–)/release of accrued investments (+)	5,328	-4,214
Cash and cash equivalents in acquired companies	-81	-943
Total investments with cash flow effect	**42,340**	**24,624**

Cash flow from financing activities

Cash flow from financing activities amounted to SEK 16.6 billion (19.7) in 2023.

Consolidated income statement

Amounts in SEK million, 1 January–31 December	Note	2023	2022
Net sales	6, 8	290,168	239,644
Cost of purchases	7	-207,113	-167,013
Other external expenses	10	-21,675	-20,908
Personnel expenses	42	-22,899	-20,557
Other operating income and expenses, net	47	1,215	-790
Participations in the results of associated companies	19	-11	137
Operating profit before depreciation, amortisation and impairment losses (EBITDA)	8	**39,685**	**30,513**
Depreciation, amortisation and impairments	9	-22,694	-17,868
Operating profit (EBIT)[1]	8	**16,991**	**12,645**
Financial income[4]	12	3,589	854
Financial expenses[2, 3, 4]	12	-8,746	-7,978
Return from the Swedish Nuclear Waste Fund	20	4,388	-5,608
Profit before income taxes		**16,222**	**-87**
Income taxes expense	13	-5,827	108
Profit for the year		**10,395**	**21**
Attributable to owner of the Parent Company		8,646	-1,102
Attributable to non-controlling interests		1,749	1,123
Supplementary information			
Underlying operating profit before depreciation, amortisation and impairment losses[5]	8	40,340	53,521[6]
Underlying operating profit[5]	8	20,005	35,075[6]
Financial items, net excl. discounting effects attributable to provisions and return from the Swedish Nuclear Waste Fund		-3,024	-5,115
[1] Including items affecting comparability.[5]		-3,014	-22,430
[2] Including interest components related to pension costs.		-1,096	-578
[3] Including discounting effects attributable to provisions.		-2,133	-2,009
[4] Items affecting comparability recognised as financial income and expenses, net.		–	6

[5] See Definitions and calculations of key ratios for the definitions of the Alternative Performance Measures.

[6] The value has been adjusted compared with information previously published in Vattenfall's financial reports, see note 2 Important changes in the financial statements compared with the preceding year.

Consolidated statement of comprehensive income

Amounts in SEK million, 1 January–31 December	2023	2022
Profit for the year	**10,395**	**21**
Other comprehensive income		
Items that will be reclassified to profit or loss when specific conditions are met		
Cash flow hedges – changes in fair value	-10,776	14,478
Cash flow hedges – dissolved against income statement	14,218	-106,390
Cash flow hedges – transferred to cost of hedged item	-24	-16
Hedging of net investments in foreign operations	115	-2,777
Translation differences, divested companies	-114	–
Translation differences	-59	14,684
Income taxes related to items that will be reclassified	-2,596	25,498
Total Items that will be reclassified to profit or loss when specific conditions are met	**764**	**-54,523**
Items that will not be reclassified to profit or loss		
Remeasurement pertaining to defined benefit obligations	-3,591	13,178
Income taxes related to items that will not be reclassified	732	-3,582
Total Items that will not be reclassified to profit or loss	**-2,859**	**9,596**
Total other comprehensive income, net after income taxes	**-2,095**	**-44,927**
Total comprehensive income for the year	**8,300**	**-44,906**
Attributable to owner of the Parent Company	6,898	-47,227
Attributable to non-controlling interests	1,402	2,321

Consolidated balance sheet

Amounts in SEK million	Note	31 December 2023	31 December 2022
Assets			
Non-current assets			
Intangible assets: non-current	16	18,378	18,347
Property, plant and equipment	17	263,031	276,901
Participations in associated companies and joint arrangements	19	4,140	7,094
Other shares and participations		330	324
Share in the Swedish Nuclear Waste Fund	20	52,175	47,682[1]
Derivative assets	36	7,774	31,187
Deferred tax assets	13	12,242	16,133
Contract assets	6	13	51
Other non-current receivables		4,600	3,246
Total non-current assets		**362,683**	**400,965**
Current assets			
Inventories	21	18,602	20,969
Intangible assets: current	22	6,205	3,043
Trade receivables and other receivables	23	44,884	54,016
Contract assets	6	106	175
Advance payments paid	24	18,836	20,199
Derivative assets	36	24,177	89,692
Prepaid expenses and accrued income	25	17,284	20,775
Current tax assets	13	2,281	160
Short-term investments	26	24,588	65,846
Cash and cash equivalents	27	27,682	106,540
Assets held for sale	28	41,263	9,947
Total current assets		**225,908**	**391,362**
Total assets	8	**588,591**	**792,327**

Amounts in SEK million	Note	31 December 2023	31 December 2022
Equity and liabilities			
Equity attributable to owners of the Parent Company			
Share capital		6,585	6,585
Reserve for cash flow hedges		-29,188	-30,034
Translation reserve		15,860	15,699
Retained earnings incl. profit for the year		120,209	118,223
Total equity attributable to owners of the Parent Company	38	**113,466**	**110,473**
Equity attributable to non-controlling interests		**25,963**	**18,464**
Total equity		**139,429**	**128,937**
Non-current liabilities			
Hybrid Capital	29	20,987	17,760
Other interest-bearing liabilities	29	57,746	78,848
Pension provisions	30	28,092	27,812
Other interest-bearing provisions	31	125,023	128,239
Derivative liabilities	36	14,906	45,337
Deferred tax liabilities	13	13,353	13,648
Contract liabilities	6	9,924	8,936
Other noninterest-bearing liabilities	32	1,824	2,108
Total non-current liabilities		**271,855**	**322,688**
Current liabilities			
Trade payables and other liabilities	33	39,041	48,797
Contract liabilities	6	727	873
Advance payments received	34	2,449	26,692
Derivative liabilities	36	49,017	151,657
Accrued expenses and deferred income	35	22,855	23,105
Current tax liabilities	13	1,798	1,201
Hybrid Capital	40	–	4,171
Other interest-bearing liabilities	29	42,376	75,986
Interest-bearing provisions	31	3,059	4,382
Liabilities associated with assets held for sale	28	15,985	3,838
Total current liabilities		**177,307**	**340,702**
Total equity and liabilities		**588,591**	**792,327**

See also information on Collateral (Note 39), Contingent liabilities (Note 40) and Commitments under consortium agreements (Note 41), in the notes to the consolidated accounts.

Consolidated statement of cash flows

Amounts in SEK million, 1 January–31 December	Note	2023	2022
Operating activities			
Operating profit before depreciation, amortisation and impairment losses (EBITDA)		39,685	30,513
Tax paid		-4,696	-4,360
Capital gains/losses, net		-56	-189
Interest received		3,517	897
Interest paid		-4,768	-3,811
Other, incl. non-cash items	37	-3,624	19,144
Funds from operations (FFO)[1]		**30,058**	**42,194**
Changes in inventories		2,065	20,146
Changes in operating receivables		2,755	-11,196
Changes in operating liabilities		12,559	12,004
Margin calls		-74,127	-63,128
Other changes		2,066	1,134
Cash flow from changes in operating assets and operating liabilities		**-54,682**	**-41,040**
Cash flow from operating activities		**-24,624**	**1,154**
Investing activities			
Acquisitions in Group companies	4	-1,206	528
Investments in associated companies and other shares and participations		-151	-238
Other investments in non-current assets	37	-40,983	-24,914
Total investments		**-42,340**	**-24,624**
Divestments	37	3,060	751
Changes in short-term investments		43,430	42,877
Cash flow from investing activities		**4,150**	**19,004**
Cash flow before financing activities		**-20,474**	**20,158**

Amounts in SEK million, 1 January–31 December	Note	2023	2022
Financing activities			
Changes in loans to owners of non-controlling interests in foreign Group companies		107	-260
Loans raised[2]		12,654	97,400
Repayment of other debt[2]		-70,413	-53,997
Divestment of shares in Group companies to owners of non-controlling interests		698	–
Redemption of Hybrid Capital		-4,331	–
Issue of Hybrid Capital		3,215	–
Dividends paid to owners		-4,428	-25,360
Contribution to non-controlling interest		-84	-1,791
Contribution from non-controlling interest		5,951	3,697
Cash flow from financing activities		**-56,631**	**19,689**
Cash flow for the year		**-77,105**	**39,847**
Cash and cash equivalents			
Cash and cash equivalents at start of year		106,540	68,176
Cash and cash equivalents included in assets held for sale		-2,614	-4,307
Cash flow for the year		-77,105	39,847
Translation differences		861	2,824
Cash and cash equivalents at end of year		**27,682**	**106,540**

[1] See Definitions and calculations of key ratios for the definition of this Alternative Performance Measure.
[2] Short-term borrowings in which the duration is three months or shorter are reported net.

Supplementary information

Amounts in SEK million, 1 January–31 December	2023	2022
Cash flow before financing activities	**-20,474**	**20,158**
Change in margin calls from Treasury operations	2,444	-521
Changes in short-term investments	-43,430	-42,877
Financing activities		
Divestment of shares in Group companies to owners of non-controlling interests	698	–
Dividends paid to owners	-4,428	-25,360
Contribution from owners of non-controlling interests	5,867	1,906
Cash flow after dividend	**-59,323**	**-46,694**
Cash flow from operating activities	-24,624	1,154
Maintenance investments	-18,498	-12,280
Free cash flow[1]	**-43,122**	**-11,126**
Analysis of change in net debt		
Net debt at start of year	-3,858	44,703
Cash flow after dividends	-59,323	-46,694
Changes as a result of valuation at fair value	-16	2,225
Change in interest-bearing liabilities for leasing	-1,254	-1,318
Changes in liabilities pertaining to acquisitions of Group companies, discounting effects	-344	–
Cash and cash equivalents included in assets held for sale	-2,614	-4,307
Translation differences on net debt	-1,060	1,533
Net debt at end of year	**-68,424**	**-3,858**

[1] See Definitions and calculations of key ratios for the definition of this Alternative Performance Measure.

	Liquid funds bank overdraft	Short-term investments	Financial leasing agreements	Current liabilities	Non-current liabilities	Total
Net debt as at 1 January 2022	**68,176**	**102,935**	**-6,150**	**-54,339**	**-65,919**	**44,703**
Cashflow	39,847	-43,137	1,034	-22,745	-21,693	**-46,694**
Change in interest-bearing leasing liabilities	–	–	-1,318	–	–	**-1,318**
Translation differences on net debt	2,824	6,569	-295	-4,382	-3,183	**1,533**
Assets held for sale	-4,307	–	–	–	–	**-4,307**
Other non-cash items	–	–	–	2,225	–	**2,225**
Net debt as at 31 December 2022	**106,540**	**66,367**	**-6,729**	**-79,241**	**-90,795**	**-3,858**
Cashflow	-77,105	-41,093	1,697	40,574	16,604	**-59,323**
Change in interest-bearing leasing liabilities	–	–	-1,254	–	–	**-1,254**
Translation differences on net debt	861	-270	-57	-2,846	1,252	**-1,060**
Assets held for sale	-2,614	–	–	–	–	**-2,614**
Other non-cash items	–	–	45	–	-360	**-315**
Net debt as at 31 December 2023	**27,682**	**25,004**	**-6,298**	**-41,513**	**-73,299**	**-68,424**

Consolidated statement of changes in equity

Amounts in SEK million	Attributable to owner of the Parent Company					Attributable to non-controlling interests	Total equity
	Share capital	Reserve for hedges	Translation reserve	Retained earnings	Total		
Balance brought forward 2023	**6,585**	**-30,034**	**15,699**	**118,223**	**110,473**	**18,464**	**128,937**
Profit for the year	**–**	**–**	**–**	**8,646**	**8,646**	**1,749**	**10,395**
Cash flow hedges – changes in fair value	–	-10,776	–	–	**-10,776**	–	**-10,776**
Cash flow hedges – dissolved against income statement	–	14,218	–	–	**14,218**	–	**14,218**
Cash flow hedges – transferred to cost of hedged item	–	-24	–	–	**-24**	–	**-24**
Hedging of net investments in foreign operations	–	–	115	–	**115**	–	**115**
Translation differences, divested companies	–	–	-114	–	**-114**	–	**-114**
Translation differences	–	–	184	–	**184**	-243	**-59**
Remeasurement pertaining to defined benefit obligations	–	–	–	-3,460	**-3,460**	-131	**-3,591**
Income taxes related to other comprehensive income	–	-2,572	-24	705	**-1,891**	27	**-1,864**
Total other comprehensive income for the year	**–**	**846**	**161**	**-2,755**	**-1,748**	**-347**	**-2,095**
Total comprehensive income for the year	**–**	**846**	**161**	**5,891**	**6,898**	**1,402**	**8,300**
Dividends paid to owners	–	–	–	-4,000	**-4,000**	-428	**-4,428**
Group contributions from (+)/to (–) owners of non-controlling interests	–	–	–	–	**–**	1	**1**
Changes in ownership in Group companies on divestments of shares to owners of non-controlling interests	–	–	–	33	**33**	658	**691**
Contribution to/from non-controlling interest	–	–	–	–	**–**	5,867	**5,867**
Other changes	–	–	–	62	**62**	-1	**61**
Total transactions with equity holders	**–**	**–**	**–**	**-3,905**	**-3,905**	**6,097**	**2,192**
Balance carried forward 2023	**6,585**	**-29,188**	**15,860**	**120,209**	**113,466**	**25,963**	**139,429**

Amounts in SEK million	Attributable to owner of the Parent Company					Attributable to non-controlling interests	Total equity
	Share capital	Reserve for hedges	Translation reserve	Retained earnings	Total		
Balance brought forward 2022	**6,585**	**36,968**	**4,163**	**132,994**	**180,710**	**16,472**	**197,182**
Profit for the year	**–**	**–**	**–**	**-1,102**	**-1,102**	**1,123**	**21**
Cash flow hedges – changes in fair value	–	14,478	–	–	**14,478**	–	**14,478**
Cash flow hedges – dissolved against income statement	–	-106,390	–	–	**-106,390**	–	**-106,390**
Cash flow hedges – transferred to cost of hedged item	–	-16	–	–	**-16**	–	**-16**
Hedging of net investments in foreign operations	–	–	-2,777	–	**-2,777**	–	**-2,777**
Translation differences	–	–	13,741	–	**13,741**	943	**14,684**
Remeasurement pertaining to defined benefit obligations	–	–	–	12,857	**12,857**	321	**13,178**
Income taxes related to other comprehensive income	–	24,926	572	-3,516	**21,982**	-66	**21,916**
Total other comprehensive income for the year	**–**	**-67,002**	**11,536**	**9,341**	**-46,125**	**1,198**	**-44,927**
Total comprehensive income for the year	**–**	**-67,002**	**11,536**	**8,239**	**-47,227**	**2,321**	**-44,906**
Dividends paid to owners	–	–	–	-23,414	**-23,414**	-1,946	**-25,360**
Group contributions from(+)/to(–) owners of non-controlling interests	–	–	–	–	**–**	-131	**-131**
Changes in ownership in Group companies on divestments of shares to owners of non-controlling interests	–	–	–	118	**118**	–	**118**
Contribution to/from non-controlling interest	–	–	–	–	**–**	1,906	**1,906**
Changes as a result of changed ownership	–	–	–	–	**–**	2	**2**
Other changes	–	–	–	286	**286**	-160	**126**
Total transactions with equity holders	**–**	**–**	**–**	**-23,010**	**-23,010**	**-329**	**-23,339**
Balance carried forward 2022	**6,585**	**-30,034**	**15,699**	**118,223**	**110,473**	**18,464**	**128,937**

See also Note 38 to the consolidated accounts, Specifications of equity.

Note 1 Company information

The Annual and Sustainability Report was approved in accordance with a decision by the Board of directors on 21 March 2024. The Parent Company, Vattenfall AB (publ) with corporate identity number 556036-2138, is a limited liability company with its registered office in Solna, Sweden and with the mailing address SE-169 92 Stockholm, Sweden. The consolidated balance sheet and income statement included in Vattenfall's Annual and Sustainability Report will be submitted at the Annual General Meeting (AGM) on 29 April 2024. The main activities of the Group are described in Note 8 to the consolidated accounts, Operating segments.

Note 2 Important changes in the financial statements compared with the preceding year

Recalculation of financial statements for 2022
No recalculations were made.

Presentation av Koncernens finansiella rapporter
In the Annual and Sustainability Report for 2023 the following amendments in the presentations were made compared to Vattenfall's 2022 Annual and Sustainability Report:

- In the supplementary information to the income statement, changes in nuclear provisions from new cost assessments are no longer classified as items affecting comparability and therefore included in underlying operating profit. Effects from changes in inflation and discount rates are classified as items affecting comparability.

Note 3 Accounting policies

Conformity with standards and regulations
The consolidated accounts have been prepared in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) as well as the interpretations issued by the IFRS Interpretations Committee (IFRSIC) as endorsed by the European Commission for application within the EU. In addition, recommendation RFR 1 – "Supplementary Accounting Policies for Groups", issued by the The Swedish Corporate Reporting Board (RFR), has been applied. RFR 1 specifies the additions to the IFRS disclosure requirements that are required by the Swedish Annual Accounts Act.

New IFRSs and interpretations effective as from 2023
None of the amendments to the existing accounting standards effective from 2023 have had a material impact on the Vattenfall Group's financial statements.

New IFRSs and interpretations effective as from 2024 and later
A number of amendments in accounting standards and interpretations have been published, but have not become effective. These are not considered to have a material impact on the Vattenfall Group's financial statements.

Basis of measurement
Assets and liabilities are reported at cost or amortised cost, with the exception of certain financial assets and liabilities and inventories held for trading, which are measured at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Vattenfall uses valuation methods that reflect the fair value of an asset or liability appropriately. Financial assets and liabilities that are measured at fair value are described below according to the fair value hierarchy (levels), which in IFRS 13 is defined as follows:

- **Level 1:** Quoted prices (unadjusted) in active markets for identical assets or liabilities.
- **Level 2:** Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices).
- **Level 3:** Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs).

Classification into a level is determined by the lowest level input that is significant for the measurement of the fair value at the end of a reporting period. Vattenfall assesses whether reclassifications between the levels are necessary. Observable input data are used whenever possible and relevant. For assets and liabilities included in Level 3, fair value is modelled either on the basis of market prices with adjustments that consider specific terms of a contract, or on the basis of unobservable inputs such as future cash flows. The assumptions for the estimated cash flows are monitored on a regular basis and adjusted if necessary.

Functional and presentation currencies
The functional currency is the currency of the primary economic environment in which each Group entity operates. The Parent Company's functional currency is Swedish kronor (SEK), which is also the presentation currency of both the Parent Company and the Group. This means that the financial statements are presented in Swedish kronor. Unless otherwise stated, all figures are rounded off to the nearest million Swedish kronor (SEK million).

Significant accounting policies
The accounting policies of the Group described below and in each respective note to the consolidated accounts have been applied consistently for all periods presented in the consolidated financial statements.

Principles of consolidation
The consolidated financial statements cover the Parent Company, subsidiaries, associated companies, joint ventures and joint arrangements that are reported as a joint operation according to IFRS 11.

Subsidiaries
Subsidiaries are all entities over which the Parent Company has control. Control is considered to exist when the following three criteria are met: (1) the investor is exposed to or is entitled to a variable return from the investment, (2) the investor has the opportunity to influence the return through its opportunity to govern the company, and (3) there is a link between the return that is received and the opportunity to govern the company. By influence is meant the rights that allow the investor to govern the relevant business, that is, the business which significantly influences the company's return. Business combinations are accounted for using the purchase method. Subsidiaries' financial statements, which are prepared in accordance with the Group's accounting policies, are included in the consolidated accounts from the point of acquisition to the date when control ceases.

Joint arrangements
A joint arrangement is an arrangement over which two or more parties have joint control. Joint arrangements are classified as a joint operation or joint venture. A joint operation entails that the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. A joint venture entails that the parties that have joint control of the arrangement have rights to the net assets of the arrangement. In a joint operation, the respective owners recognise in relation to their interest in the joint organisation: their assets and liabilities as well as their respective share of assets and liabilities held or incurred jointly. Joint ventures are reported in accordance with the equity method.

Associated companies
Associated companies are companies in which the Group has a significant – but not controlling – influence or joint control with other owners over their operational and financial management, usually through shareholdings corresponding to between 20% and 50% of the votes. From the point at which the significant influence is acquired, participations in associated companies are reported in the consolidated accounts in accordance with the equity method.

Transactions that are eliminated upon consolidation
Intra-Group receivables and liabilities, income and expenses, as well as gains or losses arising from intra-Group transactions between Group companies, are eliminated in their entirety when preparing the consolidated accounts. Gains arising from transactions with associated companies and joint ventures are eliminated to an extent that corresponds to the Group's holding in the company. Losses are eliminated in the same manner as gains, but are treated as an indicator of impairment.

Foreign currencies
Transactions in foreign currencies
Transactions in foreign currencies are translated to the functional currency at the exchange rate on the day of the transaction. On the balance sheet date, monetary assets and liabilities in foreign currencies are translated to the functional currency at the exchange rate applicable on that day. Exchange rate differences arising from translation of currencies are reported in the income statement. Operationally derived exchange gains and losses are shown under Other operating income and Other operating expenses, respectively. Financially derived exchange gains and losses are shown as Financial income and Financial expenses, respectively.

Financial reporting of foreign activities
Assets and liabilities of foreign activities, including goodwill and other consolidated surplus and deficit values, are translated to SEK at the exchange rate in effect on the balance sheet date. Income and expenses of foreign activities are translated to SEK using an average exchange rate. Translation differences arising from foreign currency translation of foreign activities are reported in Other comprehensive income.

For the Vattenfall Group, key exchange rates applied in the accounts are provided in Note 5 to the consolidated accounts, Exchange rates.

Important estimations and assessments in the preparation of the financial statements
Preparation of the financial statements in accordance with IFRS requires the company's executive management and Board of directors to make estimations and assessments as well as to make assumptions that affect application of the accounting policies and the reported amounts of assets, liabilities, income and expenses. These estimations and assessments are based on historic experience and other factors that seem reasonable under current conditions. The results of these estimations and assessments are then used to establish the reported values of assets and liabilities that are not otherwise clearly documented from other sources. The final outcome may deviate from the results of these estimations and assessments. The estimations and assessments are revised on a regular basis. The effects of changes in estimations are reported in the period in which the changes were made if the changes affected this period only or in the period the changes were made and future periods if the changes affect both the current period and future periods.

Important estimations and assessments are described further in the following notes to the consolidated accounts:

- Note 13 Income taxes
- Note 16 Intangible assets: non-current
- Note 17 Property, plant and equipment
- Note 30 Pension provisions
- Note 31 Other interest-bearing provisions

In addition, in certain instances the group enters into contracts with government (related) bodies with the intention of the government providing financial support through the use of so called Contracts for Differences (CfDs). Significant judgement is required as the accounting treatment is dependent on the future cash flows from the contract which in turn depend on future production and future market price.

Inflation and interest rates are parameters with a significant effect on provisions, in particular provisions related to nuclear power operations, in the financial statements. The macroeconomic development affects these parameters and in turn the outcome of Vattenfall's reported nuclear power provisions in Sweden. In light of the volatile inflation and interest rate development during 2023, alternative approaches were examined to determine the discount rate that best reflects management's assessment of how changes in inflation and interest rates should be reflected in the financial statements. The new approach has been established during fourth quarter resulting in an applied discount rate of 2.80% (2.0%). This has had a significant impact on the nuclear power provisions in Sweden, see Note 31 to the consolidated accounts, Other interest-bearing provisions.

Influences of market volatilities

Developments in the energy markets affect all of Vattenfall's various operations. Both commodity price levels and associated volatility have fallen considerably from last year's highs. Prices had continued to fall in the first quarter of 2023 but have been relatively stable since then. Margining arrangements such as Credit Support Annex supplements continue to challenge the liquidity position of many companies. Due to the fall in commodity prices relative to 2022, Vattenfall is reporting a cash outflow from both the repayment of margins received and the payment of margin on open contracts. Inflation rates have fallen significantly since the first quarter of 2023 although interest rates are still higher now than at the start of the year.

The procurement of gas and other raw materials was not significantly affected by the continuing war in Ukraine. For a description of risks, uncertainties and risk management, please refer to pages 68–72.

Note 4 Acquired and divested operations

Acquired operations

Acquisitions 2023

On 4 January, Vattenfall acquired 100% of the shares in Bristol Heat Networks Ltd. (United Kingdom). Vattenfall's ambition is to expand the existing heat network in Bristol, serving the local community with reliable, low-carbon heat. The total purchase price for the shares was GBP 21 million, equal to the fair value of total net assets acquired.

On 9 June Vattenfall acquired 100% of the shares in Solizer Deutschland GmbH, a solar developer situated in Hamburg, Germany. The company holds certain project rights for the construction and operation of solar parks in Germany, which will support Vattenfall's growth ambition in the solar area. The acquisition price consisted of a fixed amount of EUR 63.3 million which was paid at acquisition. In addition, a consideration estimated to EUR 29.5 million could become due as a result of an earn-out scheme depending on the progress of the projects. The potential earn-out is recognized as a liability. The total acquisition price equaled the fair value of total net assets acquired.

In addition to this a number of minor companies have been acquired during the period.

	2023
Property, plant and equipment	601
Other non-current receivables	4
Total non-current assets	**605**
Inventories	1,141
Trade receivables and other receivables	33
Advance payments paid	10
Prepaid expenses and accrued income	2
Cash and cash equivalents	84
Total current assets	**1,270**
Total assets	**1,875**
Other interest-bearing provisions	4
Total non-current liabilities	**4**
Trade payables and other liabilities	160
Advance payments received	112
Accrued expenses and deferred income	39
Current tax liabilities	1
Total current liabilities	**312**
Total liabilities	**316**
Total net assets	**1,559**
Additional purchase price (earn out)	-338
Goodwill	66
Total purchase consideration paid	**1,287**

Acquisitions 2022

On 17 June 2022 Vattenfall acquired 85% of the shares in Zephyr Vind AB. The total purchase price for the shares was SEK 175 million, and the fair value of total net assets acquired is SEK 175 million.

On 1 November 2022 Vattenfall acquired 100% of the shares in Warmtebedrijf Holding B.V. which includes two subsidiaries owning and operating a district heating grid in the Rotterdam and Leiden area in the Netherlands. Vattenfall acquired Warmtebedrijf Holding B.V. in order to secure continuation of providing heat delivery services to the Rotterdam and Leiden areas. The purchase price was SEK 239 million, and the fair value of total net assets acquired is SEK 239 million.

Divested operations

Divestments 2023

On 31 January, Vattenfall finalised the divestment of the gas-fired power plant Magnum in the Netherlands to RWE. The consideration received for the divested fixed assets amounted to SEK 4,926 million.

On 1 March the sale of the company Vattenfall Heizkraftwerk Moorburg GmbH to Hamburger Energiewerke (HEnW) was completed. In addition to this a number of minor companies have been sold during the period. Total consideration received for all divested companies amounted to SEK 2,443 million and the total capital gain amounted to SEK 59 million. Below follows a specification of net assets in divested companies.

	2023
Non-current assets	662
Participations in associated companies and joint arrangements	140
Deferred tax assets	574
Total non-current assets	**1,376**
Inventories	1
Trade receivables and other receivables	173
Cash and cash equivalents	3,973
Total current assets	**4,147**
Total assets	**5,523**
Pension provisions	332
Other interest-bearing provisions	3,352
Deferred tax liabilities	35
Total non-current liabilities	**3,719**
Trade payables and other liabilities	118
Total current liabilities	**118**
Total liabilities	**3,837**
Total net assets	**1,686**
Owners of non-controlling interest (minority)	698
Sales price	**2,443**
Capital gain (+)/loss (-) recognised in the income statement	**59**

Divestments 2022

No material divestments were made during 2022.

Note 5 Exchange rates

Key exchange rates applied in the accounts of the Vattenfall Group:

	Average rate		Balance sheet date rate	
Currency	**2023**	**2022**	**31 December 2023**	**31 December 2022**
EUR	11.4563	10.6258	11.0960	11.1218
DKK	1.5377	1.4283	1.4888	1.4956
GBP	13.1692	12.4463	12.7680	12.5397
USD	10.5945	10.0881	10.0416	10.4273

Note 6 Net sales

Accounting policy

Net sales include revenue from sales and distribution of electricity and heat, sales of gas, energy trading and other revenues such as service and consulting assignments and connection fees.

Vattenfall offers customers discounts and bonuses on sales of electricity, gas and heat through various campaigns. Various types of discounts and bonuses are offered from country to country. Vattenfall recognises discounts and bonuses when the performance obligation to the customer is satisfied, which in general is when the electricity, gas or heat has been delivered to the customer.

Various sales channels are used to sell Vattenfall's products, which gives rise to different types of costs associated with sales activities. These costs to obtain a contract related to revenues from contracts with customers are shown in Note 16 to the consolidated accounts, Intangible assets: non-current. The amortisation schedule depends on the contract duration.

Sales and distribution of electricity, heat and gas

Sales of electricity, heat and gas and related distribution are recognised as revenue at the time of delivery, excluding value-added tax and excise taxes. Depending on the system for metering of consumption, Vattenfall invoices either based on expected consumption, with a reconciliation when the readout takes place, or based on actual consumption.

Vattenfall's electricity transactions between Nordic electricity generation and sales activities in the Nordic countries are transactions vis-à-vis the Nordic electricity exchange. The purchases that the sales activities make from the Nordic electricity exchange are, at the Group level, offset against sales of generation to the Nordic electricity exchange.

Vattenfall has entered into long-term power purchase agreements which are supplied to the customers through physical delivery of electricity. The performance obligation is fulfilled over time and the income is reported within sales from electricity at delivery. These agreements do not contain derivatives nor are they to be treated as lease agreements.

Develop to sell projects

Vattenfall constructs Wind and Solar projects for the purpose of selling them. The assets under construction are accounted for as inventory and the sales proceeds are recognized as revenue in accordance with IFRS 15. Depending on the contract details, revenue is being recognized as the performance obligation is satisfied at a point of time or over time.

	2023	2022
Sales of electricity	185,683	159,132
Sales of gas	51,679	35,817
Sale of heat and steam	22,920	15,600
Distribution	11,566	13,412
Sale of service and consulting services	5,266	4,977
Revenue from Develop to sell projects	4,630	893
Total revenues from contracts with customers	**281,744**	**229,831**
Other revenues	8,424	9,813
Total	**290,168**	**239,644**

Revenue from contracts with customers is recognised when the performance obligation is satisfied. Contract assets mainly consist of bonus payments made to a customer for entering into a new contract or prolonging an existing contract. These are amortized over the minimum contractual period. Connection fees paid by customers to connect to a network form the main part of contract liabilities. These are released over the expected life of the underlying network asset and recognised as revenue.

Contract balances	**2023**	**2022**
Contract assets	119	226
– amortization of contact assets as cost during the year	309	486
Contract liabilities	10,651	9,809
– release of contract liabilities as revenue during the year	346	561

Note 7 Cost of purchases

	2023	2022
Electricity commodities	93,596	56,070
Electricity grid cost	22,139	20,455
Emission allowances	6,245	4,213
Gas purchases	66,419	54,223
Nuclear fuel purchases	1,473	1,517
Other fuel purchases[1]	3,711	3,914
Unrealized fair value changes derivatives	1,594	17,709
Other	11,936	8,912
Total	**207,113**	**167,013**

[1] Consists of coal, oil and biofuel.

Note 8 Segment reporting

Accounting policy
An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses and for which discrete financial information is available. An operating segment's result is reviewed regularly by "the chief operating decision maker", who in Vattenfall is the Chief Executive Officer, to assess its performance and to make decisions about resources to be allocated to the operating segment.

Financial information
Vattenfall is organised in six Business Areas: Customers & Solutions, Generation, Markets, Wind, Heat, and Distribution. The aim with the organisational structure is to increase the Group's business and performance focus, and to capitalise on cross-border synergies. The segment reporting corresponds with Vattenfall's organisational structure with the addition that Business Area Generation consist of the business areas Generation and Markets.

Areas of responsibility for the operating segments
The Customers & Solutions operating segment is responsible for sales of electricity, gas and energy services in all of Vattenfall's markets.

The Power Generation operating segment comprises the Business Areas Generation and Markets. The segment includes Vattenfall's hydro and nuclear power operations, maintenance services business, optimisation, and physical and financial trading within Markets trading operations. Markets also includes certain large business customers.

The Wind operating segment is responsible for development, construction and operation of Vattenfall's wind farms as well as large-scale and decentralised solar power and batteries.

The Heat operating segment comprises Vattenfall's heat business (district heating and decentralised solutions) and gas- and coal-fired condensing plants.

The Distribution operating segment comprises Vattenfall's electricity distribution operations in Sweden and the UK.

Staff Functions and Shared Service Centres
A number of Group-wide Staff Functions direct, administrate and support the business activities. The Staff Functions are centrally placed within the organisation as a whole and in the Business Areas. Shared Service Centres (Shared Services) focus on transaction-related processes and are an integral part of Vattenfall's business activities. Shared Services are led with a focus on efficiency and utilisation of scale economies. Staff Functions and Shared Services are reported under the heading Other.

	External net sales		Internal net sales		Total net sales	
	2023	**2022**	**2023**	**2022**	**2023**	**2022**
Customers & Solutions	207,303	174,026	9,036	9,125	216,339	183,151
Power Generation	37,760	28,193	169,750[2]	177,595[2]	207,510	205,788
Wind	8,537	4,308	16,836	24,801	25,373	29,109
Heat	25,844	20,933	18,358	39,572	44,202	60,505
Distribution	10,445	11,733	694	764	11,139	12,497
Other[1]	279	451	9,678	8,079	9,957	8,530
Eliminations	–	–	-224,352	-259,936	-224,352	-259,936
Total	**290,168**	**239,644**	**–**	**–**	**290,168**	**239,644**

	Operating profit before depreciation, amortisation and impairment losses (EBITDA)		Underlying operating profit before depreciation, amortisation and impairment losses	
	2023	**2022**	**2023**	**2022**
Customers & Solutions	8,783	8,396	8,778	8,393
Power Generation	7,714	-2,903	8,331	19,383
Wind	13,321	22,554	13,602	22,508
Heat	6,328	-1,515	6,380	-641
Distribution	4,294	4,637	4,290	4,622
Other[1]	-746	-605	-1,032	-693
Eliminations	-9	-51	-9	-51
Total	**39,685**	**30,513**	**40,340**	**53,521**

	Operating profit (EBIT)		Underlying operating profit	
	2023	**2022**	**2023**	**2022**
Customers & Solutions	7,571	7,416	7,566	7,413
Power Generation	2,457	-7,949	3,075	14,332
Wind	6,646	16,436	6,544	16,479
Heat	434	-3,790	3,228	-3,578
Distribution	1,530	2,086	1,526	2,070
Other[1]	-1,638	-1,503	-1,925	-1,590
Eliminations	-9	-51	-9	-51
Total	**16,991**	**12,645**	**20,005**	**35,075**

	2023	**2022**
Underlying operating profit	20,005	35,075
Items affecting comparability (for specification, see Income statement)	-3,014	-22,430
Financial net	-769	-12,732
Profit before income taxes	**16,222**	**-87**

[1] "Other" pertains mainly to all Staff functions including treasury activities and Shared Service Centres.
[2] Pertains mainly to Markets' sales of electricity, fuel and CO_2 emission allowances to other segments within Vattenfall.

	Investments		Assets	
	2023	2022	2023	2022
Customers & Solutions	1,410	1,340	167,036	97,165
Power Generation	3,034	2,686	530,263	588,851
Wind	26,026	12,496	132,144	127,757
Heat	4,563	3,228	96,466	93,331
Distribution	7,000	5,607	61,123	57,480
Other[1]	1,529	1,606	395,462	366,208
Eliminations	-1,222	-2,339	-793,903[1]	-538,465[1]
Total	**42,340**	**24,624**	**588,591**	**792,327**

[1] Pertains mainly to Markets' liquid assets and financial receivables from other operating segments.

Information about geographical areas

	External net sales		Internal net sales		Total net sales	
	2023	2022	2023	2022	2023	2022
Sweden	55,842	51,553	5,651	3,847	61,493	55,400
Germany	132,150	98,039	214,673	211,678	346,823	309,717
Netherlands	85,037	68,928	144,331	151,249	229,368	220,177
Denmark	6,603	15,710	948	575	7,551	16,285
UK	4,495	324	7,962	9,703	12,457	10,027
Other countries	6,041	5,090	4,521	1,115	10,562	6,205
Eliminations	–	–	-378,086	-378,167	-378,086	-378,167
Total	**290,168**	**239,644**	**–**	**–**	**290,168**	**239,644**

	Operating profit (EBIT)		Underlying operating profit		Intangible assets: non-current, property, plant and equipment and investment property	
	2023	2022	2023	2022	2023	2022
Sweden	19,080	-5,476	14,530	1,894	150,287	150,050
Germany	-1,697	4,215	4,949	17,751	19,024	43,142
Netherlands	-5,061	675	-4,402	4,496	65,309	55,428
Denmark	1,105	6,045	995	6,005	28,016	24,379
UK	3,230	6,453	3,599	6,431	17,215	20,733
Other countries	334	733	334	736	1,558	1,516
Total	**16,991**	**12,645**	**20,005**	**37,313**	**281,409**	**295,248**

Note 9 Impairment losses and reversed impairment losses

Accounting policy
General principles
Assessments are made throughout the year for any indication that an asset may have decreased in value. If there is an indication of this kind, the asset's recoverable amount is estimated. For goodwill and other intangible assets with an indefinite useful life and for intangible assets that are still not ready for use, the recoverable amount is calculated at least annually or as soon as there is an indication that an asset has decreased in value.

If the essentially independent cash flow for an individual asset cannot be established for the assessment of any need for impairment, the assets must be grouped at the lowest level where it is possible to identify the essentially independent cash flow (a so-called cash-generating unit). An impairment loss is reported when an asset or cash-generating unit's reported value exceeds the recoverable amount. Any impairment loss is recognised in profit or loss. Impairment of assets attributable to a cash-generating unit is allocated primarily to goodwill. Thereafter, a proportional impairment loss is conducted of other assets that are part of the unit.

Calculation of the recoverable amount
The recoverable amount is the higher of fair value less costs to sell and value in use. When calculating value in use, the future cash flow is discounted by a discounting rate that takes into consideration risk-free interest and the risk associated with the specific asset.

Reversal of impairment losses
Impairment of goodwill is never reversed. Impairment of other assets is reversed if a significant and lasting change has occurred in the assumptions that formed the basis for the calculation of the recoverable amount. An impairment loss is reversed only if the asset's carrying amount after reversal does not exceed the carrying amount that the asset would have had if the impairment loss had not been recognised.

Financial information
Process for impairment testing
The main assumptions that executive management has used in calculating projections of future cash flows in cash-generating units with finite useful lives are based on forecasts of the useful life of the respective assets. The projected cash flows are based on market prices and on Vattenfall's long-term market outlook. The long-term market outlook is based on internal and external input parameters and is benchmarked against external price projections. Based on the price assumptions, the dispatch of the power plants is calculated, taking technical, economic and legal constraints into consideration. Technical flexibility of the assets, that is the ability to adapt generation to changes in spot market prices, has been taken into account. Cash flow projections of other cash-generating units are based on the business plan for the coming five years, after which their residual value is taken into account, based on a growth factor of 0%–2% (0%–0.5%). If the final year of the business plan horizon does not represent reasonable basis for assessing long-term value, an extended forecast may be required to arrive at a steady-state earnings situation on which to calculate the terminal value.

Future cash flows have been discounted to value in use using the following discount rates per reporting segment:

	2023		2022	
	Before tax	After tax	Before tax	After tax
Diskonteringsränta Distribution Sverige, %	5.8	4.6	5.5	4.4
Diskonteringsränta BA Wind, %	6.9–8.4	5.1–6.3	5.8–7.5	4.4–5.7
Diskonteringsränta BA Heat, %	6.2–9.3	5.0–6.9	6.1–8.9	4.5–6.6
Diskonteringsränta BA C&S, %	7.2–7.6	5.2–5.7	6.6–6.8	4.7–5.4
Diskonteringsränta BA Power Generation, %	7.2–9.0	5.7–7.0	6.8–8.9	5.4–7.1

The discount rate varies for the various asset classes, depending on their risk. When setting the discount rate for non-regulated business, consideration has been given to the extent of exposure this has for changes in wholesale prices of electricity, fuel, CO_2 emission allowances, and regulatory risks. An increase in the discount rate by 0.5 percentage points would give rise to an impairment need of SEK 0.6 billion in BA Heat.

Electricity prices and margins for generation assets represent another major value driver. Electricity prices are relevant for hydro, non-subsidized wind and nuclear power plants, while the most important production margins are the "clean spark spread" for gas-fired power plants and the "clean dark spread" for hard coal-fired power plants. Those spreads include electricity prices as well as the respective cost for fuel and CO_2 emission allowances to produce the electricity, considering fuel type and efficiency factors. Based on the assumptions used in the impairment testing, a decrease in future electricity prices by 5%, with unchanged costs for fuel and CO_2 emission allowances, would lead to a decrease in the value of our power production units and would result in an impairment need of SEK 1 billion mainly in BA Heat.

Vattenfall has performed impairment testing by calculating the recoverable amount of the cash-generating units. The structure of the cash-generating units, which represent the smallest group of identifiable assets that generate continuous cash inflows that are largely independent of other assets or groups of assets, is based on the Group's Business Area structure and further split into Group's Business Unit structure and regions where relevant.

Goodwill is not amortized but is instead tested annually for impairment. Impairment testing of goodwill is included in the impairment testing process described above. 98.3% of the goodwill for the group is related to the cash generating unit Customers & Solutions in the Netherlands. For the annual testing of this goodwill three different scenarios are used. In the most conservative scenario the

expected gross margin, which is the key parameter, is reduced by 50% and also this scenario would not result in an impairment need.

In addition to the regular impairment test for the cash-generating units, Vattenfall reports separate assets held for sale if the expected sales price is below the reported book value of the assets. Furthermore, shareholdings in associated companies for which the equity method is applied are outside a Cash Generating Unit and thus tested for an impairment need on an individual basis.

Impairment losses & Impairment reversals 2023

An impairment was reported in the second quarter 2023 amounting to SEK 3.8 billion, as it was deceided to stop the development of the offshore wind power project Norfolk Boreas in the UK. This impairment has been reversed in the fourth quarter. The reversal is based upon expected selling price from the agreement with RWE to divest the Norfolk Offshore Wind Zone.

In addition, impairments amounting to SEK 2.7 billion related to business area Heat have been recorded in the fourth quarter.

Note 10 Other external expenses

	2023	2022
Purchased services	7,836	7,677
IT expenses	2,673	2,091
Consulting expenses	4,875	3,396
Non-capitalised lease expenses	712	687
Marketing and selling expenses	1,871	1,189
Expenses related to provisions	1,250	4,409
Other	2,458	1,459
Total	**21,675**	**20,908**

Note 11 Other operating income and expenses

Other operating income and expenses mainly relates to realised and unrealised exchange rate differences deriving from operational activities.

	2023	2022
Other operating income	3,757	2,154
Other operating expenses	–2,542	–2,944
Total	**1,215**	**-790**

Note 12 Financial income and expenses

Accounting policy

Interest income is reported as it is earned. The calculation is made on the basis of the return on underlying assets in accordance with the effective interest method. Dividend income is reported when the right to receive payment is established. Interest income is adjusted for transaction costs and any rebates, premiums and other differences between the original value of the receivable and the amount received when due.

For calculation of interest effects attributable to provisions, various discount rates have been used, see Note 30 to the consolidated accounts, Pension provisions, and Note 31 to the consolidated accounts, Other interest-bearing provisions, for the discount rates used. Issue costs and similar direct transaction costs for raising loans are distributed over the term of the loan in accordance with the effective interest method. Borrowing costs directly attributable to investment projects in non-current assets which take a substantial period of time to complete are not reported as a financial expense but are included in the cost of the non-current asset during the construction period. Leasing fees are distributed between interest expense and amortisation of the outstanding debt. Interest expenses are distributed over the leasing period so that each accounting period is charged in the amount corresponding to a fixed interest rate for the reported debt in each period. Variable fees are carried as an expense in the period in which they arise.

Financial income

	2023	2022
Interest income attributable to investments	3,515	780
Dividends	69	66
Capital gains from divestments of shares and participations	5	8
Total	**3,589**	**854**

Financial expenses

	2023	2022
Interest expenses attributable to loans	4,174	4,818
Interest effects attributable to provisions	2,133	2,009
Interest expenses for the net of pension provisions and plan assets	1,095	578
Exchange rate differences, net	522	314
Net change in value from remeasurement of derivatives	528	258
Net change in value from remeasurement of other financial assets	294	–
Capital losses from divestments of shares and participations	–	1
Total	**8,746**	**7,978**

Note 13 Income taxes

Accounting policy

Income taxes comprises current tax and deferred tax. Income tax is reported in the income statement except when the underlying transaction is reported in Other comprehensive income or in Equity, whereby also the associated tax effect is reported in Other comprehensive income and Equity, respectively.

Current tax is tax to be paid or received for the current year, with the application of the tax rates that are established or, established in practice as of the balance sheet date. Adjustments of tax paid attributable to previous periods are also included in this.

Deferred tax is calculated in accordance with the balance sheet method on the basis of temporary differences between the reported and taxable values of assets and liabilities. The valuation of deferred tax is based on how the reported value of assets or liabilities is expected to be realised or settled. Deferred tax is calculated in accordance with the tax rates and tax rules that have been established or have been established in practice by the balance sheet date.

Deferred tax assets concerning non-deductible temporary differences and tax-loss carryforwards are only reported to the extent that it will be possible for these to be used. The value of deferred tax assets is reduced when it is no longer considered likely that they can be used.

Important estimations and assessments

On its balance sheet, Vattenfall reports deferred tax assets and liabilities that are expected to be realised in future periods. In calculating these deferred taxes, certain assumptions and estimations must be made. The estimations include assumptions about future taxable earnings, that applicable tax laws and tax rates will be unchanged in the countries in which the Group is active, and that applicable rules for utilising tax-loss carryforwards will not be changed.

Vattenfall apply the methods prescribed in IFRIC 23 'Uncertainty over Income Tax Treatments' when making provisions for uncertain tax positions, and the provisions made are based on different scenarios of possible outcomes. The Group also reports future expenses arising out of ongoing tax audits or tax disputes under Current tax liabilities. The outcome of these may deviate from the estimations made by Vattenfall.

The group has applied the temporary exception issued by the IASB in May 2023 from the accounting requirements for deferred taxes in IAS 12. Accordingly, the Group neither recognizes nor discloses information about deferred tax assets and liabilities related to Minimum Taxation rules, Pillar Two income taxes.

On December 13, 2023, the Swedish parliament, enacted the new tax legislation effective from 1 January 2024. Under the legislation, the parent company will be required to pay, in Sweden, top-up tax on profits of its subsidiaries that are taxed at an effective tax rate of less than 15%. High level impact assessment of the new tax legislation does not indicate any expected material negative tax consequence as the group does not have business activities in low tax jurisdictions. The assessment and implementation of the new rules will continue during 2024.

Financial information

Break down of the reported income tax

	2023	2022
Current tax expense (–)/ tax income (+)		
Current taxes pertaining to the period:		
Sweden	–1,292	–1,266
Germany	–939	–3,228
Netherlands	–18	750
Other countries	–1,126	–2,430
Adjustment of current tax for prior periods:		
Sweden	–56	–25
Germany	118	26
Netherlands	70	–43
Other countries	128	28
Total current tax	**-3,115**	**-6,188**
Deferred tax expense (–)/ tax income (+)		
Sweden	–1,802	4,479
Germany	–2,191	2,808
Netherlands	1,403	–829
Other countries	–122	–162
Total deferred tax	**-2,712**	**6,296**
Total income tax expense	**-5,827**	**108**

The difference between the nominal Swedish tax rate and the effective tax rate

	2023		2022	
	%	MSEK	%	MSEK
Profit before tax		16,222		-87
Swedish income tax rate at 31 December	20.6	-3,342	20.6	18
Difference in tax rate in foreign operations	0.1	-14	-385.1	-335
Tax adjustments for previous periods	-1.8	289	50.6	44
Utlization of previously not recognized losses	-0.2	30	98.9	86
Revaluation of previously non-valued losses and other temporary differences	0.4	-59	28.7	25
Tax-loss carryforwards from current year that are not valued	1.6	-265	-6.9	-6
Capital gains	0.6	-104	57.5	50
Participations in the results of associated companies	-0.5	76	82.8	72
Non-deductible impairment losses	3.5	-572	-23.0	-20
Changed tax rates	0.0	-7	-12.6	-11
Non-deductible interest	0.4	-57	-750.6	-653
Other non-deductible expenses	0.7	-114	-157.5	-137
Other non-taxable income	10.5	-1,688	1,120.7	975
Effective tax rate	**35.9**	**-5,827**	**124.1**	**108**

For 2023 the group reports profit before tax of SEK 16,222 million. Based on the Swedish income tax rate of 20.6 % we would expect an income tax expense of SEK 3,342 million. The reported income tax expense amount to SEK 5,827 million. The effective tax rate is 35.9 %.

The main difference between the Swedish income tax rate and the effective tax rate, in total SEK 2,485 million, is explained by the impairment of the deferred tax assets related to the business in Germany. Divesting Heat Berlin decreases the future cash flows in Germanysignificantly whereby an impairment of related deferred tax assets has been recorded amounting to SEK 6.8 billion. The majority, SEK 4.2 billion, has been recorded directly in equity just as the underlying balance sheet items. The remaining impairment of SEK 2.6 billion has been recorded as a tax cost in the consolidated income statement.

The 2022 effective tax rate was mainly due to non-deductible interest relating to the interest limitation rules in Sweden and that the income in Germany for the Hydro power plants are charged with 50% of the German corporate tax rate.

Balance sheet reconciliation of current tax

	2023	2022
Balance brought forward net asset (+)/ net liability (-)	-1,041	299
Translation differences, acquisitions, disposals and assets held for sale	-40	16
Interest and discounting effects on non-current tax items	–	-134
Change via income statement	-3,115	-6,188
Tax effect through equity[1]	-17	606
Taxes paid, net	4,696	4,360
Balance carried forward net asset (+)/ net liability (-)	**483**	**-1,041**

[1] Of which, equity hedge amounts to SEK -16 million (572).

The increase in taxes paid compared to 2022 is mainly explained by a high taxable profit in Germany for 2022.

Break down of the deferred tax

	2023	2022
Non-current assets	-34,095	-32,602
Current assets	-10,250	-42,625
Provisions	21,026	21,737
Other non-current liabilities	2,269	2,497
Current liabilities	14,523	46,548
Cash flow hedges	4,251	6,921
Tax losses carried forward	1,165	9
Total	**-1,111**	**2,485**

The net deferred tax position changed with SEK -3,596 million during 2023, mainly caused by the change in cash flow hedges, other unrealized derivatives and pension provisions.

Accumulated tax-loss carryforwards

	2023	2022
Sweden	56	76
Germany	7,861	7,786
Netherlands	6,679	2,201
Other countries	2,098	1,163
Total	**16,694**	**11,226**

The tax-loss carryforwards fall due as follows:

	2023
2024	–
2025-2028	19
2029 and beyond	9,024
No time limit	7,651
Total	**16,694**

The tax-loss carryforwards correspond to a potential deferred tax asset of SEK 3,167 million, of which SEK 1,165 million is booked on the balance sheet as of December 31, 2023. Tax-loss carryforwards not included in the computation of deferred tax represent a tax value of SEK 2,002 million and pertain mainly to loss carryforwards in German operations. These have not been assigned any value as it is currently uncertain whether it will be possible to use them.

Note 14 Leasing

Accounting policy

A right-of-use asset along with a lease liability is recognised on the balance sheet for all lease contracts except for leases for which the underlying asset is of low value or if the contract duration is 12 months or less.

The right-of-us-asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct cost incurred and an estimate of costs to dismantle and remove the underlying asset.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

The lease liability is initially measured at the present value of the lease payments outstanding at the commencement date, discounted using Vattenfall's incremental borrowing rate, which is updated by the Treasury department twice a year.

Lease payments included in the measurement of the lease liability comprise:

- Fixed payments
- Variable lease payments that depend on an index or rate
- Amounts expected to be payable under a residual value guarantee; and
- The exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period, if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

Vattenfall is applying the practical expedient related to low value leases and short term leases. These contracts will be expensed directly.

Assets leased out under finance leases are not reported as property, plant and equipment, since the risks associated with ownership are transferred to the lessee. Instead, a financial receivable is entered for the future minimum lease payments.

Assets leased out under operating leases are reported as property, plant and equipment and are subject to depreciation.

Leased Property plant and equipment

As a lessee

Vattenfall leases different assets, including but not limited to land within BA Wind, office buildings, vehicles and other. More detailed information on leases for which Vattenfall is a lessee is presented below.

Right-of-use-assets	Land	Buildings	Vehicles	Other	Total
Balance as of 1 January	4,084	1,740	358	253	6,435
Additions to the right-of-use-asset during the year	15	334	270	11	630
Depreciation for the year	-200	-474	-198	-165	-1,037
Other changes to the right-of-use-asset during the year	-256	129	2	111	-14
Translation differences	52	-1	-2	1	50
Balance carried forward	**3,695**	**1,728**	**430**	**211**	**6,064**

Lease liability

Lease liability development	
Balance as of 1 January	5,813
Additions to the liability	630
Repayment of the liability	-1,696
Other changes	632
Translation differences	55
Long-term lease liability balance carried forward	**5,434**
Short-term lease liability	864
Total lease liability balance carried forward	**6,298**

Total leasing related cash-outflows 2023 amounted to SEK 1,838 MSEK of which 142 MSEK is related to interest expenses.

Maturity analysis - contractual undiscounted cash flows	
< 1 year	930
1-5 years	2,127
> 5 years	4,037
Total as of 31 December 2023	**7,094**

Lease payments amounting to SEK 712 million have not been accounted for as right-of-use-assets as a result of the practical expedients relating to short-term contracts and low value items or because they related to variable components of contracts. As of 31 December 2023, Vattenfall has signed contracts, which have yet not commenced with a corresponding lease liability amounting to SEK 552 million in the year of commencement.

Leasing revenues

As a lessor

Certain Group companies own and operate power facilities on behalf of customers. Revenues from customers are broken down into two components – a fixed component to cover capital expenses and a variable component based on the quantity delivered. On 31 December 2023, cost of assets leased out amounted to SEK 5,970 million (5,996). Accumulated depreciation amounted to SEK 4,633 million (4,399) and accumulated impairment losses amounted to SEK 95 million (95). As a lessor Vattenfall has only operating leases.

Future payments for this type of facility are broken down as follows:

	Operationell leasing
2024	1,045
2025	1,010
2026	89
2027	59
2028	38
2029 and beyond	92
Total	**2,333**

Note 15 Auditors' fees

	2023	2022
Annual audit assignment	48	45
Audit-related activities besides the annual audit assignment	8	5
Tax consulting	1	–
Other assignments	1	3

Audit services refer to examination of the consolidated financial statements, the accounts and the administration of the Board of Directors and the President & CEO of the company; other tasks incumbent on the company's auditor; and advice or other assistance prompted by observations from such audits or the performance of other such tasks. Non-audit services refer to services related to compliance as well as other services. Of the total fee for audit services, SEK 15 million (15) is invoiced by Pricewaterhouse-Coopers Sweden for the statutory audit. Of total other fees, SEK 2 million (2) is invoiced by PricewaterhouseCoopers Sweden (the statutory auditors of Vattenfall AB (publ.)) and are mainly related to matters of a one-off nature.

Note 16 Intangible assets: non-current

Accounting policy

Goodwill

Goodwill is measured at cost less any accumulated impairment losses. Goodwill is not subject to amortisation but is tested at least annually for impairment. Goodwill that arises on acquisition of associated companies or joint ventures is included in the carrying amount of Participations in associated companies and joint ventures.

Other Intangible non-current assets

Other Intangible non-current assets such as concessions, patents, licences, trademarks and similar rights as well as renting rights, and similar rights are reported at cost less accumulated amortisation and impairment losses. Development costs relates to various projects within the utilities sector.

Principles for amortisation

Amortisation of Intangible non-current assets other than goodwill is reported on a straight-line basis in the income statement over the estimated useful life of the asset, provided the useful life is not indefinite.

Important estimations and assessments

Intangible assets are tested for impairment in accordance with the accounting policies described in Note 9 to the consolidated accounts, Impairment losses and reversed impairment losses. The recoverable amount for cash-generating units is determined by calculating the value in use or fair value less costs to sell. For these calculations, certain estimations must be made regarding future cash flows along with other adequate assumptions regarding the required rate of return, for example.

Financial information

	2023					
	Development costs	Goodwill	Concessions and similar rights with finite useful lives	Costs to obtain a contract	Renting rights and similar rights with finite useful lives	Total
Cost						
Cost brought forward	2,465	41,135	17,680	1,967	119	**63,366**
Acquired companies	–	–	2	–	–	**2**
Investments	288	66	289	716	–	**1,359**
Transfer from development projects in progress	-55	–	181	–	–	**126**
Divestments/disposals	-1	–	-146	-548	-5	**-700**
Reclassifications	67	–	-5	–	–	**62**
Assets held for sale	-81	–	-912	–	–	**-993**
Translation differences	1	-83	9	-8	–	**-81**
Accumulated cost carried forward	**2,684**	**41,118**	**17,098**	**2,127**	**114**	**63,141**
Amortisation according to plan						
Amortisation brought forward	-1,542	–	-14,464	-1,226	-32	**-17,264**
Acquired companies	–	–	-2	–	–	**-2**
Amortisation for the year	-178	–	-400	-747	-1	**-1,326**
Divestments/disposals	1	–	143	548	-2	**690**
Reclassifications	-12	–	-38	–	–	**-50**
Assets held for sale	81	–	775	–	–	**856**
Translation differences	-1	–	12	7	–	**18**
Accumulated amortisation according to plan carried forward	**-1,651**	**–**	**-13,974**	**-1,418**	**-35**	**-17,078**
Impairment losses						
Impairment losses brought forward	-212	-26,047	-1,420	–	-76	**-27,755**
Impairment losses for the year	–	–	-9	–	–	**-9**
Divestments/disposals	–	–	–	–	7	**7**
Reclassifications	–	–	38	–	–	**38**
Translation differences	–	47	-13	–	–	**34**
Accumulated impairment losses carried forward	**-212**	**-26,000**	**-1,404**	**–**	**-69**	**-27,685**
Residual value according to plan carried forward	**821**	**15,118**	**1,720**	**709**	**10**	**18,378**

	2022					
	Development costs	Goodwill	Concessions and similar rights with finite useful lives	Costs to obtain a contract	Renting rights and similar rights with finite useful lives	Total
Cost						
Cost brought forward	2,299	44,012	17,916	1,957	170	**66,354**
Acquired companies	–	–	5	–	–	**5**
Investments	149	–	157	701	–	**1,007**
Transfer from development projects in progress	-36	–	54	–	–	**18**
Divestments/disposals	–	-90	-1,752	-740	-55	**-2,637**
Reclassifications	–	-6,181	–	-97	–	**-6,278**
Translation differences	53	3,394	1,300	146	4	**4,897**
Accumulated cost carried forward	**2,465**	**41,135**	**17,680**	**1,967**	**119**	**63,366**
Amortisation according to plan						
Amortisation brought forward	-1,360	–	-13,995	-1,396	-44	**-16,795**
Amortisation for the year	-128	–	-367	-573	-1	**-1,069**
Divestments/disposals	–	–	980	740	16	**1,736**
Reclassifications	–	–	1	97	–	**98**
Translation differences	-54	–	-1,083	-94	-3	**-1,234**
Accumulated amortisation according to plan carried forward	**-1,542**	**–**	**-14,464**	**-1,226**	**-32**	**-17,264**
Impairment losses						
Impairment losses brought forward	-212	-30,091	-2,073	–	-113	**-32,489**
Impairment losses for the year	–	–	-27	–	–	**-27**
Divestments/disposals	–	90	770	–	39	**899**
Reclassifications	–	6,181	–	–	–	**6,181**
Translation differences	–	-2,227	-90	–	-2	**-2,319**
Accumulated impairment losses carried forward	**-212**	**-26,047**	**-1,420**	**–**	**-76**	**-27,755**
Residual value according to plan carried forward	**711**	**15,088**	**1,796**	**741**	**11**	**18,347**

Contractual commitments for acquisitions of non-current intangible assets amounted to SEK 0 million (1) as per 31 December 2023.

Estimated useful life	
Development costs	3–4 years
Concessions and similar rights	3–30 years
Costs to obtain a contract	1–6 years
Renting rights and similar rights	3–50 years

Estimated useful lives are unchanged compared to the preceding year.

Note 17 Property, plant and equipment

Accounting policy

Property, plant and equipment are reported as assets on the balance sheet if it is likely that there will be future financial benefit for the company and the cost of the asset can be calculated in a reliable manner. Cost includes the purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates, and any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Examples of directly attributable expenses included in cost are delivery and handling, installation, land registration and consulting services. Borrowing costs directly attributable to investment projects in property, plant and equipment, which take a substantial period of time to complete, are included in the cost of the asset during the construction period.

Acquisition cost may include a calculated present value for the estimated cost for dismantling, removing assets and restoring the site to its original state. The equivalent estimated cost calculated on the basis of the present value is reported initially as a provision. See also Note 31 to the consolidated accounts, Other interest-bearing provisions.

Subsequent costs

Subsequent costs for property, plant and equipment are only added to the acquisition cost if it is likely that there will be future financial benefits associated with the asset for the company and the cost can be calculated in a reliable manner. All other subsequent costs are reported as expenses in the period in which they are incurred. What is decisive for the assessment when a subsequent cost is added to the acquisition cost is whether the cost concerns the replacement of identified components, or parts of them, whereby such costs are capitalised. Also in cases where new components are created, the cost is added to the cost of the asset. Any undepreciated reported values of replaced components, or parts of components, are retired and carried as an expense in connection with the replacement. Repair and maintenance costs are expensed as incurred.

Depreciation principles

Depreciation is reported on a straight-line basis in the income statement over the estimated useful life of the asset. The Group applies component depreciation, which means that the components' estimated useful life provides the basis for the straight-line depreciation. Estimated useful life is described below in this note. Assessments of the residual value and useful life of an asset are conducted annually. Land and water rights are not subject to depreciation.

Important estimations and assessments

Property, plant and equipment are tested for impairment in accordance with the accounting policies described in Note 9 to the consolidated accounts, Impairment losses and reversed impairment losses. The recoverable amount for cash-generating units is determined by calculating the value in use or fair value less costs to sell. For these calculations, certain estimations must be made regarding future cash flows along with other adequate assumptions regarding the required rate of return, for example.

Financial information

	2023				
	Land and buildings[1]	Plant and machinery and other technical installations	Equipment, tools, fixtures and fittings	Construction in progress[2]	Total
Cost					
Cost brought forward[3]	66,074	478,402	10,972	41,063	**596,511**
Acquired companies	–	399	6	535	**940**
Investments[4]	278	433	928	33,335	**34,974**
Advance payments capitalised	–	–	–	79	**79**
Capitalised/reversed future expenses for decommissioning, restoration	–	-1,319	–	711	**-608**
Transfer from construction in progress	567	29,588	266	-30,548	**-127**
Divestments/disposals	-411	-2,539	-1,389	-41	**-4,380**
Other reclassifications	399	-574	115	-149	**-209**
Assets held for sale	-14,381	-67,434	-776	-10,161	**-92,752**
Divested companies	–	-762	-93	–	**-855**
Translation differences	444	1,476	26	271	**2,217**
Accumulated cost carried forward	**52,970**	**437,670**	**10,055**	**35,095**	**535,790**
Depreciation according to plan					
Depreciation brought forward	-29,823	-244,004	-7,794	–	**-281,621**
Acquired companies	–	-335	-4	–	**-339**
Depreciation for the year	-1,578	-15,422	-996	–	**-17,996**
Divestments/disposals	376	2,004	1,236	–	**3,616**
Other reclassifications	4	25	-246	–	**-217**
Assets held for sale	10,390	50,401	672	–	**61,463**
Divested companies	–	16	64	–	**80**
Translation differences	-283	-1,382	-16	–	**-1,681**
Accumulated depreciation according to plan carried forward	**-20,914**	**-208,697**	**-7,084**	**–**	**-236,695**
Impairment losses					
Impairment losses brought forward	-3,907	-33,408	-410	-439	**-38,164**
Impairment losses for the year	–	-997	–	-3,769	**-4,766**
Reversed impairment losses for the year	–	392	–	3,769	**4,161**
Divestments/disposals	4	406	1	2	**413**
Other reclassifications	11	–	245	–	**256**
Assets held for sale	76	1,075	1	–	**1,152**
Divested companies	–	746	29	–	**775**
Translation differences	6	-14	-7	1	**-14**
Accumulated impairment losses carried forward	**-3,810**	**-31,800**	**-141**	**-436**	**-36,187**
Residual value according to plan carried forward	**28,246**	**197,173**	**2,830**	**34,659**	**262,908**
Advance payments to suppliers					**123**
Total					**263,031**

[1] Cost for land and buildings includes cost of land and water rights amounting to SEK 10,218 million (11,763), which are not subject to depreciation.

[2] Borrowing costs during the construction period have been reported as an asset in the amount of SEK 0 million (0) for the year. The average interest rate for 2023 was 5.05% for borrowings in SEK, 2.96% for borrowings in EUR and 6.98 % for borrowings in GBP.

[3] Government grants received, balance brought forward, amount to SEK 8,093 million (8,072).

[4] Government grants received during the year amounted to SEK 297 million (112).

Financial information

	2022				
	Land and buildings[1]	Plant and machinery and other technical installations	Equipment, tools, fixtures and fittings	Construction in progress[2]	Total
Cost					
Cost brought forward[3]	63,338	505,635	10,662	21,696	**601,331**
Acquired companies	–	509	4	171	**684**
Investments[4]	1,042	539	671	26,969	**29,221**
Advance payments capitalised	–	–	–	13	**13**
Capitalised/reversed future expenses for decommissioning, restoration	75	7,914	–	81	**8,070**
Transfer from construction in progress	528	8,593	146	-9,267	**–**
Divestments/disposals	-1,319	-12,515	-707	-431	**-14,972**
Other reclassifications	212	-298	-166	110	**-142**
Assets held for sale	-61	-50,217	-220	–	**-50,498**
Translation differences	2,259	18,242	582	1,721	**22,804**
Accumulated cost carried forward	**66,074**	**478,402**	**10,972**	**41,063**	**596,511**
Depreciation according to plan					
Depreciation brought forward	-27,252	-231,344	-7,069	–	**-265,665**
Depreciation for the year	-1,481	-14,936	-1,003	–	**-17,420**
Divestments/disposals	137	6,095	669	–	**6,901**
Assets held for sale	–	5,562	–	–	**5,562**
Translation differences	-1,227	-9,110	-389	–	**-10,726**
Accumulated depreciation according to plan carried forward	**-29,823**	**-244,004**	**-7,794**	**–**	**-281,621**
Impairment losses					
Impairment losses brought forward	-4,725	-77,162	-391	-671	**-82,949**
Impairment losses for the year	–	-63	–	–	**-63**
Reversed impairment losses for the year	2	666	–	–	**668**
Divestments/disposals	1,106	6,280	11	105	**7,502**
Other reclassifications	–	–	–	165	**165**
Assets held for sale	–	39,859	–	–	**39,859**
Translation differences	-290	-2,988	-30	-38	**-3,346**
Accumulated impairment losses carried forward	**-3,907**	**-33,408**	**-410**	**-439**	**-38,164**
Residual value according to plan carried forward	**32,344**	**200,990**	**2,768**	**40,624**	**276,726**
Advance payments to suppliers					**175**
Total					**276,901**

[1] Cost for land and buildings includes cost of land and water rights amounting to SEK 10,218 million (11,763), which are not subject to depreciation.

[2] Borrowing costs during the construction period have been reported as an asset in the amount of SEK 0 million (0) for the year. The average interest rate for 2023 was 5.05% for borrowings in SEK, 2.96% for borrowings in EUR and 6.98 % for borrowings in GBP.

[3] Government grants received, balance brought forward, amount to SEK 8,093 million (8,072).

[4] Government grants received during the year amounted to SEK 297 million (112).

At 31 December 2023, contractual commitments for the acquisition of property, plant and equipment amounted to SEK 12,115 million (17,266).

Estimated useful life	
Hydro power installations	5–50 years
Nuclear power installations	3–60 years
Combined heat and power installations	5–50 years
Wind power installations	10–25 years
Solar power installations	5–25 years
Distribution assets	10–35 years
Office and warehouse buildings and workshops	15–100 years
Office equipment	3–10 years

Estimated useful lives are unchanged compared to the preceding year.

Note 18 Shares and participations owned by the Parent Company Vattenfall AB and other Group companies

Shares and participations owned by Parent Company Vattenfall AB

	Corporate Identity Number	Registered office	Number of shares 2023	Participation in % 2023	Carrying amount Parent Company 2023	Carrying amount Parent Company 2022
Sverige						
Borås Elhandel AB[1]	556613-7765	Borås	1,000	100	100	100
Chlorout AB[7]	556840-9253	Stockholm	500	100	–	–
Enwell Holding AB[1]	556813-3846	Stockholm	1,230,000	100	223	190
Forsmarks Kraftgrupp AB[2]	556174-8525	Östhammar	198,000	66	198	198
Försäkrings AB Vattenfall Insurance[7]	516401-8391	Solna	200,000	100	924	924
Gotlands Energi AB[5]	556008-2157	Gotland	112,500	75	13	13
InCharge AB[1]	559178-6081	Stockholm	50,000	100	–	–
Klimatum AB[1]	559030-1148	Stockholm	100	100	39	39
Produktionsbalans PBA AB[2]	556425-8134	Stockholm	4,800	100	5	5
Ringhals AB[2]	556558-7036	Varberg	248,572	70	379	379
Svensk Kärnbränslehantering AB[2]	556175-2014	Solna	360	36[8]	–	–
Vattenfall Business Services Nordic AB[7]	556439-0614	Stockholm	100	100	130	130
Vattenfall Computing Services AB[7]	559217-9229	Stockholm	50,000	100	14	14
Vattenfall Elanläggningar AB[6]	556257-5661	Solna	1,000	100	1	1
Vattenfall Eldistribution AB[6]	556417-0800	Solna	8,000	100	38,000	38,000
Vattenfall Kundservice AB[7]	556529-7065	Umeå	100,000	100	30	30
Vattenfall Nuclear Fuel AB[2]	556440-2609	Solna	100	100	96	96
Vattenfall Power Management AB[1]	556573-5940	Stockholm	6,570	100	12	12
Vattenfall Services Nordic AB[2]	556417-0859	Stockholm	16,000	100	19	19
Vattenfall Vattenkraft AB[2]	556810-1520	Stockholm	1,000	100	1	1
Vattenfall Vindkraft AB[4]	556731-0866	Stockholm	1,000	100	3,000	14,000
Västerbergslagens Energi AB[5]	556565-6856	Ludvika	14,674	51	15	15
Germany						
Vattenfall GmbH[7]	(HRB) 124048	Berlin	500,000,000	100	51,168	51,366
Netherlands						
Vattenfall N.V.[7]	33292246	Amsterdam	136,794,964	100	44,138	44,138
Denmark						
Vattenfall A/S[7]	213 11 332	Köpenhamn	10,040,000	100	82	82
Vattenfall Network Solutions A/S[6]	31894522	Köpenhamn	5,000	100	89	89
Vattenfall Vindkraft A/S[4]	31597544	Kolding	150,000	100	4,870	4,870
Vindstød A/S[1]	340 451 43	Århus	1,333,333	90	179	179
UK						
Vattenfall HEAT UK Limited[5]	2951085	London	17,000,002	100	1,153	457
Vattenfall Networks Ltd[6]	2731769	London	15,000,002	100	176	176
Vattenfall Networks Solutions Ltd[6]	2692708	London	15,002,000	100	186	186
Vattenfall Wind Power Ltd[4]	6205750	London	646,000,001	100	10,510	10,510
Other countries						
Vattenfall AS[4]	931 124 692	Oslo	30,000	100	–	–
Vattenfall Eolien S.A.S.[4]	832352538	Boulogne Billancourt	1,000	100	182	182
Vattenfall IT Services Poland Sp.z.o.o[7]	0000402391	Gliwice	58,000	100	12	12
Vattenfall Oy[1]	1842073-2	Helsingfors	85	100	684	684
Total					**156,826**	**167,097**

[1] Customers & Solutions.
[2] Power Generation – Generation.
[3] Power Generation – Markets.
[4] Wind.
[5] Heat.
[6] Distribution.
[7] Other.
[8] The Group owns a further 30% via Forsmarks Kraftgrupp AB.

Larger shareholdings owned by other Group companies than the Parent Company Vattenfall AB
When calculating the participation percentages, consideration is taken for the non-controlling interests in the respective companies.

	Registered office	Participation in % 2023
Sweden		
Vattenfall Kraftgården AB	Ragunda	74
Denmark		
Vattenfall Vindkraft Nørrekær Enge A/S	Esbjerg	100
Germany		
DanTysk Sandbank Offshore Wind GmbH & Co. KG	Hamburg	51
Kernkraftwerk Brunsbüttel GmbH & Co. oHG	Hamburg	67
Kernkraftwerk Krümmel GmbH & Co. oHG	Hamburg	50
Nuon Epe Gasspeicher GmbH	Gronau	100
Solizer Deutschland GmbH	Hamburg	100
Vattenfall Energy Trading GmbH	Hamburg	100
Vattenfall Europe Information Services GmbH	Hamburg	100
Vattenfall Europe New Energy GmbH	Hamburg	100
Vattenfall Europe New Energy Ecopower GmbH	Rostock	100
Vattenfall Europe Sales GmbH	Hamburg	100
Vattenfall Europe Windkraft GmbH	Hamburg	100
Vattenfall Next Energy GmbH	Berlin	100
Vattenfall Real Estate Energy Sales GmbH	Berlin	100
Vattenfall Smarter Living GmbH	Berlin	100
Vattenfall Wärme Berlin AG	Berlin	100
Vattenfall Wasserkraft GmbH	Berlin	100

	Registered office	Participation in % 2023
Netherlands		
DELTA Energie B.V.	Middelburg	100
Feenstra N.V.	Amsterdam	100
Feenstra Verwarming B.V.	Lelystad	100
Nuon Epe Gas Service B.V.	Amsterdam	100
Vattenfall Storage B.V.	Amsterdam	100
Vattenfall Customers & Solutions Netherlands N.V.	Amsterdam	100
Vattenfall Duurzame Energie N.V.	Amsterdam	100
Vattenfall Energy Sourcing Netherlands N.V.	Amsterdam	100
Vattenfall Energy Trading Netherlands N.V.	Amsterdam	100
Vattenfall Klantenservice N.V.	Amsterdam	100
Vattenfall Sales Nederland N.V.	Amsterdam	100
Vattenfall Warmte N.V.	Amsterdam	100
Zuidlob Wind B.V.	Amsterdam	100
UK		
Aberdeen Offshore Wind Farm Ltd	Aberdeen	100
Kentish Flats Ltd	London	100
Nuon UK Ltd	Cornwall	100
Ormonde Energy Ltd	London	51
Pen Y Cymoedd Wind Farm Ltd.	Cornwall	100
Thanet Offshore Wind Ltd	London	100
France		
Vattenfall Energies S.A.	Didenheim	100

Subsidiaries with material non-controlling ownership interests
Forsmarks Kraftgrupp
Forsmarks Kraftgrupp conducts nuclear power operations from three nuclear reactors in Östhammar municipality, Uppsala County. Forsmarks Kraftgrupp is owned by Vattenfall AB (66.0%) and Mellansvensk Kraftgrupp AB (25.5%) – the latter of which has Fortum as its largest owner – and Sydkraft Nuclear Power AB (8.5%). The German state is the largest, controlling shareholder of Uniper, which owns Sydkraft Nuclear Power AB. These part-owners have a consortium agreement that regulates operations and decision making for Forsmarks Kraftgrupp. Forsmarks Kraftgrupp reports on a consolidated basis to the Vattenfall Group since, under the consortium agreement, Vattenfall controls Forsmarks Kraftgrupp according to the criteria stated in IFRS 10 – "Consolidated Financial Statements".

Sales of the electric power that is generated are made on a pro rata basis to the part owners at cost, pursuant to the consortium agreement. In addition, the consortium agreement entails that the part owners are responsible for the company's funding on a pro rata basis, and that the company's operations shall in principle not generate any profit. Generation in 2023 amounted to 24.3 TWh (25.5), and the average availability for Forsmark was 87.3% (90.1).

Ringhals
Ringhals conducts nuclear power operations from four nuclear reactors on the Swedish west coast in Varberg municipality. Two of the reactors have been taken out of operation and decommissioning has begun. Ringhals is owned by Vattenfall AB (70.4%) and Sydkraft Nuclear Power AB (29.6%). The part-owners have a consortium

agreement that regulates how the operations of Ringhals are conducted and how decision-making is done. Ringhals is reported as a Group company in the Vattenfall Group since Vattenfall has control over Ringhals according to IFRS 10 – "Consolidated Financial Statements".

Sales of the electric power that is generated are made on a pro rata basis to the part owners at cost, pursuant to the consortium agreement. In addition, the consortium agreement entails that the part owners are responsible for the company's funding on a pro rata basis, and that the company's operations shall in principle not generate any profit. Generation in 2023 amounted to 13.1 TWh (13.9), and the average availability for Ringhals was 70.0 % (73.5).

DanTysk Sandbank Offshore Wind

The DanTysk offshore wind farm, west of the island of Sylt (Germany) and just over the border with Denmark, was one of the first large marine wind farms built in the German North Sea. The wind farm comprises 80 wind turbines of 3.6 MW each with a total capacity of 288 MW. DanTysk began generating electricity in December 2014. The Sandbank wind farm comprises 72 wind turbines of 4 MW each with a total capacity of 288 MW. The wind farm is located 90 kilometres off the coast of Schleswig-Holstein (Germany), adjacent to DanTysk. Sandbank was inaugurated in 2017.

Both wind farms are part of the company DanTysk Sandbank Offshore Wind GmbH & Co. KG, in which Vattenfall Europe Windkraft GmbH owns 51% of the shares, and the partner Stadtwerke München holds 49% of the shares. Vattenfall has control over DanTysk Sandbank Offshore Wind in accordance with IFRS 10 – "Consolidated Financial Statements".

Hollandse Kust Zuid

Hollandse Kust Zuid is an offshore wind farm which was officially inaugurated on the 29th of September 2023. The wind farm, located in the North Sea, is the first subsidy-free wind farm in Europe. The project covers 322 km^2, consisting of 139 WTGs with an aggregated capacity of 1.5 GW, corresponding to the annual electricity consumption of 1.5 million households. Construction of the wind farm began in 2021 and is expected to be fully operational in 2024.

Vattenfall Duurzame Energie N.V. owns 50.51% of the shares. The other owners are BASF, 24.25%, and Allianz, 25.24%. Vattenfall has control over Hollandse Kust Zuid in accordance with IFRS 10 – "Consolidated Financial Statements".

Following is condensed financial information for Forsmarks Kraftgrupp, Ringhals, DanTysk Sanbank Offshore Wind and Hollandse Kust Zuid:

	2023				2022			
	Forsmarks Kraftgrupp	Ringhals	DanTysk Sandbank Offshore Wind	Hollandse Kust Zuid	Forsmarks Kraftgrupp	Ringhals	DanTysk Sandbank Offshore Wind	Hollandse Kust Zuid
Income statements in summary								
Net sales	6,380	4,561	4,828	1,591	7,021	5,065	6,177	119
Profit for the year	828	1,538	1,399	677	-3,210	-4,590	2,741	35
– of which allocated to non-controlling interests	290	50	685	332	-935	82	1,343	17
Balance sheets in summary								
Non-current assets	60,007	49,337	11,167	30,040	61,128	49,752	13,214	19,894
Current assets	15,964	8,084	1,545	749	15,112	8,052	970	1,629
Total assets	**75,971**	**57,421**	**12,712**	**30,789**	**76,240**	**57,804**	**14,184**	**21,523**
Equity	11,985	-505	11,060	26,648	11,260	-1,768	10,258	14,334
Liabilities	63,986	57,926	1,652	4,141	64,980	59,572	3,926	7,189
Total equity and liabilities	**75,971**	**57,421**	**12,712**	**30,789**	**76,240**	**57,804**	**14,184**	**21,523**
Statement of cash flows in summary								
Cash flow for the year	-40	-391	-190	-800	-122	223	28	-26

Note 19 Participations in associated companies and joint arrangements

	2023	2022
Balance brought forward	7,094	6,110
New share issues and shareholders' contributions	207	569
Withdrawals/Repaid shareholders' contributions	–	-71
Divested companies	-140	-23
Impairment losses	-1,745	–
Changes in other comprehensive income	-1,277	183
Profit participations and dividends	-77	-181
Translation differences	78	507
Balance carried forward	**4,140**	**7,094**

Shares and participations owned by the Parent Company Vattenfall AB or by other Group companies

	Corporate Identity Number	Registered office	Participation in % 2023	Carrying amount Group 2023	Carrying amount Group 2022	Carrying amount Parent Company 2023	Carrying amount Parent Company 2022
Associated companies and joint ventures owned by the Parent Company Vattenfall AB							
Sweden							
Hybrit Development AB	559121-9760	Stockholm	33	190	250	557	537
Norway							
NorthConnect KS	996625001	Kristiansand	33	46	49	–	–
NorthConnect AS	995878550	Kristiansand	30	12	13	–	–
Associated companies and joint ventures owned by other Group companies than the Parent Company Vattenfall AB							
Sweden							
Blakliden Fäbodberget Holding AB	559148-3408	Solna	30	162	251	–	–
UK							
East Anglia Offshore Wind Ltd[1]	06990367	London	50	52	51	–	–
Muir Mhòr Offshore Wind Farm Limited	717262	Edinburgh	50	280	180	–	–
Germany							
E & V Windfeld Birkhorst GmbH[1]	HRB 13342 NP	Schenkenberg	50	2	2	–	–
DOTI Deutsche Offshore-Testfeld- und Infrastruktur-GmbH & Co. KG	HRA 200395	Oldenburg	26	–	26	–	–
GASAG AG	HRB 44343	Berlin	32	2,774	5,567	–	–
Kernkraftwerk Brokdorf GmbH & Co. oHG	HRA 99143	Hamburg	20	–	–	–	–
Kernkraftwerk Stade GmbH & Co. oHG	HRA 99146	Hamburg	33	–	–	–	–
SZ Solarpark Schleife GmbH	HRB 42410	Schleife	30	–	–	–	–
Vattenfall Eurofiber GmbH[1] (sold)	HRB 202647 B	Berlin	0	–	148	–	–

[1] Joint ventures.

	Corporate Identity Number	Registered office	Participation in % 2023	Carrying amount Group 2023	Carrying amount Group 2022	Carrying amount Parent Company 2023	Carrying amount Parent Company 2022
Netherlands							
B.V. Nederlands Elektriciteit Administratiekantoor	09018339	Arnhem	23	–	–	–	–
Molenrak B.V.[1]	82937230	Amsterdam	58	223	232	–	–
OSwinT B.V.	74311883	Swifterbant	23	8	7	–	–
V.O.F. Windpark Oom Kees[1]	09210903	Amsterdam	13	3	5	–	–
Westpoort Warmte B.V.[1]	34121626	Amsterdam	50	388	313	–	–
Total				**4,140**	**7,094**	**557**	**537**

[1] Joint ventures.

Participations in the results of associated companies

	2023	2022
Sweden		
Blakliden Fäbodberget Holding AB	-95	-43
Hybrit Development AB	-79	-71
Norway		
NorthConnect KS	–	–
NorthConnect AS	–	–
UK		
East Anglia Offshore Wind Ltd	–	–
Muir Mhòr Offshore Wind Farm Limited	–	–
Germany		
E & V Windfeld Birkhorst GmbH	–	–
DOTI Deutsche Offshore-Testfeld- und Infrastruktur-GmbH & Co. KG	-27	18
GASAG AG	306	252
Kernkraftwerk Brokdorf GmbH & Co. oHG	–	–
Kernkraftwerk Stade GmbH & Co. oHG	–	–
SOLYTIC GmbH	–	-23
SZ Solarpark Schleife GmbH	–	–
Vattenfall Eurofiber GmbH	-187	-56
Netherlands		
B.V. Nederlands Elektriciteit Administratiekantoor	–	–
C.V. Windpoort (liquidated)	–	1
Molenrak B.V.	-8	–
OSwinT B.V.	–	1
V.O.F. Windpark Oom Kees	2	3
Westpoort Warmte B.V.	77	55
Total	**-11**	**137**

Note 20 Share in the Swedish Nuclear Waste Fund

According to the Swedish Nuclear Activities Act (1984:3), any organisation in Sweden with a permit to own or run a nuclear installation is obliged to dismantle the plant in a safe manner, to manage spent fuel and other radioactive waste and to conduct necessary research and development. The permit holder shall also finance this dismantling. The financing of future fees for spent nuclear fuel is currently ensured by Swedish law. The reactor owner is required to pay a generation-based fee to the board of the Swedish Nuclear Waste Fund, which manages paid-in funds.

As stated in Note 31 to the consolidated accounts, Other interest-bearing provisions, provisions for future expenses for decommissioning within Swedish nuclear power operations amount to SEK 86,370 million (91,388 million). Contingent liabilities attributable to the Swedish Nuclear Waste Fund are described in Note 40 to the consolidated accounts, Contingent liabilities.

Accounting policy
The share in Swedish Nuclear Waste Fund is accounted for at fair value through profit or loss.

	2023	2022
Balance brought forward	47,682	53,119
Payments	1,811	1,721
Disbursements	-1,706	-1,550
Returns	4,388	-5,608
Balance carried forward	**52,175**	**47,682**

Note 21 Inventories

Accounting policy
Inventories held for own use are valued at the lower of their cost and net realisable value. Net realisable value is the estimated sales price in operating activities, less estimated costs for completion and to bring about a sale. The consumption of nuclear fuel is calculated as a depletion of the energy content of the fuel rods, and is based on the cost of each batch of fuel loaded into the core. The cost of inventories is calculated, depending on the type of inventory, either through application of the first-in, first-out (FIFO) method or through the application of a method based on average prices. Both methods include costs that arose on acquisition of the inventory assets.

Inventories held for trading are valued at fair value less costs to sell. For CO_2 emission allowances that are held for trading, fair value is based on quoted prices (Level 1). For other commodities fair value measurement is derived from an observable market price (API#2 for coal), which means a categorisation into Level 2 of the fair value hierarchy. See Note 3 to the consolidated accounts, Accounting policies.

Inventories under construction pertains to operations within business area Wind where Vattenfall constructs and builds wind- and solar parks with the purpose of selling the fully operational parks to external parties. These inventories are valued at the lower of cost and net realisable value. Cost includes expenses for land acquisition and design as well as expenses for construction. Inventory sold through develop to sell transactions in 2023 amounted to SEK 3,500 million (671), of which the major part pertains to the sale of South Kyle Wind Farm Ltd.

The value of the energy stored in the form of water in reservoirs is not reported as an asset.

Financial information

	2023	2022
Inventories held for own use		
Nuclear fuel	7,573	5,538
Materials and spare parts	3,635	3,596
Fossil fuel	72	2,403
Biological assets	–	12
Renewable fuel	417	255
Other	809	593
Total	**12,506**	**12,397**
Inventories held for trading		
Fossil fuel	1,569	3,024
CO_2 emission allowances/certificates	1,960	1,536
Biomass	264	344
Total	**3,793**	**4,904**
Inventories under construction		
Development projects, wind power	206	3,328
Development projects, solar power	2,097	340
Total	**2,303**	**3,668**
Total inventories	**18,602**	**20,969**

Inventories recognised as an expense in 2023 amount to SEK 10,050 million (22,565). Impairment losses for inventory for own use amounted to SEK 56 million (23) during the year. Reversed impairment amounted to SEK 67 million (20).

Note 22 Intangible assets: current

Accounting policy

CO_2 emission allowances held for own use

Vattenfall applies the "net liability/ carrying value" approach which means that the allowances received by way of a grant are recorded at a nominal amount (in most cases nil) and purchased rights are recognised at cost less accumulated impairment losses. As carbon dioxide is emitted, an obligation arises to deliver emission allowances (EUAs, CERs, ERUs) to the authorities in the respective countries. The obligation is reported as Cost of purchases and a liability in the amount at which it is expected to be settled.

Certificates held for own use

Vattenfall applies the "net liability/ reimbursement rights" approach for certificates and guarantees of origin. Under this approach accumulated certificates, which are received free of charge, are reported as intangible assets under current assets at fair value when obtained. The corresponding amount is recognised as revenue under Net sales. Purchased certificates for own use are recognised at cost less accumulated impairment losses. When electricity is sold, an obligation arises to deliver certificates to the authorities in the respective countries. The obligation is reported as Cost of purchases and a liability in the amount at which it is expected to be settled and occurs in cases where Vattenfall has a shortage of certificates.

Financial information

	CO_2 emission allowances		Certificates		Total	
	2023	**2022**	**2023**	**2022**	**2023**	**2022**
Balance brought forward	2,979	4,844	64	17	**3,043**	**4,861**
Purchases	16,023	7,073	31	67	**16,054**	**7,140**
Sold	-9,861	-6,482	-17	-1	**-9,878**	**-6,483**
Redeemed	-2,741	-2,748	-26	-21	**-2,767**	**-2,769**
Disposals	-38	-20	–	–	**-38**	**-20**
Assets held for sale	-99	–	–	–	**-99**	**–**
Translation differences	-110	312	–	2	**-110**	**314**
Balance carried forward	**6,153**	**2,979**	**52**	**64**	**6,205**	**3,043**

Note 23 Trade receivables and other receivables

Accounting policy

From its sales to customers, Vattenfall is exposed to credit risk in outstanding trade receivables. This risk is reduced as companies in the Group have trade receivables distributed among a large number of customers with a short expected maturity. Trade receivables are measured, without discounting, at the amounts initially invoiced less allowances for expected losses. Historically, overall customer losses have been low throughout the Group. The allowance for expected credit losses is based on the remaining term. A collective method is used where the receivables are grouped together based on e.g., the number of days past due including any past-due receivables, and a credit loss percentage is calculated for the respective intervals. Vattenfall has based its calculations on experience from historic loss levels for similar receivables while taking into account forward-looking macroeconomic conditions that may affect expected cash flows. The factors above have resulted in expected credit losses amounting to 0.2–25 % depending on grouping. For individual, significant receivables, an individual assessment may be made. Impairment of trade receivables is reported as operating expenses within Cost of purchases.

Financial information

	2023	**2022**
Accounts receivable – trade	34,095	41,982
Receivables from associated companies	740	348
Other receivables	10,049	11,686
Total	**44,884**	**54,016**

Age analysis

The collection period is normally between 10 and 30 days.

	2023			2022		
	Receivables, gross	**Impaired receivables**	**Receivables, net**	**Receivables, gross**	**Impaired receivables**	**Receivables, net**
Accounts receivable – trade						
Not due	31,700	496	31,204	40,401	206	40,195
Past due 1–30 days	1,415	21	1,394	1,253	147	1,106
Past due 31–90 days	795	307	488	487	147	340
Past due >90 days	2,254	1,245	1,009	1,585	1,244	341
Total	**36,164**	**2,069**	**34,095**	**43,726**	**1,744**	**41,982**
Receivables from associated companies						
Not due	732	–	732	348	–	348
Past due 1–30 days	–	–	–	–	–	–
Past due 31–90 days	–	–	–	–	–	–
Past due >90 days	8	–	8	–	–	–
Total	**740**	**–**	**740**	**348**	**–**	**348**
Other receivables						
Not due	10,047	–	10,047	11,683	–	11,683
Past due 1–30 days	–	–	–	–	–	–
Past due 31–90 days	–	–	–	–	–	–
Past due >90 days	3	1	2	4	1	3
Total	**10,050**	**1**	**10,049**	**11,687**	**1**	**11,686**

Note 24 Advance payments paid

	2023	2022
Margin calls paid, energy trading	17,749	19,591
Other advance payments	1,087	608
Total	**18,836**	**20,199**

A margin call paid is a marginal security (collateral) that Vattenfall pays its counterparty, that is, to the holder of a derivative position to cover the counterpart's credit risk, either bilaterally via OTC or through an exchange. In Vattenfall's business activities, margin calls occur in energy trading and in the financing activities.

Margin calls paid within energy trading are recognised on the balance sheet as advance payments paid and are thereby recognised in the statement of cash flows as cash flows from changes in operating assets.

Note 25 Prepaid expenses and accrued income

	2023	2022
Accrued income, energy	10,259	16,079
Prepaid expenses, other	5,081	2,950
Accrued income, other	1,944	1,746
Total	**17,284**	**20,775**

Note 26 Short-term investments

	2023	2022
Interest-bearing investments	21,022	64,724
Margin calls paid, financing activities	3,566	1,122
Total	**24,588**	**65,846**

Note 27 Cash and cash equivalents

	2023	2022
Cash and bank balances	22,193	86,916
Cash equivalents	5,489	19,624
Total	**27,682**	**106,540**

Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Note 28 Assets held for sale

Accounting policy

Non-current assets (or disposal groups) are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. To be classified as held for sale a number of criteria must be met. Assets held for sale are valued at the lower of their carrying amount and fair value less costs to sell and are not subject to amortisation or depreciation. Assets (and liabilities) held for sale are classified as current assets (current liabilities) when the sale transaction is expected to be settled within twelve months after the balance sheet date.

Financial information

Assets held for sale as per 31 December 2023 refer to assets in BA Heat and BA Wind.

SEK 32.1 billion of the Assets held for sale and SEK 15.0 billion of the liabilities attributable to Assets held for sale refers to Heat Berlin. On 19 December 2023 Vattenfall and the State of Berlin signed a Sales Purchase Agreement regarding divestment of the Heat Berlin business. The divestment is expected to be finalised during the second quarter 2024. Accumulated translation effects as per 31 December 2023 amounts to SEK 215 million.

SEK 9.2 billion of the Assets held for sale and SEK 1.0 billion of the Liabilities attributable to Assets held for sale refers to the Norfolk Offshore Wind Zone. On 21 December 2023 Vattenfall signed an agreement with RWE to divest the Norfolk Offshore Wind Zone. The divestment is expected to be finalised during the first quarter 2024. Accumulated translation effects as per 31 December 2023 amounts to SEK -23 million.

	2023	2022
Intangible assets, non-current	133	0
Property, plant and equipment	29,163	5,313
Other non-current assets	900	327
Trade receivables and other receivables	4,146	–
Cash and cash equivalents	6,921	4,307
Total assets	**41,263**	**9,947**
Other interest-bearing provisions	6,623	3,658
Other non-current liabilities	865	–
Trade payables and other liabilities	8,497	180
Total liabilities	**15,985**	**3,838**

Note 29 Interest-bearing liabilities and related financial derivatives

Interest-bearing liabilities include Hybrid Capital and other interest-bearing liabilities – mainly bond issues. The hybrid bonds are reported as an interest-bearing liability and are subordinated to Vattenfall's other debt instruments. The credit rating agencies Moody's and Standard & Poor's classify 50% of the hybrid bonds as equity in their credit analyses. Two SEK bonds of SEK 3 billion and SEK 500 million, two GBP bonds of GBP 250 million and the EUR bond of EUR 1 billion have set terms of 62 years. Vattenfall has an option at specifically defined points in time to redeem the bonds at a call date prior to maturity. These call dates arise for the first time in 2027 for the EUR-denominated bond.

For a description of risks related to this area please refer to the risk section on page 83-95.

Hybrid Capital is reported as follows:

	2023	2022
Balance brought forward	21,931	20,421
Redemption of Hybrid Capital	-4,331	-3,059
Issue of Hybrid Capital	3,215	–
Reclassification to/from other interstbearing debt	4	3,061
Translation differences	168	1,508
Balance carried forward	**20,987**	**21,931**

Reported values for Hybrid Capital and other interest-bearing liabilities are specified as follows:

	Non-current portion maturity 1-5 years		Non-current portion maturity >5 years		Total non-current portion		Current portion		Total	
	2023	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
Bond issues	30,546	44,686	11,407	17,283	**41,953**	**61,969**	19,988	300	**61,941**	**62,269**
Commercial paper	–	–	–	–	**–**	**–**	20,071	71,018	**20,071**	**71,018**
Liabilities to credit institutions	–	–	–	–	**–**	**–**	15	1,668	**15**	**1,668**
Liabilities pertaining to acquisitions of subsidiaries	298	–	–	–	**298**	**–**	36	–	**334**	**–**
Liabilities to owners of non-controlling interests	–	–	9,668	10,655	**9,668**	**10,655**	397	-988	**10,065**	**9,667**
Liabilities to associated companies	–	–	–	–	**–**	**–**	718	930	**718**	**930**
Lease liability	2,103	2,040	3,331	3,773	**5,434**	**5,813**	864	916	**6,298**	**6,729**
Other liabilities	245	290	148	121	**393**	**411**	287[1]	2,142[1]	**680**	**2,553**
Total interest-bearing liabilities excl. Hybrid Capital	**33,192**	**47,016**	**24,554**	**31,832**	**57,746**	**78,848**	**42,376**	**75,986**	**100,122**	**154,834**
Hybrid Capital	20,987	11,122	–	6,638	**20,987**	**17,760**	–	4,171	**20,987**	**21,931**
Total interest-bearing liabilities	**54,179**	**58,138**	**24,554**	**38,470**	**78,733**	**96,608**	**42,376**	**80,157**	**121,109**	**176,765**
Derivatives (swaps) attributable to the above interest-bearing liabilities	219	-79	734	1,078	**953**	**999**	-58	-486	**895**	**513**

[1] Of which, margin calls within financing activities SEK 287 million (2,142).

Undiscounted future cash flows including interest payments on the interest-bearing liabilities mentioned above, future cash flow for derivatives, trade payables and financial instruments with contractual payments on 31 December, are shown in the table below. Floating interest cash flows with future interest fixing dates are estimated based on observable interest rate curves at year end. All future cash flows in foreign currency are translated to SEK using the rate on the balance sheet date for the annual accounts.

	Non-current portion maturity 1–5 years		Non-current portion maturity >5 years		Total non-current portion		Current portion		Total	
	2023	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
Interest-bearing liabilities	59,187	63,039	32,694	48,041	**91,881**	**111,080**	39,383	81,799	**131,264**	**192,879**
Derivatives (swaps)	370	241	887	1,208	**1,257**	**1,449**	18	-505	**1,275**	**944**
Trade payables and other financial liabilities	345	382	1,479	1,726	**1,824**	**2,108**	39,041	48,797	**40,865**	**50,905**
Total	**59,902**	**63,662**	**35,060**	**50,975**	**94,962**	**114,637**	**78,442**	**130,091**	**173,404**	**244,728**

The table below shows the largest benchmark bond issues by Vattenfall:

Typ	Issued	Currency	Nominal amount	Coupon %	Maturity
Euro Medium Term Note	2022	EUR	650	Floating	2024
Euro Medium Term Note	2020	EUR	500	0.050	2025
Euro Medium Term Note	2019	EUR	500	0.500	2026
Euro Medium Term Note	2021	EUR	500	0.125	2029
Euro Medium Term Note	2009	GBP	750	6.875	2039

Note 30 Pension provisions

Accounting policy
Vattenfall's pension obligations in the Group's Swedish and German companies are to a large extent defined benefit pension obligations. The concerned pension plans are primarily retirement pensions, disability pensions and family pensions. There are also pension plans in these and other countries that are defined contribution plans.

Defined benefit pension plans
The Group's defined benefit pension obligations are calculated separately for each plan in accordance with the Projected Unit Credit Method by calculating employees' current and past service cost. Estimated future salary adjustments are taken into consideration as well as taxes levied on pension costs, for example, the Swedish special employers' payroll tax ("särskild löneskatt"). The net obligation comprises the discounted present value of the total earned future salaries less the fair value of any plan assets. The discount rate consists of the interest rate on the balance sheet date of high quality corporate bonds with lifetimes that correspond to the Group's pension obligations. When there is no deep market in corporate bonds of this kind, the market rate yield on government bonds with an equivalent lifetime should be used instead.

Items related to the earnings of defined benefit pensions and interest on the net of defined benefit plans assets and liabilities are recognised in the income statement. Remeasurements recognised in Other comprehensive income under the heading "Items that will not be reclassified to profit or loss" consist of actuarial gains and losses. Actuarial gains and losses arise from the effects of changes in actuarial assumptions and from experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred). The difference between the actual and the calculated return on pension assets are also recognised in Other comprehensive income.

Defined contribution pension plans
Defined contribution pension plans are post-employment benefit plans according to which fixed fees are paid to a separate legal entity. There is no legal or constructive obligation to pay additional fees if the legal entity does not have sufficient assets to pay all benefits to the employees. Fees for defined contribution pension plans are reported as an expense in the income statement in the period they apply to.

Important estimations and assessments
The value of pension obligations for defined benefit pension plans is determined through actuarial computations that are based on assumptions about the discount rate, future salary increases, inflation and demographic conditions.

For pension provisions in Sweden, the discount rate in 2023 was changed to 3.5% (4.0). The discount rate is based on mortgage bonds with high credit ratings, the market for which is large and liquid. In Germany, where the discount rate is based on high quality corporate bonds, the discount rate in 2023 was also changed to 3.25% (4.0).

Financial information
Swedish pension plans
The Swedish pension plans supplement the Swedish social insurance system and are the result of agreements between employer and employee organisations. Essentially all Vattenfall employees in Sweden are enrolled in the collectively bargained ITP–Vattenfall pension plan. For employees born in 1978 and earlier, the plan is mostly a defined benefit solution, while for employees born in 1979 and later, the plan is entirely a defined contribution solution.

In defined benefit pension solutions, the employee is guaranteed a lifetime pension that corresponds to a set percentage of the employee's final salary. Defined benefit pensions are secured through provisions on the balance sheet, and the obligation is covered by credit insurance with PRI Pensionsgaranti. In addition, certain pensions attributable the time prior to Vattenfall's incorporation are covered by a government guarantee via the Swedish National Debt Office. Defined contribution pensions are secured through insurance with any of the insurance companies that are electable within the framework of the ITP plan.

Certain of Vattenfall's obligations in the ITP plan such as spousal benefits and disability pensions are secured through an insurance policy from Alecta. According to a statement (UFR 10) issued by the The Swedish Corporate Reporting Board (RFR), this plan is a multi-employer defined benefit plan. As in previous years, Vattenfall has not had access to such information to make it possible to report this plan as a defined benefit plan. The pension plan according to ITP secured by insurance in Alecta is therefore reported as a defined contribution plan. This year's share of the total savings premium in Alecta is 0.27795%, while Vattenfall's share of the total number of actively insured in Alecta is 1.37637 %. Alecta's surplus can be distributed among the policyholders and/or the insured. At the end of 2023, Alecta's surplus in the form of its so-called collective funding amounted to 158% (172). Collective funding consists of the fair value of Alecta's assets as a percentage of the insurance obligations calculated in accordance with Alecta's actuarial calculation assumptions.

German pension plans
The pension plans in Germany are based on collective agreements. Substantial defined benefit plans exist for employees in Berlin and Hamburg.

Berlin
Two pension plans exist, both secured through Pensionskasse der Bewag, a mutual insurance company. Obligations are secured through funds paid in by Vattenfall and its employees. Pensionskasse der Bewag's operations are supervised by a regulatory authority.

The pension plan for employees and retirees shown as a defined benefit plan is based on the statutes of the Bewag pension fund and a supplementary agreement to grant a pension subsidy. For employees who began their employment before 1 January 1984 and work until retirement age, the pension is based on up to 80% of the salary. Half of the statutory pension and the entire benefit from Pensionskasse der Bewag, including surpluses, are credited to the guaranteed amount. Vattenfall's obligations encompass the entire pension obligation. The plan assets attributable to personnel hired before 1 January 1984 are reported as plan assets at fair value. The assets of Pensionskasse are investment funds that are not listed on the stock exchange. The fair value is determined by the repurchase price.

The second plan covering employees who began their employment between 1 January 1984 and 31 December 2006 is also classified as a defined benefit plan. The pension which is dependent on employment time could amount to maximum 50% of the monthly salary.

Hamburg
Vattenfall has pension obligations for employees in Hamburg that mainly consist of the company's obligations to personnel and pensioners employed before 1 April 1991 in the former company HEW AG, and who have been employed for at least 10 years. The sum of the retirement pension, statutory pension and pensions from third parties normally amounts to a maximum of 65% of pensionable salary.

Dutch pension plans
In the Netherlands Vattenfall has the majority of the pension obligations secured through the ABP pension fund and the "Metaal en Techniek" pension fund. The ABP and "Metaal en Techniek" plans are classified and reported as defined contribution plans.

Defined benefit pension plans

	2023			
		Germany		
	Sweden	Plan Berlin	Plan Hamburg	Total
Present value of unfunded obligations	12,613	94	14,179	**26,886**
Present value of fully or partly funded obligations	–	6,876	69	**6,945**
Present value of obligations	**12,613**	**6,970**	**14,248**	**33,831**
Fair value of plan assets	–	5,682	57	**5,739**
Net defined benefit liability	**12,613**	**1,288**	**14,191**	**28,092**

	2022			
		Germany		
	Sweden	Plan Berlin	Plan Hamburg	Total
Present value of unfunded obligations	11,268	549	14,324	**26,141**
Present value of fully or partly funded obligations	–	14,110	132	**14,242**
Present value of obligations	**11,268**	**14,659**	**14,456**	**40,383**
Fair value of plan assets	–	12,453	118	**12,571**
Net defined benefit liability	**11,268**	**2,206**	**14,338**	**27,812**

Changes in obligations

	2023	2022
Balance brought forward	40,383	53,477
Benefits paid by the plan	-2,491	-2,331
Service cost	289	531
Contributions by plan participants	22	22
Actuarial gains (–) or losses (+) due to changes in financial assumptions	3,155	-16,709
Actuarial gains (–) or losses (+) due to changes in demographic assumptions	143	–
Actuarial gains (–) or losses (+) due to plan experience	1,289	2,217
Actuarial gains (–) or losses (+) due to reclassifications	4	25
Current interest expense	1,605	745
Liabilities associated with assets held for sale	-10,754	-305
Translation differences	186	2,711
Balance carried forward	**33,831**	**40,383**

Changes in plan assets

	2023	2022
Balance brought forward	12,571	13,149
Benefits paid by the plan	-584	-587
Contributions by employer	94	90
Contributions by plan participants	22	22
Interest income	509	167
Difference between calculated and actual return and effects from asset ceiling	995	-1,313
Assets held for sale	-8,058	–
Translation differences	190	1,043
Balance carried forward	**5,739**	**12,571**

Plan assets consist of the following

	2023	2022
Shares and participations	4,098	7,278
Interest-bearing instruments	331	2,287
Property	1,104	2,521
Other	206	485
Total	**5,739**	**12,571**

Pension costs

	2023	2022
Defined benefit plans:		
Current service cost	269	478
Interest expenses	1,604	745
Interest income	-509	-167
Past service cost	20	53
Total cost for defined benefit plans	**1,384**	**1,109**
Cost for defined contribution plans	948	852
Total pension costs	**2,332**	**1,961**

In calculating pension obligations, the following actuarial assumptions have been made (%):

	Sweden		Germany	
	2023	2022	2023	2022
Discount rate	3.50	4.00	3.25	4.00
Future annual salary increases	2.75	3.00	2.50	2.50
Future annual pension increases	1.75	2.00	0–2.50	0–2.25

Sensitivity to key actuarial assumptions

	Sweden				Germany			
	2023		2022		2023		2022	
		%		%		%		%
Impact on the defined benefit obligation at 31 December of a:								
Increase by 50 basis points in the discount rate	-904	-7.2	-839	-7.4	-1,809	-5.6	-1,688	-5.7
Decrease by 50 basis points in the discount rate	1,006	8.0	938	8.3	2,005	6.3	1,798	6.1
Increase by 50 basis points in the annual pension increases	1,224	9.7	951	8.4	1,199	3.7	1,015	3.5
Decrease by 50 basis points in the annual pension increases	-1,117	-8.9	-859	-7.6	-1,029	-3.2	-870	-3.0

At 31 December 2023 the weighted duration of pension obligations was 13.1 (12.3) years for Germany and 13.1 (13.6) years for Sweden.

Note 31 Other interest-bearing provisions

Accounting policy
A provision is reported on the balance sheet when the Group has a legal or constructive obligation as a result of a past event and it is probable that an outflow of financial resources will be required to settle the obligation and a reliable estimate of the amount can be made. Where the effect of the time value of money is material, provisions are estimated by discounting the anticipated future cash flow at an interest rate before tax that reflects market estimates of the time value of money. The discount rate does not reflect such risks that are taken into consideration in the estimated future cash flow.

Changes in discounted provisions for dismantling, restoration or similar measures, which at the time of acquisition have also been reported as tangible non-current assets, are reported as follows: In cases where the change is due to a change in the estimated outflow of resources or a change in the discount rate, the cost of a non-current tangible asset is changed in an amount corresponding to the provision. The periodic change of the present value is recognized as a financial expense.

When applicable, provisions are also reported for onerous contracts. A contract is considered onerous if unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received from the contract.

Important estimations and assessments
Provisions for future commitments for nuclear power operations
Provisions for future commitments for nuclear power operations, which pertain to future obligations for managing the decommissioning of Vattenfall's nuclear power plants in Sweden and Germany as well as for managing nuclear waste, are based on long-term cash flow estimations with respect to future commitments. These long-term cash flow estimations mainly pertain to technical plans, estimations on the amount of the commitments, when in time these are expected to fall due, and the discount rate. In many cases, these cash flow estimations must be approved by the pertinent authorities. Inflation and interest are parameters with a significant effect on provisions, in particular provisions related to nuclear power operations, in the financial statements. The macroeconomic development affects these parameters and in turn the outcome of Vattenfall's reported nuclear power provisions in Sweden. In light of the volatile inflation and interest rate development during 2023, alternative approaches were examined to determine the discount rate that best reflects management's assessment of how changes in inflation and interest rates should be reflected in the financial statements. The new approach has been established during the fourth quarter resulting in an applied discount rate of 2.80% (2.0) reducing the Swedish nuclear provisions by SEK 4.1 billion in comparison to prior year. The ultimate forward rate (UFR) is used beyond the liquid market horizon for Swedish government bonds with a convergence in between.

In Germany the discount rate increased to 0.75% (0.25) compared with the preceding year reducing the provision by SEK 650 million.

The measurement of provisions for the back-end of the nuclear cycle is sensitive to assumptions concerning technical processes, costs, inflation and discount rates. These parameters are therefore re-estimated at each closing date to ensure that the amounts accrued correspond to the best estimate of the costs eventually to be borne by the Group. Vattenfall considers that the assumptions used at 31 December 2023 are appropriate and justified. However, any future change in assumptions could have a significant impact on the Group's financial statements.

Other provisions than pension provisions and provisions for future commitments for nuclear power operations
For other types of provisions, such as provisions for future commitments for gas and wind operations and other environmental measures/undertakings, and for personnel-related provisions for non-pension purposes, provisions for legal disputes, or other provisions, the following discount rates are used, when discount effect is material: Sweden 1.75% (2.0), Germany 1.75% (1.75) Netherlands 0.75–1.75% (0–2.0), Denmark 1.75% (1.75) and the UK 2.50% (2.75).

Financial information

	Non-current portion		Current portion		Total	
	2023	**2022**	**2023**	**2022**	**2023**	**2022**
Provisions for future commitments of nuclear power operations	103,361	108,714	2,465	2,338	**105,826**	**111,052**
Provisions for future commitments of gas and wind operations and other environmental measures/undertakings	15,339	11,204	66	251	**15,405**	**11,455**
Personnel-related provisions for non-pension purposes	1,729	2,918	407	673	**2,136**	**3,591**
Provisions for legal disputes	686	634	6	13	**692**	**647**
Other provisions	3,908	4,769	115	1,107	**4,023**	**5,876**
Total	**125,023**	**128,239**	**3,059**	**4,382**	**128,082**	**132,621**

Provisions for future commitments for nuclear power operations
Vattenfall's nuclear power producers in Sweden and Germany have a legal obligation upon the cessation of production to decommission and dismantle the nuclear power plants and to restore the plots of land where the plants are located.

The Swedish obligation also encompasses the safeguarding and final storage of spent radioactive fuel and other radioactive materials used by the plants. The provisions include future commitments for the handling and storing of low- and intermediate-level radioactive waste. SVAFO has a dialogue with the Swedish state regarding obligations for certain categories of the historical radioactive waste, on which the parties have different opinions. A provision has been recorded for the part SVAFO believes it has an obligation for. As the permit-holder in Sweden, Vattenfall is responsible to finance this obligation. As shown in Note 20 to the consolidated accounts, Vattenfall's shares in the Swedish Nuclear Waste Fund amount to SEK 52,175 million (47,682). Increases in provisions are booked through the income statement when there are not sufficient head room on the underlying assets.

	Sweden	**Germany**	**Total**
Balance brought forward	91,388	19,664	**111,052**
Provisions for the period from the income statement	-883	2,459	**1,576**
Interest effects	1,775	51	**1,826**
Revaluations versus non-current tangible assets	-3,980	–	**-3,980**
Reversed provisions	–	-1,111	**-1,111**
Provisions used	-1,930	-1,567	**-3,497**
Translation differences	–	-40	**-40**
Balance carried forward	**86,370**[1]	**19,456**[2]	**105,826**

[1] Of which, approximately 43% (37) pertains to the dismantling of nuclear power plants and approximately 57% (63) to the handling of spent radioactive fuel.
[2] Of which, approximately 72% (69) pertains to the dismantling of nuclear power plants and approximately 28% (31) to the handling of nuclear waste.

Other provisions

	Provisions for dismantling and other environmental measures	Personnel-related provisions for non-pension purposes	Provisions for legal disputes	Other provisions
Balance brought forward	11,455	3,591	647	5,876
Acquired companies	–	–	–	4
Provisions for the period from the income statement	746	752	29	1,376
Interest effects	184	95	27	–
Reclassified to/from other provision	–	-6	–	–
Revaluations	4,218	-33	–	3
Provisions used	-152	-753	–	-379
Provisions reversed	-99	-82	-11	-2,839
Assets held for sale	-829	-1,472	–	-55
Translation differences	-118	44	–	37
Balance carried forward	**15,405**	**2,136**	**692**	**4,023**

Provisions for future commitments for heat and wind operations and other environmental measures/undertakings
Provisions are made for the dismantling and removal of assets and restoration of sites where the Group conducts heat operations. Provisions are also made for restoration of sites where the Group conducts wind operations and for environmental measures/undertakings within other activities carried out by the Group.

Personnel-related provisions for non-pension purposes
Provisions are made for future costs pertaining to long-term time accounts, jubilee payments, severance payments related to restructuring measures, and other costs for giving notice to personnel.

Provisions for legal disputes
Provisions are made for possible future commitments due to ongoing legal disputes and actions.

Other provisions
Other provisions include, among others, provisions for onerous contracts, restructuring and guarantee commitments.

Future commitments of non-current provisions
With the current assumptions, provisions are expected to result in outgoing payments as shown below:

	Provision for nuclear Germany	Provision for gas and wind operations	Personnel-related provision	Provision for legal disputes	Other provisions	Total
2–5 years	5,603	1,606	744	686	3,869	**12,508**
6–10 years	7,784	5,478	588	–	–	**13,850**
11–20 years	3,604	2,377	350	–	–	**6,331**
Senare än 20 years	–	5,878	47	–	39	**5,964**
Total	**16,991**	**15,339**	**1,729**	**686**	**3,908**	**38,653**

Payments of future commitments for nuclear power in Sweden are not included in the amounts reported above, since the owners of the reactors are compensated in corresponding amounts from the Swedish Nuclear Waste Fund, see Note 20 to the consolidated accounts, Share in the Swedish Nuclear Waste Fund.

Note 32 Other noninterest-bearing liabilities (non-current)

Of total liabilities of SEK 1,824 million (2,108), SEK 1,479 million (1,726) falls due after more than five years. Of the total liabilities, SEK 1,543 million (1,736) pertains to deferred income and SEK 281 million (372) to other liabilities.

Note 33 Trade payables and other liabilities

	2023	2022
Accounts payable – trade	28,422	37,561
Liabilities to associated companies	159	17
Other liabilities	10,460	11,219
Total	**39,041**	**48,797**

Note 34 Advance payments received

	2023	2022
Margin calls received, energy trading	1,152	25,131
Other advance payments	1,297	1,561
Total	**2,449**	**26,692**

A margin call received is marginal security (collateral) that Vattenfall's counterparty pays to Vattenfall as the holder of a derivative position to cover Vattenfall's credit risk, either bilaterally via OTC or through an exchange. In Vattenfall's business activities, margin calls occur in energy trading and in the treasury operations.

Margin calls received within energy trading are recognised on the balance sheet as Advance payments received and are thereby recognised in the statement of cash flows as cash flows from changes in operating liabilities.

Note 35 Accrued expenses and deferred income

	2023	2022
Accrued personnel-related costs	2,732	3,004
Accrued expenses, CO_2 emission allowances	2,224	2,881
Accrued nuclear power-related fees and taxes	201	105
Accrued interest expense	1,518	1,380
Other accrued expenses	8,845	8,272
Deferred income, energy	2,026	956
Accrued expenses, energy	4,561	5,153
Other deferred income	748	1,354
Total	**22,855**	**23,105**

Note 36 Financial instruments by measurement category, offsetting of financial assets and liabilities, and financial instruments' effects on income

Accounting policy
Classification and measurement
Financial assets
Financial assets are classified in various categories based in part on the objective (the business model) of holding the financial asset, and in part on the financial instrument's contractual cash flows, in the event they consist only of principal amounts and interest. The classification is determined at the original point of acquisition. Settlement day accounting is applied for spot purchases and spot sales of financial assets.

Amortised cost
Financial assets (debt instruments) are classified in this category if they are held in a business model whose objective is to hold financial assets in order to collect their contractual cash flows, and if the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. These instruments are measured at amortised cost, where the reported gross value is adjusted for expected credit losses. For Vattenfall this category includes Other non-current receivables, Trade receivables and other receivables, Advance payments paid, certain Short-term investments, and Cash and bank balances.

Fair value through profit or loss
This category includes all of Vattenfall's financial assets (debt instruments) that are not measured at amortised cost. This includes assets held for trading, which entails that the objective is that they will be sold in the near term, assets held for sale, and assets that Vattenfall is monitoring and measuring based on fair value. Debt instruments are also classified in this category if the contractual terms do not consist solely of payments of principal and interest. This category also includes Cash equivalents with terms shorter than three months, which Vattenfall monitors and measures based on their fair value. The category also includes certain Short-term investments with original terms in excess of three months.

Derivative assets are always measured at fair value through profit or loss, except for derivative instruments designed as hedge instruments in an effective hedge, where the principles for hedge accounting are used. Unrealised changes in the fair value of energy derivatives, for which hedge accounting is not applied, are included in the Cost of purchases with an amount of SEK 1,594 million, see Note 7 to the consolidated accounts, Cost of purchases.

Vattenfall classifies holdings of equity instruments at fair value through profit or loss. Vattenfall does not apply the irrevocable option to measure equity instruments that are not held for trading at fair value through other comprehensive income.

The assets in this category are remeasured on a regular basis to fair value with changes in value reported in profit or loss.

Financial liabilities

Financial liabilities at fair value through profit or loss

Derivative liabilities are always classified in this category. These financial liabilities are measured at fair value with changes in value recognised in profit or loss.

Other financial liabilities

In this category, interest-bearing and noninterest-bearing financial liabilities that are not held for trading purposes are reported. Other financial liabilities are measured at amortised cost. Trade liabilities have a short anticipated term and are therefore valued at a nominal amount without discounting.

Impairment

Impairment of financial assets is based on models for expected credit losses. For trade receivables that do not include a significant financing component, a simplified method is used, where calculation of the loss reserve is based on expected credit losses for the remaining term. A collective method is used where the receivables are grouped together based on e.g., the number of days past due including any past-due receivables, and a credit loss percentage is calculated for the respective intervals, where in the model Vattenfall has based its calculations on experience from historic loss levels for similar receivables while taking into account forward-looking macroeconomic conditions that may affect expected cash flows. For individual, significant receivables, an individual assessment may be made. Impairment of trade receivables is reported in operating expenses.

For other financial assets where the policies for impairment are applied, a loss reserve is reported that corresponds to 12 months' expected credit losses at initial recognition. If the credit risk increases significantly since initial recognition, a reserve corresponding to expected credit losses during the entire term is reported. Vattenfall presumes that the credit risk has not increased significantly if the instrument has a low credit risk on the balance sheet date, such as instruments with an investment grade rating. The credit risk is considered to have increased significantly if the counterparty's rating has been lowered to a lower rating than investment grade or, alternatively, if the counterparty already had a lower credit rating than investment grade at initial recognition and this rating was significantly lowered further. Expected credit losses are calculated by assessing the probability of, the loss in the event of and the exposure to default.

Hedge accounting

Hedge accounting is applied for derivative instruments that are included in a documented hedge relationship. The reporting of changes in value depends on the type of hedge entered into.

Cash flow hedges

Cash flow hedges are used primarily in the following cases: i) when forward commodity contracts are used to hedge commodity price risk in future purchases and sales, ii) when forward exchange rate contracts are used to hedge currency risk in future purchases and sales in foreign currencies, and iii) when interest rate swaps are used to replace borrowing at a floating interest rate with a fixed interest rate.

For derivative instruments that constitute a hedge instrument in a cash flow hedge, the effective part of the change in value is reported in Other comprehensive income while the ineffective part is recognised directly in profit or loss. The part of the change in value that is reported in Other comprehensive income is then transferred to the income statement in the period when the hedged item affects the income statement. In cases where the hedged item refers to a future transaction, which is later capitalised as a non-financial asset or liability on the balance sheet (for example, when hedging future purchases of non-current assets in a foreign currency), the part of the change in value reported in Other comprehensive income is transferred to and included in the cost of the asset or liability.

Hedges of fair value

A hedge of fair value is primarily used in cases where interest rate swaps are used to replace borrowing at a fixed interest rate with a floating interest rate.

Hedges of net investments in foreign operations

Hedging of net investments is primarily used when loans in foreign currencies are used to hedge the currency risk of the company's investments in foreign subsidiaries.

Financial information

Risks arising from financial instruments are described under the heading Risks and risk management on pages 62–69 in this Annual and Sustainability Report.

Financial instruments by measurement category

Presented below are assets and liabilities where the carrying amount differs from the fair value.

	2023		2022	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets at amortised cost				
Other non-current receivables	4,600	4,704	3,246	3,306
Short-term investments	4,392	4,392	1,939	1,939
Financial liabilities at amortised cost				
Hybrid Capital, non-current interest-bearing liability	20,987	20,289	17,760	17,823
Other non-current interest-bearing liabilities	57,746	58,281	78,848	78,407
Current interest-bearing liabilities	42,376	42,784	75,986	76,207

For other financial assets and liabillities there are no substantial differences between carrying amount and fair value.

Offsetting financial assets and financial liabilities

Presented below are financial assets and liabilities that are subject to enforceable master netting arrangements and similar agreements.

Assets 31 December 2023

				Related amounts not set off on the balance sheet		
	Gross amounts of recognised financial assets	Gross amounts of recognised financial liabilities set off on the balance sheet	Net amounts of financial assets presented on the balance sheet	Financial liabilities, not intended to be settled net[1]	Cash collateral received	Net amount
Derivatives, financial operations	2,134	–	2,134	1,857	243	34
Derivatives, commodity contracts	161,418	133,466	27,952	–	980	26,972
Total	**163,552**	**133,466**	**30,086**	**1,857**	**1,223**	**27,006**
Derivatives, not subject to offsetting	1,865	–	1,865	–	–	1,865
Total derivative assets			**31,951**			**28,871**

Assets 31 December 2022

				Related amounts not set off on the balance sheet		
	Gross amounts of recognised financial assets	Gross amounts of recognised financial liabilities set off on the balance sheet	Net amounts of financial assets presented on the balance sheet	Financial liabilities, not intended to be settled net[1]	Cash collateral received	Net amount
Derivatives, financial operations	4,446	–	4,446	2,883	1,535	28
Derivatives, commodity contracts	452,292	342,019	110,273	–	24,939	85,334
Total	**456,738**	**342,019**	**114,719**	**2,883**	**26,474**	**85,362**
Derivatives, not subject to offsetting	6,160	–	6,160	–	–	6,160
Total derivative assets			**120,879**			**91,522**

[1] These items cannot be settled net as each transaction has a unique due date and they were not entered into with the purpose to be settled net. Settlement can be entailed only in case of default.

Liabilities 31 December 2023

	Gross amounts of recognised financial assets	Gross amounts of recognised financial liabilities set off on the balance sheet	Net amounts of financial assets presented on the balance sheet	Related amounts not set off on the balance sheet: Financial liabilities, not intended to be settled net[1]	Related amounts not set off on the balance sheet: Cash collateral received	Net amount
Derivatives, financial operations	4,680	–	4,680	1,857	2,741	82
Derivatives, commodity contracts	192,055	133,466	58,589	–	17,736	40,853
Total	**196,735**	**133,466**	**63,269**	**1,857**	**20,477**	**40,935**
Derivatives, not subject to offsetting	654	–	654	–	–	654
Total derivative liabilities			**63,923**			**41,589**

[1] These items cannot be settled net as each transaction has a unique due date and they were not entered into with the purpose to be settled net. Settlement can be entailed only in case of default.

Liabilities 31 December 2022

	Gross amounts of recognised financial assets	Gross amounts of recognised financial liabilities set off on the balance sheet	Net amounts of financial assets presented on the balance sheet	Related amounts not set off on the balance sheet: Financial liabilities, not intended to be settled net[1]	Related amounts not set off on the balance sheet: Cash collateral received	Net amount
Derivatives, financial operations	3,574	–	3,574	2,883	574	117
Derivatives, commodity contracts	531,376	342,019	189,357	–	19,581	169,776
Total	**534,950**	**342,019**	**192,931**	**2,883**	**20,155**	**169,893**
Derivatives, not subject to offsetting	4,063	–	4,063	–	–	4,063
Total derivative liabilities			**196,994**			**173,956**

[1] These items cannot be settled net as each transaction has a unique due date and they were not entered into with the purpose to be settled net. Settlement can be entailed only in case of default.

Financial assets and liabilities that are measured at fair value on the balance sheet at 31 December 2023

	Level 1	Level 2	Level 3	Total
Assets				
Share in the Swedish Nuclear Waste Fund	52,144	–	–	**52,144**
Derivative assets	–	31,951	–	**31,951**
Short-term investments, cash equivalents, other shares and participations	19,464	6,550	–	**26,014**
Total assets	**71,608**	**38,501**	**–**	**110,109**
Liabilities				
Derivative liabilities	–	63,923	–	**63,923**
Other financial liabilities	–	–	333	**333**
Total liabilities	**–**	**63,923**	**333**	**64,256**

Financial assets and liabilities that are measured at fair value on the balance sheet at 31 December 2022

	Level 1	Level 2	Level 3	Total
Assets				
Share in the Swedish Nuclear Waste Fund	47,517	–	–	**47,517**
Derivative assets	–	120,879[1]	–	**120,879**
Short-term investments, cash equivalents, other shares and participations	74,826	9,029	–	**83,855**
Total assets	**122,343**	**129,908**	**–**	**252,251**
Liabilities				
Derivative liabilities	–	196,994	–	**196,994**
Other financial liabilities	–	–	–	–
Total liabilities	**–**	**196,994**	**–**	**196,994**

[1] Contains values previously reported as level 3.

Sensitivity analysis for electricity and fuel derivatives

The price of electricity is the main factor impacting the change in fair value recognised in other comprehensive income. Changes in fair value that are recognised in the income statement originate from the prices for gas and oil. The sensitivity analysis is based on volumes and market prices at year-end. The analysis pertains to profit before tax.

Fair valuation on the balance sheet date of 31 December 2023 of +/–10% would change the fair value of Vattenfall's electricity and fuel derivatives by +/– SEK 1,189 million (+/–978) in other comprehensive income (hedge-accounted derivatives) and +/– SEK 493 million (+/–1,082) in the income statement (non-hedge-accounted derivatives).

Sensitivity analysis for Level 3 contracts

For the determination of fair value of financial instruments, Vattenfall strives to use valuation techniques that maximise the use of observable market data where it is available and rely as little as possible on entity-specific estimates.

Entity-specific estimates are based on internal valuation models that are subject to a defined process of validation, approval and monitoring. In the first step the model is designed by the business. The valuation model and calibration of the valuation model is then independently reviewed and approved by Vattenfall's risk organisation. If deemed necessary, adjustments are required and implemented. Afterwards, Vattenfall's risk organisation continuously monitors whether the application of the method is still appropriate. This is made by usage of several back-testing tools. In order to reduce valuation risks, the application of the model can be restricted to a limited scope.

The amounts shown as level 3 contracts contain financial liabilities related to earn-out schemes. The probability weighted average of multiple scenarios as well as the time value of money was considered when determining the earn-out liabilities.

Financial instruments: Effects on income by category

Net gains (+)/losses(–) and interest income and expenses for financial instruments recognised in the income statement:

	2023			2022		
Total Vattenfall	**Net gains/ losses[1]**	**Interest income**	**Interest expenses**	**Net gains/ losses[1]**	**Interest income**	**Interest expenses**
Financial assets at fair value through profit or loss	42,085	1,358	–	-51,665	296	–
Financial assets measured at amortised cost	18	2,032	–	19	336	–
Financial liabilities at fair value through profit or loss	-455	–	–	-26	–	–
Financial liabilities measured at amortised cost	1,751	–	-3,985	-1,056	–	-3,347
Total	**43,399**	**3,390**	**-3,985**	**-52,728**	**632**	**-3,347**

[1] Exchange rate gains and losses are included in net gains/losses.

Derivative assets

	Non-current portion, maturity 1–2 years		Non-current portion, maturity 3–5 years		Non-current portion, maturity >5 years		Total non-current portion		Current portion		Total	
	2023	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
Financial contracts	120	1,139	98	54	986	676	**1,204**	**1,869**	931	2,576	**2,135**	**4,445**
Commodity and commodity-related contracts	5,411	23,364	1,211	6,066	-52	-112	**6,570**	**29,318**	23,246	87,116	**29,816**	**116,434**
Total	**5,531**	**24,503**	**1,309**	**6,120**	**934**	**564**	**7,774**	**31,187**	**24,177**	**89,692**	**31,951**	**120,879**

Derivative liabilities

	Non-current portion, maturity 1–2 years		Non-current portion, maturity 3–5 years		Non-current portion, maturity >5 years		Total non-current portion		Current portion		Total	
	2023	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
Financial contracts	575	929	244	3	1,720	1,753	**2,539**	**2,685**	2,141	889	**4,680**	**3,574**
Commodity and commodity-related contracts	9,961	33,616	2,276	8,794	130	242	**12,367**	**42,652**	46,876	150,768	**59,243**	**193,420**
Total	**10,536**	**34,545**	**2,520**	**8,797**	**1,850**	**1,995**	**14,906**	**45,337**	**49,017**	**151,657**	**63,923**	**196,994**

Note 37 Specifications of the cash flow statement

Other, including non-cash items

	2023	2022
Undistributed results from participation in associated companies	133	73
Unrealised foreign exchange gains/losses	-108	75
Unrealised changes in values related to derivatives	1,744	17,232
Changes in the Swedish Nuclear Waste Fund	-104	-171
Changes in provisions	-5,839	-500
Other	550	2,435
Total	**-3,624**	**19,144**

Dividends received totalled SEK 193 million (193).

Other investments in non-current assets

	2023	2022
Investments in intangible assets: non-current, including advance payments	-1,292	-1,007
Investments in property, plant and equipment, including advance payments	-39,691	-23,907
Total	**-40,983**	**-24,914**

Divestments

	2023	2022
Divestments of operations	-2,228[1]	11
Divestments of intangible assets: non-current	2	2
Divestments of property, plant and equipment	5,286	738
Total	**3,060**	**751**

[1] The negative cash flow effect is mainly explained by the cash position in divested operations. See note 4.

Financial liabilities

	Hybrid Capital	Current liabilities	Non-current liabilities	Total
Financial liabilities as at 1 January 2022	-20,421	-55,148	-50,839	**-126,408**
Cashflow	–	-17,143	-26,261	**-43,404**
Change in interest-bearing leasing liabilities	–	–	-1,318	**-1,318**
Translation differences	-1,510	-3,695	-2,655	**-7,860**
Other non-cash items	–	–	2,225	**2,225**
Financial liabilities as at 31 December 2022	**-21,931**	**-75,986**	**-78,848**	**-176,765**
Cashflow	1,112	35,501	22,262	**58,875**
Change in interest-bearing leasing liabilities	–	–	-1,254	**-1,254**
Translation differences	-168	-1,894	411	**-1,651**
Other non-cash items	–	3	-318	**-315**
Financial liabilities as at 31 December 2023	**-20,987**	**-42,376**	**-57,747**	**-121,110**

Note 38 Specifications of equity

Share capital

As of 31 December 2023 the registered share capital comprised 131,700,000 shares with a share quota value of SEK 50.

Translation reserve

The translation reserve comprises all exchange rate differences arising from the translation of financial reports from non-Swedish operations that prepare their reports in a currency other than that in which the Group reports. Further, the translation reserve includes exchange rate differences arising from the reassessment of debts raised as hedges for net investments in non-Swedish operations.

Reserve for hedges

The reserve for hedges comprises mostly unrealised changes in values of commodity derivatives used to hedge future sales (cash flow hedges). The reserve for hedges is expected to affect the income statement and cash flow, respectively, in the periods indicated below:

	2023		2022	
	Cash flow	Income statement	Cash flow	Income statement
Within 1 year	-5,154	-22,842	-13,585	-32,230
Between 1-5 years	-593	-4,915	-7,817	1,049
Beyond 5 years	–	–	-171	–
Total	**-5,747**	**-27,757**	**-21,573**	**-31,181**
Other	-289	–	950	–
Total	**-6,036**	**-27,757**	**-20,623**	**-31,181**

The change in the reserve for hedges relating to Cash flow hedges – dissolved against income statement amounted to SEK -14,219 million (106,390), of which SEK -14,243 million (106,370) has been reported in net sales.

Retained earnings including profit for the year

Retained earnings including profit for the year include earned profits in the Parent Company and its subsidiaries, associated companies and joint ventures, and effects of remeasurements of defined benefit pension plans.

Translation exposure of equity in other currencies than SEK

	Equity		Hedging after tax		Net exposure after tax		Average net exposure after tax	
Original currency	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
EUR	66,566	97,209	26,347	26,409	40,219	70,800	59,850	131,598
DKK	14,382	13,590	–	–	14,382	13,590	14,410	10,728
GBP	24,310	21,076	6,336	4,978	17,974	16,098	14,942	14,153
Total	**105,258**	**131,875**	**32,683**	**31,387**	**72,575**	**100,488**	**89,202**	**156,479**

Note 39 Collateral

	2023	2022
Shares in subsidiaries pledged to PRI Pensionsgaranti, as security for credit insurance in respect of pension obligations in Vattenfall's Swedish operations	7,295	7,295
Blocked bank funds as security for trading on the Nordic electricity exchange and trading with CO_2 emission allowances	7,173	37,941
Total	**14,468**	**45,236**

In addition to the collateral mentioned above, Vattenfall has the following significant commitments:

To fulfil the requirements for security in the derivative market, in its energy trading and financial operations Vattenfall has pledged security to counterparties for the negative fair value of derivative positions. As per 31 December 2023 this security amounted to SEK 17,749 million (19,591) for energy trading and SEK 3,566 million (1,122) for the treasury transactions. The amounts are reported as assets on the balance sheet under Advance payments (Note 24 to the consolidated accounts, Advance payments paid) and under Short-term investments (Note 26 to the consolidated accounts, Short-term investments). The counterparties are obligated to repay this security to Vattenfall in the event the negative fair value decreases.

In a similar manner, Vattenfall's counterparties in energy trading and the financial operations have pledged security to Vattenfall. Security received as per 31 December 2023 amounted to SEK 1,152 million (25,131) for energy trading and SEK 287 million (2,142) for the financial operations. The amounts are reported as liabilities on the balance sheet under Advance payments received for the energy trading (Note 34 to the consolidated accounts, Advance payments received) and Interest-bearing liabilities (current) for the financial operations (Note 29 to the consolidated accounts, Interest-bearing liabilities and related financial derivatives).

Note 40 Contingent liabilities

Commitments related to Swedish Hydro Power

In certain rivers, joint regulation facilities exist for several hydro power plants. The owners of the power plants have payment obligations for their share of these regulation costs. Vattenfall has an obligation to compensate certain owners of water rights, in rivers where hydro power stations are built, through the delivery of power. In 2023, such compensation deliveries amounted to 0.8 TWh (0.8), for a value of approximately SEK 194 million (595).

Under Swedish law, Vattenfall has strict and unlimited liability for third-party loss resulting from dam accidents. Together with other dam owners in the Nordic countries, Vattenfall has a liability insurance with a maximum of SEK 10,000 million (10,000) in benefits for these types of claims.

In the Energy Agreement from 2016 it was made clear that the hydro power industry must itself finance the transition to modern environmental standards. Toward this end, the company Vattenkraftens Miljöfond Sverige AB was established in 2018 by Vattenfall, Uniper, Statkraft, Fortum, Tekniska verken i Linköping, Mälarenergi, Jämtkraft and Skellefteå Kraft. Joint financing of SEK 10 billion, of which Vattenfall accounts for just over 50 percent, over a 20-year period will be used to improve the water environment in and around hydro power plants in Sweden. Vattenfall's payment to Vattenkraftens Miljöfond in 2023 totalled SEK 24 (7) million.

Commitments related to German Nuclear Power

In Germany, nuclear power operators have strict and unlimited liability to third parties. By law, nuclear power plants are required to have insurance or other financial guarantees for amounts up to EUR 2,500 million. Claims of up to EUR 256 million are covered by the German Mutual Atomic Energy Reinsurance Pool. The nuclear power plants and their German parent companies (in Vattenfall's case, Vattenfall GmbH) are liable for amounts in excess of this, in proportion to the ownership interests the respective parent companies have in the nuclear power plants. It is not until these resources are exhausted that a joint liability insurance agreement (Solidarvereinbarung) takes force between the owners of the German nuclear power plants (Vattenfall GmbH, E.ON, RWE and EnBW), for amounts up to EUR 2,500 million. Since the liability is unlimited, the nuclear power plants and their German parent companies are ultimately liable for losses that exceed this amount.

Vattenfall owns nuclear power plants in Germany together with a partner in the legal form oHG partnerships. The liability of partners in those partnerships is joint and several. Accounting is based on the assessment that the partnerships themselves as well as the partners are able to fulfil the legal and financial obligations of the partnerships. The total amount of the liabilities (including provisions) of the German nuclear companies as per 31 December 2023 is as follows:

Amounts in SEK million	Share %	Total liabilities	Of which reported in Vattenfall's consolidated statements
Kernkraftwerk Brunsbüttel GmbH & Co. oHG	66.7	12,101	12,101
Kernkraftwerk Krümmel GmbH & Co. oHG	50.0	16,190	8,095
Kernkraftwerk Stade GmbH & Co. oHG	33.3	1,133	–
Kernkraftwerk Brokdorf GmbH & Co. oHG	20.0	15,764	–

Commitments related to Swedish Nuclear Power

The Nuclear Third Party Liability (NTPL) in Sweden is strict and unlimited. Pursuant to the Act on Liability and Compensation for Radiological Accidents (LRO) (Lag (2010:950) om ansvar och ersättning vid radiologiska olyckor), the owner of a nuclear power reactor shall have an insurance or other economic kind of security that covers 1200 million EUR. For other Nuclear facilities the required amount is 700 million EUR. However, for the year 2022 and 2023 other Nuclear Facilities got an exemption stating that the cover needed was 370 million EUR. Insurance covering NTPL is issued by the Nordic Nuclear Insurers (NNI) and by the Nuclear Industry mutually owned insurance company ELINI (European Liability Insurance for the Nuclear Industry). Where the insurance market could not cover the total of the securities required by LRO, the owners of the Nuclear companies have issued Parental Company Guarantees (PCG) as supplementary security. For calendar year 2023, Ringhals and Forsmark were able to obtain full insurance coverage up to the amount required by LRO, and therefore there are no PCGs issued as supplementary security for calendar year 2023. However, the previous PCGs issued for calendar 2022 are still valid for any events occurred during 2022. The PCGs are pro rata, i.e. each owner is only responsible for its part of the PCG. In the special case of the plant in Ågesta, Vattenfall AB is the permit holder and has issued the full amount of the required PCG.

Commitments in MEUR:

	Share %	Requested collateral	Of which insurance cover	Of which PCG
Ringhals	70.4	1,200	1,200	–
Forsmark	66.0	1,200	1,200	–
Svafo	53.6	370	162	208
SKB	55.8	370	235	135
Ågesta	100.0	370	162	208

Other commitments

As a consequence of the Group's continuing business activities, companies in the Group become parties to legal processes. In addition, disputes arise in the Group's operations that do not lead to legal processes. Vattenfall's management assesses these legal processes and disputes on a regular basis and makes provisions in cases where it believes an obligation exists and this can be judged with a reasonable degree of certainty. In 2023, Vattenfall was not party to any legal actions, concerning alleged anti-competitive behaviour or incidents of bribery or corruption. For legal processes or disputes where at present it cannot be determined whether an obligation exists or where for other reasons it is not possible to calculate the amount of a possible provision with a reasonable degree of certainty, management makes the overall judgement that there is no risk for material impact on the Group's result of operations or financial position. As part of the Group's business activities, in addition to the contingent liabilities stated here, guarantees are made for the fulfilment of various contractual obligations. In addition, customary guarantees and commitments are issued when divesting Group companies and operations.

In addition Vattenfall has commitments related to PRI and contingent liabilities related to eSett Oy, Forsmark, Ringhals and Nord Pool Spot A/S.

Note 41 Commitments under consortium agreements

Power plants are often built on a joint venture basis. Under the consortium agreements, each owner is entitled to electricity in proportion to its share of ownership, and each owner is liable, regardless of output, for an equivalent proportion of all the joint venture's costs. Vattenfall's investments often entail a liability for costs in proportion to its share of ownership. For more information, see Note 18 to the Consolidated accounts, Shares and participations owned by the Parent Company Vattenfall AB and other Group companies.

Note 42 Number of employees and personnel costs

Number of employees at 31 December, full-time equivalents:

	2023			2022		
	Men	Women	Total	Men	Women	Total
Sweden	7,374	3,135	**10,509**	6,996	2,825	**9,821**
Denmark	462	164	**626**	410	147	**557**
Germany	3,646	1,330	**4,976**	3,418	1,206	**4,624**
Netherlands	2,842	1,067	**3,909**	2,772	970	**3,742**
UK	325	141	**466**	303	130	**433**
Other countries	323	186	**509**	300	161	**461**
Total	**14,972**	**6,023**	**20,995**	**14,199**	**5,439**	**19,638**

Average number of employees during the year, full-time equivalents:

	2023			2022		
	Men	Women	Total	Men	Women	Total
Sweden	7,242	3,016	**10,258**	6,978	2,758	**9,736**
Denmark	442	156	**598**	385	133	**518**
Germany	3,502	1,273	**4,775**	3,376	1,155	**4,531**
Netherlands	2,802	1,036	**3,838**	2,757	953	**3,710**
UK	316	135	**451**	299	126	**425**
Other countries	308	180	**488**	293	149	**442**
Total	**14,612**	**5,796**	**20,408**	**14,088**	**5,274**	**19,362**

Personnel costs:

	2023	2022
Salaries and other remuneration	16,842	14,992
Social security costs[1]	6,057	5,565
Total	**22,899**	**20,557**

Renumeration Ratio (in SEK):

	2023
Average annual salary per full time equivalent[2]	799,559
Annual salary, the company's highest paid full time employee	17,455,000
Renumeration ratio	**21.8**

[1] Pension costs are specified in Note 30 to the Consolidated accounts, Pension provisions.

[2] Salary and bonus (exclusive pension contributions and other benefits).

Remuneration for board members of Vattenfall AB and senior executives[1] of the Vattenfall Group

	Directors' fees	
Amounts in SEK thousands	**2023**	**2022**
Board of Directors		
Mats Granryd,Chairman of the Board	946	778
Viktoria Bergman, board member (until April 26th, 2023)	150	445
Ann Carlsson, board member	474	455
Håkan Erixon, board member	497	481
Tomas Kåberger, board member (until April 26th, 2023)	162	481
Fredrik Rystedt, board member	524	506
Daniel Kristiansson, board member (until September 4th, 2023)[2]	–	–
Ingemar Engkvist, board member (since April 26th, 2023)	284	–
Per Lindberg (since April 26th, 2023)	341	–
Carola Puusteli (since April 26th, 2023)	315	–
Pär Ekeroth, board member (since October 25th, 2023)[2]	–	–
Former Board Members		
Lars G. Nordström, Chairman of the Board (until April 28th, 2022)	–	295
Åsa Söderström Winberg, board member (until April 28th 2022)	–	150
Jenny Lahrin, board member (until April 28th, 2022)[2]	–	–
Total, Board of Directors	**3,693**	**3,591**

[1] For a description of how Vattenfall defines senior excutives please refer to the Corporate Governance section on page 101.

[2] Employed by the Government Offices.

Amounts in SEK thousands	2023 Base salary including vacation pay	2023 Other remuneration and benefits	2023 Pension	2022 Base salary including vacation pay	2022 Other remuneration and benefits	2022 Pension
Executive Group Management						
Anna Borg, CEO	17,455[1]	107	5,188	17,363[1]	101	5,033
Kerstin Ahlfont, CFO	7,325	133	2,159	7,120	127	2,095
Christian Barthélémy, Head of Staff Function People & Culture	6,667	73	1,314	6,003	68	1,190
Helene Biström, Head of Business Area Wind	6,168	390	1,834	6,039	353	1,779
Anne Gynnerstedt, Head of Legal & Corporate Security & Resilience, Secretary to the Board of Directors	5,677	80	1,604	5,325	76	1,556
Martijn Hagens, Head of Business Area Customers & Solutions and Head of Business Area Heat	11,197	913[2]	1,602	9,334	81	1,445
Åsa Jamal, Head of Communications	4,663	100	1,388	1,548	18	463
Andreas Regnell, Head of Strategic Development	5,702	96	1,678	5,085	90	1,507
Anna-Karin Stenberg, Head of Business Area Markets	6,120	23	1,768	5,852	13	1,715
Torbjörn Wahlborg, Head of Business Area Generation	8,069	97	2,396	7,900	86	2,326
Other senior executives						
Björn Linde, Head of Business Unit Nuclear Generation	4,395	113	1,271	4,163	108	1,223
Annika Viklund, Head of Distribution Business Area	6,012	88	1,777	5,845	77	1,720
Former senior executives						
Ulrika Jardfelt, Head of Business Area Heat (until October 29th, 2022)	–	–	–	6,449	57	1,569
Karin Lepasoon, Head of Communications (until September 6th, 2022)	–	–	–	4,110	84	1,162
Total Executive Group Management and senior executives	**89,450**	**2,213**	**23,979**	**92,136**	**1,339**	**24,783**
Total Board of Directors, Executive Group Management and other senior executives	**93,143**	**2,213**	**23,979**	**95,727**	**1,339**	**24,783**

[1] Of this amount, SEK 317 thousand pertained to a retroactive salary review relating to income year 2021, including retroactive holiday pay.

[2] Martijn Hagens has received a jubilee payment, equivalent to one month's salary, for 20 years of service within the company (in accordance with the Dutch CLA agreement).

Board of Directors

The Annual General Meeting on 26 April 2023 resolved in favor of increased fees with 3% entailing that the directors' fees for the period until the end of the next Annual General Meeting shall amount to SEK 909 thousand for the Chairman of the Board, and SEK 417 thousand for each of the other directors elected at the Annual General Meeting. In addition, it was resolved in favor of increased fees with 3,2% respectively 3% for the service on the Audit Committee, entailing a fee of SEK 111,5 thousand for the committee chair and SEK 84,5 thousand for the other committee members. For service on the Remuneration Committee, it was resolved in favor of increased fees with 3% respectively 2,9%, entailing a fee of SEK 61,8 thousand to the committee chair and SEK 46,3 thousand to the other committee members. No directors' fees are paid to board members who are employed by the Swedish Government Offices or to employee representatives. The fees paid to each individual board member are shown in the table above. The board members' respective committee assignments are described in the Corporate Governance section on pages 106–107.

President and Chief Executive Officer

Anna Borg, President and CEO, received a salary of SEK 17,456 thousand in 2023. The value of other benefits in 2023 amounted to SEK 107 thousand pertaining to a car benefit and health insurance. Anna Borg's pension is a defined contribution solution. Premiums paid in 2023 totaled SEK 5,188 thousand for the full year.

The President and CEO of Vattenfall AB does not receive any variable salary component.

The retirement age for Vattenfall's CEO is 65 years. The CEO's term of employment is until further notice, with a mutual notice period of six months. In the event Vattenfall serves notice, the CEO is entitled to a maximum of 12 months' severance pay after the notice period, but not longer than until the date of retirement. The amount of the severance pay shall be based on the fixed salary that applied at the time the notice was served. In the event the CEO accepts new employment or earns income from other business activities, the severance pay shall be reduced by an amount corresponding to the new income or other benefit received during the period in question. Severance pay is paid out monthly. The CEO's terms of employment are in agreement with the Swedish government's guidelines.

Other senior executives

Salaries and other remuneration

For other members of the Executive Group Management, a total of eleven individuals (11), the sum of salaries and other remuneration for 2023, including the value of company cars and other benefits, was SEK 63,493 thousand. For other persons defined as senior executives by Vattenfall, who are not members of the Executive Group Management – a total of 2 individuals (2) – the sum of salaries and other remuneration for 2023, including the value of company cars and other benefits, was SEK 10,608 thousand.

Retirement benefits

Kerstin Ahlfont, Christian Barthélémy, Helene Biström, Anne Gynnerstedt, Åsa Jamal, Andreas Regnell, Anna-Karin Stenberg, Torbjörn Wahlborg, Annika Viklund and Björn Linde have defined contribution pension solutions. Martijn Hagens has a pension solution under collective agreements in the Netherlands. All pensions for these executives are in compliance with the Swedish government's guidelines.

Terms of notice on the part of the company

According to the government's guidelines, the notice period for a senior executive in the event the company serves notice shall not exceed six months. In addition, severance pay equivalent to a maximum of 12 months' salary[1] is payable thereafter. In the event the individual in question accepts new employment or receives income from other business activities, the severance pay shall be reduced by an amount corresponding to the new income or benefit received during the time in question. The severance pay is paid out monthly. All senior executives have severance terms that are in compliance with the government's guidelines.

Incentive programmes

The members of the Executive Group Management and other senior executives do not receive any variable salary component.

Payment from variable remuneration programmes

Vattenfall offers short-term variable performance-based remuneration programmes to certain categories of employees in order to attract, retain and motivate.

Amounts in SEK thousands	Payment 2023	Payment 2022
Type of programme:		
Profit-sharing	281,570	332,108
Short-term incentive programmes	375,454	373,969
Long-term incentive programmes	162,539	84,295

[1] Based on new guidelines from the government. Contracts entered into before the Annual General Meeting on 27 April 2017 include severance pay corresponding to a maximum of 18 months.

Note 43 Gender distribution among senior executives

	Women, %		Men, %	
	2023	2022	2023	2022
Gender distribution among board members	21	23	79	77
Gender distribution among other senior executives	50	60	50	40

Note 44 Related party disclosures

Vattenfall AB is 100%-owned by the Swedish state. The Vattenfall Group's products and services are offered to the state, state authorities and state companies in competition with other vendors under generally accepted commercial terms. In a similar manner, Vattenfall AB and its Group companies purchase products and services from state authorities and state companies at market prices and otherwise under generally accepted commercial terms. No significant share of the Vattenfall Group's net sales, purchasing or earnings is attributable to the Swedish state or any of its authorities or companies.

Disclosures of transactions with key persons in executive positions in the company are shown in Note 42 to the Consolidated accounts, Number of employees and personnel costs.

Disclosures of transactions with associated companies and joint arrangements in 2023 and associated receivables and liabilities as per 31 December 2023 are described below.

	Associated companies		Joint ventures	
	2023	2022	2023	2022
Income	94	446	86	18
Expenses	292	451	7	23
Receivables	637	513	3,008	1,250
Liabilities	871	941	–	1

Note 45 Events after the balance sheet date

Subsequent to December 31, additional discussions with the State of Berlin have led to an adjustment of the expected purchase price which will result in an impairment of Assets held for sale related to Heat Berlin amounting to approximately SEK 1 billion in Q1 2024. The divestment is, as previously communicated, expected to be finalised during Q2 2024 pending approval from the Berlin parliament and merger control clearance by the Federal Cartel Office.

Note 46 Operations requiring permits

During the year, Vattenfall Group has conducted operations subject to a permit in accordance with the legislation of the respective country where it operates. Vattenfall AB conducts operations that require permits in accordance with the Swedish Environmental Code. These consist primarily of electricity and heat production plants that require permits and/or registration. Vattenfall's other operations requiring permits that make up a significant part of the business are conducted primarily by subsidiaries.

Parent Company Vattenfall AB

Administration report
Vattenfall AB, 556036-2138, is a non listed, limited liability company of the Vattenfall Group with a registered office in Solna. The shares in Vattenfall AB's are owned to 100% by the Swedish state. The company's business is integrated with the business of Vattenfall Group and therefore the administration report sometimes refer to the information for Group with additional description of businesses which is included in the Parent Company.

Vattenfall AB:s main business activities
- Customer & Solution is responsible for sales of electricity, gas and energy services as well as e-mobility charging solutions for both private and business customers in Sweden, Finland and Norway. The business aims to be the transition partner for customers and a decarbonisation trailblazer.
- Heat is responsible for Vattenfall's heat business (district heating and decentralised solutions) in Sweden.
- Generation is responsible for Vattenfall's nuclear and hydro power operations and the part belonging to Vattenfall AB offers different services such as technical, maintenance and project management services to the BA generation business in Sweden.
- Markets is managing physical trade of electricity to and from the trading platforms on behalf of several business areas within Vattenfall Group. Markets are also responsible for executing Vattenfall's hedging strategy and managing financial risks by entering into commodity derivatives on behalf of another business area within Vattenfall Group. Markets offers access to the physical and financial trading markets to larger clients as well as managing ancillary trading.
- Treasury is the internal bank and is responsible for borrowing, liquidity management and management of associated financial risks within Vattenfall Group.
- Staff functions, consist of several corporate support function for Vattenfall Group such as IT, Strategy, Accounting, Insurance, Risk management, Controlling and Investor Relations.

Financing strategy
Vattenfall's financing strategy builds on our financial targets, set by the owner. The capital structure of Vattenfall is managed by a targeted interval of 22–27% for Funds from operations (FFO)/Adjusted net debt. The target interval should ensure a reasonable financial risk and access to the funding necessary to deliver on Vattenfall's strategic plan.

All external borrowing is done at corporate level with bonds issued by the parent company, Vattenfall AB. Vattenfall finances its operations and investments through a combination of its own generated cash flow and external funding, mainly in the form of corporate bonds. Senior bonds are issued under a Euro Medium Term Note program (EUR 10 billion). For short-term funding, Vattenfall has a European Commercial Paper program (EUR 10 billion). In addition, Vattenfall has access to an undrawn Revolving Credit Facility which serves as a general liquidity back-up and ensures financial flexibility. Vattenfall's long term credit ratings are BBB+ positive outlook by S&P and A3 stable outlook by Moody's.

Market development
The electricity market has during 2023 characterized by lower electricity spot prices in the Nordics in comparison to 2022. Increased precipitation, higher temperatures and more wind drove Nordic prices down. The lower average electricity prices had a negative effect on the result for Vattenfall Group. However, decreased differences between the electricity price areas together with price hedges increased Vattenfall's achieved price in the Nordics affecting Vattenfall AB:s result in a positive way. Sold electricity volumes have increased slightly during 2023 in comparison to 2022. Total customer base is above last year (+2%). The number of customers with spot agreements have increased significantly in 2023 and the fixed-price customers has decreased significantly.

Significant events
- In accordance with a decision taken in an extraordinary general meeting on 22 December 2022, registered by the Swedish Companies Registration Office on 20 March 2023, a bonus issue amounting to SEK 39,275 million was made. The bonus issue was performed without issue of new shares followed by a reduction of share capital with the corresponding amount without withdrawal of shares. The net effect reduced restricted equity by SEK 39,275 million and increased unrestricted equity with the same amount.
- An extraordinary general meeting was held on 25 October 2023. Pär Ekeroth succeeded Daniel Kristiansson, who left the board in connection with leaving his employment at the government office.

Year in brief
- Net sales amounted to SEK SEK 46,579 million (40,078). The increase is mainly explained by lower spot prices on the energy market resulting in less negative settlement results from financial hedging positions during 2023
- Profit before appropriations and income taxes amounted to SEK 48,404 millions (-24,317). The improved result is mainly explained by positive unrealized market value changes for energy derivatives related to future years energy production. Since hedge accounting is not applied, unrealized market value changes for energy derivatives affect the profit and loss statement and the balance sheet to the full extent
- The net effect of earnings from subsidiaries amounted to SEK 2,103 million and is attributable to the shareholding in Vattenfall Vindkraft AB, thereof SEK 13,000 million refers to dividend and SEK -11,000 million to impairment.
- The financial net has been affected by higher interest rates both regarding deposits and lending. In addition to the interest rate development, the financial net has also been affected by a weakened Swedish krona.
- The balance sheet total was SEK 312,275 million (435,557). The most important explanation for the change is that the need for liquidity has decreased as a result of the comparatively less volatile electricity market in 2023.
- Investments during the period amounted to SEK 1,729 million (1,772).
- Cash and cash equivalents, and short-term investments amounted to SEK 48,920 million (132,911). The reduction is largely due to the fact that the need for cash readiness has decreased as a result of the the comparatively less volatile electricity market in 2023.
- Dividend paid to the owner amounted to SEK 4,000 million (23,414).
- Long-term and short-term interest-bearing liabilities have decreased, which overall is due to the need for liquidity decreasing as a result of relatively more stable prices on the electricity market in 2023.
- Short-term non-interest-bearing liabilities have decreased as unrealized energy derivatives positions have increase in value during 2023 in comparison to 2022.

Risk management
Vattenfall's overall risks and risk management are described in the Group section of the Annual and Sustainability Report.

Internal control
Vattenfall has an internal financial control (IFC) process with the overall purpose ensure to ensure Vattenfall Group has internal controls in place to provide reasonable assurance that risks of material misstatements in the financial statements are mitigated. The IFC process also covers Vattenfall AB.

Research and Development
Main information regarding the company's activities for Research and Development is described in Group activities in Vattenfall AB's Annual and Sustainability Report. Examples of research & development activities within Vattenfall AB are related to business area Wind but also to development within the Environmental department.

Sustainability report
Vattenfall AB prepare the Sustainability Report according to the Swedish Årsredovisningslagen 6 kap 11§ and includes Vattenfall AB and the subsidiaries within the Group.

Health and Safety
Information regarding the company's activities within Health and Safety are described in Group activities in Vattenfall AB's Annual and Sustainability Report.

Environment
Information regarding the company's activities within Environment are described in Group activities in Vattenfall AB's Annual and Sustainability Report.

Foreign Branches
Vattenfall AB Filial Norge NUF, corporate identity number 979975554, offers B2B solutions to the Norwegian market.

Events after the balance sheet date
No events have occurred after the end of the financial year that are expected to have a material effect on Vattenfall AB:s financial statements.

Proposed distribution of profits
The Annual General Meeting as at its disposal retained profits including the result for the year, totalling SEK 103,013,099,772. In accordance with the dividend policy adopted by the Annual General Meeting of Vattenfall AB, the Board of Directors propose, in view of the result for the year, that the profits to be distributed as follows:

To be distributed to the shareholder	4,000,000,000
To be carried forward	98,858,512,434
Total	**102,858,512,434**

The Board of Directors statement on the proposed distribution
The company's and the group's financial position is assessed as solid. The board further considers that the proposed dividend is justifiable taking into account requirements of the company's and the group's operations and related risks place on the size of the equity as well as the company's and the group's consolidation needs, liquidity and position in general. The company and the group are also deemed to be able to fulfill their obligations both in the short and long term. The proposed dividend distribution can therefore be justified pursuant to Chapter 17, Sections 3.2 and 3.3, of the Swedish Companies Act (the precautionary principle).

Parent Company income statement

Amounts in SEK million, 1 January–31 December	Note	2023	2022
Net sales	5, 6	46,579	40,078
Cost of purchases	6	12,664	-67,495
Other external expenses		-5,934	-5,194
Personnel expenses	31	-3,176	-2,999
Other operating incomes		295	452
Other operating expenses		-265	-444
Operating profit before depreciation, amortisation and impairment losses (EBITDA)	14, 15	**50,163**	**-35,602**
Depreciation, amortisation and impairments	7	-749	-688
Operating profit (EBIT)		**49,414**	**-36,290**
Result from participations in subsidiaries	8	2,103	15,972
Result from participations in associated companies	9	1	-61
Other financial income	10	4,115	1,702
Other financial expenses	11	-7,229	-5,640
Profit before appropriations and income taxes		**48,404**	**-24,317**
Appropriations	12	-4,222	6,839
Profit before income taxes		**44,182**	**-17,478**
Income taxes	13	-8,218	6,357
Profit for the year		**35,964**	**-11,121**

Parent Company statement of comprehensive income

Amounts in SEK million, 1 January–31 December	2023	2022
Profit for the year	35,964	-11,121
Total other comprehensive income	–	–
Total comprehensive income for the year	**35,964**	**-11,121**

Parent Company balance sheet

Amounts in SEK million	Note	31 December 2023	31 December 2022
Assets			
Non-current assets			
Intangible assets: non-current	16	358	278
Property, plant and equipment	17	7,215	7,110
Shares and participations	18	157,310	167,754
Deferred tax assets	13	1,873	8,992
Other non-current receivables	19	3,453	3,836
Other non-current receivables, group	19	70,694	68,367
Total non-current assets		**240,903**	**256,337**
Current assets			
Inventories		513	355
Intangible assets: current		–	17
Current receivables	20	10,948	33,847[1]
Current receivables, group	20	10,991	11,947[1]
Current tax assets	13	–	143
Short-term investments	21	23,762	65,029
Cash and cash equivalents	22	25,158	67,882
Total current assets		**71,372**	**179,220**
Total assets		**312,275**	**435,557**

Amounts in SEK million	Note	31 December 2023	31 December 2022
Equity, provisions and liabilities			
Equity			
Restricted equity			
Share capital (131,700,000 shares with a share quota value of SEK 50)		6,585	6,585
Revaluation reserve[1]		–	37,989
Other reserves[1]		152	1,286
Non-restricted equity			
Retained earnings[1]		66,895	42,894
Profit for the year		35,964	-11,121
Total equity		**109,596**	**77,633**
Untaxed reserves	12	**4,823**	**2,328**
Provisions	23	**6,446**	**6,360**
Non-current liabilities			
Hybrid capital	24	20,987	17,760
Other interest-bearing liabilities	24	45,175	71,504
Other interest-bearing liabilities, group	24	232	222
Other noninterest-bearing liabilities	25	4,175	8,919
Total non-current liabilities		**70,569**	**98,405**
Current liabilities			
Hybrid capital	26	–	4,171
Other interest-bearing liabilities	24	41,684	75,722
Other interest-bearing liabilities, group	24	55,571	117,406
Current tax liabilities	13	144	–
Other noninterest-bearing liabilities	26	8,711	37,694
Other noninterest-bearing liabilities, group	26	14,731	15,838[1]
Total current liabilities		**120,841**	**250,831**
Total equity, provisions and liabilities		**312,275**	**435,557**

[1] For further information see the chapter for Equity.

See also information on Collateral (Note 28), Contingent liabilities (Note 29) and Commitments under consortium agreements (Note 30), in the notes to the Parent Company accounts.

Parent Company cash flow statement

Amounts in SEK million, 1 January–31 December	Note	2023	2022
Operating activities			
Operating profit before appropriations and income taxes		48,404	-24,317
Tax paid		-811	1,195
Capital gains/losses		18	15
Shares and participations		-13,103	-15,971
Impairment		11,000	61
Interest cost which has effected the result but not been paid		251	1,698
Interest revenue which have effected the result but not been received		-467	-200
Derivates non-cash items		-29,329	23,472
Other, incl. non-cash items	34	-1,021	3,489
Funds from operations (FFO)		**14,942**	**-10,558**
Changes in inventories		-157	-14
Changes in operating receivables		26,424	-29,662
Changes in operating liabilities		-4,342	82,740
Changes in margin calls		-4,164	-516
Cash flow from changes in operating assets and operating liabilities		**17,761**	**52,548**
Cash flow from operating activities		**32,703**	**41,990**
Investing activities			
Contribution in subsidiaries	18	-728	-771
Investments in associated companies and other shares and participations	18	-26	-59
Other investments in non-current assets		-975	-756
Total investments		**-1,729**	**-1,586**
Divestments		22	-5
Dividend received from subsidiaries		13,103	15,971
Changes in short-term investments		43,439	42,865
Cash flow from investing activities		**54,835**	**57,245**
Cash flow before financing activities		**87,538**	**99,235**
Financing activities			
Loans raised		11,293	94,578
Amortisation of other debts		-130,865	-139,975
Dividend paid to owner		-4,000	-23,414
Effect of early termination of swaps related to financing activities		108	82
Loan to subsidiaries		-5,296	-4,179
Amortisation received from subsidiaries		225	2,365
Group contributions received		2,392	692
Group contributions paid		-1,366	-1,678
Cash flow from financing activities		**-127,509**	**-71,529**
Cash flow for the year		**-39,971**	**27,706**
Cash and cash equivalents			
Cash and cash equivalents at start of year		67,882	43,866
Calculated currency difference in cash and cash equivalents		-2,753	-3,690
Cash flow for the year		-39,971	27,706
Cash and cash equivalents at end of year		**25,158**	**67,882**

The cash flow analysis has been adjusted compared with information previously published in Vattenfall's financial reports.
The changes refers to grouping and presentation of cash flows from derivatives, operating receivables, operating liabilites and loans.

Parent Company statement of changes in equity

Amounts in SEK million	Share capital	Revaluation reserve	Reserves[1]	Development fund[2]	Restricted equity	Total
Balance brought forward 2022	6,585	37,989	1,286	85	66,222	112,167
Dividend paid to owner	–	–	–	–	-23,414	-23,414
Fund for development costs	–	–	–	-85	85[2]	–
Profit for the year	–	–	–	–	-11,121	-11,121
Balance carried forward 2022	**6,585**	**37,989**	**1,286**	**–**	**31,772**	**77,632**
Dividend paid to owners	–	–	–	–	-4,000	-4,000
Bonus issue	39,275[1]	-37,989	-1,286	–	–	–
Reduction of the share capital	-39,275[1]	–	–		39,275[1]	–
Fund for development costs	–	–	–	152	-152[2]	–
Profit for the year	–	–	–	–	35,964	35,964
Balance carried forward 2023	**6,585**	**–**	**–**	**152**	**102,859**	**109,596**

[1] PIn an extraordinary general meeting on 22 December 2022, decisions were taken on a bonus issue amounting to SEK 39,275 million, without issue of new shares, and the following reduction of share capital with the same amount without withdrawal of shares.The net effect of this is that restricted equity is reduced by SEK 39,275 million and unrestricted equity is increased with the same amount. The effect of these decisions is accounted 2023 when they were registered at the Swedish Companies Registration Office.

[2] Pertains to the year's capitalised costs less depreciation according to plan for own development work that have been reserved in the Fund for development costs. The capitalised costs are considered to be tax-deductible once the assets they pertain to become operational and depreciation according to plan is made.

As of 31 December the registered share capital comprised 131,700,000 shares with a share quota value of SEK 50.

Note 1 Company information

Vattenfall AB's 2023 Annual Report was approved in accordance with a decision by the Board of directors on 21 March 2024. Vattenfall AB (publ) with corporate identity number 556036-2138, which is the Parent Company of the Vattenfall Group, is a limited liability company with its registered office in Solna, Sweden and with the address SE-169 92 Stockholm, Sweden. The balance sheet and income statement of the Parent Company included in Vattenfall's Annual and Sustainability Report will be submitted at the Annual General Meeting (AGM) on 29 April 2024.

Note 2 Proposed distribution of profits

The Annual General Meeting as at its disposal retained profits including the result for the year, totalling SEK 102,858,512,434. In accordance with the dividend policy adopted by the Annual General Meeting of Vattenfall AB, the Board of Directors propose, in view of the result for the year, that the profits to be distributed as follows:

To be distributed to the shareholder	4,000,000,000
To be carried forward	98,858,512,434
Total	**102,858,512,434**

For more information see Parent Company statement of changes in Equity and the administration report.

Note 3 Accounting policies

General
The Parent Company's accounts are prepared in accordance with the Swedish Annual Accounts Act and recommendation RFR 2 – "Accounting for Legal Entities", issued by the The Swedish Corporate Reporting Board (RFR). RFR 2 entails that the Parent Company should apply all standards and interpretations issued by IASB and IFRIC as endorsed by the European Commission for application within the EU. This should be done as far as possible within the framework of the Swedish Annual Accounts Act by taking into consideration the relationship between accounting and taxation.

The parent company does not report leasing in accordance with IFRS 16 as per the exception rule in RFR 2.

The applied accounting policies are outlined in applicable parts of Note 3 to the consolidated accounts, Accounting policies, or in the respective notes for the Group, with the following addition for the Parent Company.

Important changes in the financial statements compared with the preceding year
No changed accounting standards and interpretations valid from 2023 have had any material effect on the Parent Company's financial statements.

Inventories
The cost of inventories is calculated, depending on the type of inventory, either through application of the first-in, first-out (FIFO) method or through the application of a method based on average prices. Both methods include costs that arose on acquisition of the inventory assets.

Depreciation and amortisation
As in the consolidated accounts, depreciation and amortisation are based on cost and are applied on a straight-line basis over the estimated useful life of the asset in question. In addition, certain accelerated depreciation/amortisation (the difference between depreciation/amortisation according to plan and depreciation/amortisation for tax purposes) in the Parent Company is reported under Appropriations and Untaxed reserves, respectively.

Financial instruments
The Parent Company reports financial instruments in accordance with IFRS 9 – "Financial Instruments". The principles for classification and measurement of financial instruments, impairment of financial assets, and hedge accounting are described in Note 36 to the consolidated accounts – Financial instruments by category, offsetting of financial assets and liabilities, and financial instruments' effects on income.

The Parent Company effectively hedges net investments in foreign operations via currency forward contracts and loans in foreign currency. Effects of changes in exchange rates are therefore not recognised for loans raised for the financing of foreign subsidiaries, associated companies and joint arrangements. Nonmonetary assets acquired in a foreign currency are recognised at the exchange rate at the time of the acquisition.

Foreign currency
Assets and liabilities in foreign currencies that not applies hedge accounting for are recognised at the exchange rates of the balance sheet date.

Capitalised costs for own development work
For costs for own development work that are capitalised, a corresponding amount is transferred from unrestricted equity to the fund for development costs.

Income taxes
Tax legislation in Sweden allows companies to defer tax payments by making provisions to untaxed reserves. In the Parent Company, untaxed reserves are reported as a separate item on the balance sheet that includes deferred tax. In the Parent Company's income statement, provisions to untaxed reserves and dissolution of untaxed reserves are reported under the heading Appropriations.

Important estimations and assessments in the preparation of the financial statements
Preparation of the financial statements requires the company's executive management and Board of directors to make estimations and assessments as well as to make assumptions that affect application of the accounting policies and the reported amounts of assets, liabilities, income and expenses. These estimations and assessments are based on historic experience and other factors that seem reasonable under current conditions. The results of these estimations and assessments are then used to establish the reported values of assets and liabilities that are not otherwise clearly documented from other sources. The final outcome may deviate from the results of these estimations and assessments. The estimations and assessments are revised on a regular basis. The effects of changes in estimations are reported in the period in which the changes were made if the changes affected this period only or in the period the changes were made and future periods if the changes affect both the current period and future periods. Important estimations and assessments are described further in Note 18 to the Parent Company, Shares and participations and note 9, Impairment losses and reversed impairment losses, note 29, Interest – bearing liabilities and related financial derivates, note 30 Pension provisions and note 31 Other interest – interest bearing provisions in the consolidated accounts. As described in the corresponding Vattenfall group section, inflation and interest rates are parameters with a significant effect on provisions, in particular provisions related to nuclear power operations. A new approach has been established during the fourth quarter resulting in an applied discount rate of 2,80% (2%) which has had a significant impact also on Vattenfall AB's nuclear power provisions.

Significant accounting policies applicable as from 1 January 2023
As from 2023, no changed accounting standards and interpretations are considered to have any material effect on the Parent Company's financial statements.

Note 4 Exchange rates

See Note 5 to the consolidated accounts, Exchange rates.

Note 5 Net sales

Net sales per geographical area	2023	2022
Sweden	40,434	33,665
Norway	1,471	2,179
Denmark	437	93
Finland	1,865	1,552
Germany	1,474	2,179
Netherlands	608	408
Other countries	290	2
Total	**46,579**	**40,078**

Net sales for products and services	2023	2022
Sales of electricity	36,753	30,091
Sales of gas	408	269
Sale of heat and steam	2,127	1,977
Service and consulting	324	448
Total Revenues from contracts with customers	**39,612**	**32,785**
Ancillary services revenues	2,194	2,922
Revenues within group	3,470	2,914
Other Revenues	1,303	1,457
Total	**46,579**	**40,078**

Contract balances	2023	2022
Contract liabilities	264	261
– of which, released as revenue from opening balance during the year	-15	-15

Of the Parent Company's total income from sales transactions with subsidiaries account for 29% (31%).

Note 6 Cost of purchases

	2023	2022
Electricity commodities	21,629	31,465
Electricity grid cost	741	559
Emission allowances	456	777
Gas purchases	478	591
Other fuel purchases[1]	1,044	671
Unrealized fair value changes derivatives	-32,452	24,301
Costs related to Nuclear[2]	-4,716	8,911
Other	156	220
Total	**-12,664**	**67,495**

[1] Consists of coal, oil and biofuel.
[2] Costs related to Nuclear refers to the difference in the forecast between the balance in the Nuclear Waste Fund and Vattenfall AB's commitment for the restoration regarding the disposal of waste.

Of the Parent Company's total purchase costs, transactions with subsidiaries account for 50% (32%) of purchase costs.

Note 7 Impairment losses

	2023	2022
Other operating expenses	–	1
Total	**–**	**1**

Note 8 Result from participations in subsidiaries

	2023	2022
Dividends	13,103[1]	15,971
Impairment losses of shares	-11,000[1]	–
Capital gains/losses on divestments	–	1
Total	**2,103**	**15,972**

[1] SEK 13,000 Million refers to dividend and SEK -11,000 Million to impairment of Vindkraft Sverige AB, see the administration report.

Note 9 Result from participations in associated companies

	2023	2022
Dividends	1	–
Impairment of shares	–	-61
Total	**1**	**-61**

Note 10 Other financial income

	2023	2022
Interest income from subsidiaries	1,952	1,424
Other interest income	2,163	278
Total	**4,115**	**1,702**

Note 11 Other financial expenses

	2023	2022
Interest expenses to subsidiaries	2,725	614
Other interest expenses	4,043	3,640
Foreign exchange gains and losses, net	461	1,386
Total	**7,229**	**5,640**

Note 12 Appropriations and untaxed reserves

Appropriations

	2023	2022
Group contributions paid	-1,934	-1,366
Group contributions received	207	3,365
Provision/Dissolution of untaxed reserves, net	-2,495	4,840
Total	**-4,222**	**6,839**

Untaxed reserves

	Balance brought forward	Provision (+)/ dissolution (-)	Balance carried forward
Accelerated depreciation	-2,328	-745	-3,073
Tax allocation reserves for 2024 tax years	–	-1,750	-1,750
Total	**-2,328**	**-2,495**	**-4,823**

Note 13 Income taxes

The reported tax income/tax expense is broken down as follows:

	2023	2022
Current tax	-1,099	-363
Deferred tax	-7,119	6,720
Total	**-8,218**	**6,357**

The difference between the nominal Swedish tax rate and the effective tax rate is explained as follows:

	2023		2022	
	%	MSEK	%	MSEK
Profit before tax		44,182		-17,478
Swedish income tax rate at 31 December	20.6	-9,102	20.6	3,600
Current tax adjustment attributable to previous years	0.0	0	-0.1	-24
Dividend, non-taxable	-6.1	2,699	18.8	3,290
Non-taxable income	0.0	1	0.0	0
Impairment losses, non-deductible	5.1	-2,266	-0.1	-12
Interest expense, non-deductible	0.0	-6	-2.5	-443
Other non-deductible expenses	0.0	-4	-0.7	-127
Tax reduction	0.0	–	0.4	73
Effect of interest rate limitation	-1.0	460	0.0	0
Effective tax rate in Sweden	**18.6**	**-8,218**	**36.4**	**6,357**

Balance sheet reconciliation – Deferred tax:

	Balance brought forward		Changes via income statement		Balance carried forward	
	2023	2022	2023	2022	2023	2022
Non-current assets	2	2	–	–	2	2
Current assets	-1,447	-1,362	482	-85	-965	-1,447
Provisions	89	93	-3	-4	86	89
Other non-current liabilities	3,594	676	-2,303	2,918	1,291	3,594
Current liabilities	6,754	2,863	-5,295	3,891	1,459	6,754
Total	**8,992**	**2,272**	**-7,119**	**6,720**	**1,873**	**8,992**

There are no tax deficit in the Paternal Company.

Note 14 Leasing

Leasing expenses

Future payment commitments, as of 31 December 2023 for leasing contracts and rental contracts are broken down as follows:

	Operating leases
2024	213
2025–2028	88
2029 and beyond	8
Total	**309**

Leasing expenses for the year amounted to SEK 42 million (36).

Note 15 Auditors' fees

Annual audit assignment:

Annual audit assignment	2023	2022
PwC	9	11
Total	**9**	**11**

Auditing activities besides the annual audit assignment	2023	2022
PwC	3	1
Total	**3**	**1**

Tax consulting	2023	2022
Other	0	1
Total	**0**	**1**

Note 16 Intangible assets: non-current

	2023		
	Capitalised development costs	Concessions and similar rights and cost to obtain a contract	Total
Cost			
Cost brought forward	604	1,273	**1,877**
Investments	114	77	**191**
Transfer from construction in progress	-10	–	**-10**
Reclassifications	67	–	**67**
Accumulated cost carried forward	**775**	**1,350**	**2,125**
Amortisation according to plan			
Amortisation brought forward	-303	-1,180	**-1,483**
Amortisation for the year	-64	-92	**-156**
Reclassifications	-12	–	**-12**
Accumulated amortisation according to plan carried forward	**-379**	**-1,272**	**-1,651**
Impairment losses			
Impairment losses brought forward	-116	–	**-116**
Accumulated impairment losses carried forward	**-116**	**–**	**-116**
Residual value according to plan carried forward	**280**	**78**	**358**

	2022		
	Capitalised development costs	Concessions and similar rights and cost to obtain a contract	Total
Cost			
Cost brought forward	634	1,169	**1,803**
Investments	5	104	**109**
Transfer from construction in progress	-35	–	**-35**
Accumulated cost carried forward	**604**	**1,273**	**1,877**
Amortisation according to plan			
Amortisation brought forward	-255	-1,102	**-1,357**
Amortisation for the year	-48	-78	**-126**
Accumulated amortisation according to plan carried forward	**-303**	**-1,180**	**-1,483**
Impairment losses			
Impairment losses brought forward	-116	–	**-116**
Accumulated impairment losses carried forward	**-116**	**–**	**-116**
Residual value according to plan carried forward	**185**	**93**	**278**

Estimated useful life	
Development costs	3-4 years
Concessions and similar rights	3-30 years
Costs to obtain a contract	1-6 years

At 31 December 2023 there were no contractual commitments for acquisition of intangible non-current assets.

Note 17 Property, plant and equipment

	2023				
	Land and buildings	Plant and machinery and other technical installations	Equipment, tools, fixtures and fittings	Construction in progress	Total
Cost					
Cost brought forward	1,441	12,713	898	663	**15,715**
Investments	2	–	225	557	**784**
Transfer from construction in progress	28	759	87	-862	**12**
Divestments/disposals	-36	-558	-17	–	**-611**
Reclassifications	473	-541	–	–	**-68**
Accumulated cost carried forward	**1,908**	**12,373**	**1,193**	**358**	**15,832**
Depreciation according to plan					
Depreciation brought forward	-896	-7,171	-534	–	**-8,601**
Depreciation for the year	-36	-401	-169	–	**-606**
Divestments/disposals	36	534	12	–	**582**
Reclassifications	-13	24	–	–	**11**
Accumulated depreciation according to plan carried forward	**-909**	**-7,014**	**-691**	**–**	**-8,614**
Impairment losses					
Impairment losses brought forward	-1	-3	–	–	**-4**
Impairment losses for the year	–	1	–	–	**1**
Accumulated impairment losses carried forward	**-1**	**-2**	**–**	**–**	**-3**
Residual value according to plan carried forward	**998**	**5,357**	**502**	**358**	**7,215**
Accumulated accelerated depreciation	–	-3,073	–	–	**-3,073**
Carrying amount	**998**	**2,284**	**502**	**358**	**4,142**

	2022				
	Land and buildings	Plant and machinery and other technical installations	Equipment, tools, fixtures and fittings	Construction in progress	Total
Cost					
Cost brought forward	1,446	11,855	766	1,061	**15,128**
Investments	–	2	165	480	**647**
Transfer from construction in progress	3	879	30	-878	**34**
Divestments/disposals	-9	-22	-63	–	**-94**
Reclassifications	1	-1	–	–	**–**
Accumulated cost carried forward	**1,441**	**12,713**	**898**	**663**	**15,715**
Depreciation according to plan					
Depreciation brought forward	-873	-6,789	-460	–	**-8,122**
Depreciation for the year	-32	-393	-137	–	**-562**
Divestments/disposals	9	11	63	–	**83**
Accumulated depreciation according to plan carried forward	**-896**	**-7,171**	**-534**	**–**	**-8,601**
Impairment losses					
Impairment losses brought forward	-1	-2	–	–	**-3**
Impairment losses for the year	–	-1	–	–	**-1**
Accumulated impairment losses carried forward	**-1**	**-3**	**–**	**–**	**-4**
Residual value according to plan carried forward	**544**	**5,539**	**364**	**663**	**7,110**
Accumulated accelerated depreciation	–	-2,328	–	–	**-2,328**
Carrying amount	**544**	**3,211**	**364**	**663**	**4,782**

Calculated depreciation	
Plant and machinery for heat	5–50 years
Buildings	15–100 years
Equipment	3–10 years

At 31 December 2023 there were no contractual commitments for the acquisition of property, plant and equipment.

Note 18 Shares and participations

Important estimations and assessments
Participations in subsidiaries are tested for impairment in accordance with the accounting policies described in Note 9 to the consolidated accounts, Impairment losses and reversed impairment losses. The recoverable amount for the participations is determined by calculating the value in use or fair value less costs to sell. For these calculations, certain estimations must be made regarding future cash flows along with other adequate assumptions regarding the required rate of return, for example.

Financial information

	2023				2022			
	Participations in subsidiaries	Participations in associated companies	Other shares and participations	Total	Participations in subsidiaries	Participations in associated companies	Other shares and participations	Total
Balance brought forward	167,097	537	120	**167,754**	166,143	539	120	**166,802**
Shareholder contributions	728	20	–	**748**	771	59	–	**830**
New share issue	–	–	6	**6**	186	–	–	**186**
Liquidation	–	–	–	**–**	-3	–	–	**-3**
Impairment losses	-11,000	–	–	**-11,000**	–	-61	–	**-61**
Adjustment of the acquisition value[1]	-198	–	–	**-198**	–	–	–	**–**
Balance carried forward	**156,627**	**557**	**126**	**157,310**	**167,097**	**537**	**120**	**167,754**

For a breakdown of the Parent Company's shares and participations in subsidiaries, associated companies and other shares and participations, see Notes 18-19 to the consolidated accounts.

[1] Refers an adjustment of the acquisition value of the shares in vattenfall GmbH and relates to prior merger proceedings in Germany.

Note 19 Other non-current receivables

	2023					2022				
	Receivables from subsidiaries	Receivables from associated companies	Derivative assets	Other receivables	Total	Receivables from subsidiaries	Receivables from associated companies	Derivative assets	Other receivables	Total
Balance brought forward	68,068	299	3,411	425	**72,203**	65,476	77	5,481	89	**71,123**
New receivables	2,713	24	–	26	**2,763**	1,540	470	–	366	**2,376**
Payments received	–	–	–	-234	**-234**	–	-263	–	-30	**-293**
Foreign exchange gains/losses	-289	-1	–	–	**-290**	1,052	-5	–	–	**1,047**
Derivative changes	–	–	-175[1]	–	**-175**	–	20	-2,070[1]	–	**-2,050**
Other changes	-120	–	–	–	**-120**	–	–	–	–	**–**
Balance carried forward	**70,372**	**322**	**3,236**	**217**	**74,147**	**68,068**	**299**	**3,411**	**425**	**72,203**

[1] Net change and measurement at fair value.

Note 20 Current receivables

	2023	2022
Advance payments paid	153	145
Accounts receivable - trade	3,317	3,579
Receivables from subsidiaries	10,790	11,354
Other receivables	1,036	18,437
Derivative assets	2,047	4,240
Derivative assets from subsidiaries	201	593
Prepaid expenses and accrued income	4,395	7,446
Total	**21,939**	**45,794**

Age analysis of current receivables

The collection period is normally 30 days.

	2023			2022		
	Receivables gross	Impaired receivables	Receivables net	Receivables gross	Impaired receivables	Receivables net
Accounts receivable - trade						
Not due	3,166	–	**3,166**	3,457	7	**3,450**
Past due 1–30 days	112	–	**112**	97	1	**96**
Past due 31–90 days	20	2	**18**	9	–	**9**
Past due >90 days	35	14	**21**	32	8	**24**
Total	**3,333**	**16**	**3,317**	**3,595**	**16**	**3,579**

Receivables from subsidiaries, Receivables from associated companies, and Other receivables include no receivables that are due for payment.

Note 21 Short-term investments

	2023	2022
Fixed-income investments	20,196	63,907
Margin calls, financing activities[1]	3,566	1,122
Total	**23,762**	**65,029**

[1] With respect to pledged assets, see Note 28 to the Parent Company accounts, Collateral.

Note 22 Cash and cash equivalents

	2023	2022
Cash and bank balances	19,670	48,259
Cash equivalents	5,488	19,623
Total	**25,158**	**67,882**

Note 23 Provisions

Accounting policies

The Parent Company's defined benefit pension plans are reported in accordance with the simplification rule. For the pension plans that are subject to the Act on Safeguarding of Pension Obligations, ("Tryggandelagen"), the calculation of future obligations to pay pensions is made in accordance with the stipulations of the Act. For other pension plans, the obligations are calculated on the basis of actuarial principles. See also Note 30 to the consolidated accounts, Pension provisions.

Together with Svafo the parent Company owns Ågestaverket, a nuclear power station that previously produced district heating in southern Stockholm. For dismantling, restoration and final storage, has the parent company a provision for future costs. These costs are financed through payment to Swedish Nuclear Waste, which is managed by Kammarkollegiet. See also Note 20, Share in Nuclear Waste Fund and Note 31, Other interest-bearing provisions in the notes to the consolidated accounts.

Financial information

	2023	2022
Pension provisions[1,2]	4,915	4,567
Personnel-related provisions for non-pension purposes	306	311
Provisions for environmental measures/undertakings	7	7
Provisions for future commitments of nuclear operations	555	843
Provisions for legal dispute	663	632
Total	**6,446**	**6,360**
[1] Of which, information registered by PRI	4,735	4,385
[2] Of which, covered by credit insurance with FPG/PRI	4,912	4,565

Note 24 Other interest-bearing liabilities

	Non-current portion maturity 1–5 years		Non-current portion maturity >5 years		Total non-current portion		Current portion		Total	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022[1]
Bond issues	23,927	43,747	16,298	16,167	**40,225**	**59,914**	19,812	300	**60,037**	**60,214**
Commercial paper and transactions of repo	–	–	–	–	**–**	**–**	20,034	70,983	**20,034**	**70,983**
Liabilities to credit institutions	–	–	–	–	**–**	**–**	–	1,668	**–**	**1,668**
Liabilities to subsidiaries	232	222	–	–	**232**	**222**	55,571	117,406	**55,803**	**117,628**
Derivative liabilities	2,323	8,609	2,627	2,981	**4,950**	**11,590**	1,379	593	**6,329**	**12,183**
Other liabilities (margin calls within financing activities)[1]	–	–	–	–	**–**	**–**	459	2,178	**459**	**2,178**
Total interest-bearing liabilities excluding Hybrid capital	**26,482**	**52,578**	**18,925**	**19,148**	**45,407**	**71,726**	**97,255**	**193,128**	**142,662**	**264,854**
Hybrid capital[2]	20,987	11,122	–	6,638	**20,987**	**17,760**	–	4,171	**20,987**	**21,931**
Total interest-bearing liabilities	**47,469**	**63,700**	**18,925**	**25,786**	**66,394**	**89,486**	**97,255**	**197,299**	**163,649**	**286,785**

[1] With respect to pledged assets, see Note 28 to the Parent Company accounts, Collateral.
[2] See Note 29 to the consolidated accounts, Interest-bearing liabilities and related financial derivatives.

Note 25 Other noninterest-bearing liabilities (non-current)

	2023	2022
Contract debts	283	261
Future commitments of nuclear power operations	3,881	8,641
Other liabilities	11	17
Total	**4,175**	**8,919**

Of other liabilities, SEK 11 million (12) falls due after more than five years.

Note 26 Other noninterest-bearing liabilities (current)

	2023	2022
Accounts payable - trade	1,343	1,563
Liabilities to subsidiaries	14,731	15,838
Other liabilities	681	612
Derivatives debts	3,039	29,697
Accrued expenses and deferred income	3,648	5,822
Total	**23,442**	**53,532**

Breakdown of accrued expenses and deferred income:

	2023	2022
Accrued personnel-related costs	441	410
Accrued interest expenses	1,461	1,007
Other accrued expenses	917	1,082
Deferred income and accrued expenses, electricity	817	3,311
Other deferred income	12	12
Total	**3,648**	**5,822**

Note 27 Financial instruments by measurement category

The measurement categories for assets and liabilities below correspond to the categories described in Note 36 to the consolidated accounts, Financial instruments by measurement category, offsetting of financial assets and liabilities, and financial instruments effects on income.

Presented below are assets and liabilities where the carrying amount differs from the fair value.

	2023		2022	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets at fair value through profit or loss				
Derivative assets	4,961	3,915	7,720	7,173
Margin calls	3,566	3,462	1,122	1,120
Total	**8,527**	**7,377**	**8,842**	**8,293**
Financial assets at amortised cost				
Other non-current receivables	71,435	71,201	69,316	68,942
Total	**71,435**	**71,201**	**69,316**	**68,942**
Financial liabilities at fair value through profit or loss				
Derivative liabilities	9,423	8,439	42,091	21,517
Total	**9,423**	**8,439**	**42,091**	**21,517**
Financial liabilities at amortised cost				
Other non-current interest-bearing liabilities	40,458	46,285	66,777	90,667
Current interest-bearing liabilities	95,876	92,316	192,535	181,788
Total	**136,334**	**138,601**	**259,312**	**272,455**

The note has been adjusted compared with information previously published in Vattenfall's financial report due to changes in the grouping between derivative assets and receivables, as well as between derivatives liabilities and interest-bearing liabilities.

Note 28 Collateral

Collateral and pledged assets

	2023	2022
Shares pledged to the Swedish insurance company PRI Pensionsgaranti as security for credit insurance for pension obligations in Vattenfall's Swedish operations[1]	7,295	7,295
Pledged security to counterparties (derivative market)[2]	3,566	1,120
Total	**10,861**	**8,415**

Collateral and pledged assets (received)

	2023	2022
Pledged security from counterparties (derivative market)[2]	287	2,142

[1] Pledged shares contains of shares of Vattenfall Eldistribution AB.

[2] To fulfil the requirements for security in the derivative market, in its financial operations Vattenfall has pledged security to counterparties for the negative fair value of derivative positions. The counterparties are obligated to repay this security to Vattenfall in the event the negative fair value decreases. In a similar manner, counterparties of Vattenfall have pledged security to Vattenfall.

Note 29 Contingent liabilities

Guarantees pertaining to:

	2023	2022
Swedish Nuclear Waste Fund	41,191	41,243
Contractor guarantees provided by order of subsidiaries	51,467	61,787
Guarantees provided as collateral for the subsidiaries within Vattenfall Energy Trading's energy trading	19,952	26,165
Other contingent liabilities	51,502	35,334
Total	**164,112**	**164,529**

Swedish Nuclear Waste Fund

According to the Swedish Act (2006:647) on the Financing of Nuclear Waste Products, a party that has a permit to conduct nuclear engineering activities, such as Ringhals AB and Forsmarks Kraftgrupp AB, is required to provide security to the Swedish state as a guarantee that sufficient funds exist to cover the future costs of nuclear waste management. The security is provided in the form of guaranteed commitments from the owners of the nuclear power companies. In a decision made on 27 January 2022, the Swedish government set new guarantee amounts for the years 2022 and 2023. Following this decision, as security for the subsidiaries Forsmarks Kraftgrupp AB and Ringhals AB, the parent company Vattenfall AB will make guarantee commitments for a combined value of SEK 34,136 million (19,425). Two types of guarantees will be issued. The first guarantee – so-called Financing Security, totaling SEK 9 466 million (11,382) – is intended to cover the current deficit of the Nuclear Waste Fund assuming no more nuclear waste fees are paid. This deficit is calculated as the difference between expected costs and existing funds. The second guarantee – so-called Supplementary Security, totaling SEK 24,669 million (8,043) – pertains to potential future cost increases stemming from unforeseen events. The amounts for both of these types of security have been determined based on a probability-based risk analysis in which the former amount has been determined as such that there is a 50% probability that it, together with currently funded amounts (the median value), will provide full cost coverage for all waste produced to date. The later amount consists essentially of the supplement that would be required if the corresponding probability was 90%.

This also includes AB Svafo. The Swedish state decided in December 2019 the amount for the period 2020-2023. The parent company Vattenfall AB will make guarantee commitments for the value of SEK 323 million.

See also Note 20 to the consolidated accounts, Share in the Swedish Nuclear Waste Fund and Note 31 to the consolidated accounts, Other interest-bearing provisions.

Commitments related to Swedish Nuclear Power

The Nuclear Third Party Liability (NTPL) in Sweden is strict and unlimited. Pursuant to the Act on Liability and Compensation for Radiological Accidents (LRO) (Lag (2010:950) om ansvar och ersättning vid radiologiska olyckor), the owner of a nuclear power reactor shall have an insurance or other economic kind of security that covers 1200 million EUR. For other Nuclear facilities the required amount is 700 million EUR. However, for the year 2022 and 2023 other Nuclear Facilities got an exemption stating that the cover needed was 370 million EUR. Insurance covering NTPL is issued by the Nordic Nuclear Insurers (NNI) and by the Nuclear Industry mutually owned insurance company ELINI (European Liability Insurance for the Nuclear Industry). Where the insurance market could not cover the total of the securities required by LRO, the owners of the Nuclear companies have issued Parental Company Guarantees (PCG) as supplementary security. For calendar year 2023, Ringhals and Forsmark were able to obtain full insurance coverage up to the amount required by LRO, and therefore there are no PCGs issued as supplementary security for calendar year 2023. However, the previous PCGs issued for calendar 2022 are still valid for any events occurred during 2022. The PCGs are pro rata, i.e. each owner is only responsible for its part of the PCG. In the special case of the plant in Ågesta, Vattenfall AB is the permit holder and has issued the full amount of the required PCG

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	Share %	Requested collateral MEURO	Of which insurance cover	Of which PCG
Ringhals	70.4	1,200	1,200	0
Forsmark	66.0	1,200	1,200	0
Svafo	53.6	370	162.4	207.6
SKB	55.8	370	234.6	135.4
Ågesta	100.0	370	162.4	207.6

Contract guarantees provided by order of subsidiaries

As collateral for contractors' obligations, Vattenfall AB has issued guarantees amounting to SEK 51,467 million (61,787), mainly attributable to obligations in the Wind Business Area.

Guarantees provided as collateral for subsidiaries in Vattenfall Energy Trading's energy trading

Vattenfall AB has issued guarantees with a total nominal value of SEK 70,677 million (71,410) for energy trading conducted by the subsidiary Vattenfall Energy Trading. As per 31 December 2023 a total of SEK 19,952 million (26,165) of these guarantees had been utilised, which is included in the reported amount of contingent liabilities.

Other contingent liabilities

Other contingent liabilities SEK 51,502 (35,334) consists mainly of guarantees that Vattenfall AB has issued for the Customers & Solutions and Wind Business Areas (for the latter, see Note 40 to the consolidated accounts, Contingent liabilities), and pension obligations, which amounted to SEK 1,884 million (1,717).

In addition to the contingent liabilities mentioned above, Vattenfall has the following significant commitments

In 2009 Vattenfall AB, together with its subsidiary SKB (the Swedish Nuclear Fuel and Waste Management Company) and the other part-owners of that company, signed a long-term cooperation agreement with the Östhammar and Oskarshamn municipalities. The agreement covers the period 2010 to approximately 2035 and regulates development efforts in association with the implementation of the Swedish nuclear waste program. Through development initiatives in areas such as training, enterprise and infrastructure, over time the parties will generate value-added worth SEK 1,500 million to SEK 2,000 million. The parties are to finance the development efforts in proportion to their ownership interests. The Vattenfall Group's ownership interest is 56%. Implementation of the efforts is being carried out across two periods: a period before all necessary permits have been received (Period 1), and a period during implementation and operation of the facilities (Period 2). In 2023 Vattenfall reported a provision of SEK 426 million (406) for its share of Period 2 activities.

As a consequence of the Group's continuing business activities, companies in the Group become parties to legal processes. In addition, disputes arise in the Group's operations that do not lead to legal processes. Vattenfall's management assesses these legal processes and disputes on a regular basis and makes provisions in cases where it believes an obligation exists and this can be judged with a reasonable degree of certainty. In 2023, Vattenfall was not party to any legal actions, concerning alleged anti-competitive behaviour or incidents of bribery or corruption. For legal processes or disputes where at present it cannot be determined whether an obligation exists or where for other reasons it is not possible to calculate the amount of a possible provision with a reasonable degree of certainty, management makes the overall judgement that there is no risk for material impact on the Group's result of operations or financial position. As part of the Group's business activities, in addition to the contingent liabilities stated here, guarantees are made for the fulfilment of various contractual obligations. In addition, customary guarantees and commitments are issued when divesting subsidiaries and operations.

Note 30 Commitments under consortium agreements

See note 41 to the consolidated accounts, Commitments under consortium agreements.

Note 31 Average number of employees and personnel costs

Average number of employees

	2023			2022		
	Men	Women	Total	Men	Women	Total
Sweden	1,341	752	**2,093**	1,258	682	**1,940**

Personnel costs

	2023	2022
Salaries and other remuneration	1,714	1,559
Social security expenses	1,462	1,440
– of which pension costs1	732	751
Total	**3,176**	**2,999**

[1] SEK 5 million (5) of the pension costs are attributable to CEO.

None of the board members receive any pension benefits in connection with their board duties.

Salaries and other remuneration:

	2023			2022		
	Senior executives[1]	Other employees	Total	Senior executives[1]	Other employees	Total
Sweden	71	1,643	**1,714**	82	1,477	**1,559**

[1] For a description of how Vattenfall defines senior excutives please refer to the Corporate Governance section on page 95–105.

Total salaries and other remuneration to board members and Presidents include bonuses of SEK 0 million (0). For benefits to senior executives at Vattenfall AB, see Note 42 to the consolidated accounts, Number of employees and personnel costs.

Note 32 Gender distribution among senior executives

See Note 43 to the consolidated accounts, Gender distribution among senior executives.

Note 33 Related party disclosures

Vattenfall AB is 100%-owned by the Swedish state. The Vattenfall Group's products and services are offered to the state, state authorities and state companies in competition with other vendors under generally accepted commercial terms. In a similar manner, Vattenfall AB purchase products and services from state authorities and state companies at market prices and otherwise under generally accepted commercial terms. No significant share of the Vattenfall Group's net sales, purchasing or earnings is attributable to the Swedish state or any of its authorities or companies.

Disclosures of transactions with key persons in executive positions in the company are shown in Note 42 to the Consolidated accounts, Number of employees and personnel costs.

North Connect KS
Company which was establish for planning, construction and operating of a Sea cable between Norway and United Kingdom. Loan asset amounted to SEK 2 million (0).

Blakliden Fäbodberget Wind Holding AB
This is wind farm from which Vattenfall AB purchases electricity. Purchases amounted to SEK 291 million (1621). Operating revenue from the company amounted to SEK 330 million (3911). Loan assets amounted to SEK 319 million (298) and interest income SEK 22 million (0).

Note 34 Specification of the cash flow statement

Other, including non-cash items

	2023	2022[1]
Unrealised foreign exchange gains/losses	-1,823	2,074
Changes in depreciation	749	688
Changes in provisions	86	739
Other	-33	-12
Total	**-1,021**	**3,489**

[1] The note has been adjusted compared with information previously published in Vattenfall's financial reports. The changes refers to grouping and presentation.

Financial liabilities

	Current	Non-current
Financial liabilities at 1 January 2022	252,314	59,895
Cashflow	-73,134	27,747
Non-cash effecting currency effects	15,892	1,340
Other non-cash flow effecting items	2,225	503
Financial liabilities at 31 December 2022	**197,297**	**89,485**
Cashflow	-122,045	3,226
Non-cash effecting currency effects	1,919	8
Other non-cash flow effecting items	20,084	-26,325
Financial liabilities at 31 Decemberr 2023	**97,255**	**66,394**

Note 35 Events after the balance sheet date

No significant events have occurred after the balance sheet date, see also Note 45 to the consolidated accounts, Events after the balance sheet date.

[1] The value has been adjusted compared with information previously published in Vattenfall's financial reports.

Auditor's report

Unofficial translation
To the general meeting of the shareholders of Vattenfall AB (publ), corporate identity number 556036-2138

Report on the annual accounts and consolidated accounts

Opinions

We have audited the annual accounts and consolidated accounts of Vattenfall AB (publ) for the year 2023 except for the corporate governance statement on pages 96–109. The annual accounts and consolidated accounts of the company are included on pages 1, 4–6, 19, 84–95 and 110–165 in this document.

In our opinion, the annual accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of parent company and the group as of 31 December 2023 and its financial performance and cash flow for the year then ended in accordance with the Annual Accounts Act. The consolidated accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the group as of 31 December 2023 and their financial performance and cash flow for the year then ended in accordance with International Financial Reporting Standards (IFRS), as adopted by the EU, and the Annual Accounts Act. Our opinions do not cover the corporate governance statement on pages 96–109. The statutory administration report is consistent with the other parts of the annual accounts and consolidated accounts.

We therefore recommend that the general meeting of shareholders adopts the income statement and balance sheet for the parent company and the group.

Our opinions in this report on the annual accounts and consolidated accounts are consistent with the content of the additional report that has been submitted to the parent company's audit committee in accordance with the Audit Regulation (537/2014) Article 11.

Basis for Opinions

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements. This includes that, based on the best of our knowledge and belief, no prohibited services referred to in the Audit Regulation (537/2014) Article 5.1 have been provided to the audited company or, where applicable, its parent company or its controlled companies within the EU.

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

Our audit approach

Audit scope

We designed our audit by determining materiality and assessing the risks of material misstatement in the consolidated financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the consolidated financial statements as a whole, taking into account the structure of the Group, the accounting processes and controls, and the industry in which the group operates.

Materiality

The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They 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 consolidated financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall group materiality for the consolidated financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Key audit matters

Key audit matters of the audit are those matters that, in our professional judgement, were of most significance in our audit of the annual accounts and consolidated accounts of the current period. These matters were addressed in the context of our audit of, and in forming our opinion thereon, the annual accounts and consolidated accounts as a whole, but we do not provide a separate opinion on these matters.

Key audit matter	How our audit addressed the key audit matter
Valuation of tangible fixed assets For information on important estimates and assessments, see Note 3 and for note information regarding impairments, see Note 9 and for tangible fixed assets, see Note 17. Vattenfall reports fixed assets of SEK 263,031 million, which corresponds to 45% of total assets as per 31 december 2023. At each reporting period, Vattenfall must assess whether there are indications as to whether there is a trigger for impairment of any asset or, when applicable, a group of assets. If such an indication exists, a valuation of the asset is prepared and the valuation is compared with the book value. In the valuation models, future cash flows are calculated. In the calculations, assumptions about future price development, volume and discount rate are significant assumptions. Indicators for impairment may include price changes and regulatory / political changes. This area requires and is dependent on estimates and assessments from management. Hence, we have assessed the valuation of tangible assets as a key audit matter in the audit.	— We have assessed Vattenfall's process for identifying indications of impairment and the process for establishing values for impairment tests. — In our audit, we have read Vattenfall's documentation regarding valuation methods prepared. We have tested prepared calculations with respect to mathematical accuracy. — With regard to input data for price development of raw material prices and calculated discount rates, we have, when possible, verified and compared these on a sample basis with external sources. We have also assessed how the company has addressed climate-related risks in the valuations. — We have also assessed the reasonableness of the significant assumptions and carried out our own sensitivity analysis when we assessed them to be relevant. — We have also assessed whether the information disclosed is appropriate.
Provisions for future commitments on nuclear power operations For information on important estimates and assessments see note 3 and for note information regarding provisions for future expenses for nuclear expenses see note 31. Vattenfall has significant commitments to manage waste generated from operations and future decommissioning of nuclear power plants in Sweden and Germany. These provisions amounted to SEK 105,826 million in the group's balance sheet as of December 31, 2023. The majority of the cash outflow for this management is far in the future according to a joint decommissioning plan for all nuclear operations in Sweden, which makes the calculation of future expenses complex. This area requires management to make estimates and judgments regarding a number of parameters such as technological development, time horizon, cost estimate and discount rate. In light of this, we have assessed the reporting of provisions for future expenses for nuclear power as a particularly significant area in the audit.	— We have evaluated and assessed Vattenfall's process for reporting provisions for future expenses for nuclear power. — We have evaluated and assessed Vattenfall's accounting principles regarding the accounting of provisions for future expenditures for nuclear power. — We have obtained cost estimates and evaluated how these are generated in relation to decommissioning plans for both decided and planned decommissioning. — We have assessed the reasonableness of the assumptions that the management applied in the calculations for the accounting of the provisions. — We have also assessed whether the disclosures included in the financial statement are appropriate.
Valuation of derivatives and hedge accounting within Markets For information regarding Market, volume and liquidity risks, see pages 92–93, for important estimates and assessments, see Note 3 and for note information regarding derivatives, see Note 36. The trading operations in Vattenfall Markets, which is part of BA Power Generation, are an essential part of Vattenfall's operations. The trading business contains issues of a complex accounting nature. Vattenfall buys and sells energy via Markets and also uses hedge accounting to reduce volatility. The business uses derivatives of various kinds, including commodity derivatives that are not traded on a marketplace. The fair value valuation of these derivatives can be complicated, especially when markets or periods are illiquid. Hence, we have assessed the valuation of derivatives and hedge accounting within Markets as a key audit matter in the audit.	— We have reviewed Vattenfall's internal controls related to the Trading operations in Vattenfall Markets with a focus on the process for valuation of derivatives, hedge accounting and assessments regarding fair value valuation. — We have reviewed significant IT controls in the system used for the Trading business. — We have assessed the relevance of the valuation models used, including the reasonableness of assumptions and other input data. — We have reviewed the existence and completeness of open derivative positions and reviewed that hedge accounting is applied in accordance with IFRS 9. — We have also assessed whether the information disclosed is appropriate.

Other Information than the annual accounts and consolidated accounts
This document also contains other information than the annual accounts and consolidated accounts and is found on pages 2–3, 7–18, 20–82 and 169–201. The remuneration report for the year 2023 also constitutes other information. The Board of Directors and the Managing Director are responsible for this other information.

Our opinion on the annual accounts and consolidated accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts and consolidated accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts and consolidated accounts. In this procedure we also take into account our knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this information, 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.

Responsibilities of the Board of Directors and the Managing Director
The Board of Directors and the Managing Director are responsible for the preparation of the annual accounts and consolidated accounts and that they give a fair presentation in accordance with the Annual Accounts Act and, concerning the consolidated accounts, in accordance with IFRS as adopted by the EU. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of annual accounts and consolidated accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts and consolidated accounts, The Board of Directors and the Managing Director are responsible for the assessment of the company's and the group's ability to continue as a going concern. They disclose, as applicable, matters related to going concern and using the going concern basis of accounting. The going concern basis of accounting is however not applied if the Board of Directors and the Managing Director intend to liquidate the company, to cease operations, or has no realistic alternative but to do so.

The Audit Committee shall, without prejudice to the Board of Directors responsibilities and tasks in general, among other things oversee the company's financial reporting process.

Auditor's responsibility
Our objectives are to obtain reasonable assurance about whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and generally accepted auditing standards in Sweden will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts and consolidated accounts.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual accounts and consolidated accounts, 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 opinions. 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 the company's internal control relevant to our 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 company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors and the Managing Director.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting in preparing the annual accounts and consolidated accounts. We also draw a conclusion, based on the audit evidence obtained, as to whether any material uncertainty exists related to events or conditions that may cast significant doubt on the company's and 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 auditor's report to the related disclosures in the annual accounts and consolidated accounts or, if such disclosures are inadequate, to modify our opinion about the annual accounts and consolidated accounts. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause a company and a group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the annual accounts and consolidated accounts, including the disclosures, and whether the annual accounts and consolidated accounts represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated accounts. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

We must inform the Board of Directors of, among other matters, the planned scope and timing of the audit. We must also inform of significant audit findings during our audit, including any significant deficiencies in internal control that I identified.

Report on other legal and regulatory requirements

Opinions
In addition to our audit of the annual accounts and consolidated accounts, we have also audited the administration of the Board of Directors and the Managing Director of Vattenfall AB (publ) for the year 2023 and the proposed appropriations of the company's profit or loss.

We recommend to the general meeting of shareholders that the profit be appropriated in accordance with the proposal in the statutory administration report and that the members of the Board of Directors and the Managing Director be discharged from liability for the financial year.

Basis for Opinions
We conducted the audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our 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 our opinions.

Responsibilities of the Board of Directors and the Managing Director
The Board of Directors is responsible for the proposal for appropriations of the company's profit or loss. At the proposal of a dividend, this includes an assessment of whether the dividend is justifiable considering the requirements which the company's and the group's type of operations, size and risks place on the size of the parent company's and the group' equity, consolidation requirements, liquidity and position in general.

The Board of Directors is responsible for the company's organization and the administration of the company's affairs. This includes among other things continuous assessment of the company's and the group's financial situation and ensuring that the company's organization is designed so that the accounting, management of assets and the company's financial affairs otherwise are controlled in a reassuring manner. The Managing Director shall manage the ongoing administration according to the Board of Directors' guidelines and instructions and among other matters take measures that are necessary to fulfill the company's accounting in accordance with law and handle the management of assets in a reassuring manner.

Auditor's responsibility
Our objective concerning the audit of the administration, and thereby our opinion about discharge from liability, is to obtain audit evidence to assess with a reasonable degree of assurance whether any member of the Board of Directors or the Managing Director in any material respect:

- has undertaken any action or been guilty of any omission which can give rise to liability to the company, or
- in any other way has acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association.

Our objective concerning the audit of the proposed appropriations of the company's profit or loss, and thereby our opinion about this, is to assess with reasonable degree of assurance whether the proposal is in accordance with the Companies Act.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards in Sweden will always detect actions or omissions that can give rise to liability to the company, or that the proposed appropriations of the company's profit or loss are not in accordance with the Companies Act.

As part of an audit in accordance with generally accepted auditing standards in Sweden, we exercise professional judgment and maintain professional skepticism throughout the audit. The examination of the administration and the proposed appropriations of the company's profit or loss is based primarily on the audit of the accounts. Additional audit procedures performed are based on our professional judgment with starting point in risk and materiality. This means that we focus the examination on such actions, areas and relationships that are material for the operations and where deviations and violations would have particular importance for the company's situation. Our examine and test decisions undertaken, support for decisions, actions taken and other circumstances that are relevant to our opinion concerning discharge from liability. As a basis for our opinion on the Board of Directors' pro-

posed appropriations of the company's profit or loss we examined the Board of Directors' reasoned statement and a selection of supporting evidence in order to be able to assess whether the proposal is in accordance with the Companies Act.

The auditor's examination of the ESEF report

Opinion
In addition to our audit of the annual accounts and consolidated accounts, we have also examined that the Board of Directors and the Managing Director have prepared the annual accounts and consolidated accounts in a format that enables uniform electronic reporting (the Esef report) pursuant to Chapter 16, Section 4 as of the Swedish Securities Market Act (2007:528) for Vattenfall AB (publ) for the year 2023.

Our examination and our opinion relate only to the statutory requirements.

In our opinion, the Esef report has been prepared in a format that, in all material respects, enables uniform electronic reporting.

Basis for Opinions
We have performed the examination in accordance with FAR's recommendation RevR 18 Examination of the Esef report. Our responsibility under this recommendation is described in more detail in the Auditors' responsibility section. We are independent of Vattenfall AB (publ) in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

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

Responsibilities of the Board of Directors and the Managing Director
The Board of Directors (and the Managing Director) are responsible for the preparation of the Esef report in accordance with the Chapter 16, Section 4(a) of the Swedish Securities Market Act (2007:528), and for such internal control that the Board of Directors (and the Managing Director) determine is necessary to prepare the Esef report without material misstatements, whether due to fraud or error.

Auditor's responsibility
Our responsibility is to obtain reasonable assurance whether the Esef report is in all material respects prepared in a format that meets the requirements of Chapter 16, Section 4(a) of the Swedish Securities Market Act (2007:528), based on the procedures performed.

RevR 18 requires us to plan and execute procedures to achieve reasonable assurance that the Esef report is prepared in a format that meets these requirements.

Reasonable assurance is a high level of assurance, but it is not a guarantee that an engagement carried out according to RevR 18 and generally accepted auditing standards in Sweden 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 Esef report.

The audit firm applies ISQC 1 Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and other Assurance and Related Services Engagements and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with professional ethical requirements, professional standards and legal and regulatory requirements.

The examination involves obtaining evidence, through various procedures, that the Esef report has been prepared in a format that enables uniform electronic reporting of the annual accounts and consolidated accounts. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement in the report, whether due to fraud or error. In carrying out this risk assessment, and in order to design procedures that are appropriate in the circumstances, the auditor considers those elements of internal control that are relevant to the preparation of the Esef report by the Board of Directors and the Managing Director, but not for the purpose of expressing an opinion on the effectiveness of those internal controls. The examination also includes an evaluation of the appropriateness and reasonableness of assumptions made by the Board of Directors and the Managing Director.

The procedures mainly include a validation that the Esef report has been prepared in a valid XHTML format and a reconciliation of the Esef report with the audited annual accounts and consolidated accounts.

Furthermore, the procedures also include an assessment of whether the consolidated statement of financial performance, financial position, changes in equity, cash flow and disclosures in the Esef report has been marked with iXBRL in accordance with what follows from the Esef regulation.

The auditor's examination of the corporate governance statement
The Board of Directors is responsible for that the corporate governance statement on pages 96–109 has been prepared in accordance with the Annual Accounts Act.

Our examination of the corporate governance statement is conducted in accordance with FAR's auditing standard RevR 16 The auditor's examination of the corporate governance statement. This means that our examination of the corporate governance statement is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinions.

A corporate governance statement has been prepared. Disclosures in accordance with chapter 6 section 6 the second paragraph points 2–6 of the Annual Accounts Act and chapter 7 section 31 the second paragraph the same law are consistent with the other parts of the annual accounts and consolidated accounts and are in accordance with the Annual Accounts Act.

PricewaterhouseCoopers AB was appointed auditor of Vattenfall AB (publ) by the general meeting of the shareholders on 26 April 2023 and has been the company's auditor since 28 April 2021.

Stockholm 27 March 2024
PricewaterhouseCoopers AB

Eva Carlsvi
Auditor in charge
Authorized Public Accountant

Aleksander Lyckow
Authorized Public Accountant

OTHER

We strive to accurately, comprehensively, and transparently report Vattenfall's activities, results, and impacts. Hence, the following section provides all remaining supplementary disclosures mandated by regulators such as EU taxonomy reporting or standard bearers like GRI content index as well as providing more information to understand the rationale and context of Vattenfall such as methodologies, auditor assurance reports, and a glossary.

GRI Content Index and supplementary disclosures

About this report
Vattenfall's Annual and Sustainability Report (ASR) is a report in which information about the company's work with sustainability issues and outcomes is described together with the company's financial performance.

Vattenfall has been reporting in accordance with the Global Reporting Initiative (GRI) guidelines since 2003. This means that Vattenfall meets the disclosure requirements of the new GRI Universal Standards 2021 and has identified the aspects that are material for the company. Vattenfall's overall ambition for its sustainability reporting is that it will be transparent and relevant. The GRI Index indicates where information about Vattenfall's reporting in accordance with GRI can be found in the ASR. Omitted information is reported in the GRI Index on pages 171–172. We do not have Group targets for all disclosed topics instead, they are steered and managed locally. For example, reporting on local communities focuses on the Business Areas and topics where Vattenfall's operations have the greatest impact on local communities.

Reporting profile and scope
The ASR describes the areas in which the Group has considerable environmental, social, and financial impacts. For example, reporting on local communities does not correspond exactly to the GRI guidelines; instead, examples are used from the most relevant operations to describe Vattenfall's impact and handling. Vattenfall's activities, performance and results are reported as an integrated part of Vattenfall's strategy. The reporting covers all of the Vattenfall Group's operations during the 2023 financial year, unless indicated otherwise, and the figures provided pertain to the 2023 financial year. Vattenfall reports sustainability data annually in the ASR, and this year's report was published on 28 March 2024.

Boundaries
Vattenfall has limited its reporting to the areas in which the company has full control over data collection and information quality, which entails all operations of the company, including subsidiaries, unless indicated otherwise. While GRI Standards entail a greater focus on impacts along the entire value chain, the company cannot yet measure all data outside of its own operations in a reliable manner; instead, activities connected to both suppliers and customers are described. Important events and information about changes in the organisation during the year are provided on pages 4 and 103. Changes in Vattenfall's supply chain are described on pages 68–72. Changes in the capital structure and other changes in capital are described in Note 38 to the Consolidated accounts, Specifications of equity. The limitations and changes in the reporting are also described in the respective sections or in comments to diagrams and tables.

Supplementary Supply Chain notes:
In the overview of supply chain compliance on page 70, there are a number of limitations and notes that should be disclosed. Vattenfall uses "counterparties" when referring to suppliers and other entities with which Vattenfall has business relationship as a collective. Meanwhile, "supplier" is more strictly defined as any undertaking that provides a product, part of a product, or service to Vattenfall either directly or indirectly, in the context of a business relationship. These are also referred to as direct suppliers or Tier 1 suppliers. A "new supplier" is an entity that did not previously have a contractual relationship with Vattenfall and which signed its first contract with us for deliveries during the 2023 reporting period. Furthermore, when it comes to woody biomass, Vattenfall adheres fully to the relevant EU regulations, established certification schemes and/or local requirements. Also, the woody biomass that we purchased for third parties on the international market in 2023 was sourced only from certified suppliers within the EU. The certifications we rely on are: the Sustainable Biomass Program (SBP) and/or the Forest Stewardship Council (FSC). A small share of biomass used in our Swedish operations consist of biofuels (low-value residual or waste products that are collected and mixed in the Netherlands) and biogas (landfill gas produced close to our plants and transported short distances through pipelines). Finally, Vattenfall has found that the management systems of the nuclear fuel production facilities are generally at a very high standard. However, all sourcing of nuclear fuel-related products (incl. uranium) from Russia have been canceled in response to the Ukrainian war. No further sanctions are currently affecting the nuclear fuel supply chain.

Data collection and accounting policies
Environmental data is collected via the Group's environmental reporting process. Group-wide definitions are used for all environmental parameters to enhance quality. Accounting policies for the financial reporting are described in Note 3 to the Consolidated accounts, Accounting policies. The principles of consolidation for environmental data are the same as for financial data. Consolidation includes subsidiaries in which Vattenfall AB owns shares corresponding to more than 50 per cent of the voting rights or in some other way has control over. Absolute CO_2 emissions are also reported in accordance with Vattenfall's share of ownership (pro rata) in the respective plants. Reported direct (Scope 1) CO_2 emissions are calculated based on fuel consumption in each plant and reported directly in our environmental data collection system. It should be noted that the calculation methods differ from country to country. The calculation methods are set by national legislation, with ties to the EU Emissions Trading System. All other emissions including Scope 2 and material Scope 3 have either been measured or calculated based on periodically recurring measurements. GHG Protocol Methodology for the respective Scope has been applied for all emission calculations. Figures for energy, waste generated, and water withdrawal and discharge are based, like all environmental data, on the production units' own reporting. Depending on the size and type of operation, the measurement equipment differs from unit to unit. However, all reporting is to be in accordance with the Group-wide definitions and principles. The employee data that is presented is based on verified figures from Vattenfall's annual accounts. Vattenfall uses contractors to a considerable extent but does not report the number of those persons due to the difficulty in obtaining quality data for this type of reporting. Significant corrections of last year's figures have been commented in sections at the affected information.

Statutory sustainability reporting
Vattenfall is subject to statutory sustainability reporting in accordance with the Swedish Annual Accounts Act. The statutory sustainability report is found in the following sections of the Vattenfall ASR and meets the reporting requirements for the environment, social responsibility, personnel, human rights, and anti-corruption:
- Business model and value creation, pages 7, 50
- Strategic targets, page 18
- Human resources, pages 24–25, 73–76, 78–79
- Materiality analysis and stakeholders, pages 52–55
- Environment, pages 56–65
- Human rights, pages 66–67
- Integrity and risk management, pages 68–70, 84–91
- Sustainable supply chain, pages 71–72
- Internal governance, pages 102–103
- EU taxonomy reporting, page 175–187
- External assurance, pages 188–189.

External assurance
The sustainability information in the ASR for 2023 has been reviewed by Vattenfall's auditor, PwC, from which we are independent. In addition, it has been approved by Vattenfall's Board of Directors.

Sustainability initiatives and principles that the company has aligned itself with or supports, and important memberships in interest association and organisations
The Vattenfall Group has adhered to the UN's voluntary Global Compact since 2002 through the Swedish partnership for Global Responsibility. Vattenfall has been a direct participant since 2008. Consequently, Vattenfall has undertaken to support the UN Global Compact and to adhere to the OECD Guidelines for Multinational Enterprises. Vattenfall also adheres to the UN Guiding Principles on Business and Human Rights. Vattenfall uses the ASR as its main source of information for the Communication on Progress for the UN Global Compact (UNGC), and a cross reference between UNGC and the GRI can be found in the GRI Content Index. The cross reference is primarily done to the disclosure on management approach of each relevant aspect. If this connection is not possible or if the information is available on another page, the principle is directly linked to an indicator. In addition, Vattenfall has opted to align itself with a number of voluntary sustainability initiatives and organisations at the Group level (some examples listed below) and the noteworthy collaborations are indicated per topic in the sustainability section.
- Business for Social Responsibility (BSR)
- WindEurope
- EV100
- SolarPower Europe
- CSR Sweden
- Equal by 30
- SDG LGBTI Manifesto.

Vattenfall conducts its operations primarily in northwest Europe (Sweden, Germany, the Netherlands, Denmark, the UK, France, and Finland). These countries have all ratified the International Labour Organization's (ILO) eight fundamental conventions.

GRI Standard	Disclosure number	Disclosure title	Page and/or Note number(s)	Omissions	UNGC Principle(s)
GRI 2: General Disclosure 2021					
		The organisation and its reporting practices			
	2-1	Organisational detials	Note 1, 6, 97		
	2-2	Entities included in the organization's sustainability reporting	Note 18, 170		
	2-3	Reporting period, frequency and contact point	170, 201		
	2-4	Restatements of information	170		
	2-5	External assurance	101, 170, 188–189		
		Activities and workers			
	2-6	Activities, value chain and other business relationships	4–7, 34–45, 68–72, 170		
	2-7	Employees	5, 75, 170, 191	2-7-b-iii not applicable: non-guaranteed hours employees are not likely to exist in the organisation.	
	2-8	Workers who are not employees		Information unavailable: Vattenfall does not consolidate this information on Group level currently	
		Governance			
	2-9	Governance structure and composition	96–111	2-9-cvi/cvii/cviii not applicable: Vattenfall's highest governance body is not composed based on those parameters.	
	2-10	Nomination and selection of the highest governance body	99–100		
	2-11	Chair of the highest governance body	99–100		
	2-12	Role of the highest governance body in overseeing the management of impacts	99		
	2-13	Delegation of responsibility for managing impacts	98–103		
	2-14	Role of the highest governance body in sustainability reporting	99–101, 170		
	2-15	Conflicts of interest	98– 101, 106–109		
	2-16	Communication of critical concerns		Information unavailable: Vattenfall does not consolidate data on this specific type of communication	
	2-17	Collective knowledge of the highest governance body	99–103		
	2-18	Evaluation of the performance of the highest governance body	100		
		Governance, cont.			
	2-19	Remuneration policies	76, 101, 104, 110 Note 42		
	2-20	Process to determine remuneration	75–76, 101, 110		
	2-21	Annual total compensation ratio	Note 42	2-21b Information unavailable: Percentage increase not available yet	
		Strategy, policies and practices			
	2-22	Statement on sustainable development strategy	8–11		
	2-23	Policy commitments	66–74		
	2-24	Embedding policy commitments	49–80		
	2-25	Processes to remediate negative impacts	68–70		
	2-26	Mechanisms for seeking advice and raising concerns	68–70		
	2-27	Compliance with laws and regulations		Information incomplete: Vattenfall does not consolidate this information on Group level currently	
	2-28	Membership associations	55–80, 170		
		Stakeholder Engagement			
	2-29	Approach to stakeholder engagement	54–55		
	2-30	Collective bargaining agreements	75–76		
GRI 3: Material Topics 2021					
	3-1	Process to determine material topics	52		
	3-2	List of material topics	53		
	3-3	Management of material topics	53–60, 63–76, 78–79		
	EU1	Installed capactiy	196		
	EU2	Energy production, net	196		
	EU3	Numbers of customers	196		
	EU4	Length of transmission and distribution lines, based on voltage	196		
	EU5	Allocation of CO_2 emission allowances	196		
GRI 205: Anti-corruption 2016					10: Anti-corruption
	205-2	Communication and training about anti-corruption policies and procedures	68–70	205-2-c Information unavailable: Vattenfall currently does not measure number of business partners aware of our anti-corruption policies but is included in the code of conduct for suppliers which we expect all suppliers to adhere to.	

GRI Standard	Disclosure number	Disclosure title	Page and/or Note number(s)	Omissions	UNGC Principle(s)
GRI 206: Anti-competitive behavior 2016					10: Anti-corruption
	206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	68		
GRI 207: Tax 2019					
	207-1	Approach to tax	80		
	207-2	Tax governance, control, and risk management	80		
	207-3	Stakeholder en-gagement and management of concerns related to tax	80		
	207-4	Country-by-country reporting	80, Note 1, Note 8, Note 42	207-4-b-v Not applicable: Vattenfall accounting policies eliminate Intra-Group transactions	
GRI 302: Energy 2016					8-9: Environment
	302-1	Energy consumption within the organisation	190		
GRI 303: Water and Effluents 2018					8-9: Environment
	303-1	Interactions with water as a share resource	61–62		
	303-2	Management of water discharge-related impacts	61–62		
	303-3	Water withdrawal	61–62		
	303-4	Water discharge	61–62		
	303-5	Water consumption	61–62		
GRI 304: Biodiversity 2016					8-9: Environment
	304-2	Significant impacts of activities, products, and services on biodiversity	59–60		
GRI 305: Emissions 2016					7-9: Environment
	305-1	Direct (Scope 1) GHG emissions	56–58, 190		
	305-2	Energy indirect (Scope 2) GHG emissions	56–58, 190		
	305-3	Other indirect (Scope 3) GHG emissions	56–58, 190	305-3-2.5.3 Information incomplete: Emissions of biogenic emissions of CO_2 from the combustion or biodeg-radation of biomass that occur in the value chain has not been included	
	305-4	GHG emissions intensity	56–58, 190		
	305-7	Nitrogen oxides (NO_X), sulphur oxides (SO_X), and other significant air emissions	190	305-7-aiii/aiv/av Information incom-plete: emissions of POPs, VOC and HAP are not reported because they are not measured regularly since they are not significant for Vattenfall plants.	

GRI Standard	Disclosure number	Disclosure title	Page and/or Note number(s)	Omissions	UNGC Principle(s)
Electric Utility Sector-Specific Environmental Social Indicators					
	EN21	Nitrogen oxides (NO_X), sulphur oxides (SO_X), and other significant air emissions	190		
GRI 306: Waste 2020					8-9: Environment
	306-1	Waste generation and significant waste-related impacts	63–65		
	306-2	Management of significant waste related-impacts	63–65		
	306-3	Waste generated	63–65		
Electric Utility Sector-Specific Environmental Performance Indicators					
	EN23	Waste by type and disposal method	63		
GRI 308: Supplier Environmental Assessment 2016					7: Environment
	308-1	New suppliers that were screened using environmental criteria	70		
GRI 403: Occupational Health and Safety 2018					1-2: Human rights 4-6: Labour
	403-1	Occupational health and safety management system	78–79, 174		
	403-2	Hazard identification, risk assessment, and incident investigation	78–79		
	403-3	Evaluation of the management approach	78–79		
	403-4	Worker participation, consultation, and communication on occupational health and safety	78–79		
	403-5	Worker training on occupational health and safety	78–79		
	403-6	Promotion of worker health	78–79		
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	78–79		
	403-9	Work-related injuries	78–79		
GRI 405: Diversity and Equal Opportunities 2016					6: Labour
	405-1	Diversity of governance bodies and employees	73, 191		
GRI 414: Supplier Social Assessment 2016					
	414-1	New suppliers that were screened using social criteria	70		
Electric Utility Sector-Specific Social Indicators					
	EU28	Power outage frequency	191		
	EU29	Average power outage duration	191		

Vattenfall's application of the TCFD core recommendations

Governance	Page(s)	Strategy	Page(s)	Risk Management	Page(s)	Metrics and Targets	Page(s)
Describe the board's oversight of climate-related risks and opportunities.	97–105	Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.	90–91	Describe the organisation's processes for identifying and assessing climate-related risks.	90–91	Disclose the metrics used by the organisation to assess climate related risks and opportunities in line with its strategy and risk management process.	84–91, 56–58
Describe management's role in assessing and managing climate-related risks and opportunities.	99	Describe the impact of climate related risks and opportunities on the organisation's businesses, strategy and financial planning.	90–91	Describe the organisation's processes for managing climate-related risks.	90–91, 35–45	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	56–58
		Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	90–91	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.	90–91	Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	56–58

For more information on Vattenfall's Water and Climate reporting, see the CDP website.

Vattenfall reports in accordance with the TCFD supplemental guidance for the energy group	Page number(s)
Changes in compliance and operating costs, risks or opportunities (e.g. older, less-efficient facilities or unexploitable fossil fuel reserves in the ground)	35–45
Exposure to regulatory changes or changing consumer and investor expectations (e.g.,expansion of renewable energy in the mix of energy supply)	29–31, 36–45
Changes in investment strategies (e.g., opportunities for increased investment in renewable energy, carbon-capture technologies, and more efficient water use)	20–21, 36–45

Methodologies

Total Value Creation
The methodology for calculating the total value that Vattenfall creates with its activities and processes is developed in-house and strives to use available, reliable, and mature data to quantify the costs and benefits in three categories: economic, social and environmental. Additionally, we have a category of exploratory variables to capture the more intricate costs and benefits that Vattenfall creates. The scope of each category is described on page 50. In general, this methodology attempts to express the value creation in monetary terms, SEK million, and thus this section will outline the sources and assumptions of each variable in the calculation.

Economic variables
Due to the unprecendented swings in the energy markets, Profit, found in the consolidated Income statement on page 120, includes large accounting effects attributable to the realisation and valuation of electricity and fuel contracts, so called changes in fair values. They relate to the portion of our futures and forward contracts where we do not employ hedge accounting and changes in these values do not reflect Vattenfall's business performance and hence, economic value. Therefore, an additonal variable, called temporary accounting effects, was introduced to remove effects related to changes in the fair value of energy derivatives and the fair value of inventories. (See Items affecting comparability that affected operating profit on page 117).

Social variables
The taxes and personnel costs values are found on page 80 and 150, respectively. Note that the taxes quantification differs from page 80 because it excludes social security costs to prevent double counting, since social security costs are also present in the personnel costs figure. Next, the costs associated with accidents and fatalities is calculated using the employee and contractor LTI and fatalities data found on page 78. These are transformed into monetary terms based on the assumptions of the Swedish National Traffic Authority: SEK 12.93 million per accident and SEK 44 million per fatality.

Environmental variables
For the calculation of Scope 1 + 2 CO_2 emissions cost, emission data on page 190 is multiplied with an assumed CO_2 price, SEK 1000 per tonne of CO_2, in accordance with the 2016 executive update of the UN Global Compact. Furthermore, the benefit of paid CO_2 allowances can be found in Note 22 under intangible assets: current, financial information table, "Redeemed." The other emissions costs are calculated per country using the country-specific statistical life time cost estimates associated with NOx, Sox and Particulate Matter published in the 2011 EEA report: "Revealing the costs of air pollution from industrial facilities in Europe". Vattenfall's other emissions data can be found on page 190.

Exploratory variables
Scope 3 costs and benefits are based on the same CO_2 price assumption as before. Scope 3 emissions data can be found on page 190. While the previous variables are related to Vattenfall operations, Scope 3 emissions are related to actions outside of the company. This is why they are visualised differently in the value creation graph. Next, Land use and biodiversity restoration costs are based on the dynamic land use impact calculated for 2020, 8 MSA.km^2, and it is estimated to cost 5 MEUR per MSA.km^2. Using values for 2020 assumes equal investment and resource use for 2022. Due to limitations in the model, impact on aquatic and marine environments, for example from our hydro power and offshore wind assets, is not included.

Standardised sustainability-related processes and management systems

Vattenfall's standardised sustainability-related processes, policies and systems strive to continuously improve and align with best practice. The policy documents in the Vattenfall Management System (see page 102) are updated regularly and adopt a precautionary priniciple approach to exisiting and emerging sustainability topics. Meanwhile broader topic-specific processes, frameworks and management systems are further outlined below.

Our Compliance Framework
We have developed a Vattenfall-wide framework to ensure compliance in the procurement process. The Compliance Framework is a checklist for all compliance documentation that is relevant to ensure that Vattenfall's Procurement Organisation can support to comply with internal instructions, policies and guidelines as well as with external laws and regulations. The framework provides appropriate knowledge about relevant compliance topics and supports the entire sourcing and contracting process in a time-sufficient manner.

Environmental Management System:
Vattenfall's environmental management system is integrated in the VMS. At year-end 2022 nearly 100 per cent of Vattenfall's production and distribution portfolios had certified environmental management systems in accordance with ISO 14001. In addition, all of the Group's business units are certified for occupational health and safety according to ISO 45001. A number of business units have certificates on energy management in accordance with ISO 50001. Certification is important in ensuring credible environmental performance and practice, gaining authorities' trust, and meeting customer requirements. Vattenfall's transparency with respect to environmental governance and activities is also assessed by independent research and ratings companies (see page 191). To protect the environment and reduce our environmental impact, we place special emphasis on assessing the environmental risks associated with our operations, including climate change. Another critical component in our environmental management efforts involves monitoring relevant changes to environmental legislation to act quickly to ensure compliance with new legislation. Our Environmental Action Plan (EAP) towards 2030 charts our course across three focus areas: reduce climate impact, protect nature and biodiversity, and sustainable use of resources. In the EAP, we define our future ambition and targets, follow up annually during the Environmental Management Review and with Vattenfall's CEO.

Health and safety management system:
H&S is managed according to the principles of ISO 45001. All business units are certified according to ISO 45001 requirements, and the management systems are implemented and run by internal Vattenfall resources. The Intelex's IT system is used to report safety, health, security, and environmental incidents and hazards. All reporting in Intelex is reviewed by H&S experts. The system can be accessed via the intranet homepage or an app to facilitate reporting from anywhere. The HSSEQ reporting system generates reports, analyses, and statistics, and data is aggregated monthly and reported to EGM for review.

Whistleblowing process at Vattenfall

An individual submits a report to the Whistleblowing function, e.g., through the online Whistleblowing Channel.

The national Whistleblowing coordinator of Vattenfall confirms receipt of the report. If the reported concern requires investigation, an investigation team is appointed. Investigations are typically carried out by auditors from Vattenfall's Group Internal Audit, HR, Legal or Corporate Security & Resilience departments.

The auditors gather and analyse relevant information, e.g., by seizing documents and conducting interviews.

If misconduct or deficiencies are confirmed, relevant follow-up measures are taken, such as improvements to internal working procedures, steps governed by labour laws for individuals or termination of contracts.

Right to remain anonymous
Reports to the Whistleblowing function can be submitted anonymously. It is strictly prohibited for all employees and other Vattenfall representatives to attempt to identify an anonymous informant, or to engage in any sort of retaliation against the informant in a Whistleblowing matter.

Due diligence process for suppliers and partners

	Initial risk assesment	Investigation	Corrective Actions	Monitoring
Screening	Potential suppliers are screened against sanction lists and adverse media coverage.	If records are found during screening, sustainability experts evaluate the finding.	Findings may trigger follow-up measures and an investigation.	Active suppliers are screened biannually against sanction lists.
Audit	Suppliers are assessed by country risk. For high-risk suppliers, a sustainability audit is required.	For an on-site audit, the supplier's compliance with our sustainability requirements is evaluated.	The supplier addresses the findings by providing and implementing a corrective action plan.	A surveillance audit is conducted on active suppliers based in high-risk countries at least every three years.

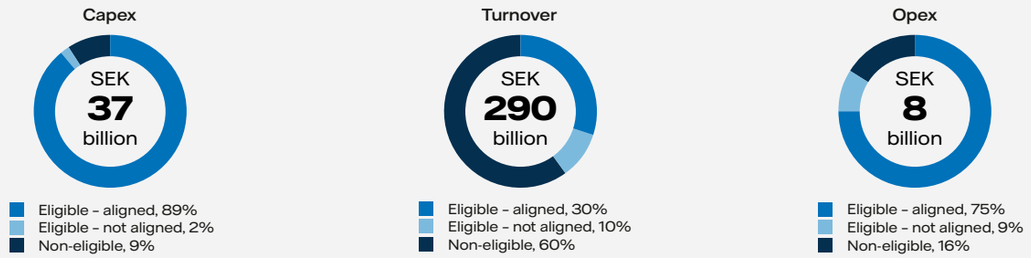
Compliance with Vattenfall's Code of Conduct for Suppliers and Partners
Our approach is grounded in Vattenfall's Code of Conduct for Suppliers and Partners, which defines our reqirements and expectations to safeguard that our suppliers and partners share our values. The code is based on, amongst others, the UN Global Compact Guiding Principles and the OECD Guidelines, and is guided by the UN Sustainability Development Goal

EU Taxonomy

The EU Taxonomy Regulation (EU 2020/825) establishes a common classification system that defines when an economic activity can be considered sustainable, i.e. taxonomy-aligned. Its ultimate aim is to steer investments into activities that help achieve the ambitions of the EU Green Deal. The taxonomy requires large non-financial companies to disclose the share of capital expenditure (capex), turnover and operating expenditure (opex) that are eligible and aligned under the taxonomy.

In 2023, the majority of Vattenfall's capex and opex were assessed as being eligible and aligned to the technical screening criteria set out in the Climate Delegated Act (Commission Delegated Regulation (EU) 2021/2139 and Commission Delegated Regulation (EU) 2023/2485) and the Complementary Climate Delegated Act for nuclear and gas (Commission Delegated Regulation (EU) 2022/1214). A screening for eligibility has also been conducted against the new Environmental Delegated Act (Commission Delegated Regulation (EU) 2023/2486)[1]. None of Vattenfall's economic activities are identified to be eligible under the new Delegated Act and no new economic activities have been identified to be applicable for Vattenfall.

Capex, turnover and opex for 2023 in the taxonomy reporting



[1] The Environmental Delegated Act comprise sustainable use and protection of water and marine resources, pollution prevention and control, transition to a circular economy and protection and restoration of biodiversity and ecosystems.
[2] Taxonomy aligned
[3] Partly taxonomy aligned
[4] Not taxonomy aligned

All Vattenfall's operating segments are involved in identifying Vattenfall's eligible and aligned economic activities. The external reporting is based on reporting done at the lowest level for all reporting units in the Group and is an integrated part of our financial reporting system.

89% of Vattenfall's capex during 2023 was aligned under the taxonomy of which capex related to wind accounted for 54% and transmission and distribution accounted for 19%. Other important investments were made in electricity generation from existing nuclear and district heating/cooling distribution. See KPI tables and comments on pages 178–183.

Eligible Activities

Vattenfall has identified the following main eligible activities in the Climate Delegated Acts and Complementary Delegated Act for nuclear and gas:

4.3 Electricity generation from wind power[2]
4.5 Electricity generation from hydro power[2]
4.9 Transmission and distribution of electricity[3]
4.10 Storage of electricity[2]
4.28 Electricity generation from nuclear energy in existing installations[2]
4.29 Electricity generation from fossil gaseous fuels[4]
4.30 High-efficiency co-generation of heat/cool and power from fossil gaseous fuels[4]
4.31 Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system[4]

For further information, see the KPI tables for capex, turnover and opex for the full list of identified eligible economic activities.

Alignment Assessment

For an economic activity to qualify as aligned under the EU taxonomy, it needs to substantially contribute to at least one of the environmental objectives as defined in the taxonomy, do no significant harm (DNSH) to the remaining objectives and comply with minimum social safeguards.

Substantial contribution and DNSH have been assessed on economic activity level and the minimum social safeguards on Group level.

Substantial Contribution

All Vattenfall's eligible economic activities have been assessed against the substantial contribution criteria for climate change mitigation and climate change adaptation. Investments contributing to both climate change mitigation and climate change adaptation are not distinguishable as adoption to material climate risks are and integral part of project specification and design. Therefore all capex and opex are reported under climate change mitigation in order to avoid double counting. In the complementary tables presented under respective KPI tables, capex and opex eligibility and alignment assessment are presented for each objective if assessed individually. Vattenfall's aligned turnover only contributes under climate change mitigation.

Climate Change Mitigation
Aligned activities such as electricity generation from wind (4.3) and storage of electricity (4.10) (pumped hydro power storage) contribute to the climate mitigation objective by default.

Other major activities such as electricity generation from hydro power (4.5) and electricity generation from nuclear energy in existing installations[1] (4.28) are verified to be below the life cycle greenhouse gas (GHG) threshold of the EU taxonomy via Vattenfall's third party verified life cycle assessments.

For the activity distribution and transmission of electricity (4.9), the majority of the activity has been assessed as aligned since Vattenfall's distribution networks are part of the interconnected European system and the new generation connected to the grid complies with the climate requirements for new connections. A minor part of the activity has been reported as not aligned, due to lack of verifiable data.

Other economic activities compliance are assessed at product or economic-activity level. Alignment is often fulfilled via compliance to EU and national legislation and is followed-up annually through our certified Environmental Management Systems.

Climate Change Adaptation
The physical climate risks that are material to the activities have been assessed and adaptation solutions are continuously implemented to substantially reduce most important risks. Examples of climate adaptation solutions are presented in the climate risk section, see page 90.

Do No Significant Harm
Climate Change Adaptation
The two IPCC climate scenarios RCP 4.5 and RCP 8.5 have been used to conduct the physical climate risk and vulnerability assessments for Vattenfall's operations. The scenarios used reflects the most detailed information available at the time of assessment, representing an intermediate and high GHG concentration scenario. For further details see the information on climate risk management in Vattenfall on pages 90–91, also covering transitional risks.

Sustainable use and protection of water and marine resources, and Protection and restoration of biodiversity and ecosystems
The DNSH criteria for water and biodiversity are linked to various pieces of EU legislation, which are implemented through national law in the different markets Vattenfall operates in. Within current legal systems, relevant requirements are set on operators through the permit conditions as set out by the competent national authorities. Legal compliance is followed-up by competent authorities as well as annual reviews of certified Environmental Management Systems.

One important DNSH criteria for Vattenfall, linked to *Sustainable use and protection of water and marine resources*, relates to compliance with the Water Framework Directive (WFD). All Vattenfall's active markets have nationally implemented the WFD and competent authorities set the relevant environmental requirements on operators as part of permit conditions. Our current assessment is that as long as procedures and requirements, set out by competent authorities, are fulfilled the activity is aligned.

Water and biodiversity are also important areas for Vattenfall, for further details see page 59.

Transition to a Circular Economy
The DNSH-criteria on circular economy requires that components of high durability and recyclability are used where the criteria is applicable. Resource efficiency and circularity is a key focus area for Vattenfall, see page 63–65 to read more.

The requirement is fulfilled via contractual agreements with suppliers and contractors and via compliance to Vattenfall's overarching Environmental Management Systems, in which circularity and resource management are an explicit part.

Pollution Prevention and Control
Compliance is secured by adhering to existing EU and national legislation. Legal compliance is followed-up through requirements from competent authorities and environmental reporting. Legal compliance is also followed up annually through our audits linked to certified Environmental Management Systems. When it comes to requirements that extend beyond existing legislation, e.g. requirements linked to use of mercury and substances on the EU candidate list, these are fulfilled via internal systems for substitution and chemicals management.

Minimum safeguards
Vattenfall has a public Human Rights Policy describing our approach to respecting human rights. It includes commitments to follow UN Guiding Principles, OECD guidelines for Multinational Enterprises, ILO's eight fundamental conventions, and the principles of UN Global Compact. In our Code of Conduct for Suppliers and Partners, we extend these ambitions to the value chain.

On a reoccurring basis we do a gap analysis with an external organisation to ensure that we live by these policies. The latest Human Rights Assessment was done in August 2021. Although we already are working with most issues we have addressed improvement areas from the analysis in a Human Rights Action Plan (published version and internal list for continuous follow up). The plan is followed up on a regular basis. The process is valid throughout the whole organisation. More details on our human rights work can be found on page 66 and we also publish a separate Human Rights Progress Report.

In the event that there would be a breach Vattenfall has a whistleblowing system that has been checked against the UNGP effectiveness criteria. Complaints through this channel or other, doesn't automatically make us consider it as a breach of the minimum safeguards. It is not until after an analysis and a ruling showing noncompliance with one of the frameworks listed as minimum safeguards, that we consider the affected activities as not aligned.

Accounting policy
The KPI's have been defined in accordance with Annex I to the article. 8 Delegated Act.

Basis for preparation of the EU Taxonomy reporting is the Vattenfall consolidated accounts prepared in accordance with IFRS, see note 3 to the Consolidated accounts. In addition, the Taxonomy reporting is based on Vattenfall's segment reporting as presented in note 8 to the Consolidated accounts, meaning that turnover KPI figures for the electricity producing activities are based on spot prices. Results from electricity production price hedges, which are done on group level, are not allocated by production type. Hence, results from electricity price hedges are recognised as a non-eligible activity.

Capex consists of additions to (i.e. investments in) property plant and equipment (reported in Vattenfall's balance sheet and in note 17), intangible assets, (reported in Vattenfall's balance sheet and in note 16), and additions to right of use assets from leases whereby also business combinations are considered. The right of use assets, presented in note 14, are

[1] Through the updated Ordinance (2017:1179) on Financing of Management of Residual Products from Nuclear Activities, the Swedish State has confirmed that the expected operating lifetime of each nuclear power reactor should be at least 50 years, and thus all of Vattenfall's existing reactors have extended their planned operating lifetime in line with this and are considered eligible under the taxonomy.

included in investments in property, plant and equipment in note 17. Assets recognised in accordance with IFRIC 1 are reported as investment in property plant and equipment. The numerator of the KPI is the share of capex assessed to be aligned, reported under section A1 Environmentally sustainable activities.

Turnover in the taxonomy reporting is equivalent to the net sales in Vattenfall's income statement. The numerator of the KPI is the share of turnover assessed to be aligned, reported under section A1 Environmentally sustainable activities.

Opex consist of maintenance costs, research and development costs as well as expenses for short term leases. Expenses covered by the opex definition in the taxonomy are reported as Other external expenses and Personnel expenses in Vattenfall's income statement. The numerator of the KPI is the share of opex assessed to be aligned, reported under section A1 Environmentally sustainable activities.

Capex and opex according to the taxonomy is divided into three different categories. Category (a) refers to capex and opex in already existing and aligned activities. Category (b) refers to required capex and opex to expand already aligned activities, expenses for new aligned activities as well as expenses necessary to transform a non taxonomy-aligned activity into being taxonomy-aligned. Category (c) refers to capex and opex that in themselves reduce greenhouse gas emissions and/or become low-carbon, provided the measures are implemented and put into operation within 18 months. Vattenfall has classified all aligned capex and opex under category (a) and (b). Vattenfall's investment plans are presented on pages 20–21. Vattenfall does not report any new activities for the year 2023 regarding capex and opex. The activity CCM 3.20 was included in other activities last year but should according to the taxonomy regulation be presented as an own activity from 2023.

For assets held for sale (IFRS 5), capex is recognised in taxonomy reporting until the asset is classified as such. Thereafter, until divestment, the investments are expensed in the income statement and therefore not part of the taxonomy reporting. Turnover and opex are recognised in the taxonomy reporting until Vattenfall lose control.

According to the delegated act to article 8, non-financial undertakings that have issued environmentally sustainable bonds or debt securities with the purpose of financing specific identified taxonomy-aligned activities, must disclose adjusted capex and turnover KPIs for the taxonomy-aligned capital expenditure and activity turnover financed by such bonds or debt securities. Vattenfall has not issued any bonds according to the EU Green Bond Standard. In addition, as Vattenfall has not issued any debt securities for the financing of specific aligned activities, no alternative KPI adjustments are presented for capex or turnover.

In certain cases, allocation keys have been used based on production volumes or other relevant allocation keys as Vattenfall's internal reporting system is not always set up in such way it supports the detailed requirements in the taxonomy regulation.

The taxonomy regulation does not include materiality. Though, Vattenfall has applied materiality for a few minor businesses with insignificant numbers where the work load for reporting in a taxonomy correct way could not be defended. These businesses are reported as non-eligible activities.

All assessments and reporting is based on our current interpretation of the EU Taxonomy Regulation and its Delegated Acts. Available guidance from the EU through FAQs and industry practices, that evolve over time, may affect the accounting policies, together with the eligibility and alignment assessment.

Material changes 2023

During 2023, the Environmental Delegated Act (Commission Delegated Regulation (EU) 2023/2486) has entered into force. It allows for reporting on economic activities substantially contributing to the four environmental non-climate related objectives. Vattenfall has no independent economic activity contributing to the new Environmental Delegated Act.

Taxonomy - Capex

				Technical screening criteria															
				Substantial contribution						Do no significant harm (DNSH)								Category	
	Code	Absolute capex MSEK	Proportion of capex %	Climate change mitigation **CCM** Y; N; N/EL	Climate change adaptation **CCA** Y; N; N/EL	Water and marine resources **WTR** Y; N; N/EL	Pollution **PPC** Y; N; N/EL	Circular economy **CE** Y; N; N/EL	Biodiversity and ecosystem **BIO** Y; N; N/EL	Climate change mitigation **CCM** Y/N	Climate change adaptation **CCA** Y/N	Water and marine resources **WTR** Y/N	Pollution **PPC** Y; N; N/EL	Circular economy **CE** Y/N	Biodiversity and ecosystem **BIO** Y; N; N/EL	**Minimum safe guards** Y/N	**Taxonomy aligned (A1) or eligible (A2) proportion of capex 2022**	*enabling activity* E	*transitional activity* T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A1. Environmentally sustainable activities (Taxonomy-aligned)																			
Electricity generation using solar photovoltaic technology	**CCM 4.1,** CCA 4.1	32	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
Electricity generation from wind power	**CCM 4.3,** CCA 4.3	20,016	54%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	54%		
Electricity generation from hydro power	**CCM 4.5,** CCA 4.5	835	3%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	3%		
Transmission and distribution of electricity	**CCM 4.9,** CCA 4.9	7,005	19%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	18%	E	
Storage of electricity	**CCM 4.10,** CCA 4.10	129	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%	E	
Storage of thermal energy	**CCM 4.11,** CCA 4.11	62	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	1%	E	
District heating/cooling distribution	**CCM 4.15,** CCA 4.15	1,645	5%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	5%		
Installation and operation of electric heat pumps	**CCM 4.16,** CCA 4.16	154	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
Cogeneration of heat/cool and power from bioenergy	**CCM 4.20,** CCA 4.20	7	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
Production of heat/cool from bioenergy	**CCM 4.24,** CCA 4.24	238	1%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	1%		
Electricity generation from nuclear energy in existing installations	**CCM 4.28,** CCA 4.28	1,881	5%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	6%		T
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3,** CCA 7.3	3	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%	E	
Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	**CCM 7.4,** CCA 7.4	668	2%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%	E	
Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	**CCM 7.5,** CCA 7.5	5	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%	E	
Installation, maintenance and repair of renewable energy technologies	**CCM 7.6,** CCA 7.6	1	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%	E	
A1. Capex - Taxonomy aligned activities		**32,681**	**89%**	**89%**	**0%[1]**												**90%**		
- Of which enabling		*7,873*	*21%*	*21%*	*0%[1]*												*20%*	*E*	
- Of which transitional		*1,881*	*5%*	*5%*	*0%[1]*												*6%*		*T*
A2. Taxonomy eligible, but not environmentally stainable activities (not Taxonomy-aligned)				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
Manufacture, installation, and servicing of high, medium and low voltage electrical equipment for electrical transmission and distribution that result in or enable a substantial contribution to climate change mitigation	**CCM 3.20,** CCA 3.20	54	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
Transmission and distribution of electricity	**CCM 4.9,** CCA 4.9	44	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
District heating/cooling distribution	**CCM 4.15,** CCA 4.15	49	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
Installation and operation of electric heat pumps	**CCM 4.16,** CCA 4.16	2	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
Electricity generation from fossil gaseous fuels	**CCM 4.29,** CCA 4.29	91	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								1%		
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	**CCM 4.30,** CCA 4.30	433	1%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								1%		
Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system	**CCM 4.31,** CCA 4.31	129	1%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3,** CCA 7.3	27	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	**CCM 7.4,** CCA 7.4	5	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
A2. Capex - Taxonomy not aligned activities		**834**	**2%**	**2%**	**0%[1]**												**3%**		
TOTAL - TAXONOMY-ELIGIBLE ACTIVITIES (A1+A2)		**33,515**	**91%**	**91%**	**0%[1]**												**93%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Capex of taxonomy non-eligible activities		3,369	9%																
TOTAL (A+B)		**36,884**	**100%**																

Y = Yes (Taxonomy eligible and aligned activity with the relevant objective)
N = No (Taxonomy eligible, but not aligned activity with the relevant objective)
EL = Eligible (Taxonomy eligible activity for the relevant objective)
N/EL = Not eligible (Taxonomy non-eligible activity for the relevant environmental objective)
[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA opex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

Taxonomy - Capex, cont.

	Code	Absolute capex MSEK	Proportion of Capex - of which: Intagible fixed asset MSEK	Tangible fixed asset MSEK	Right of use assets MSEK	Business combination MSEK
A. TAXONOMY-ELIGIBLE ACTIVITIES						
A1. Environmentally sustainable activities (Taxonomy-aligned)						
Electricity generation using solar photovoltaic technology	**CCM 4.1,** CCA 4.1	32	0	32	0	0
Electricity generation from wind power	**CCM 4.3,** CCA 4.3	20,016	0	19,753	81	182
Electricity generation from hydro power	**CCM 4.5,** CCA 4.5	835	0	835	0	0
Transmission and distribution of electricity	**CCM 4.9,** CCA 4.9	7,005	158	6,669	178	0
Storage of electricity	**CCM 4.10,** CCA 4.10	129	0	108	3	18
Storage of thermal energy	**CCM 4.11,** CCA 4.11	62	0	62	0	0
District heating/cooling distribution	**CCM 4.15,** CCA 4.15	1,645	0	1,575	0	70
Installation and operation of electric heat pumps	**CCM 4.16,** CCA 4.16	154	1	57	20	76
Cogeneration of heat/cool and power from bioenergy	**CCM 4.20,** CCA 4.20	7	0	7	0	0
Production of heat/cool from bioenergy	**CCM 4.24,** CCA 4.24	238	0	222	0	16
Electricity generation from nuclear energy in existing installations	**CCM 4.28,** CCA 4.28	1,881	0	1,879	2	0
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3,** CCA 7.3	3	1	1	1	0
Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	**CCM 7.4,** CCA 7.4	668	193	469	6	0
Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	**CCM 7.5,** CCA 7.5	5	1	2	2	0
Installation, maintenance and repair of renewable energy technologies	**CCM 7.6,** CCA 7.6	1	0	1	0	0
A1. Capex - Taxonomy aligned activities		**32,681**	**354**	**31,672**	**293**	**362**
A2. Taxonomy eligible, but not environmentally stainable activities (not Taxonomy-aligned)						
Manufacture, installation, and servicing of high, medium and low voltage electrical equipment for electrical transmission and distribution that result in or enable a substantial contribution to climate change mitigation	**CCM 3.20,** CCA 3.20	54	9	26	19	0
Transmission and distribution of electricity	**CCM 4.9,** CCA 4.9	44	1	42	1	0
District heating/cooling distribution	**CCM 4.15,** CCA 4.15	49	0	49	0	0
Installation and operation of electric heat pumps	**CCM 4.16,** CCA 4.16	2	0	2	0	0
Electricity generation from fossil gaseous fuels	**CCM 4.29,** CCA 4.29	91	0	91	0	0
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	**CCM 4.30,** CCA 4.30	433	0	401	0	32
Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system	**CCM 4.31,** CCA 4.31	129	0	129	0	0
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3,** CCA 7.3	27	5	13	9	0
Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	**CCM 7.4,** CCA 7.4	5	0	5	0	0
A2. Capex - Taxonomy not aligned activities		**834**	**15**	**758**	**29**	**32**
TOTAL - TAXONOMY-ELIGIBLE ACTIVITIES (A1+A2)		**33,515**	**369**	**32,430**	**322**	**394**
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES						
Capex of taxonomy non-eligible activities		3,369	924	1 930	308	207
TOTAL (A+B)		**36,884**	**1,293**	**34,360**	**630**	**601**

Capex KPI

89% (90) of Vattenfall's capex in 2023 was aligned (i.e., compliant with the taxonomy framework, section A1 in the table). 2% (3) of the capex relates to activities that were not aligned (section A2 in the table) and the remaining 9% (7) relates to capex in non-eligible activities, i.e. not covered by the taxonomy (section B in the table). Non-eligible activities according to the taxonomy regulation do not necessarily mean that they are not sustainable. It only indicates that the activity is not covered by, hence not assessed under the taxonomy framework.

As from 2023 Annual and Sustainability Report it has been clarified in FAQ from the Commission and in information from ESMA that the proportion of eligible and aligned capex under multiple environmental objectives should be assessed for each environmental objective separately. None of Vattenfall's capex is eligible under the new Environmental Delegated Act. All capex in Vattenfall has been assessed against the criteria for significant contribution to the climate change mitigation (CCM) and climate change adaptation (CCA). All capex contributes to both climate objectives, though can not be allocated to respective objective and are therefore only reported under climate change mitigation (CCM) due to the fact that significant climate risks are an integrated part of the project's design. No capex has been identified as applicable for assessment against the new Environmental Delegated Act. 89% of Vattenfall's capex is aligned under both climate change mitigation (CCM) and adaptation (CCA).

Vattenfall's share of capex attributable to enabling activities amounts to 21%of total capex. Enabling activities are those activities that directly enable others to make a significant contribution to the climate-/environmental objectives. These are mainly related to the transmission and distribution of electricity (4.9).

	Share of Capex	
	Taxonomy aligned	Taxonomy eligible
CCM	89%	91%
CCA	89%	91%
WTR	N/EL	N/EL
PPC	N/EL	N/EL
CE	N/EL	N/EL
BIO	N/EL	N/EL

The share of capex attributable to transitional activities amounts to 5% of total capex and consists entirely of the activity electricity generation from nuclear energy in existing installations (4.28). Transitional activities are those for which low-carbon alternatives are not yet available and that have greenhouse gas emission levels that correspond to the best performance in the sector or industry, which fulfil the two following conditions: (i) they should not hamper the development and deployment of low-carbon alternatives and (ii) they should not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets.

The majority of Vattenfall's taxonomy-aligned capex relates to electricity generation from wind power (activity 4.3), transmission and distribution of electricity (4.9), electricity generation from nuclear energy in existing installations (4.28) and distribution of district heating/cooling (4.15). Vattenfall's generation of heat and electricity from gas (4.29-31) represents the absolute majority of not aligned capex.

Vattenfall develops wind and solar power projects for divestment (develop to sell). The expenses related to these projects are recognised as inventory and are therefore not included in the taxonomy capex KPI.

Vattenfall's total capex amounts to SEK 36,884 million. The absolute majority consists, as in the previous year, of tangible fixed assets attributable to taxonomy aligned activities 4.3, 4.9, 4.28 and 4.15 and taxonomy not aligned activities 4.29-4.31.

Taxonomy – Turnover

	Code	Absolute turnover MSEK	Proportion of turnover %	Technical screening criteria: Substantial contribution: Climate change mitigation CCM Y; N; N/EL	Climate change adaptation CCA Y; N; N/EL	Water and marine resources WTR Y; N; N/EL	Pollution PPC Y; N; N/EL	Circular economy CE Y; N; N/EL	Biodiversity and ecosystem BIO Y; N; N/EL	Technical screening criteria: Do no significant harm (DNSH): Climate change mitigation CCM Y/N	Climate change adaptation CCA Y/N	Water and marine resources WTR Y/N	Pollution PPC Y; N; N/EL	Circular economy CE Y/N	Biodiversity and ecosystem BIO Y; N; N/EL	Minimum safe guards Y/N	Taxonomy aligned (A1) or eligible (A2) proportion of turnover 2022	Category: enabling activity E	Category: transitional activity T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A1. Environmentally sustainable activities (Taxonomy-aligned)																			
Electricity generation using solar photovoltaic technology	**CCM 4.1**	76	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%		
Electricity generation from wind power	**CCM 4.3**	25,286	9%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	12%		
Electricity generation from hydro power	**CCM 4.5**	17,815	6%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	12%		
Transmission and distribution of electricity	**CCM 4.9**	13,302	5%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	5%	E	
Storage of electricity	**CCM 4.10**	5,528	2%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	6%	E	
Storage of thermal energy	**CCM 4.11**	158	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%	E	
District heating/cooling distribution	**CCM 4.15**	4,540	1%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	2%		
Installation and operation of electric heat pumps	**CCM 4.16**	250	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%		
Cogeneration of heat/cool and power from solar energy	**CCM 4.17**	1	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%		
Cogeneration of heat/cool and power from bioenergy	**CCM 4.20**	325	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%		
Production of heat/cool from bioenergy	**CCM 4.24**	1,690	1%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	1%		
Electricity generation from nuclear energy in existing installations	**CCM 4.28**	16,227	6%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	16%		T
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3**	67	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%	E	
Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	**CCM 7.4**	202	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%	E	
Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	**CCM 7.5**	106	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%	E	
Installation, maintenance and repair of renewable energy technologies	**CCM 7.6**	597	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	N/A	Y	Y	Y	Y	Y	Y	0%	E	
A1. Turnover – Taxonomy aligned activities		**86,170**	**30%**	**30%**													**55%**		
– Of which enabling		*19,960*	*7%*	*7%*													*11%*	*E*	
– Of which transitional		*16,227*	*6%*	*6%*													*16%*		*T*
A2. Taxonomy eligible, but not environmentally stainable activities (not Taxonomy-aligned)				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
Manufacture, installation, and servicing of high, medium and low voltage electrical equipment for electrical transmission and distribution that result in or enable a substantial contribution to climate change mitigation	**CCM 3.20**	1,245	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
Transmission and distribution of electricity	**CCM 4.9**	106	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
District heating/cooling distribution	**CCM 4.15**	171	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
Installation and operation of electric heat pumps	**CCM 4.16**	578	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
Electricity generation from fossil gaseous fuels	**CCM 4.29**	4,793	2%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								7%		
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	**CCM 4.30**	20,527	7%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								9%		
Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system	**CCM 4.31**	2,187	1%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								1%		
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3**	660	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	**CCM 7.4**	3	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
A2. Turnover – Taxonomy not aligned activities		**30,270**	**10%**	**10%**													**17%**		
TOTAL – TAXONOMY-ELIGIBLE ACTIVITIES (A1+A2)		**116,440**	**40%**	**40%**													**72%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of taxonomy non-eligible activities		173,728	60%																
TOTAL (A+B)		**290,168**	**100%**																

Y = Yes (Taxonomy eligible and aligned activity with the relevant objective)
N = No (Taxonomy eligible, but not aligned activity with the relevant objective)
EL = Eligible (Taxonomy eligible activity for the relevant objective)
N/EL = Not eligible (Taxonomy non-eligible activity for the relevant environmental objective)
N/A = Not applicable

Turnover KPI

Out of Vattenfall's total turnover in 2023 of SEK 290,168 million, 40% (72) is eligible, of which 30% (55) is aligned (i.e., compliant with the taxonomy framework, section A1 in the table). 10% (17) of the turnover relates to activities not being aligned (section A2 in the table), and the remaining 60% (28) relates to turnover that is not eligible (section B in the table). The latter consists primarily of sales of electricity, gas and heat to customers that are not produced by Vattenfall, regardless of how they are produced.

As from 2023 Annual and Sustainability Report it has been clarified in FAQ from the Commission and in information from ESMA that the proportion of eligible and aligned turnover under multiple environmental objectives should be assessed for each environmental objective separately. None of Vattenfall's turnover is eligible under the new Environmental Delegated Act. Vattenfall's turnover has been assessed against the criteria for significant contribution to the climate change mitigation (CCM).

Vattenfall's share of turnover attributable to enabling activities amounts to 7% of total turnover, mainly related to the transmission and distribution of electricity (4.9) and storage of electricity (4.10). Turnover attributable to transitional activities amounts to 6% of total turnover and consists entirely of the activity electricity generation from nuclear energy in existing installations (4.28).

The majority of Vattenfall's taxonomy-aligned turnover relates to electricity generation from wind power (4.3), electricity generation from hydro power (4.5), electricity generation from nuclear energy in existing installations (4.28), transmission and distribution of electricity (4.9), and storage of electricity (4.10). Vattenfall's generation of heat and electricity from gas (4.29-31) represents the absolute majority of not aligned turnover.

As stated in the accounting principles on page 157, taxonomy reporting is based on Vattenfall's segment reporting. In this reporting, sales are based on spot prices (market prices), while the result from hedging of electricity generation prices, which is done at Group level, is not allocated to the respective generation type. The result from hedging of electricity generation prices, which is recognised as turnover, is not eligible as it is not allocated to the different types of generation in the segment reporting (Note 8 to the consolidated accounts).

In 2023, market prices have decreased compared to 2022, which in the taxonomy reporting has contributed to significantly lower turnover for the electricity-generating activities. At the same time, the result from hedging, which in 2022 was strongly negative due to high market prices, shows a lower negative result in 2023. This is the main reasons the turnover KPI is lower in 2023 compared with 2022.

Vattenfall Services perform construction activities on distribution and transmission grids to external customers and the turnover from these services have been allocated to the activity transmission and distribution of electricity (4.9).

Turnover from heat and electricity produced by coal represents less than 2% of Vattenfall's total turnover. This is recognised under non-eligible activities.

Note 6 to the consolidated accounts specifies Vattenfall's net sales. Net sales include revenues from the sale and distribution of electricity and heat, sales of gas, electricity trading, and other revenues such as service and consulting assignments as well as connection fees. However, the taxonomy is reported from a production perspective whereby Vattenfall takes into account group internal sales for the electricity generating units, which are allocated to electricity generating activities and at the same time reduce non-eligible sales revenue by a corresponding amount. This is not reflected in Note 6 to the consolidated accounts, where Vattenfall presents external sales from a sales perspective. A link between the table in Note 6 and the taxonomy's breakdown of sales by activity is therefore not possible.

	Share of turnover	
	Taxonomy aligned	**Taxonomy eligible**
CCM	30%	40%
CCA	N/EL	N/EL
WTR	N/EL	N/EL
PPC	N/EL	N/EL
CE	N/EL	N/EL
BIO	N/EL	N/EL

Taxonomy - Opex

	Code	Absolute capex MSEK	Proportion of capex %	Technical screening criteria: Substantial contribution: Climate change mitigation CCM Y; N; N/EL	Climate change adaptation CCA Y; N; N/EL	Water and marine resources WTR Y; N; N/EL	Pollution PPC Y; N; N/EL	Circular economy CE Y; N; N/EL	Biodiversity and ecosystem BIO Y; N; N/EL	Technical screening criteria: Do no significant harm (DNSH): Climate change mitigation CCM Y/N	Climate change adaptation CCA Y/N	Water and marine resources WTR Y/N	Pollution PPC Y; N; N/EL	Circular economy CE Y/N	Biodiversity and ecosystem BIO Y; N; N/EL	Minimum safe guards Y/N	Taxonomy aligned (A1) or eligible (A2) proportion of opex 2022	Category: enabling activity E	Category: transitional activity T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A1. Environmentally sustainable activities (Taxonomy-aligned)																			
Electricity generation using solar photovoltaic technology	**CCM 4.1,** CCA 4.1	1	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
Electricity generation from wind power	**CCM 4.3,** CCA 4.3	611	8%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	7%		
Electricity generation from hydro power	**CCM 4.5,** CCA 4.5	748	9%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	10%		
Transmission and distribution of electricity	**CCM 4.9,** CCA 4.9	1,923	24%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	22%	T	
Storage of electricity	**CCM 4.10,** CCA 4.10	149	2%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	2%	T	
District heating/cooling distribution	**CCM 4.15,** CCA 4.15	335	4%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	4%		
Installation and operation of electric heat pumps	**CCM 4.16,** CCA 4.16	2	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
Cogeneration of heat/cool and power from bioenergy	**CCM 4.20,** CCA 4.20	39	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
Production of heat/cool from bioenergy	**CCM 4.24,** CCA 4.24	250	3%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	3%		
Electricity generation from nuclear energy in existing installations	**CCM 4.28,** CCA 4.28	1,991	25%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	23%		O
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3,** CCA 7.3	2	0%	Y	Y[1]	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%	T	
Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	**CCM 7.5,** CCA 7.5	1	0%	Y	Y*	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%	T	
A1. Opex - Taxonomy aligned activities		**6,052**	**75%**	**75%**	**0%[1]**												**71%**		
- Of which enabling		*2,075*	*26%*	*26%*	*0%[1]*												*24%*	*T*	
- Of which transitional		*1,991*	*25%*	*25%*	*0%[1]*												*23%*		*O*
A2. Taxonomy eligible, but not environmentally stainable activities (not Taxonomy-aligned)				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
Transmission and distribution of electricity	**CCM 3.20,** CCA 3.20	1	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
District heating/cooling distribution	**CCM 4.9,** CCA 4.9	32	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
Installation and operation of electric heat pumps	**CCM 4.15,** CCA 4.15	1	0%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								0%		
Electricity generation from fossil gaseous fuels	**CCM 4.16,** CCA 4.16	171	2%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								4%		
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	**CCM 4.29,** CCA 4.29	374	5%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								4%		
Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system	**CCM 4.30,** CCA 4.30	165	2%	EL	EL[1]	N/EL	N/EL	N/EL	N/EL								2%		
A2. Opex - Taxonomy not aligned activities		**744**	**9%**	**9%**	**0%[1]**												**10%**		
TOTAL - TAXONOMY-ELIGIBLE ACTIVITIES (A1+A2)		**6,796**	**84%**	**84%**	**0%[1]**												**81%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Opex of taxonomy non-eligible activities		1,288	16%																
TOTAL (A+B)		**8,084**	**100%**																

Y = Yes (Taxonomy eligible and aligned activity with the relevant objective)
N = No (Taxonomy eligible, but not aligned activity with the relevant objective)
EL = Eligible (Taxonomy eligible activity for the relevant objective)
N/EL = Not eligible (Taxonomy non-eligible activity for the relevant environmental objective)
[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA opex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

Taxonomy - Opex, cont.

	Code	Absolute capex MSEK	Proportion of opex - of which: Maintenance costs MSEK	Research & Development MSEK	Short term leases MSEK
A. TAXONOMY-ELIGIBLE ACTIVITIES					
A1. Environmentally sustainable activities (Taxonomy-aligned)					
Electricity generation using solar photovoltaic technology	**CCM 4.1,** CCA 4.1	1	1	0	0
Electricity generation from wind power	**CCM 4.3,** CCA 4.3	611	249	43	319
Electricity generation from hydro power	**CCM 4.5,** CCA 4.5	748	654	91	3
Transmission and distribution of electricity	**CCM 4.9,** CCA 4.9	1,923	1,846	63	14
Storage of electricity	**CCM 4.10,** CCA 4.10	149	114	34	1
District heating/cooling distribution	**CCM 4.15,** CCA 4.15	335	330	0	5
Installation and operation of electric heat pumps	**CCM 4.16,** CCA 4.16	2	0	0	2
Cogeneration of heat/cool and power from bioenergy	**CCM 4.20,** CCA 4.20	39	39	0	0
Production of heat/cool from bioenergy	**CCM 4.24,** CCA 4.24	250	231	18	1
Electricity generation from nuclear energy in existing installations	**CCM 4.28,** CCA 4.28	1,991	1,938	48	5
Installation, maintenance and repair of energy efficiency equipment	**CCM 7.3,** CCA 7.3	2	0	0	2
Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	**CCM 7.5,** CCA 7.5	1	0	0	1
A1. Opex - Taxonomy aligned activities		**6,052**	**5,402**	**297**	**353**
A2. Taxonomy eligible, but not environmentally stainable activities (not Taxonomy-aligned)					
Transmission and distribution of electricity	**CCM 3.20,** CCA 3.20	1	1	0	0
District heating/cooling distribution	**CCM 4.9,** CCA 4.9	32	32	0	0
Installation and operation of electric heat pumps	**CCM 4.15,** CCA 4.15	1	1	0	0
Electricity generation from fossil gaseous fuels	**CCM 4.16,** CCA 4.16	171	171	0	0
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	**CCM 4.29,** CCA 4.29	374	374	0	0
Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system	**CCM 4.30,** CCA 4.30	165	163	0	2
A2. Opex - Taxonomy not aligned activities		**744**	**742**	**0**	**2**
TOTALT - VERKSAMHETER SOM OMFATTAS AV TAXONOMIN (A1+A2)		**6,796**	**6,144**	**297**	**355**
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES					
Opex of taxonomy non-eligible activities		1,288	632	299	357
TOTAL (A+B)		**8,084**	**6,776**	**596**	**712**

Opex KPI

75% (71) of Vattenfall's opex in 2023 was aligned (i.e. compliant with the taxonomy framework, section A1 in the table). 9% (10) of the opex relates to activities that were not aligned (section A2 in the table) and the remaining 16% (19) relates to opex in not eligible activities (section B in the table).

As from 2023 Annual and Sustainability Report it has been clarified in FAQ from the Commission and in information from ESMA that the proportion of eligible and aligned opex under multiple environmental objectives should be assessed for each environmental objective separately. None of Vattenfall's opex is eligible under the new Environmental Delegated Act. All opex in Vattenfall has been assessed against the criteria for significant contribution to the climate change mitigation (CCM) and climate change adaptation (CCA). All opex contributes to both climate objectives, though can not be allocated to respective objective and are therefore only reported under climate change mitigation (CCM). No capex has been identified as applicable for assessment against the new Environmental Delegated Act. 75% of Vattenfall's opex is aligned under both climate change mitigation (CCM) and adaptation (CCA).

Vattenfall's share of opex attributable to enabling activities amounts to 26% of total opex, mainly related to the transmission and distribution of electricity activity (4.9). Opex attributable to transitional activities amounts to 25% of total opex and consists entirely of the activity electricity generation from nuclear energy in existing installations (4.28).

The majority of Vattenfall's taxonomy-aligned opex relates to electricity generation from nuclear energy in existing installations (4.28), transmission and distribution of electricity (4.9), electricity generation from hydro power (4.5) and electricity generation from wind power (4.3). Vattenfall's generation of heat and electricity from gas (4.29-31) represents the absolute majority of not aligned opex.

Vattenfall's total opex amounted to SEK 8,084 million. The absolute majority, as in previous year, consists of maintenance costs. The distribution of opex is shown in the table.

	Share of opex	
	Taxonomy aligned	**Taxonomy eligible**
CCM	75%	84%
CCA	75%	84%
WTR	N/EL	N/EL
PPC	N/EL	N/EL
CE	N/EL	N/EL
BIO	N/EL	N/EL

Taxonomy tables for Nuclear and Gas

Template 1 - Nuclear and fossil gas activities

Disclosures referred to in Article 8.6 and 8.7

		Turnover Yes/No	Opex Yes/No	Capex Yes/No
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	No	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.	No	No	No
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	Yes	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.	Yes	Yes	Yes
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	Yes	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.	Yes	Yes	Yes

Taxonomy tables for Nuclear and Gas

Template 2 - Eligible activities that are aligned (denominator)

Disclosures referred to in Article 8.6 and 8.7

TURNOVER - Eligible activities that are aligned							
		Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
Denominator		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	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 denominator of the applicable KPI	16,227	19%	16,227	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	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 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**	**69,942**	**81%**	**69,942**	**81%**	**0**	**0%**
8.	**Total applicable KPI**	**86,170**	**100%**	**86,170**	**100%**	**0**	**0%**

OPEX - Eligible activities that are aligned							
		Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
Denominator		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	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 denominator of the applicable KPI	1,991	33%	1,991	33%	0[1]	0%[1]
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	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 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**	**4,061**	**67%**	**4,061**	**67%**	**0**	**0%**
8.	**Total applicable KPI**	**6,052**	**100%**	**6,052**	**100%**	**0**	**0%**

[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA opex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

CAPEX - Eligible activities that are aligned							
		Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
Denominator		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	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 denominator of the applicable KPI	1,881	6%	1,881	6%	0[1]	0%[1]
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	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 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**	**30,800**	**94%**	**30,800**	**94%**	**0**	**0%**
8.	**Total applicable KPI**	**32,681**	**100%**	**32,681**	**100%**	**0**	**0%**

[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA capex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

Taxonomy tables for Nuclear and Gas

Template 3 - Eligible activities that are aligned (numerator)

Disclosures referred to in Article 8.6 and 8.7

TURNOVER - Eligible activities that are aligned							
		Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
Numerator		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	16,227	19%	16,227	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 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**	**69,942**	**81%**	**69,942**	**81%**	**0**	**0%**
8	**Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI**	**86,170**	**100%**	**86,170**	**100%**	**0**	**0%**

OPEX - Eligible activities that are aligned							
		Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
Numerator		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	1,991	33%	1,991	33%	0[1]	0%[1]
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**	**4,061**	**67%**	**4,061**	**67%**	**0**	**0%**
8	**Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI**	**6,052**	**100%**	**6,052**	**100%**	**0**	**0%**

[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA capex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

CAPEX - Eligible activities that are aligned							
		Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
Numerator		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	1,881	6%	1,881	6%	0[1]	0%[1]
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**	**30,800**	**94%**	**30,800**	**94%**	**0**	**0%**
8	**Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI**	**32,681**	**100%**	**32,681**	**100%**	**0**	**0%**

[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA capex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

Taxonomy tables for Nuclear and Gas

Template 4 - Taxonomy eligible, but not taxonomy-aligned, economic activities

Disclosures referred to in Article 8.6 and 8.7

TURNOVER - Taxonomy-eligible but not taxonomy-aligned economic activities							
		Amount and proportion					
		(CCM + CCA)		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
		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	4,793	16%	4,793	16%	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	20,527	68%	20,527	68%	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	2,187	7%	2,187	7%	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**	**2,763**	**9%**	**2,763**	**9%**	**0**	**0%**
8	**Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI**	**30,270**	**100%**	**30,270**	**100%**	**0**	**0%**

OPEX - Taxonomy-eligible but not taxonomy-aligned economic activities							
		Amount and proportion					
		(CCM + CCA)		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
		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	171	23%	171	23%	0[1]	0%[1]
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	374	50%	374	50%	0[1]	0%[1]
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	165	22%	165	22%	0[1]	0%[1]
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**	**34**	**5%**	**34**	**5%**	**0**	**0%**
8	**Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI**	**744**	**100%**	**744**	**100%**	**0**	**0%**

[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA opex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

CAPEX - Taxonomy-eligible but not taxonomy-aligned economic activities							
		Amount and proportion					
		(CCM + CCA)		Climate change mitigation (CCM)		Climate change mitigation (CCA)	
		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	91	11%	91	11%	0[1]	0%[1]
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	433	52%	433	52%	0[1]	0%[1]
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	129	16%	129	16%	0[1]	0%[1]
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**	**181**	**22%**	**181**	**22%**	**0**	**0%**
8	**Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI**	**834**	**100%**	**834**	**100%**	**0**	**0%**

[1] Vattenfall comply with the technical screeing criteria (including DNSH) for both Climate Change Mitigation (CCM) and Climate Change adoptation (CCA). However, Vattenfall doesn't have any CCA capex that is distinguishable from CCM. Therefore the full amount is reported under CCM.

Template 5 - Taxonomy non-eligible economic activities

Disclosures referred to in Article 8.6 and 8.7

Under the taxonomy, information should be disclosed for non-eligible economic activities, indicating the amount and share of nuclear and fossil gas related activities (4.26-4.31).

Nuclear energy related activities (4.26-4.28) and fossil gas related activities (4.29-4.31) are covered by the taxonomy, hence taxonomy eligible. Template 5 is therefore not applicable.

Auditor's Combined Assurance Report on the Sustainability Report and statement on the Statutory Sustainability Report

This is the translation of the auditor's report in Swedish.
To the annual general meeting of Vattenfall AB, corporate identity number 556036-2138

Introduction
We have been engaged by the Board of Vattenfall AB ("Vattenfall") to undertake a combined assurance engagement of Vattenfall's Sustainability Report for 2023. The Company has defined the scope of its Sustainability Report on page 170. The Statutory Sustainability Report is also defined on page 170.

Responsibilities of the Board and Management
The Board of Directors and Executive Management are responsible for the preparation of the Sustainability Report, including the Statutory Sustainability Report, in accordance with the applicable criteria and the Annual Accounts Act. The criteria are described on pages 171–172 of the Sustainability Report, and consists of the GRI Sustainability Reporting Standards which are applicable to the Sustainability Report, as well as the accounting and calculation principles that Vattenfall has developed. This responsibility also includes the internal control which is deemed necessary to establish a Sustainability Report that does not contain material misstatement, whether due to fraud or error.

Responsibilities of the auditor
Our responsibility is to express a conclusion on the Sustainability Report based on the procedures we have performed, and to provide a statement on the Statutory Sustainability Report. Our engagement is limited to the historical information that is presented and thus does not include future oriented information.

We conducted our engagement in accordance with ISAE3000 (revised) ***Assurance Engagements Other than Audits or Reviews of Historical Financial Information***. The engagement includes a limited assurance engagement on the complete Sustainability Report and audit of certain information as specified below. The objective of an audit is to obtain reasonable assurance that the information is free of material misstatements. A reasonable assurance engagement includes examining, on a test basis, evidence supporting the quantitative and qualitative information in the Sustainability Report. A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the Sustainability Report, and applying analytical and other limited assurance procedures. We have conducted our examination regarding the Statutory Sustainability Report in accordance with FAR's recommendation RevR 12, ***the Auditor's Opinion on the Statutory Sustainability Report***. A limited assurance engagement and an examination according to RevR 12 have a different focus and a considerably smaller scope compared to the focus and scope of an audit in accordance with International Standards on Auditing and other generally accepted auditing standards in Sweden.

The audit firm applies ISQM 1 (International Standard on Quality Management) and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We are independent in relation to Vattenfall according to generally accepted auditing standards in Sweden and have fulfilled our professional ethics responsibility according to these requirements.

The procedures performed in a limited assurance engagement and an examination according to RevR 12 do not allow us to obtain such assurance that we become aware of all significant matters that could have been identified if an audit was performed. The stated conclusion based on a limited assurance and an examination in accordance with RevR 12, therefore, does not have the security that the conclusion of our reasonable assurance procedures.

Since this assurance engagement is combined, our conclusions regarding the reasonable assurance, the limited assurance and the examination according to RevR12 will be presented in separate sections.

Our reasonable assurance engagement includes the following information:

Outcome of the strategic targets, disclosed on page 18:
- Customer engagement, Net Promoter Score (NPS),
- CO_2 emissions intensity,
- Lost Time Injury Frequency (LTIF), and
- Employee Engagement Index

Our procedures are based on the criteria defined by the Board of Directors and the Executive Management as described above. We consider these criteria suitable for the preparation of the Sustainability Report.

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

Conclusion
A Statutory Sustainability Report has been prepared.

Based on the limited assurance procedures we have performed, nothing has come to our attention that causes us to believe that the Sustainability Report is not prepared, in all material respects, in accordance with the criteria defined by the Board of Directors and Executive Management.

In our opinion the information in the Sustainability Report which has been subject to our reasonable assurance procedures have, in all material respects, been prepared in accordance with the criteria defined by the Board of Directors and Executive Management.

Stockholm, 27 March 2024
PricewaterhouseCoopers AB

Eva Carlsvi
Authorised Public Accountant
Auditor in-charge

Aleksander Lyckow
Authorized Public Accountant

Auditor's Limited Assurance Report on Vattenfall AB's Green Bond Investor Report

This is the translation of the auditor's report in Swedish.
To the annual general meeting of Vattenfall AB, corporate identity number 556036-2138

Introduction
We have been engaged by management by Vattenfall AB ("Vattenfall") to undertake a limited assurance engagement of Vattenfall's Green bond investor report 2022 ("Investor Report"). The Investor Report is located on page 22 in Vattenfall's Annual and Sustainability Report 2023.

Responsibilities of the Board and Executive Management
The Board of Directors and Executive Management are responsible for evaluating and selecting eligible assets, for the use and management of bond proceeds, and for preparing an Investor Report in accordance with applicable criteria. The criteria are defined on page 22 in the Annual and Sustainability Report 2023 and consist of relevant parts of Vattenfall's Green Financing Framework dated May 2022, available on Vattenfall's website, as well as the accounting and calculation principles that the Company has developed. This responsibility includes the internal control relevant to the preparation of an Investor Report that is free from material misstatements, whether due to fraud or error.r.

Responsibilities of the Auditor
Our responsibility is to express a limited assurance conclusion on the Investor Report based on the procedures we have performed and the evidence we have obtained.

We have conducted our limited assurance engagement in accordance with ISAE 3000 (revised) ***Assurance Engagements Other than Audits or Reviews of Historical Financial Information*** issued by IAASB. A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the selected information in the Investor Report, and applying analytical and other limited assurance procedures. The procedures performed in a limited assurance engagement vary in nature from, and are less in extent than for, a reasonable assurance engagement conducted in accordance with IAASB's Standards on Auditing and other generally accepted auditing standards.

The firm applies ISQM 1 (International Standard on Quality Management) and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We are independent towards Vattenfall AB in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

The procedures performed consequently do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance conclusion.

Our procedures are based on the criteria defined by the Board of Directors and Executive Management as described above. We consider these criteria suitable for the preparation of the Report.

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

Conclusion
Based on the limited assurance procedures we have performed, nothing has come to our attention that causes us to believe that the Investor Report has not been prepared, in all material respects, in accordance with the reporting criteria.

Stockholm, 27 March 2024
PricewaterhouseCoopers AB

Eva Carlsvi	Aleksander Lyckow
Authorised Public Accountant	Authorized Public Accountant

Ten-year overview of sustainability data[1]

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Electricity generation, TWh	**172.9**	**173.0**	**119.0**	**127.3**	**130.3**	**129.3**	**112.8**	**111.4**	**108.9**	**100.9**
Renewable sources	40.4	46.7	41.5	43.5	43.7	45.6	50.8	52.4	52.9	50.1
– of which hydro power	34.3	39.5	34.8	35.6	35.5	35.8	39.7	40.9	40.5	36.1
– of which wind power	4.1	5.8	5.8	7.6	7.8	9.5	10.8	11.2	12.1	13.7
– of which solar power	–	–	–	–	–	–	–	0.1	0.1	0.1
– of which biomass and waste (biogenic)	2.0	1.4	0.9	0.3	0.3	0.3	0.2	0.3	0.3	0.3
Nuclear	49.9	42.2	46.9	51.9	55.0	53.4	39.3	40.4	39.6	37.4
Fossil sources (incl. non-biogenic waste)	82.7	84.1	30.7	32.0	31.6	30.3	22.8	18.6	16.3	13.3
Heat production, TWh	**–**	**–**	**–**	**19.7**	**18.9**	**15.5**	**14.2**	**16.1**	**14.6**	**14.5**
Renewable sources	–	–	–	3.0	3.0	3.2	2.7	3.3	3.2	3.2
Fossil sources (incl. non-biogenic waste)	–	–	–	16.7	15.9	12.3	11.5	12.8	11.4	11.3
Energy consumption, TWh										
Renewable sources	8.0	5.3	5.6	5.4	5.1	5.2	4.6	5.3	5.1	4.9
– of which biomass, waste (biogenic)	7.1	4.3	4.6	3.7	3.9	4.1	3.5	4.0	3.8	3.7
– of which electricity, heat and steam (renewable)[2]	0.9	1.0	1.0	1.6	1.2	1.1	1.2	1.3	1.2	1.2
Fossil sources	231.8	237.3	89.2	86.5	90.0	79.1	61.2	52.7	47.6	41.2
– of which gas	31.7	27.7	32.5	36.8	38.6	44.3	41.8	38.7	34.7	28.4
– of which hard coal	35.2	46.1	43.9	42.1	41.1	25.6	10.7	5.9	5.8	5.3
– of which lignite	153.5	152.7	3.2	1.5	–	–	–	–	–	–
– of which peat	0.4	0.5	0.5	0.4	0.6	0.2	–	–	–	–
– of which waste (non-biogenic)	2.9	2.6	1.9	1.2	1.2	1.2	0.7	0.8	0.7	0.8
– of which other fuels, including oil	1.8	1.9	1.5	1.5	1.7	1.6	0.3	0.4	0.3	0.3
– of which electricity, heat and steam (non-renewable)	6.3	5.8	5.7	3.0	6.9	6.2	7.6	7.0	6.1	6.6
Nuclear, Uranium (tonnes)	119.0	143.0	119.6	105.9	118.0	136.4	98.6	119.0	83.2	128.5
Emissions to air (Scope 1)										
Carbon dioxide equivalents (CO_2e)[3], Mtonnes	82.7	84.3	23.7	23.2	22.6	18.4	12.2	10.3	9.5	7.9[4]
Biogenic CO_2[5], Mtonnes	2.4	1.9	1.6	1.3	1.3	1.4	1.2	1.4	1.3	1.3
Nitrogen oxides(NOx), ktonnes	52.8	52.2	10.2	9.8	9.9	7.4	5.5	5	4.6	4.3
Sulphur dioxide (SO2), ktonnes	53.1	50.1	4.2	4.1	4.2	2.3	1.5	1.3	1.2	1.1
Particulate matter (PM), ktonnes	1.7	1.5	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1

[1] Data are presented in accordance to financial accounting and consolidated.
[2] Mainly at pumped storage plants, which amounted to 4.1 TWh 2023.
[3] Before 2017 only CO_2. From 2017 including CH4, N2O and SF6.
[4] Of the total greenhouse emissions 0.1 Mtonnes CO_2e consist of SF6, CH4 and N2O emissions. Characterisation factors are obtained from the IPCC Sixth Assessment report.
[5] CO_2 emissions from combustion of biomass.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Carbon dioxide equivalents (CO_2e)[3], Mtonnes (Scope 2)[6]										
Market based	–	–	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Location based	–	–	–	0.1	0.1	0.2	0.1	0.1	0.1	0.1
CO_2e intensity[7], g/kWh (Scope 1 + scope 2 market based)[7]	**421**	**426**	**170**	**158[8]**	**152**	**128**	**97.1**	**81.4**	**77.7**	**69.2[10]**
CO_2e intensity, g/SEK (Scope 1 + scope 2 market based)	**–**	**–**	**–**	**172.3**	**149.2**	**111.2**	**77.7**	**57.6**	**40.1**	**27.5**
Carbon dioxide equivalents (CO_2e), Mtonnes (Scope 3)	**–**	**–**	**–**	**24.3**	**24.4**	**23.3**	**20.5**	**21.4**	**16.1**	**15.0**
Capital Goods, purchased goods and services	–	–	–	0.4	0.2	0.5	1.1	1.0	1.1	1.2
Fuel and energy related[8]	–	–	–	9.4[8]	8.7	9.1	7.5	7.5	5.3	4.6
Waste generated in operations	–	–	–	0.3	0.2	0.2	0.2	0.2	0.2	0.1
Business travel	–	–	0.030	0.030	0.025	0.017	0.008	0.002	0.008	0.011
Use of sold products	–	–	14.4	14.2	15.4	13.5	12.2	12.9	9.6	9.0
Total emission Scope 1, 2 and 3, CO_2e, market based, Mtonnes	**–**	**–**	**–**	**47.6**	**47.1**	**41.8**	**32.9**	**31.7**	**25.6**	**23.0**
CO_2e intensity, sold electricity[9], g/kWh	**–**	**–**	**–**	**152.4[8]**	**133.2**	**123.8**	**89.6**	**79.5**	**71.9**	**65.1**
Waste and by-products, ktonnes										
Hazardous waste	123	86	106	61	59	72	37	50	49	37
Non-hazardous waste	416	342	133	145	98	75	39	40	37	28
Ash from coal and lignite	5,912	6,219	775	671	579	423	160	110	106	104
Ash from biomass	42.3	38	41.3	37.4	38.4	32.9	21.6	20.8	25.4	17.5
Slag from waste incineration	245	229	237	168	170	173	100	105	99	76
Gypsum	3,000	3,048	208	169	185	128	45	26	22	26
Radioactive waste										
Low and medium radiactive operational waste, m^3	2,251	3,353	1,013	912	829	411	628	434	408	214
Core components, tonnes	10	7	17	15	31	13	58	84	1	21
Spent nuclear fuel, tonnes	193	197	124	175	137	260	274	136	157	171
SAIDI (minutes/customer)										
Sweden	177	212	150	125	187	439	148	112	157	132
SAIFI (number/customer)										
Sweden	2.4	2.2	2.1	1.8	2.9	2.4	2.0	1.8	2.1	1.9

[6] Not including pumped storage electricity use, which corresponds to 1.0 Mt location based.
[7] Includes scope 2 (before 2017 only CO_2 scope 1) and relates to electricity and heat production.
[8] Emissions from fuel and energy relating to electricity purchased for sale to end customers updated for 2017.
[9] Relates to all electricity produced or sourced and sold to end customers.
[10] Deviates from the preliminary reported value as communicated in the year-end report 2023.

Ten-year overview sustainability data, cont.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Our people										
Number employees, FTE,	30,181	28,567	19,935	20,041	19,910	19,814	19,859	18,835	19,638	20,995
– of which females	6,983	6,399	4,773	4,827	4,840	5,000	5,083	4,985	5,439	6,023
– of which temporary employed (not permanent contract)	882	761	550	609	618	664	723	686	830	902
Employee turnover, %	–	–	–	–	–	7.1%	7.5%	8.0%	10.2%	9.0%
Sick leave										
men %	3.7%	4.1%	3.5%	3.6%	3.5%	3.2%	3.1%	3.0%	2.7%	3.0%
females %	5.0%	5.8%	5.4%	5.7%	5.4%	5.1%	4.6%	4.2%	3.6%	4.0%
Working related accidents										
Internal LTIF (employees)	2.7	2.6	2.0	1.5	1.9	2.1	1.8	1.7	1.1	1.5
External LTI[1] (contractors)	–	133	101	80	71	88	78	86	62	73

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Gender diversity										
Female managers %	18%	19%	22%	23%	24%	26%	27%	30%	30%	31%
Share of managers per age category total										
-29	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
30-49	54%	52%	56%	58%	56%	56%	57%	57%	56%	60%
50-	45%	46%	43%	40%	43%	43%	42%	42%	43%	39%

[1] As the Contractor LTIF calculation is not reliable enough, only LTI is reported.

Ratings

Sustainability and Environment, Social, Governance (ESG) ratings are important for customers, investors and stakeholders in general to gain an understanding of a company's performance. Vattenfall believes in the benefits of transparency and participates in numerous surveys and ratings, both voluntarily and at the request of customers.

Learn more
For the latest ESG ratings assessment information please visit **this page**.

Read more about the respective ratings see links below:

- CDP
- Ecovadis
- Institutional Sharholder Services, ISS
- MSCI
- Sustainalytics

Ratlng firm	Focus	Score	Latest assessment
CDP	The leading system globally for disclosing environmental data for investors, companies, cities, states and regions.	CDP Climate Score: A / A. CDP Water Score: B / A Climate A Water B	2024, January Assessment frequency: yearly
ecovadis	An online platform that enables companies to monitor the performance of their supply chains by providing supplier sustainability ratings.	Score: 85 / 100. "Platinum rating" 85	2023, March Assessment frequency: yearly
ISS	ESG rating mainly for the investment community. The assessment spans over a range of ESG issues that are analysed on the basis of up to to 100 rating critera, most of them sector specific.	Score: B / A+ B	2022, December Assessment frequency: 3 years
MSCI	ESG rating mainly for the investment community. Uses methododology to identify industry leaders and laggards. Ranks companies according to their ESG risk exposure and how well they manage those risks relative to peers.	Score: AAA / AAA AAA	2023, December Assessment frequency: yearly
SUSTAINALYTICS	ESG rating mainly for the investment community. Uses methododology to identify industry leaders and laggards. Ranks companies according to their ESG risk exposure and how well they manage those risks relative to peers.	Score: Medium Risk / Negligible Risk Medium Risk	2023, December Assessment frequency: yearly
World Benchmarking Alliance	The Electric Utilities Benchmark 2023 presents a ranking of 68 keystone electric utilities companies based on an Assessing low-Carbon Transition (ACT) assessment and a social assessment comprising Core Social and Just Transition Indicators. The overall score measures the company on their alignment with the low-carbon transition as well as their social equity in the process.	Score: 51.6 / 100, #7 out of 68 companies ranked 51,6	2023, December Assessment frequency: yearly

Quarterly overview

	2023				2022			
Amounts in SEK million	**Q4**	**Q3**	**Q2**	**Q1**	**Q4**	**Q3**	**Q2**	**Q1**
Income statement items								
Net sales	73,292	58,337	61,750	96,788	78,819	53,076	48,170	59,579
Operating profit before depreciation, amortisation and impairment losses (EBITDA)	9,912	2,641	5,833	21,300	-18,509	16,386	15,386	17,249
Operating profit (EBIT)	6,061	-2,611	-2,791	16,332	-24,062	12,192	11,730	12,783
Underlying EBIT	4,455	946	5,057	9,545	12,527[2]	6,232	6,811[2]	9,504
Financial net	2,347	-597	-2,125	-394	-657	-2,464	-5,261	-4,350
Profit before income taxes	8,408	-3,208	-4,916	15,938	-24,719	9,728	6,469	8,433
Profit for the period	5,657	-2,186	-4,895	11,818	-16,959	6,684	4,231	6,064
– of which, attributable to owners of the Parent Company	4,740	-2,147	-5,130	11,182	-17,605	6,242	4,478	5,782
– of which, attributable to non-controlling interests	917	-39	235	636	646	442	-247	282
Balance sheet items								
Cash and cash equivalents and short-term investments	52,270	67,825	69,137	83,240	172,386	269,320	152,573	177,418
Equity	139,429	150,201	143,716	141,623	128,937	204,324	188,935	210,480
– of which, attributable to owners of the Parent Company	113,466	123,899	117,791	119,722	110,473	186,164	172,503	194,418
– of which, attributable to non-controlling interests	25,963	26,302	25,925	21,901	18,464	18,160	26,458	16,062
Interest-bearing liabilities	121,109	106,582	121,089	124,935	172,594	153,931	123,903	140,489
Net debt	68,424	-38,245	-48,368	-41,055	3,858	116,008	29,321	37,611
Adjusted net debt	139,518	-117,953	126,860	115,222	76,765	44,123	43,673	33,611
Provisions	156,174	164,950	167,455	160,803	160,433	175,429	164,532	156,690
Noninterest-bearing liabilities	171,879	185,859	231,475	272,872	330,363	568,805	437,797	355,036
Capital employed, average	320,041	285,688	311,489	298,531	299,461	256,816	285,407	273,930
Balance sheet total	588,591	607,592	663,735	700,233	792,327	1102,489	915,167	862,695
Cash flow items								
Funds from operations (FFO)	8,190	4,919	5,162	11,787	14,597	7,305	11,911	8,382
Cash flow from operating activities	-15,076	15,571	7,079	-32,197	-107,860	90,385	9,776	-3,058
Free cash flow	-21,045	11,836	2,589	-36,502	-113,423	87,786	20,026	-5,514

	2023				2022			
Amounts in SEK million	**Q4**	**Q3**	**Q2**	**Q1**	**Q4**	**Q3**	**Q2**	**Q1**
Key ratios								
In % unless otherwise stated. (x) means times.								
Operating margin	8.3	-4.5	8.5	16.9	-30.5	23.0	24.4	21.5
Operating margin[1]	6.1	1.6	9.2	9.9	15.9[2]	11.7	14.1[2]	16.0
Pre-tax profit margin	11.5	-5.5	7.0	16.5	-31.4	18.3	13.4	14.2
Pre-tax profit margin[1]	23.7	0.6	7.6	9.5	16.3	7.1	3.2[2]	8.7
Return on equity	5.9	-9.3	-3.5	2.9	-0.7	14.8	23.6	31.0
Return on capital employed	5.3	-4.6	0.5	5.4	4.2	17.3	19.3	21.8
Return on capital employed[1]	6.3	9.8	10.7	12.5	11.7[2]	12.1[2]	10.4[2]	9.7
EBIT interest cover, (x)	3.1	-1.6	0.5	2.6	2.3	7.9	10.3	14.9
EBIT interest cover, (x)[1]	3.6	4.6	4.9	5.7	6.0[2]	5.9	5.6[2]	6.7
FFO interest cover, (x)	5.5	6.5	6.4	7.7	8.1	9.1	9.3	10.9
FFO interest cover, net, (x)	10.9	10.1	8.4	9.4	9.2	10.2	11.0	13.9
Cash flow interest cover after maintenance investments, (x)	-6.8	-22.9	-8.3	-5.9	-1.1	20.8	15.8	21.9
FFO/gross debt	24.8	34.2	32.1	36.5	23.9	30.0	36.3	28.8
FFO/net debt	43.9	95.3	80.3	111.1	1,093.7	-39.8	-153.4	-107.7
FFO/adjusted net debt	21.5	30.9	30.6	39.6	55.0	-104.7	103.0	120.5
EBITDA/net financial items, (x)	90.9	33.0	9.6	16.5	-17.1	12.6	8.8	17.6
EBITDA/net financial items, (x)[1]	89.1	76.9	8.6	11.3	16.1[2]	8.3	6.5[2]	14.2
Equity/total assets	23.7	24.7	21.7	20.2	16.3	18.5	20.6	24.4
Gross debt/equity	86.9	71.0	84.3	88.2	137.1	75.3	65.6	66.8
Net debt/equity	49.1	25.5	33.7	29.0	3.0	-56.8	-15.5	-17.9
Gross debt/gross debt plus equity	46.5	41.5	45.7	46.9	57.8	43.0	39.6	40.0
Net debt/net debt plus equity	32.9	20.3	25.2	22.5	2.9	-131.4	-18.4	-21.8
Net debt/EBITDA, (x)	1.7	3.4	1.9	1.2	0.1	-2.0	-0.4	-0.5
Adjusted net debt/EBITDA, (x)	3.5	10.5	5.1	3.3	2.5	-0.7	0.6	0.5
Other information								
Investments	10,466	7,739	11,798	12,337	8,259	7,536	4,830	4,941
Electricity generation, TWh	29.0	19.9	23.7	28.2	28.3	25.1	24.6	30.9
Sales of electricity, TWh	46.0	36.9	39.4	45.7	43.4	38.6	38.7	44.6
Sales of heat, TWh	4.5	0.9	2.3	5.7	4.7	1.3	2.4	5.8
Sales of gas, TWh	14.0	4.6	7.6	18.3	14.1	4.8	8.2	20.2
Number of employees, full-time equivalents	20,995	20,642	20,228	19,772	19,638	19,473	19,307	19,031

[1] Based on Underlying operating profit, that is, Operating profit excluding Items affecting comparability.
[2] The value has been adjusted compared with information previously published in Vattenfall's financial reports.

Ten-year overview

	2023				2022			
Amounts in SEK million	**Q4**	**Q3**	**Q2**	**Q1**	**Q4**	**Q3**	**Q2**	**Q1**
Income statement items								
Net sales	73,292	58,337	61,750	96,788	78,819	53,076	48,170	59,579
Operating profit before depreciation, amortisation and impairment losses (EBITDA)	9,912	2,641	5,833	21,300	-18,509	16,386	15,386	17,249
Operating profit (EBIT)	6,061	-2,611	-2,791	16,332	-24,062	12,192	11,730	12,783
Underlying EBIT	4,455	946	5,057	9,545	12,527[2]	6,232	6,811[2]	9,504
Financial net	2,347	-597	-2,125	-394	-657	-2,464	-5,261	-4,350
Profit before income taxes	8,408	-3,208	-4,916	15,938	-24,719	9,728	6,469	8,433
Profit for the period	5,657	-2,186	-4,895	11,818	-16,959	6,684	4,231	6,064
– of which, attributable to owners of the Parent Company	4,740	-2,147	-5,130	11,182	-17,605	6,242	4,478	5,782
– of which, attributable to non-controlling interests	917	-39	235	636	646	442	-247	282
Balance sheet items								
Cash and cash equivalents and short-term investments	52,270	67,825	69,137	83,240	172,386	269,320	152,573	177,418
Equity	139,429	150,201	143,716	141,623	128,937	204,324	188,935	210,480
– of which, attributable to owners of the Parent Company	113,466	123,899	117,791	119,722	110,473	186,164	172,503	194,418
– of which, attributable to non-controlling interests	25,963	26,302	25,925	21,901	18,464	18,160	26,458	16,062
Interest-bearing liabilities	121,109	106,582	121,089	124,935	172,594	153,931	123,903	140,489
Net debt	68,424	-38,245	-48,368	-41,055	3,858	116,008	29,321	37,611
Adjusted net debt	139,518	-117,953	126,860	115,222	76,765	44,123	43,673	33,611
Provisions	156,174	164,950	167,455	160,803	160,433	175,429	164,532	156,690
Noninterest-bearing liabilities	171,879	185,859	231,475	272,872	330,363	568,805	437,797	355,036
Capital employed, average	320,041	285,688	311,489	298,531	299,461	256,816	285,407	273,930
Balance sheet total	588,591	607,592	663,735	700,233	792,327	1102,489	915,167	862,695
Cash flow items								
Funds from operations (FFO)	8,190	4,919	5,162	11,787	14,597	7,305	11,911	8,382
Cash flow from operating activities	-15,076	15,571	7,079	-32,197	-107,860	90,385	9,776	-3,058
Free cash flow	-21,045	11,836	2,589	-36,502	-113,423	87,786	20,026	-5,514

	2023				2022			
Amounts in SEK million	**Q4**	**Q3**	**Q2**	**Q1**	**Q4**	**Q3**	**Q2**	**Q1**
Key ratios								
In % unless otherwise stated. (x) means times.								
Operating margin	8.3	-4.5	8.5	16.9	-30.5	23.0	24.4	21.5
Operating margin[1]	6.1	1.6	9.2	9.9	15.9[2]	11.7	14.1[2]	16.0
Pre-tax profit margin	11.5	-5.5	7.0	16.5	-31.4	18.3	13.4	14.2
Pre-tax profit margin[1]	23.7	0.6	7.6	9.5	16.3	7.1	3.2[2]	8.7
Return on equity	5.9	-9.3	-3.5	2.9	-0.7	14.8	23.6	31.0
Return on capital employed	5.3	-4.6	0.5	5.4	4.2	17.3	19.3	21.8
Return on capital employed[1]	6.3	9.8	10.7	12.5	11.7[2]	12.1[2]	10.4[2]	9.7
EBIT interest cover, (x)	3.1	-1.6	0.5	2.6	2.3	7.9	10.3	14.9
EBIT interest cover, (x)[1]	3.6	4.6	4.9	5.7	6.0[2]	5.9	5.6[2]	6.7
FFO interest cover, (x)	5.5	6.5	6.4	7.7	8.1	9.1	9.3	10.9
FFO interest cover, net, (x)	10.9	10.1	8.4	9.4	9.2	10.2	11.0	13.9
Cash flow interest cover after maintenance investments, (x)	-6.8	-22.9	-8.3	-5.9	-1.1	20.8	15.8	21.9
FFO/gross debt	24.8	34.2	32.1	36.5	23.9	30.0	36.3	28.8
FFO/net debt	43.9	95.3	80.3	111.1	1,093.7	-39.8	-153.4	-107.7
FFO/adjusted net debt	21.5	30.9	30.6	39.6	55.0	-104.7	103.0	120.5
EBITDA/net financial items, (x)	90.9	33.0	9.6	16.5	-17.1	12.6	8.8	17.6
EBITDA/net financial items, (x)[1]	89.1	76.9	8.6	11.3	16.1[2]	8.3	6.5[2]	14.2
Equity/total assets	23.7	24.7	21.7	20.2	16.3	18.5	20.6	24.4
Gross debt/equity	86.9	71.0	84.3	88.2	137.1	75.3	65.6	66.8
Net debt/equity	49.1	25.5	33.7	29.0	3.0	-56.8	-15.5	-17.9
Gross debt/gross debt plus equity	46.5	41.5	45.7	46.9	57.8	43.0	39.6	40.0
Net debt/net debt plus equity	32.9	20.3	25.2	22.5	2.9	-131.4	-18.4	-21.8
Net debt/EBITDA, (x)	1.7	3.4	1.9	1.2	0.1	-2.0	-0.4	-0.5
Adjusted net debt/EBITDA, (x)	3.5	10.5	5.1	3.3	2.5	-0.7	0.6	0.5
Other information								
Investments	10,466	7,739	11,798	12,337	8,259	7,536	4,830	4,941
Electricity generation, TWh	29.0	19.9	23.7	28.2	28.3	25.1	24.6	30.9
Sales of electricity, TWh	46.0	36.9	39.4	45.7	43.4	38.6	38.7	44.6
Sales of heat, TWh	4.5	0.9	2.3	5.7	4.7	1.3	2.4	5.8
Sales of gas, TWh	14.0	4.6	7.6	18.3	14.1	4.8	8.2	20.2
Number of employees, full-time equivalents	20,995	20,642	20,228	19,772	19,638	19,473	19,307	19,031

[1] Based on Underlying operating profit, that is, Operating profit excluding items affecting comparability.
[2] The value has been adjusted compared with information previously published in Vattenfall's financial reports.

Definitions

The key ratios are presented as percentages (%) or times (x) and are based on full year 2023.

Alternative Performance Measures
In order to ensure a fair presentation of the Group's operations, the Vattenfall Group uses a number of Alternative Performance Measures that are not defined in IFRS or in the Swedish Annual Accounts Act. The Alternative Performance Measures that Vattenfall uses are described below, including their definitions and how they are calculated. The Alternative Performance Measures used are unchanged compared with earlier periods.

EBIT – Operating profit (Earnings Before Interest and Tax)

EBITDA – Operating profit before depreciation, amortisation and impairment losses (Earnings Before Interest, Tax, Depreciation and Amortisation)

Items affecting comparability – Capital gains and capital losses from shares and other non-current assets, impairment losses and reversed impairment losses and other material items that are of an infrequent nature. Also included here are, for trading activities, unrealised changes in the fair value of energy derivatives, which according to IFRS 9 cannot be recognised using hedge accounting and unrealised changes in the fair value of inventories. See Consolidated income statement for a specification of items affecting comparability.

Underlying EBITDA – Underlying operating profit before depreciation, amortisation and impairment losses. This measure is intended to provide a better view on the operating result by excluding items affecting comparability that are of an infrequent nature, while also excluding non-cash depreciation and amortisation.

Underlying operating profit – Operating profit (EBIT) excluding items affecting comparability. This measure is intended to provide a better view on the operating result by excluding items affecting comparability that are of an infrequent nature.

FFO – Funds From Operations, see Consolidated statement of cash flow

Free cash flow – Cash flow from operating activities less maintenance investments

Interest-bearing liabilities – See Consolidated balance sheet – Supplementary Information

Net debt – See Consolidated balance sheet – Supplementary Information

Adjusted net debt – See Consolidated balance sheet – Supplementary Information

Capital employed – Total assets less financial assets, noninterest-bearing liabilities and certain other interest-bearing provisions not included in adjusted net debt. see Consolidated balance sheet – Supplementary Information

Other definition
Hybrid Capital – Perpetual subordinated securities, junior to all Vattenfall's unsubordinated debt instruments.

LTIF – Lost Time Injury Frequency (LTIF) is expressed in terms of the number of lost time work injuries (per 1 million hours worked), i.e., work-related accidents resulting in absence longer than one day, and accidents resulting in fatality.

Unavailable Liquidity – Amount of cash on Vattenfalls consolidated balance sheet that are seen as Restricted cash, as determined in accordance with Rating agencys or due to Financial regulations.

Calculations of key ratios

Operating margin, %	= 100 x	EBIT / Net sales	16,991 / 290,168	=	5.9
Operating margin excl items affecting comparability, %	= 100 x	Underlying EBIT / Net sales	20,005 / 290,168	=	6.9
Pre-tax profit margin, %	= 100 x	Profit before income taxes / Net sales	16,222 / 290,168	=	5.6
Pre-tax profit margin excl items affecting comparability, %	= 100 x	Profit before income taxes excl items affecting comparability / Net sales	19,236 / 290,168	=	6.6
Return on equity, %	= 100 x	Profit for the period attributable to owner of the Parent Company / Average equity for the period attributable to owner of the Parent Company excl the Reserve for cash flow hedges	8,646 / 147,470	=	5.9
Return on capital employed, %	= 100 x	EBIT / Capital employed, average	16,991 / 320,041	=	5.3
Return on capital employed excl items affecting comparability, %	= 100 x	Underlying EBIT / Capital employed, average	20,005 / 320,041	=	6.3
EBIT interest cover, (x)	=	EBIT + financial income excl return from the Swedish Nuclear Waste Fund / Financial expenses excl discounting effects attributable to provisions	20,580 / 6,613	=	3.1
EBIT interest cover excl items affecting comparability, (x)	=	Underlying EBIT + financial income excl return from the Swedish Nuclear Waste Fund / Financial expenses excl discounting effects attributable to provisions	23,594 / 6,613	=	3.6
FFO interest cover, (x)	=	FFO + financial expenses excl discounting effects attributable to provisions / Financial expenses excl discounting effects attributable to provisions	36,671 / 6,613	=	5.5
FFO interest cover, net, (x)	=	FFO + financial items net excl discounting effects attributable to provisions and return from the Swedish Nuclear Waste Fund / Financial items net excl discounting effects attributable to provisions and return from the Swedish Nuclear Waste Fund	33,082 / 3,024	=	10.9
Cash flow interest cover after maintenance investments, (x)	=	Cash flow from operating activities less maintenance investments + financial expenses excl discounting effects attributable to provisions and interest components related to pension costs / Financial expenses excl discounting effects attributable to provisions and interest components related to pension costs	-37,605 / 5,517	=	-6.8

FFO/gross debt, %	= 100 x	FFO / Interest-bearing liabilities	30,058 / 121,109	=	24.8
FFO/net debt, %	= 100 x	FFO / Net debt	30,058 / 68,424	=	43.9
FFO/adjusted net debt, %	= 100 x	FFO / Adjusted net debt	30,058 / 139,518	=	21.5
EBITDA/net financial items, (x)	=	EBITDA / Financial items net excl discounting effects attributable to provisions and return from the Swedish Nuclear Waste Fund	39,685 / 3,024	=	13.1
EBITDA excl items affecting comparability/net financial items, (x)	=	EBITDA excl items affecting comparability / Financial items net excl discounting effects attributable to provisions and return from the Swedish Nuclear Waste Fund	40,340 / 3,024	=	13.3
Equity/total assets, %	= 100 x	Equity / Balance sheet total	139,429 / 588,591	=	23.7
Gross debt/equity, %	= 100 x	Interest-bearing liabilities / Equity	121,109 / 139,429	=	86.9
Net debt/equity, %	= 100 x	Net debt / Equity	68,424 / 139,429	=	49.1
Gross debt/gross debt plus equity, %	= 100 x	Interest-bearing liabilities / Interest-bearing liabilities + equity	121,109 / 260,538	=	46.5
Net debt/net debt plus equity, %	= 100 x	Net debt / Net debt + equity	68,424 / 207,853	=	32.9
Net debt/EBITDA, (x)	=	Net debt / EBITDA	68,424 / 39,685	=	1.7
Adjusted net debt/ EBITDA, (x)	=	Adjusted net debt / EBITDA	139,517 / 39,685	=	3.5

Facts about Vattenfall's markets 2023

	Sweden	Finland	Denmark	Germany	Netherlands	UK	Total
Installed capacity electricity, MW, 31 December 2023							
Hydro power[1]	8,541	136	–	2,807	24	–	11,508
Nuclear power	5,658	–	–	–	–	–	5,658
Fossil-based power	699	–	–	2,107	1,997	0	4,803
– of which, gas	–	–	–	1,384	1,997	0	3,381
– of which, hard coal	–	–	–	687	–	–	687
– of which, oil and other	699	–	–	36	–	–	735
Wind power	331	–	1,475	576	1,949	1,111	5,443
Biomass, peat, waste	85	–	–	23	1	–	109
Solar power	–	–	–	15	60	–	75
Total	**15,314**	**136**	**1,475**	**5,528**	**4,031**	**1,111**	**27,596**
Installed capacity heat, MW, 31 December 2023	**1,922**	**–**	**–**	**5,672**	**1,554**	**17**	**9,165**
Generated electricity, TWh							
Hydro power[1]	32.3	0.5	–	3.2	0.0	–	36.1
Nuclear power	37.4	–	–	–	–	–	37.4
Fossil-based power	–	–	–	6.1	7.0	–	13.2
– of which, gas	–	–	–	4.6	7.0	–	11.6
– of which, hard coal	–	–	–	1.5	–	–	1.5
– of which, oil and other	–	–	–	0.2	–	–	0.2
Wind power	0.8	–	5.0	1.8	3.1	3.0	13.7
Biomass, peat, waste	0.3	–	–	0.3	0.0	–	0.4
Solar power	–	–	–	–	–	–	0.1
Total	**70.7**	**0.5**	**5.0**	**11.4**	**10.2**	**3.0**	**100.9**
Production of heat, TWh							
Fossil-based heat	0.1	–	–	8.5	1.4	0.0	10.0
– of which, gas	–	–	–	6.8	1.4	0.0	8.2
– of which, hard coal	–	–	–	1.5	–	–	1.5
– of which, oil and other	0.1	–	–	0.1	–	–	0.2
Biomass, peat, waste	3.3	–	–	1.2	0.0	–	4.5
Total heat production	**3.4**	**–**	**–**	**9.7**	**1.4**	**0.0**	**14.5**

	Sweden	Finland	Denmark	Germany	Netherlands	UK	Total
Sales of electricity, TWh	79.2[2]	2.3	6.1	58.3[3]	22.1	–	168.0
Sales of heat, TWh	3.1	–	–	8.8	1.5	–	13.5
Sales of gas, TWh	–	–	–	12.4[3]	32.1	–	44.5
Number of retail customers	865,898	300,880	105,116	4,850,007[3]	1,941,982	–	8,063,883
Electricity volume, TWh retail customers	6.9	1.7	0.5	13.0[3]	5.5	–	27.6
Electricity volume, TWh businesses	25.0	6.2	1.7	8.3	11.2	–	52.4
Electricity volume, TWh resellers	6.9[2]	2.3	0.7	35.9[3]	–	–	45.7
Electricity volume, TWh other	40.4	-8	3.2	1.0	5.4	–	42.2
Number of network customers	972,867	–	–	–	–	–	972,867
Number of gas customers	–	–	–	665,220[3]	1,620,572	–	2,285,792
Electricity network							
Transited volume, TWh	71.8	–	–	–	–	–	71.8
Distribution network, km	124,829.0	–	–	–	–	–	124,829
Number of employees (full-time equivalents)							
Per country	10,509	84	626	4,976	3,909	466	20,570
Group total							20,995
CO_2 emissions per country, Mtonnes	0.2	–	–	4.7	3.0	–	7.8
CO_2 emission allowances received, Mtonnes CO_2/year	0.1	–	–	0.4	0.1	–	0.5

[1] In Germany mainly pumped-storage power plants.
[2] Including sales in Norway.
[3] Including sales in France.

Facts about Vattenfall's markets 2022

	Sweden	Finland	Denmark	Germany	Netherlands	UK	Total
Installed capacity electricity, MW, 31 December 2022							
Hydro power[1]	8,543	136	–	2,807	24	–	11,510
Nuclear power	5,511	–	–	–	–	–	5,511
Fossil-based power	699	–	–	3,655	3,407	–	7,761
– of which, gas	–	–	–	1,384	3,407	–	4,791
– of which, hard coal	–	–	–	2,235	–	–	2,235
– of which, oil and other	699	–	–	36	–	–	735
Wind power	331	–	1,314	576	490	1,091	3,802
Biomass, peat, waste	189	–	–	26	1	–	216
Solar power	–	–	–	15	60	–	75
Total	**15,273**	**136**	**1,314**	**7,079**	**3,983**	**1,091**	**28,876**
Installed capacity heat, MW, 31 December 2022	**2,231**	**–**	**–**	**5,646**	**1,479**	**–**	**9,356**
Generated electricity, TWh							
Hydro power[1]	36.9	0.3	–	3.2	–	–	40.5
Nuclear power	39.6	–	–	–	–	–	39.6
Fossil-based power	–	–	–	6.0	10.3	–	16.3
– of which, gas	–	–	–	4.2	10.3	–	14.5
– of which, hard coal	–	–	–	1.7	–	–	1.7
– of which, oil and other	–	–	–	0.1	–	–	0.1
Wind power	0.5	–	5.0	2.5	1.1	2.9	12.1
Biomass, peat, waste	0.2	–	–	0.2	–	–	0.3
Solar power	–	–	–	–	0.1	–	0.1
Total	**77.2**	**0.3**	**5.0**	**11.9**	**11.5**	**2.9**	**108.9**
Production of heat, TWh							
Fossil-based heat	–	–	–	9.1	1.4	–	10.5
– of which, gas	–	–	–	7.0	1.4	–	8.4
– of which, hard coal	–	–	–	2.0	–	–	2.0
– of which, oil and other	0.0	–	–	0.1	–	–	0.2
Biomass, peat, waste	3.3	–	–	0.8	–	–	4.1
Total heat Production	**3.3**	**–**	**–**	**9.8**	**1.4**	**–**	**14.6**

	Sweden	Finland	Denmark	Germany	Netherlands	UK	Total
Sales of electricity, TWh	85.9[2]	2.5	6.4	47.2[3]	23.3	–	165.3
Sales of Heat, TWh	3.0	–	–	9.5	1.6	–	14.1
Sales of gas, TWh	–	–	–	13.9[3]	33.3	–	47.3
Number of retail customers	859,147	318,308	109,726	4,129,521 [4]	2,005,658	–	7,422,360
Electricity volume, TWh retail customers	7.4	2.0	–	12.0[3]	5.7	–	27.1
Electricity volume, TWh businesses	22.8	6.5	–	10.3	10.1	–	49.7
Electricity volume, TWh resellers	5.4[2]	1.6	2.8	24.8[3]	–	–	34.6
Electricity volume, TWh other	50.3	-7.6	3.6	0.1	7.4	–	53.8
Number of network customers	974,816	–	–	–	–	–	974,816
Number of gas customers	–	–	–	621,729[3]	1,696,880	–	2,318,609
Electricity network							
Transited volume, TWh	71.9	–	–	–	–	–	71.9
Distribution network, km	124,378	–	–	–	–	–	124,378
Number of employees (full-time equivalents)							
Per country	9,821	75	557	4,624	3,742	433	19,252
Group total							19,638
CO_2 emissions per country, Mtonnes	0.2	–	–	4.8	4.4	–	9.4
CO_2 emission allowances received, Mtonnes CO_2/year	0.1	–	–	0.4	0.1	–	0.6

[1] In Germany mainly pumped-storage power plants.
[2] Including sales in Norway.
[3] Including sales in France.

Pro rata

2023	Sweden	Finland	Denmark	Germany	Netherlands	UK	Total
Installed capacity electricity, MW, 31 December 2023							
Hydro power[1]	8,339	136	–	1,807	24	–	10,306
Nuclear power	3,832	–	–	–	–	–	3,832
Fossil-based power	699	–	–	2,105	1,997	–	4,801
– of which, gas	–	–	–	1,382	1,997	–	3,379
– of which, hard coal	–	–	–	687	–	–	687
– of which, oil and other	699	–	–	36	–	–	735
Wind power	367	–	1,460	310	1,201	1,038	4,376
Biomass, peat, waste	85	–	–	23	1	–	109
Solar power	–	–	–	15	60	–	75
Total	**13,322**	**136**	**1,460**	**4,260**	**4,283**	**1,038**	**23,499**
Installed capacity heat, MW, 31 December 2023	**1,813**	**–**	**–**	**5,635**	**1,544**	**17**	**9,009**
Generated electricity, TWh							
Hydro power[1]	31.4	0.5	–	3.2	–	–	35.1
Nuclear power	25.3	–	–	–	–	–	25.3
Fossil-based power	–	–	–	6.1	7.0	–	13.1
– of which, gas	–	–	–	4.6	7.0	–	11.6
– of which, hard coal	–	–	–	1.5	–	–	1.5
– of which, oil and other	–	–	–	0.2	–	–	0.2
Wind power	0.8	–	5.0	0.9	2.2	2.9	11.8
Biomass, peat, waste	0.2	–	–	0.3	–	–	0.5
Solar power	–	–	–	–	0.1	–	0.1
Total	**57.7**	**0.5**	**5.0**	**10.5**	**9.3**	**2.9**	**85.9**
Produced heat, TWh	**3.2**	**–**	**–**	**9.6**	**1.4**	**–**	**14.3**
CO_2 emissions per country, Mtonnes	0.2	–	–	4.7	3.0	–	7.8

[1] In Germany mainly pumped-storage power plants.

2022	Sweden	Finland	Denmark	Germany	Netherlands	UK	Total
Installed capacity electricity, MW, 31 December 2022							
Hydro power[1]	8,341	136	–	2,807	24	–	11,308
Nuclear power	3,735	–	–	–	–	–	3,735
Fossil-based power	699	–	–	3,653	3,407	–	7,759
– of which, gas	–	–	–	1,382	3,407	–	4,789
– of which, hard coal	–	–	–	2,235	–	–	2,235
– of which, oil and other	699	–	–	36	–	–	735
Wind power	367	–	1,312	310	491	1,018	3,497
Biomass, peat, waste	189	–	–	26	1	–	216
Solar power	–	–	–	15	60	–	75
Total	**13,331**	**136**	**1,312**	**6,811**	**3,983**	**1,018**	**26,591**
Installed capacity heat, MW, 31 December 2022	**2,122**	**–**	**–**	**5,609**	**1,470**	**–**	**9,201**
Generated electricity, TWh							
Hydro power[1]	35.8	0.3	–	3.2	0.0	–	39.3
Nuclear power	26.7	–	–	–	–	–	26.7
Fossil-based power	–	–	–	5.9	10.3	–	16.3
– of which, gas	–	–	–	4.2	10.3	–	14.5
– of which, hard coal	–	–	–	1.7	–	–	1.7
– of which, oil and other	–	–	–	0.1	–	–	0.1
Wind power	0.6	–	5.0	1.3	1.1	2.7	10.7
Biomass, peat, waste	0.2	–	–	0.1	–	–	0.3
Solar power	–	–	–	0.0	0.1	–	0.1
Total	**63.3**	**0.3**	**5.0**	**10.6**	**11.5**	**2.7**	**93.4**
Produced heat, TWh	**3.2**	**–**	**–**	**9.8**	**1.4**	**–**	**14.4**
CO_2 emissions per country, Mtonnes	0.2	–	–	4.8	4.4	–	9.4

[1] In Germany mainly pumped-storage power plants.

Glossary

Ancillary services: Are purchased by the Transmission System Operator in order to ensure a balanced and reliable electric power system and can be provided from power plants, assets with flexible electricity consumption, or energy storage. There are different types of ancillary services where the requirement on endurance and speed differ.

Availability: Refers to technical availability, which is the percentage of planned production time for an asset without unexpected technical difficulties or maintenance needs.

Bankable: Refers to something that is deemed acceptable or suitable for financial support from e.g. institutional investors or approval from a bank or financial institution.

Biomass: Renewable fuel, such as forest residues, bark and pine oil.

Carbon capture, utilisation and storage, (CCUS): A process that involves the capture of CO_2 from sources, such as fossil fuel -powered power generation or industrial facilities. The CO_2 can also be captured directly from the atmosphere. If not being used on-site, the captured CO_2 is compressed and transported by pipeline, ship, rail or truck to be used in a range of applications, or injected into deep geological formations for permanent storage. CCUS using biomass as a fuel is called bio-CCUS.

CHP (combined heat and power): A plant that produces both heat and electricity. In such a plant a large share of the primary energy is used for electricity and heat production, with little wasted heat.

Circular economy: A circular economy is a framework for sustainable growth – with the overarching goal to reduce society's resource use and the resulting environmental impact.

Co-location/Co-use: The act of placing or using two or more facilities, activities or assets in a single location. For example, agrivoltaic is the combination of sustainable agriculture and solar power generation on the same agricultural land.

Corporate Power Purchase Agreement (cPPA): A Corporate Power Purchase Agreement is usually a long term agreement between a renewable energy generator and a corporate customer or an organisation.

Decentralised production/energy solutions: Any form of energy provision that is not provided from the central electricity grid, for example local power generation such as rooftop solar panels, heating solutions including heat pumps and storage technologies.

Derivative instrument: A derivative is a financial instrument that is commonly used to manage risk. The value and change in value of derivative instruments are derived from the value of an underlying asset, which can be commodities, precious metals, currency, bonds, stocks, and similar. Examples of derivative instruments are options, forward contracts, and swaps.

Develop-to-sell: Refers to projects that are developed to be sold at completion as opposed to projects that are being built to own.

Dispatchable electricity source: Sources of electricity that can be readily turned on and off and used to adjust the supply of power to the grid on demand.

Efficiency: An efficiency rating indicates the relationship between energy input and energy output in a system.

Electrofuel: Electrofuel is categorised as a sustainable aviation fuel since the only inputs to the process of making electrofuel are fossil-free electricity, water and recycled carbon dioxide (in contrast to virgin fossil feedstock). Electricity will be mainly used to make hydrogen via electrolysis which together with carbon dioxide can be converted into ethanol and next converted to aviation electrofuel.

EPD: Environmental Product Declaration – a third-party environmental declaration in accordance with ISO 14025 (www.environdec.com).

EU ETS: The EU Emissions Trading System. The EU's trading system for CO_2 emission allowances. The system sets a cap for emissions from businesses within the system and facilitates optimisation through trading in emission allowances.

Forced labour: All work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.

Forward market: A market in which buyers and sellers agree on a set price for a future delivery of the underlying instrument, such as an electricity contract (see also derivative instrument).

Fossil fuels: Fuels based on hydrocarbons from ancient sedimentary layers – mainly coal, oil and natural gas.

Global Compact: The United Nations' (UN's) ten principles for companies surrounding human rights, labour issues, the environment and anti-corruption.

GRI: Global Reporting Initiative – a global standard for sustainability reporting. (see https://www.globalreporting.org/)

Guarantee of origin: Guarantees certify how and where electricity was produced from renewable sources.

High-risk minerals: Minerals that are mined in an area of armed conflict and traded illicitly to finance the conflict; deemed essential to the energy transition which may have no viable substitutes, and may face potential disruption in supply; or considered rare earth elements (REE).

HOB (Heat only boiler): A plant that produces heat for district heating as its sole output.

Hydrogen: Hydrogen as a fuel source can be produced in several different ways and is typically categorised into different colours depending on the production process. Grey hydrogen is currently the most common form of hydrogen production where the hydrogen is created from natural gas using steam reforming.

Blue hydrogen is also extracted using the steam reforming process, but the carbon emissions released from the production process are captured and stored. Green hydrogen doesn't generate any emissions in its entire life cycle as it is produced by electrolysing water using renewable energy.

IFRS: International Financial Reporting Standards – Vattenfall has been reporting in accordance with IFRS since 2005.

Installed capacity: Also known as nameplate capacity. Refers to the maximum amount of electricity that a power plant can produce under specific conditions according to the design data. Commonly measured in MW (Megawatt).

ISO 14001: An international standard in the ISO 14000 series for establishing environmental management systems.

Just Transition and Responsible Decommissioning: A process involving employers, unions, governments and communities, planning and delivering the transition of economies, sectors, and companies to low carbon, socially just and environmentally sustainable activities. At the company level, a just transition is process that plans emissions reduction efforts to maximise positive impacts and minimise negative impacts on workers and communities through retention and redeployment, skills training, new job creation, social inclusion and community renewal.

LEC (Levelised Energy Cost): The average cost of production per kilowatt hour electricity, calculated over the full lifetime of the generating asset. The net present value method is used to discount future costs with the weighted average cost of capital (WACC).

Life cycle analysis (LCA): Methodology to establish a product's total environmental impact during its life cycle, from raw material extraction, through manufacturing processes and usage, to waste management, including all transportation and energy consumption.

LTI (Lost Time Injury): Work-related accidents resulting in absence longer than one day, and accidents resulting in fatality. Commonly expressed as LTIF, or Lost Time Injury Frequency, the number of such accidents per 1 million hours worked.

Margin call: Margin is collateral and funds that are collected to protect against future or current risk exposures resulting from market price changes or in the event of a counterparty default. A margin call occurs when the price of the underlying asset changes.

Nord Pool: The Nordic electricity exchange. Started in Sweden and Norway in 1996.

NOX: Collective term for nitrogen oxide, nitrogen dioxide and similar nitrogen compounds.

NPS (Net Promoter Score): NPS is a score ranging from -100 to 100 that measures the willingness of customers to recommend a company's products or services to others and is used to determine customers' overall satisfaction with a company and loyalty to the brand.

Offtaker: An offtaker is a party that, in advance, agrees to buy or sell goods that are still to be produced. In the energy market, this typically refers to the party that buys electricity through a PPA (see below).

OTC (Over the Counter): Trading outside of exchanges (directly or via brokers) in physical and financial contracts.

Particulate Matter: Particulate matter consists of a mixture of solids and liquid droplets. Some particulate matter is emitted directly, otherwise it forms when pollutants emitted by various sources react in the atmosphere. Particulate matter comes in different sizes, with that smaller than 10 micrometers able to enter our lungs and cause serious health problems.

Plannable production: See Dispatchable electricity source,

Power-as-a-service (PaaS): A business model which provides major energy users with guaranteed power services in exchange for a fixed monthly fee.

Power-to-Heat: Converting electricity to heat using electric boilers combined with hot water storage. With Power-to-Heat systems, the excess power generated primarily from renewable energy can be utilised later as district heating.

Power-to-X: An umbrella term referring to the conversion of electricity to an energy carrier, heat, product or raw material. Power-to-X includes e.g. power-to-gas, power-to-liquid, power-to-chemicals and power-to-heat. More specific examples are production of hydrogen, methane, ammonia, methanol, jet fuel, diesel etc. using electricity as the primary energy source.

Power Purchase Agreement (PPA): A PPA is a long term supply contract where usually a renewable electricity generator agrees to sell fossil free electricity to a third-party buyer, often an energy supplier. The generator typically wants to reduce its risk and secure a stable source of income.

Price areas: The Nordic electricity system is split into 15 price areas (or bidding areas) and generated electricity is always priced in the area where it is geographically located.

Primary energy: Primary energy is the form of energy that is accessible directly from the original sources. Vattenfall uses the interpretation applied by Eurostat and IEA. This means that all fuels are assigned a primary energy content corresponding to their heating value. Uranium is assigned a primary energy content corresponding to the heat released in the power plant. Solar, wind and hydro power are assigned a primary energy content corresponding to the extracted electricity (or heat).

Psychological safety: An environment where there is a shared expectation that one will not be embarrassed, rejected, or punished for sharing ideas, taking risks, or soliciting feedback.

Renewable energy sources: Non-finite energy sources such as hydro power, biomass, wind, the sun, ocean waves and geothermal energy.

Reservoir levels: Refers to the volume of water stored in a reservoir which on a specific occasion can be used for hydro power generation. Reservoir levels vary during the year depending on precipitation and hydro power generation.

SAIDI (System Average Interruption Duration Index): An index of average power interruption times within electricity distribution. Measured in terms of interruption duration per customer and year.

SAIFI (System Average Interruption Frequency Index): An index of average power interruption frequency within electricity distribution. Measured in terms of the number of power interruptions per customer and year.

SF6: A greenhouse gas commonly used for electrical insulation that is 15,000 times more potent than CO_2.

SKB: Svensk Kärnbränslehantering AB (The Swedish Nuclear Fuel Management Company) – responsible for handling radioactive waste in Sweden.

Small modular reactor (SMR): A type of nuclear reactors that are smaller and more flexible than conventional reactors, typically with an electrical power output of up to 300 MW per unit. Due to a modular and standardised design, components of SMRs can be pre-manufactured in a factory, then assembled, commissioned and operated at a separate site.

Smart meter: Smart meters replace existing gas and electricity meters and is usually an electronic device that records information such as consumption of electric energy, voltage levels, current, and power factor of an installation or building. They also have the ability to send and store meter readings automatically and at regular intervals over the internet.

SOx: Collective term for sulfphur oxides, sulfur dioxide and similar sulfur compounds.

Spot market: A market in which trading is conducted for immediate delivery.

Swap: A financial instrument that is a combination of a spot and forward transaction – a type of financial swap agreement.

Thermal power: Electricity generated via a heating process, such as a gas turbine or a steam process in a coal or nuclear power plant (compare combined heat and power).

TPI (Third Party Integration): A process in which excess or waste heat, which would otherwise be released to the atmosphere, is captured from the industrial facilities in which it is produced and integrated into the district heating network.

Value Chain: All activities, operations, business relationships and investment chains of an undertaking and includes entities with which the company has a direct or indirect business relationship, upstream and downstream.

Volatility: A measure of how the price of a product varies during a given period of time.

Whistleblowing: A procedure that is voluntarily implemented by Vattenfall and which allows employees, contractors, suppliers, partners and other external and internal stakeholders to report serious irregularities and other complaints at Vattenfall.

For definitions of financial key ratios, see pages 194–195.

Power units
- Power is energy per unit of time
- Power output is measured in watts (W)
- 1 kW (kilowatt) = 1,000 W
- 1 MW (megawatt) = 1,000 kW
- 1 GW (gigawatt) = 1,000,000 kW

Energy units
- Energy is power multiplied by time
- 1 kWh (kilowatt hour) = 1 kW in one hour
- 1 MWh (megawatt hour) = 1,000 kWh
- 1 GWh (gigawat hour) = 1,000,000 kWh
- 1 TWh (terawatt hour) = 1,000,000,000 kWh

Weight units
- ktonnes (kilotonnes) = 1,000 tonnes
- Mt or Mtonnes (megatonnes) = 1,000,000 tonnes

Voltage
- 1 kV (kilovolt) = 1,000 volts (V)

Financial calendar 2024

29 April
Annual General Meeting

19 June
Interim report January–June

30 April
Interim report January–March

31 September
Interim report January–September

Forecasts and forward-looking statements
This document contains forward-looking statements that are based on Vattenfall's current expectations. Even if Vattenfall's management believes that these expectations are reasonable, no guarantee can be made that these expectations will prove to be correct. The forward-looking statements herein pertain to risks and uncertainties that could have a material impact on future earnings. The statements are based on certain assumptions, including such that pertain to financial conditions in general in the company's markets and the level of demand for the company's products. The outcome may vary significantly compared with what is presented in the forward-looking statements, depending on, among other things, changed conditions regarding the economy, markets and competition, legal requirements and other political actions and variations in exchange rates, as well as other factors referred to in the administration report. This English version of Vattenfall's Annual and Sustainability Report is a translation of the Swedish original, which is the binding version.

Rounding differences may occur in this document.

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About Vattenfall's financial reports
Vattenfall's financial reporting includes interim reports, the year-end report and the annual report. In addition to these reports, the company issues financial information via press releases and on Vattenfall's websites.

Vattenfall's Annual and Sustainability Report 2023 is published in Swedish and English.
All financial reports are available on Vattenfall's websites.
The reports are only available digitally for downloading and can therefore not be ordered in printed versions.

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Photos chapter entries: Strategy: Carpe Futurum Heating Plant, Uppsala, Sweden. Rickard Sund.
Operating Landscape: Bläkliden Fäbodberget On Shore Wind farm, Åsele and Lycksele, Sweden. Marcus Bäckström. **Operating Segments:** Boden Hydro Power Plant, Boden, Sweden. Jennie Lind.
Sustainanbility: Haringvliet Zuid Solar Park, Netherlands. Rickard Sund.
Risk Management: Hollandse Kust Zuid Off Shore Wind farm, Netherlands. Charles Walker.
Corporate Governance Report: Vattenfall's office, Berlin, Germany. De Winder.
Financial information: Forsmark Nuclear Power Plant, Östhammar. Sweden. Eva Fischer.
Other: Dublin, Irland. Getty Images/Russel Healy.

Production: Vattenfall AB in cooperation with Hallvarsson & Halvarsson.

A renewed Vattenfall with a clear purpose

For more than 100 years we have electrified industries, powered people's homes and modernised our way of living through innovation and cooperation. Our purpose is clear. We want to enable the fossil freedom that drives society forward.
But to succeed, it is not enough that we alone are fossil free. It is for this reason that we are looking beyond our own production. Only then can we truly make a difference.

Energy and solutions from a broader perspective

We view our responsibility from a broader perspective. With our capabilities, we are now contributing to change on a much larger scale, and we are leading the shift to fossil-free sources of energy – even beyond our own production. This means that we are finding new and innovative fossil-free ways of producing and delivering power to our customers.
But it also means that – together with our partners and customers – we are electrifying important industrial manufacturing processes, transports, and other areas in which we can reduce or entirely eliminate CO_2 emissions.

Ability and capacity to enable fossil freedom

Climate change is a global problem that requires major, sweeping solutions. Vattenfall has operations in most countries in northern Europe. We are one of Europe's largest producers and retailers of electricity and heat. By using our engineering know-how in all parts of the value chain – production, distribution, and sales to customers – we can develop solutions and innovations that are bringing us closer to our goal. We are helping our customers live more energy-efficiently by making sure they can choose smart technologies for producing their own electricity or heat, and change over to cleaner alternatives that are both affordable and easy to use.

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