

Vattenfall

Credit Suisse 2021 Virtual Global Energy Conference
9 June 2021



VATTENFALL

Group overview




VATTENFALL


This is Vattenfall


In Brief


- Vattenfall is a leading European energy company
- We want to make **fossil-free living possible within one generation**
- We are driving the transition to a more sustainable energy system through growth in renewable production and climate smart energy solutions for our customers
- **100 per cent owned by the Swedish State**
- Our long-term credit ratings are **BBB+ stable outlook by S&P and A3 negative outlook by Moody's**

 **6.8 Million**
Electricity customers

 **1.8 Million**
Heat customers

 **3.3 Million**
Electricity grid customers

 **2.3 Million**
Gas customers

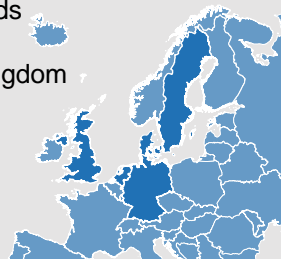
 **19,859**
Employees

Activities in the Value Chain ● Active ● Inactive

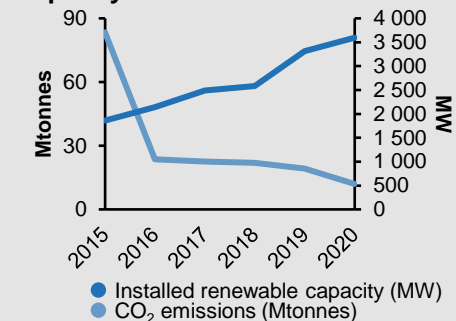


Main markets

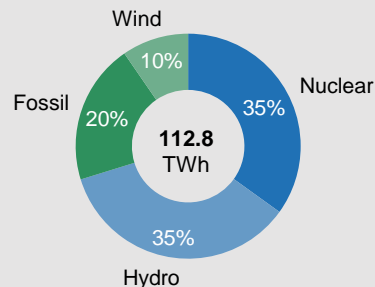
- Sweden
- Germany
- Netherlands
- Denmark
- United Kingdom



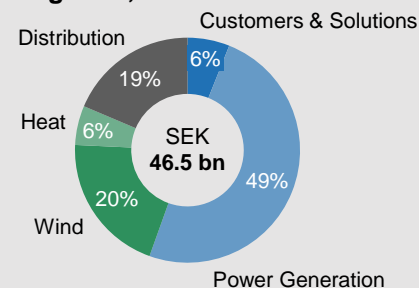
CO₂ emissions & Renewable capacity



Electricity generation breakdown by technology, 2020



EBITDA breakdown by segment, 2020



Operating segment overview FY 2020

Operating segments

We report our operations broken down by the Group's operating segments: Customers & Solutions, Power Generation, Wind, Heat, and Distribution. The operating segments reflect our Business Area organisational structure except for the Power Generation segment, which is divided into the Generation and Markets Business Areas

Number of Employees as of 31 December 2020¹

Customers and Solutions	2,971
Power Generation	7,474
Wind	1,104
Heat	3,213
Distribution	2,366
Other ²	2,731

¹ Full-time equivalents

² Pertains mainly to Staff Functions and Shared Service Centres

³ Numbers reflect FY 2020

⁴ Excluding Ringhals 1 nuclear reactor that was closed at the end of 2020

Customers & Solutions

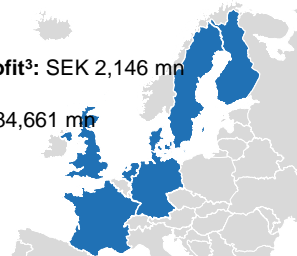
Responsible for sales of electricity, gas and energy services in all of Vattenfall's markets

- A market leader in Sweden with nearly 900,000 electricity contracts
- A market leader in the Netherlands with 3.8 million electricity and gas contracts
- Leading position as electricity supplier in Berlin and Hamburg
- Challenger position in sales of electricity in Denmark, Finland and France and in France also of gas
- Operates 22,400 EV charging points in Sweden, Germany and the Netherlands

Underlying Operating Profit³: SEK 2,146 mn
(8% of total)

External Net Sales: SEK 84,661 mn
(53% of total)

EBITDA: SEK 2,832 mn
(6% of total)



Power generation

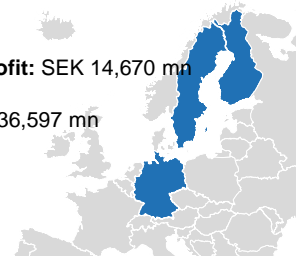
Responsible for Vattenfall's hydro and nuclear power operations, maintenance services business, and optimisation and trading operations, including certain large business customers

- Operates a portfolio with 5.5 GW⁴ nuclear capacity and 11.5 GW hydro power capacity across Sweden, Finland and Germany
- One of Europe's largest providers of fossil-free electricity, with 39.7 TWh from hydro power and 39.3 TWh from nuclear power
- Provides professional asset optimisation services and market access, and a leading player in PPA markets in northwest Europe

Underlying Operating Profit: SEK 14,670 mn
(54% of total)

External Net Sales: SEK 36,597 mn
(23% of total)

EBITDA: SEK 23,144 mn
(49% of total)



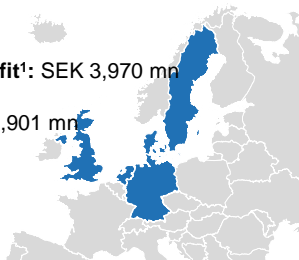
Operating segment overview FY 2020 (Cont'd)

Wind

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

- One of the largest producers of offshore wind power in the world
- One of the largest producers of onshore wind power in Denmark and the Netherlands
- Strong wind power pipeline with 3 GW under construction and over 4 GW in development
- Front-runner in innovative solutions in solar & batteries, such as colocation with wind farms and shared infrastructure

Underlying Operating Profit¹: SEK 3,970 mn
(15% of total)
External Net Sales: SEK 6,901 mn
(4% of total)
EBITDA: SEK 9,482 mn
(20% of total)

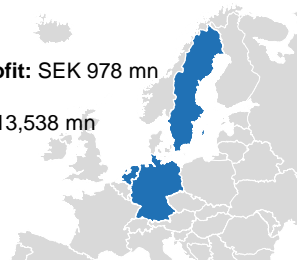


Heat

Responsible for Vattenfall's heat operations including sales, decentralised solutions and gas-fired condensing

- One of Europe's leading providers of district heating in large metropolitan areas with approximately 1.8 million end customers
- Strong partnerships with cities for realisation of their carbon reduction plans, supported by a track record of fulfilling previous reduction targets
- Heat production and distribution systems used as platforms to integrate other energy solutions, e.g. cooling, EV charging solutions, wind and solar

Underlying Operating Profit: SEK 978 mn
(4% of total)
External Net Sales: SEK 13,538 mn
(9% of total)
EBITDA: SEK 2,644 mn
(6% of total)

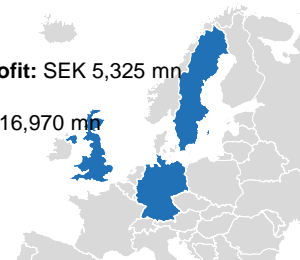


Distribution

Responsible for Vattenfall's electricity distribution operations in Sweden, Germany (Berlin) and the UK

- Leading operator of regional electricity distribution grids and top-3 position in local grids in Sweden
- Approximately 3.3 million business and household customers in Sweden and Berlin, Germany
- Unit for operation and ownership of new grids in the UK established in 2017 has now been awarded its first three contracts.

Underlying Operating Profit: SEK 5,325 mn
(20% of total)
External Net Sales: SEK 16,970 mn
(11% of total)
EBITDA: SEK 8,713 mn
(19% of total)



¹ Numbers reflect FY 2020

Vattenfall's value chain



Production

Production from

- Hydro
- Nuclear
- Coal
- Natural gas
- Wind
- Solar
- Biomass
- Waste

Actively phasing out fossil-based production



Electricity distribution

- Guarantees secure supply via well-functioning distribution networks and smart network solutions
- Enables customers to feed self-generated electricity into the grid ("prosumers")



Sales of electricity, heat and gas

- Sells electricity, heat and gas to consumers and business customers
- Focuses on various price and service models, and gives customers the opportunity to reduce their environmental impact



District heating

- Drives the transformation towards fossil-free heating and cooling solutions together with cities and regions
- One of Europe's largest producers and distributors of district heating



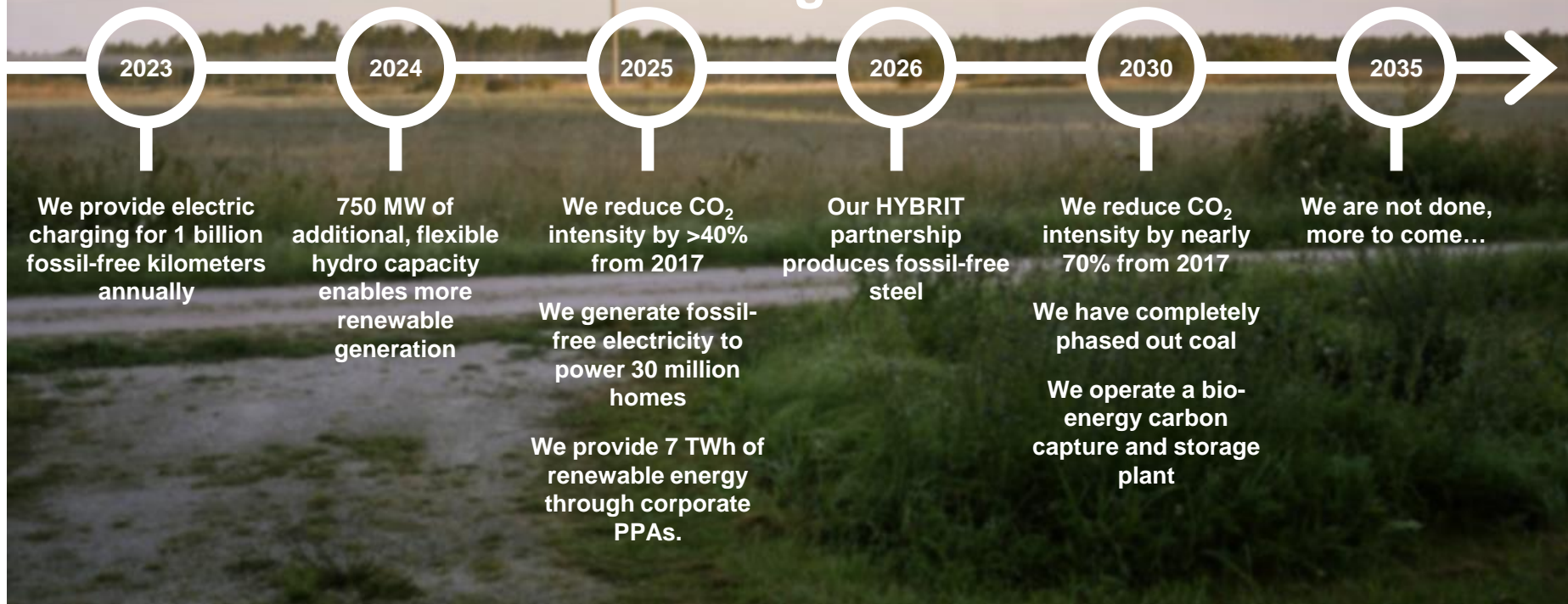
Energy services and decentralised generation

Offers energy services

- Heat pumps
- Solar panels
- Charging solutions for electric vehicles
- Battery storage
- Network services
- Smart meters

Provides marketplaces and access to marketplaces where customers can buy and sell electricity

Our milestones towards fossil-free living within one generation



Sustainability is fully integrated in our strategy

Enabling fossil-free living within one generation



VATTENFALL

A strategy based on an “integrated utility logic”

To enable our goal of fossil-free living within one generation

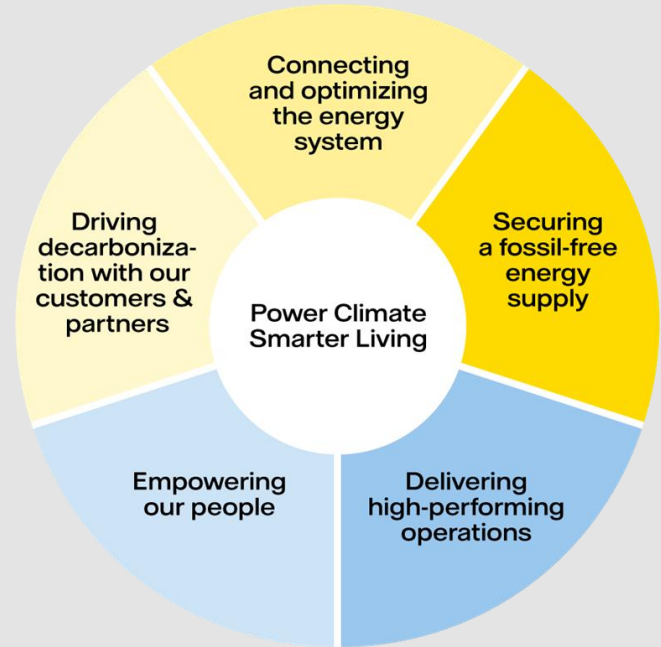
We believe being active in the whole value chain is strategically important:

It increases our competitive advantage in eg. wind auctions, by enabling stable revenues through Corporate PPAs with our customers

Access to renewable volumes on the customer side differentiates us from competitors as fossil-free electricity becomes more scarce

The ability to optimise dispatch across both customer loads and supply brings optimal value of a total portfolio

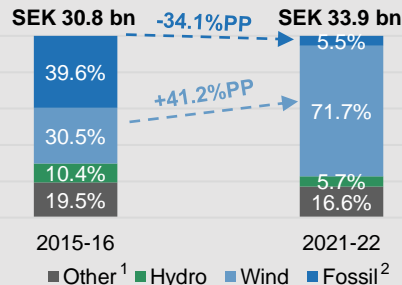
Diversifying and reducing total portfolio risk means lower cost of capital and an ability to take on more debt



Significant shift in production portfolio over the past 5 years

The shift has accelerated with large investments in renewables and phase out of fossil production

CAPEX by technology



Major investments in renewable projects

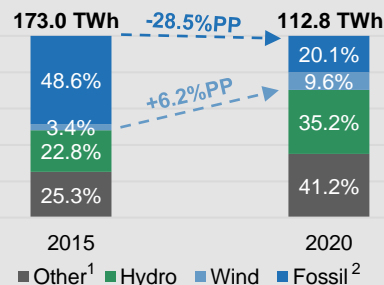
- Around SEK 23 billion of investments are planned for new wind farms, both onshore and offshore
- Recent milestones:
 - Final investment decision for Hollandse Kust Zuid 1-4 offshore wind farm in the Netherlands, the world's largest offshore wind farm when commissioned in 2023
 - Major onshore projects in the Nordics and the UK (Blakliden & Fäbodberget, South Kyle)
 - Proof of concept in solar & batteries ready for scaling up and innovative solutions such as co-location with wind farms (Haringvliet, Battery at Pen y Cymoedd)

¹ Other includes nuclear, solar & batteries (CAPEX only) & biomass

² Includes hard coal and gas

³ Consolidated values for 2015. Consolidated emissions are approximately 0.5% higher than pro rata emissions, corresponding to Vattenfall's share of ownership

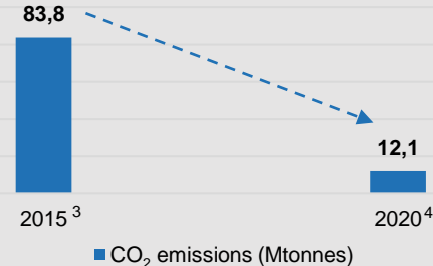
Electricity production mix



Share of fossil production has been reduced dramatically...

- Strong wind growth: 3.5 GW installed capacity; ~ 3 GW under construction and >4 GW in development
- Increased focus on decentralised production, storage and EV charging
- Coal-fired production has been phased out such as Reuter C in Berlin, Moorburg in Hamburg and Hemweg-8 in the Netherlands

CO₂ emissions



...and with this our CO₂ emissions

We sold the lignite business in 2016, which reduced our CO₂ footprint dramatically

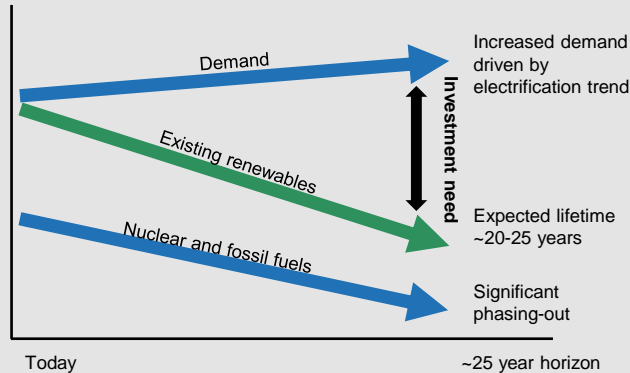
- We continue to identify further actions such as retiring coal fired power plants earlier than planned (such as Hemweg-8 in the Netherlands and Moorburg in Germany)
- We are also phasing out coal from all of our operations by 2030, at latest

⁴ Pro rata values, corresponding to Vattenfall's share of ownership

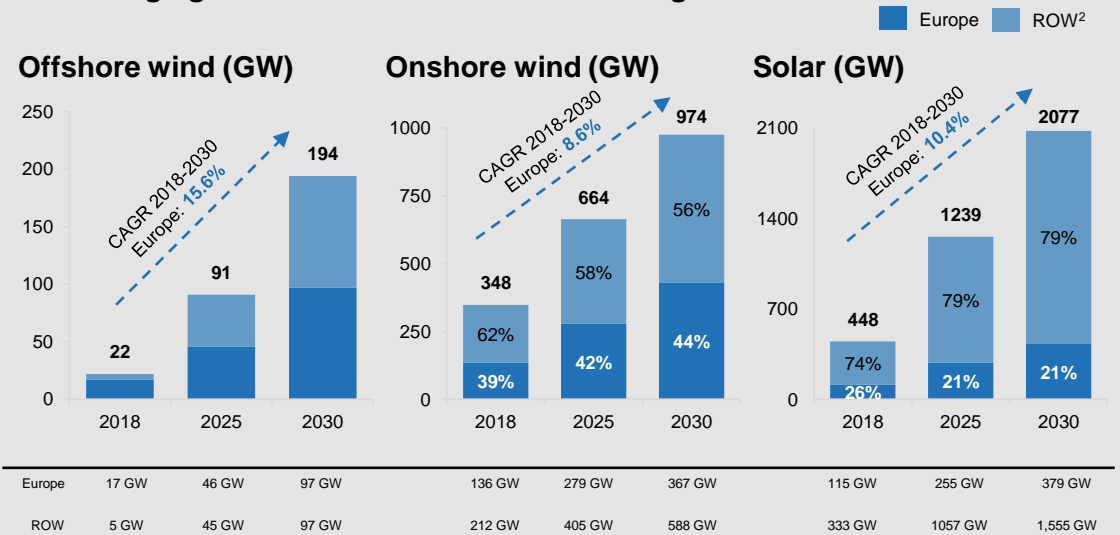
Europe continues to be a highly attractive growth market

Despite significant ramp-up in renewables, much more growth is expected in the coming decade

Increasing demand and phase-out of coal gives plenty of room for growth in Europe



Double-digit growth across renewable technologies until 2030¹



¹ Source: Bloomberg NEF

² ROW excludes China

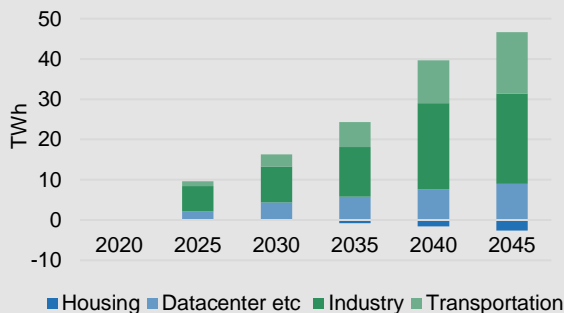
Energy transition to spur dramatic growth in electricity demand in Sweden

Electrification, growth in renewable production capacity and ageing assets call for large grid investments

Electricity demand set to grow due to electrification and new electricity intensive businesses

- Electrification of industry and transports to increase total electricity demand
- New businesses such as data centres and battery factories are also likely to have a significant impact
- Efficiency improvements in the residential sector only have a small mitigating effect on total demand

Forecast – Change in electricity demand (Sweden)¹



¹ Source: Nepp, Färdplan för fossilfri el, Aug 2019

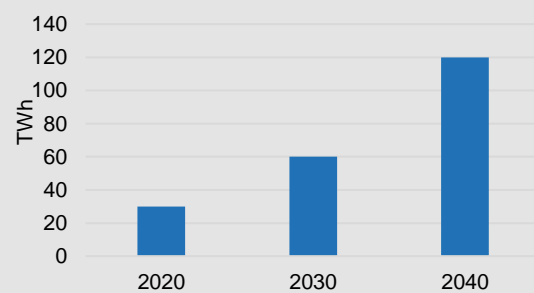
² Source: Svensk vindenergi, Färdplan 2040, Dec 2020

³ Asset base per 2020-01-01

Installed wind capacity continues to grow

- More and more capacity will be intermittent and decentralised
- Wind production is set to continue the growth in Sweden, mainly in the North and off the coast in Southern Sweden which increases the need for grid capacity

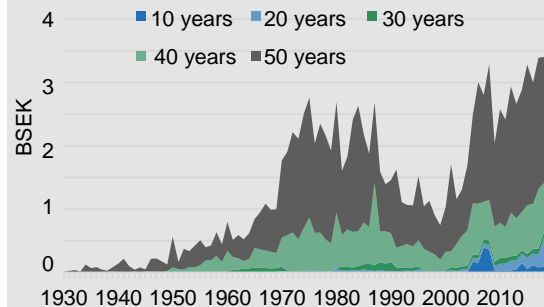
Forecast – wind power generation (Sweden)²



Existing grid assets are increasingly in need of reinvestments

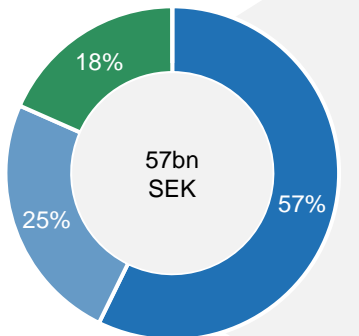
- There was a large build out of grid assets in 1970-1990. These assets are now reaching the age when they need to be reinvested in
- This is on top of the need to make new investments in the grid to accommodate more renewable energy and electrification

Asset age structure – Vattenfall Eldistribution³



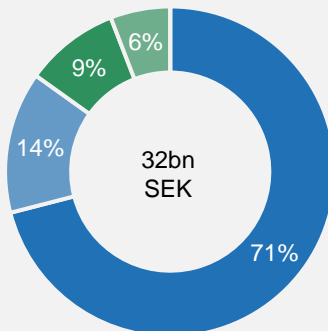
Future investments focused on renewables

**Total capex
2021-2022**



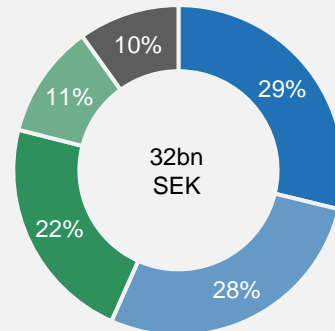
- Growth, 32 bn SEK
- Maintenance, 14 bn SEK
- Replacement, 10 bn SEK

**Growth capex per
technology 2021-2022**



- Wind power, 23 bn SEK
- Electricity distribution, 4bn SEK
- Heat supply, 3 bn SEK
- Other¹, 2 bn SEK
- Sweden, 0.2 bn SEK

**Growth capex per country
2021-2022**



- Netherlands, 9 bn SEK
- Denmark, 9 bn SEK
- UK, 7 bn SEK
- Sweden, 4 bn SEK
- Germany, 3 bn SEK

¹ Mainly charging solutions, solar and battery projects, decentralised solutions and the Hybrit project

Strategic targets 2025

Strategic focus area	Strategic targets to 2025	2025 Target	Actual 2020	Motivation
Driving decarbonisation with our customers & partners	Net Promoter Score ¹ (Absolute)	+18	+7 ²	Established and recognised as key to assess customer behaviours/attitudes
Securing a fossil-free energy supply	CO ₂ Emissions Intensity	≤86 gCO ₂ /kWh ³	97 gCO ₂ /kWh	Established in Science Based Targets. Industry standard
Empowering our people	LTIF	≤1.0	1.8	Safety first, best practise KPI
	Engagement Index	75	72	Engaged employees is a key factor for success
Delivering high-performing operations	FFO/Adjusted Net Debt	22-27 %	28.8%	Key metric in financial steering
	ROCE	8 %	5.8 %	Key metric in financial steering

¹ NPS absolute target is calculated with a weighting of 80% from Customers & Solutions and 20% from Heat resembling size of customer basis

² No outcome for business unit Heat Berlin in 2020, similar level as in 2019 assumed

Financial targets

Financial targets	Targets over a business cycle ¹	FY 2020	FY 2019	Comment
Profitability	Return on capital employed: $\geq 8\%$ ²	5.8%	8.5%	Return on capital employed decreased to 5.8%, which is below the target of 8%, mainly owing to impairment losses related to the Moorburg power plant in Hamburg
Capital structure	FFO/adjusted net debt: 22%–27%	28.8%	26.5%	FFO/adjusted net debt increased to 28.8% in 2020, mainly owing to lower adjusted net debt resulting from higher cash flow from operations
Dividend policy	Dividend: 40%–70% of the year's profit after tax	SEK 4.0 bn	SEK 3.6 bn	The Annual General Meeting decided on a dividend of SEK 4 billion equivalent to 62% of profit for the year attributable to the owner of the parent company for 2020

¹ 5–7 years

² The key ratio is based on average capital employed

To enable fossil-free living sets a focus on the full value chain

CO₂ emissions 2020

Suppliers

5

Mtonnes

Own operations

12

Mtonnes

Customers

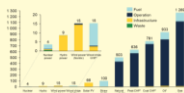
12

Mtonnes

Supplier dialogues
and requirements



Lifecycle
Assessments



Industry
collaborations



Reducing emissions
in line with scientific
limits



Growth in renewables



Reducing emissions
from employee
travelling



Climate smart
solutions for homes
and cities



City
partnerships

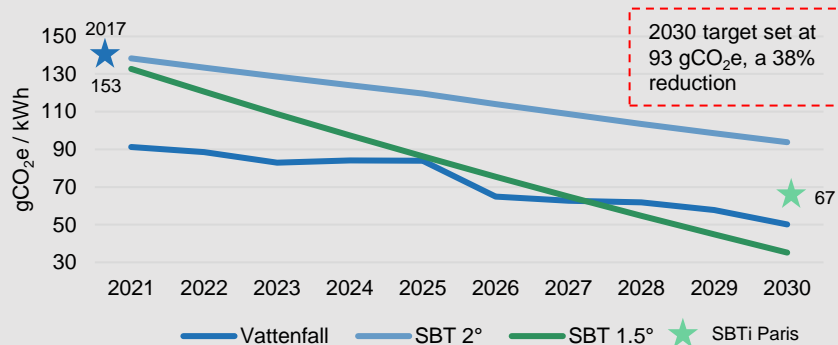


Environmental
product offerings



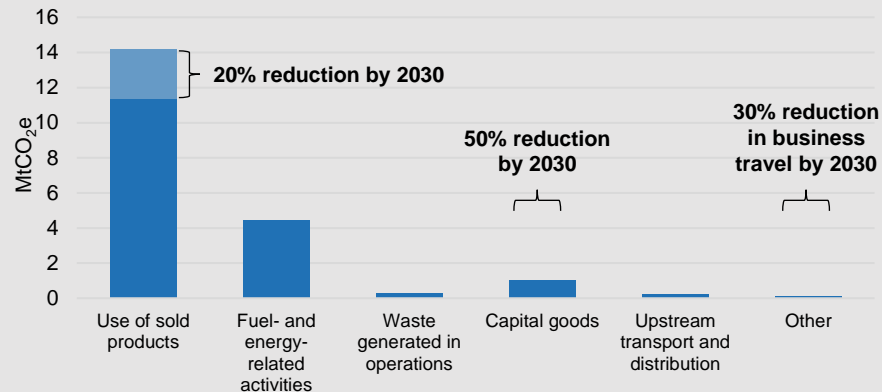
Vattenfall's 2030 emissions targets have been approved by the Science Based Target initiative (SBTi)

Projected Vattenfall Scope 1 & 2 CO₂ intensity vs. SBT scenarios



- Target set for 38% reduction from 2017-2030; more ambitious target under discussion
- New 2025 CO₂ intensity KPI set for 86 gCO₂e/kWh, in line with 1.5° trajectory
- Based on planned coal phase out by 2030 and expansion in wind + solar
- Requires continued successful execution of major projects

Vattenfall Total 2017 Scope 3 Emissions

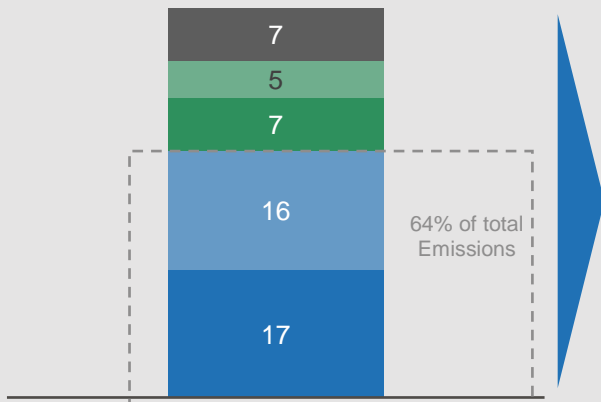


- Science-based target set for 20% reduction of emissions from use of sold products; more ambitious target under discussion
- Programmes are in place to reduce emissions in other categories but we have not included them in the target for the sake of simplicity.
- We will focus on further expanding non-fossil heating solutions such as heat pumps, solar thermal, non-fossil gas, and others

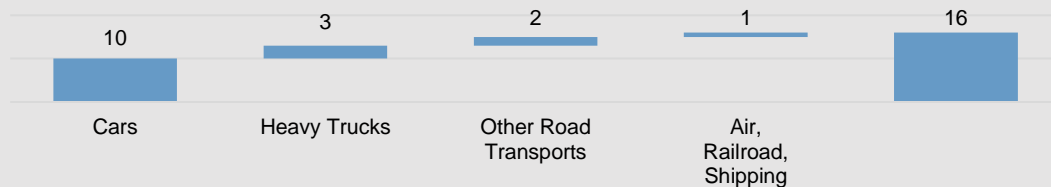
Committed to electrification of society

All sectors need to contribute to the transition and electrification will be a key abatement option for reaching the national and EU targets by 2030

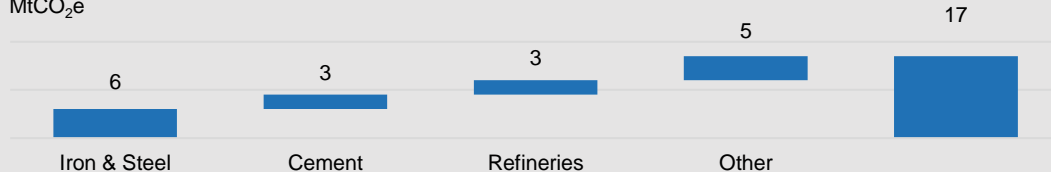
Total green house gas emissions
Sweden¹ (2018) 52 MtCO₂e



Transports
MtCO₂e



Industry
MtCO₂e



Ambitious EU and national targets are forcing emission trajectories downwards. This will accelerate the energy transition and **electrification** will be a key abatement option for reaching 2030 targets in **transport, industry and heat sectors**. In turn, these sectors drive demand for fossil-free electricity & heat, grid capacity and flexible solutions.

¹ Source: Swedish Environmental Protection Agency

Electricity - from a power source to a source of innovation

Together with our partners, we pave the way for a new generation of transports, industries and materials

Research project for
a carbon dioxide-
free steel industry



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Cooperation in large
scale bio-diesel
production



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Feasibility study on
electrified
cement production



VATTENFALL 

Electrification of
mines and smelters



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Co-operation for e-
mobility



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Green guaranteed
energy delivery
large customers,
e.g.



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Support of a major
enterprise for
battery production
in Sweden



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Northern Europe's
largest charging
network for e-
vehicles



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Powering
sustainable
datacenters



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Storage projects at a
number of wind parks



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Green financing



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Vattenfall's green bond framework

Use of proceeds - eligible categories with examples of technologies

Renewable energy and related infrastructure



- Wind energy
- Solar energy
- Biomass
- Geothermal
- Hydrogen

Electrification of transport and electrification of heating



- Infrastructure for electric vehicles
- Power to Heat

Energy efficiency



- Hydro power
- Smart grids/meters
- Fossil-free¹ district heating and cooling
- Energy recovery

Industry projects



- Activities enabling the transformation to fossil-free¹ production

¹ Fossil-free: not depending on fossil fuels for its own operations (e.g. for Vattenfall no fossil fuels for energy generation and no fossil products to customers)

Recent investment projects



Kriegers Flak

- Will be Denmark's largest offshore wind farm
- Scheduled to be operational by end of 2021
- The wind farm is estimated to reduce CO₂ emissions by 325 ktonnes per year
- Capacity: 605 MW
- Total investment: 7,600 MDKK

Princess Ariane

- Largest onshore wind farm in the Netherlands
- Electricity generated by the wind farm is used to power a nearby data centre
- Saving approximately 350 ktonnes of CO₂ emissions per year
- Completed in 2020
- Capacity: 301 MW
- Total investment: 394 MEUR

Hollandse Kust Zuid 1-4

- Will be the world's largest offshore wind farm once completed in 2023
- Project without subsidies in the Netherlands
- Renewable output equivalent to the annual consumption of over two million Dutch households
- Capacity: 1,500 MW
- Total investment: 2,600 MEUR

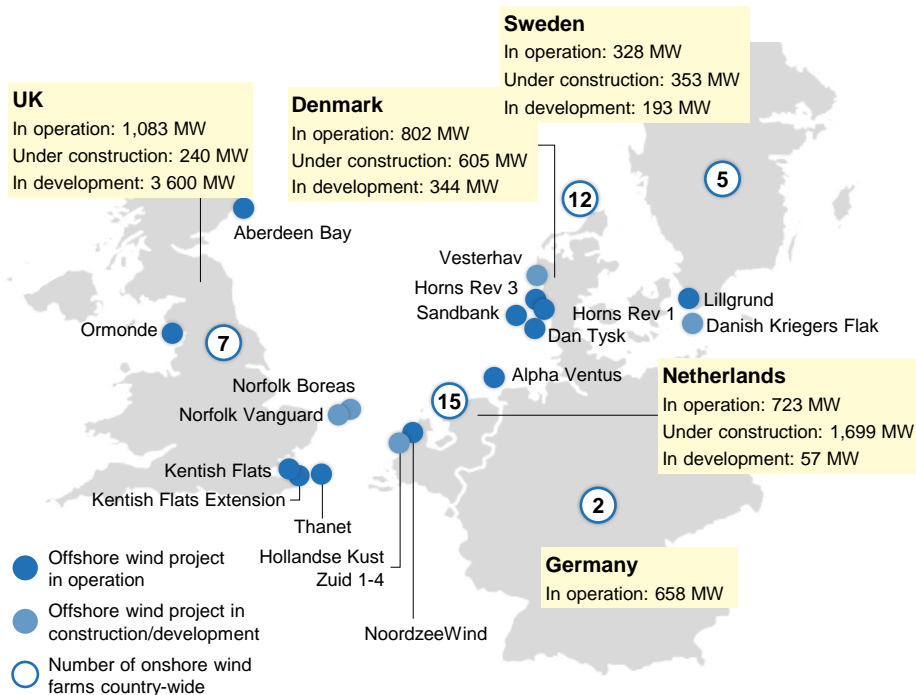
HYBRIT

- Pilot project in collaboration with SSAB and LKAB for development of a hydrogen-based process for fossil-free steel production
- If implemented at full scale, HYBRIT has the potential to reduce Sweden's CO₂ emissions by 10% and Finland's by 7%
- Total investment: 858 MSEK

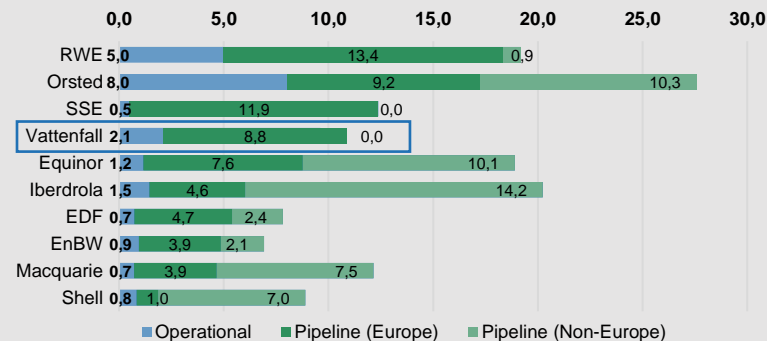
A leader in the European renewables transition

Strong position within offshore wind and extensive European pipeline ahead

Geographical overview – we develop, construct and operate wind and solar farms in our core European markets¹



Competitive landscape – Offshore capacity involved (GW)²



² Minority shares included as 100%, sorting based on operational projects and European pipeline
Source: 4C Offshore Wind Farm Database

Under construction and pipeline¹

~ 3 GW

Wind projects
under
construction

> 4 GW

Wind projects
in development

~ 1 GW

Solar projects
in development

~ 200 MW

Batteries
pipeline

¹ As of December 2020

Credit ratings overview



Long term rating: A3¹

Short term rating: P-2

Outlook: Negative

Latest publication: [4 February 2021](#)

- “Most of Vattenfall’s operating segments were overall stable and the company showed a high degree of resiliency throughout 2020. “
- “The company’s overall solid credit metrics were supported by a combination of (1) resiliency in its EBITDA generation (2) the company’s decision to halve its dividend payment last year (3) a very favorable movement in margins calls affecting working capital, which subsequently improved the company’s reported net debt figure (inflow of SEK 12.6 billion during last year, whereas 2019 saw an outflow of SEK 20.7 billion).”
- “We expect Vattenfall’s credit metrics to weaken in 2021 as power prices remain at low levels and with the company having locked in 69% of its Nordic output for the year at €28/ MWh (against achieved prices of €31/ MWh during 2020). In addition, Vattenfall’s heavy capital expenditure programme - amounting to net expenditures of SEK 57 billion over 2021 and 2022 - will weaken free cash flows in the current year.”



Long term rating: BBB+¹

Short term rating: A-2

Outlook: Stable

Latest publication: [4 February 2021](#)

- “Vattenfall managed to keep its operating performance relatively unchanged in 2020 compared with 2019, despite record low power prices, which we view as a support for the current rating.”
- “Profitability continues to be underpinned by its diversified earnings base, with increased contributions from the heat business divisions partly offsetting the lower contribution from its power generation segment, which was also supported by hedges in place.”
- “We anticipate that Vattenfall will gradually benefit from a recovery of Nord pool system spot prices in the Nordic region.”
- “Although a continued stronger-than-expected financial risk profile could lead to upside rating pressure, we believe that Vattenfall’s credit ratios will soften over 2021-2022. This is because investments are set to increase to about SEK 57 billion over 2021 and 2022, up from SEK 23.6 billion in 2020.”

¹ Rating factors in a one notch uplift given that Vattenfall is 100% owned by the Swedish state

Vattenfall key highlights

A leading European energy company with activities across the value chain

BBB+ stable outlook by S&P and A3 negative outlook by Moody's

100% Owned by Swedish State

Stable and predictable cash flow from electricity distribution and district heating

VATTENFALL 

Leading towards sustainable production

A significant transformation has already happened

Significant growth in renewable production and climate smart energy solutions

Experienced player in renewables and one of the leaders in wind power generation

Appendix



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Financial overview



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Vattenfall Q1 Results 2021

Financial highlights

Key data

SEK bn	Q1 2021	Q1 2020
Net Sales	45.9	48.2
EBITDA	17.7	16.9
Underlying operating profit (EBIT)	12.1	10.2
EBIT	13.4	12.3
Profit for the period	10.4	6.9
Funds from Operations (FFO)	14.0	12.2
Cash flow operating activities	11.1	-8.5
Net debt	43.9	81.6
Adjusted net debt	112.2	148.3
Adjusted net debt/EBITDA ¹ (times)	2.4	3.2
Financial targets		
ROCE ¹ (≥8%)	5.9	9.4
FFO/adjusted net debt ¹ (22-27%)	32.8	25.2

¹ Last 12-month values

Key developments

- Net sales decreased by SEK 2.2 bn to SEK 45.9 bn mainly due to negative currency effects (-1.8 bn). Lower sales volumes in the Netherlands and the B2B segment in France had an additional impact
- Underlying EBIT increased by SEK 1.9 bn mainly due to higher achieved prices, higher hydro power generation and higher realised trading result. Higher contribution from Heat also had a positive impact, mainly due to the closure of Moorborg
- Profit for the period increased to SEK 10.4 bn. The increase stems in addition to the increase in underlying operating profit, from higher returns from the Nuclear Waste Fund
- ROCE was 5.9% mainly due to impairments made in 2020
- FFO/Adjusted net debt (AND) increased to 32.8%, driven primarily by a decrease in AND. The decrease mainly stems from positive cash flow after investments which was supported by SEK 25 bn in positive working capital flows (mainly margin calls)

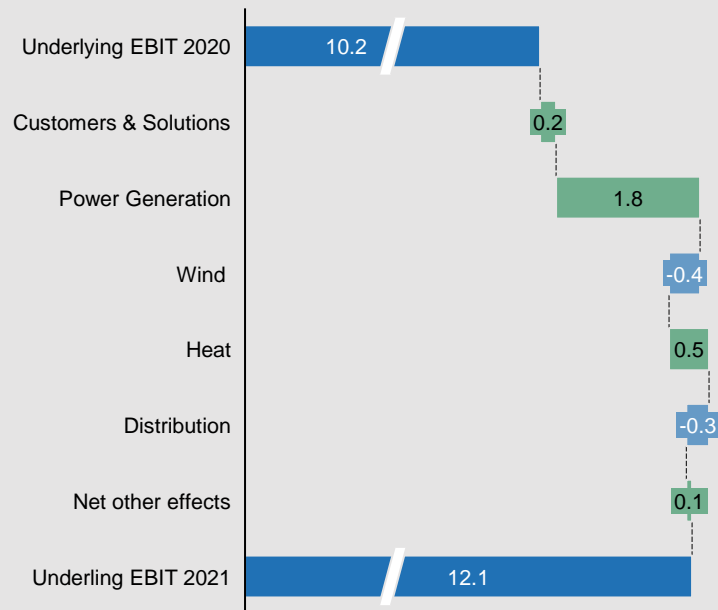


Development of underlying EBIT Q1 2021

Increase from Power Generation, Heat and Customers & Solutions

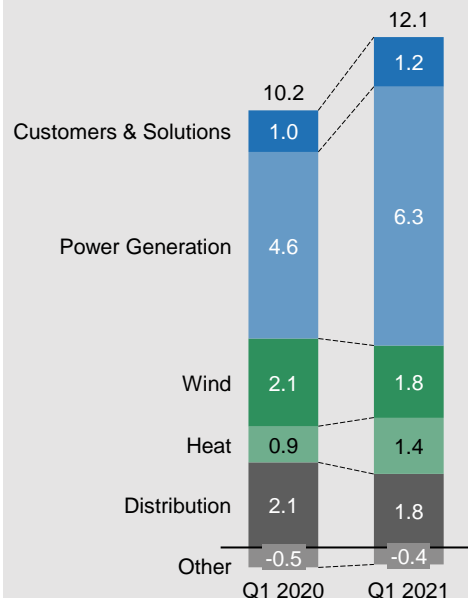
Change in Q1 2021 vs. Q1 2020

SEK bn



Breakdown per operating segment

SEK bn

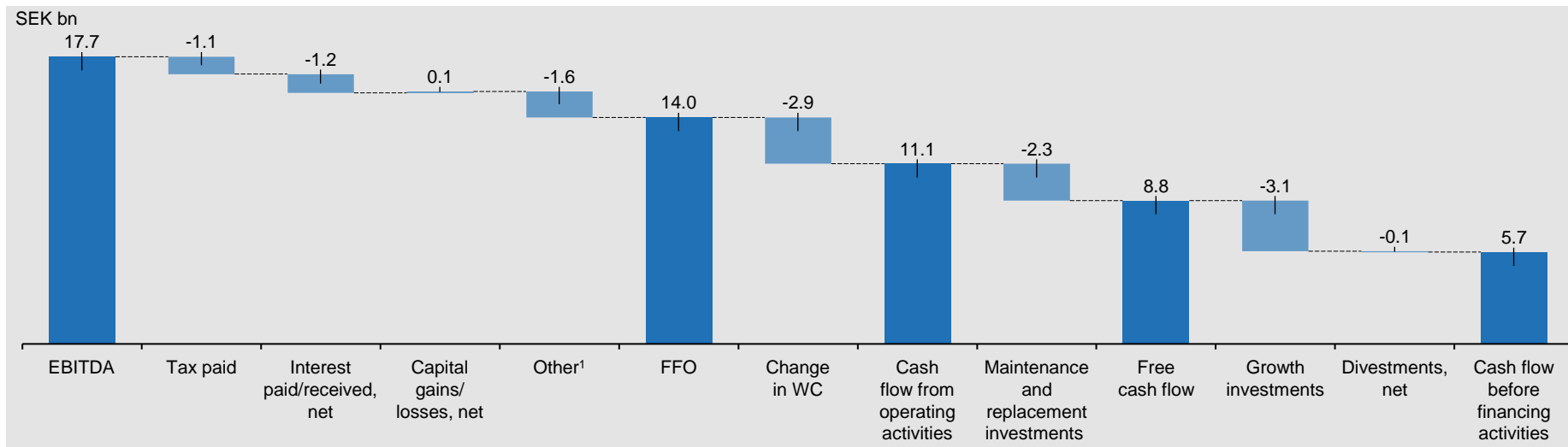


Highlights

- Customers & Solutions: More customers in Germany and lower temperatures in the Nordics
- Power Generation: higher achieved prices, higher hydro generation and higher realised earnings from trading. Partly countered by lower nuclear power generation due to closure of Ringhals 1
- Wind: low wind speeds and more maintenance work
- Heat: lower opex and depreciation due to closure of Moorborg and higher heat sales because of lower temperatures and a growing customer base. New plant Marzahn and Lichterfelde fully in operation also contributed
- Distribution: lower margin in the Swedish operations due to lower prices in the local network

Cash flow development Q1 2021

Higher working capital mainly due to seasonal effects within Customers & Solutions and Heat



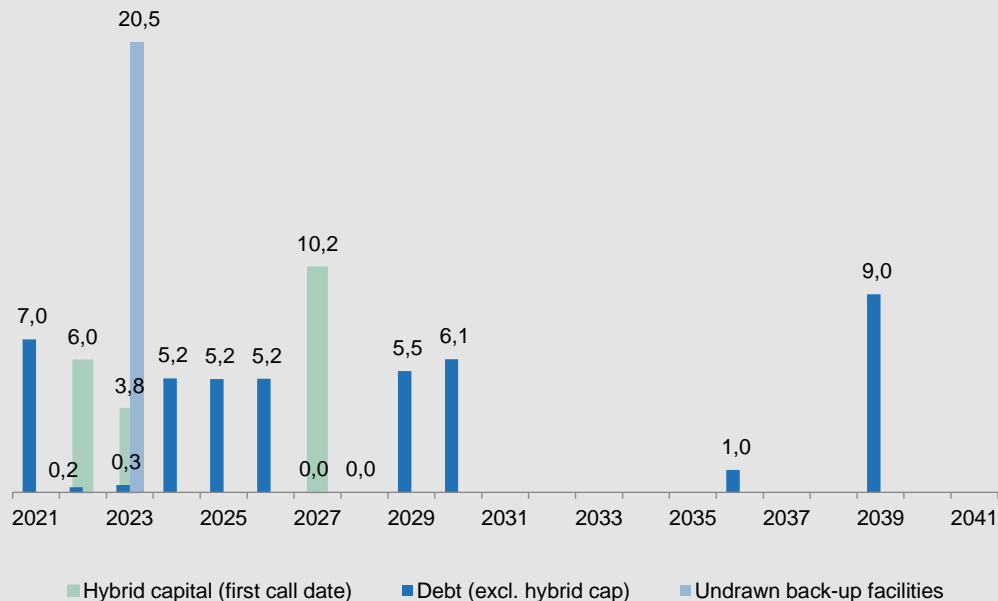
Main effects

- Change in working capital mainly driven by change in operating receivables and operating liabilities attributable to seasonal effects in the Customers & Solutions and Heat operating segments (SEK -5.4 bn), changes related to CO2 emission allowances (SEK -2.6 bn) and an increase in inventories (SEK -0.4 bn). Partly countered by the net change in margin calls (SEK 4.9 billion)
- Growth investments mainly related to wind power

¹ "Other" includes non-cash items included in EBITDA, mainly changes in fair value of commodity derivatives

Debt maturity profile¹

SEK bn



	31 Mar. 2021	31 Dec. 2020
Duration (years)	4.7	3.8
Average time to maturity (years)	6.5	5.1
Average interest rate (%)	2.8	3.4
Net debt (SEK bn)	43.9	48.2
Available group liquidity (MSEK)	43.3	50.8
Undrawn committed credit facilities (MSEK)	20.5	23.1

Cumulative maturities excl. undrawn back-up facilities

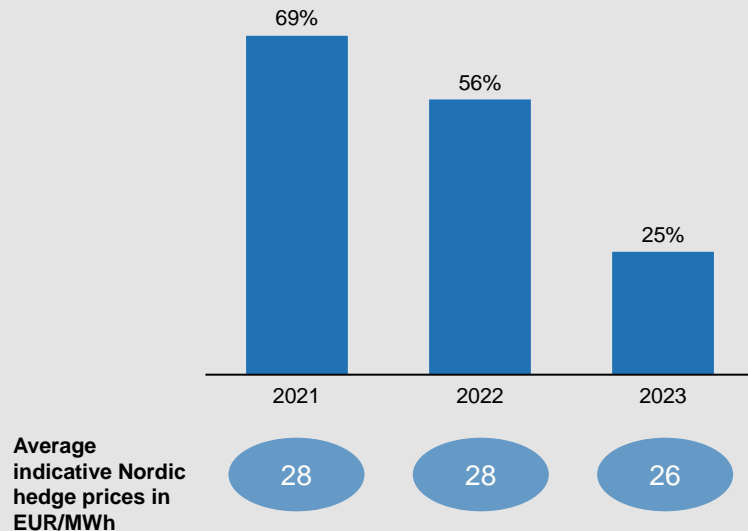
	2021- 2023	2024- 2026	From 2027
Debt incl. hybrid capital	17.3	15.5	31.9
% of total	27%	24%	49%

¹ Short term debt (Repo's and Commercial paper: 8.9), loans from associated companies, minority owners, margin calls received (CSA) and valuation at fair value are excluded. Currency derivatives for hedging debt in foreign currency are included.

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

Estimated Nordic¹ hedge ratio (%) and indicative prices



Achieved prices² - Nordic portfolio

Q1 2021	Q1 2020	FY 2020
33	27	31

Sensitivity analysis – Continental³ portfolio

Market quoted	+/- 10% price impact on future profit before tax, MSEK ⁴			Observed yearly volatility
	2021	2022	2023	
Electricity	+/- 251	+/- 417	+/- 1,574	20% - 27%
Coal	-/+ 42	-/+ 30	-/+ 14	19% - 21%
Gas	-/+ 39	-/+ 106	-/+ 774	19% - 28%
CO ₂	-/+ 33	-/+ 55	-/+ 396	50% - 51%

¹ Nordic: SE, DK, FI

² Achieved prices from the spot market and hedges. Includes Nordic (SE, DK, FI) hydro, nuclear and wind power generation

³ Continental: DE, NL, UK.

⁴ The denotation +/- entails that a higher price affects operating profit favorably, and +/- vice versa

Liquidity position

Group liquidity	SEK bn	Committed credit facilities	Facility size, EUR bn	SEK bn
Cash and cash equivalents	18.2	RCF (maturity Nov 2023)	2.0	20.5
Short term investments	29.3	Total undrawn		20.5
Reported cash, cash equivalents & short term investments	47.5			
		Debt maturities²		SEK bn
Unavailable liquidity ¹	-4.2	Within 90 days		0
Available liquidity	43.3	Within 180 days		2.0

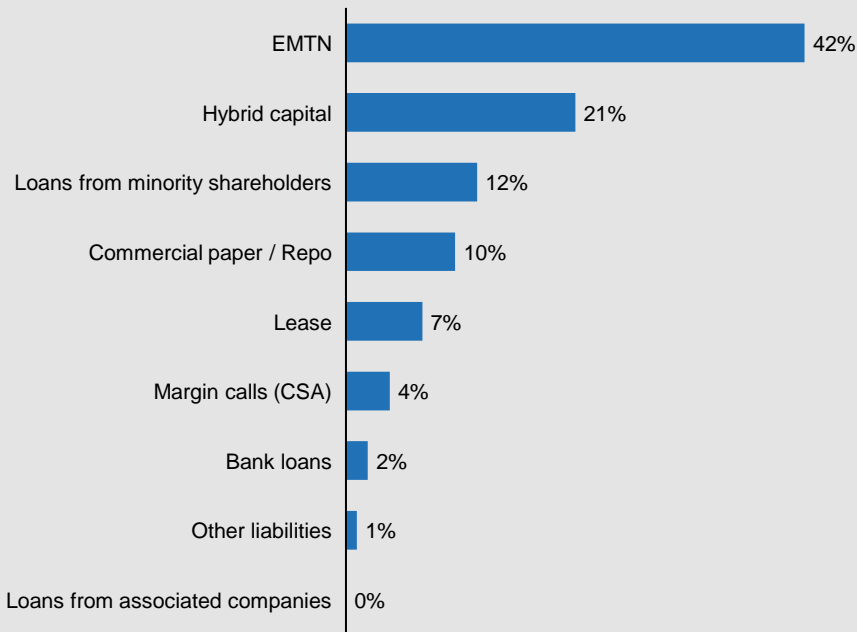
¹ German nuclear "Solidarvereinbarung" 1.2 SEK bn, Margin calls paid (CSA) 2.1 SEK bn, Insurance "Provisions for claims outstanding" 0.8 SEK bn

² Excluding loans from minority owners and associated companies

Breakdown of gross debt

Total debt: SEK 91.8 bn (EUR 9.0 bn)

External market debt: SEK 80.1 bn (EUR 7.8 bn)



Debt issuing programmes	Size (EUR bn)	Utilization (EUR bn)
EUR 10bn Euro MTN	10.0	3.4
EUR 4bn Euro CP	4.0	1.0
Total	14.0	4.4

- All public debt is issued by Vattenfall AB
- The main part of debt portfolio has no currency exposure that has an impact on the income statement. Debt in foreign currency is either swapped to SEK or booked as hedge against net foreign investments.
- No structural subordination

¹ EMTN= Euro Medium Term Notes

Reported and adjusted net debt

Reported net debt (SEK bn)	31 Mar. 2021	31 Dec. 2020	Adjusted net debt (SEK bn)	31 Mar. 2021	31 Dec. 2020
Hybrid capital	-19.7	-19.3	Total interest-bearing liabilities	-91.8	-104.8
Bond issues and liabilities to credit institutions	-40.8	-49.6	50% of Hybrid capital	9.9	9.7
Commercial papers and Repos	-8.9	-13.3	Present value of pension obligations	-40.4	-43.8
Liabilities to associated companies	-1.0	-0.7	Wind & other environmental provisions	-10.9	-10.6
Liabilities to minority shareholders	-10.8	-10.9	Provisions for nuclear power (net)	-36.4	-37.8
Lease liabilities	-6.4	-6.0	Margin calls received	3.3	4.1
Other liabilities	-4.2	-4.9	Liabilities to minority owners due to consortium agreements	10.8	10.9
Total interest-bearing liabilities	-91.8	-104.8	= Adjusted gross debt	-155.5	-172.3
Reported cash, cash equivalents & short-term investments	47.5	56.2	Reported cash, cash equivalents & short-term investments	47.5	56.2
Loans to minority owners of foreign subsidiaries	0.4	0.4	Unavailable liquidity	-4.2	-5.4
Net debt	-43.9	-48.2	= Adjusted cash, cash equivalents & short-term investments	43.3	50.8
			= Adjusted net debt	-112.2	-121.5

Sustainability deep-dives



VATTENFALL

Stakeholder materiality analysis supports strategic focus

According to our stakeholders, Vattenfall's core strategy is aligned with the areas of greatest potential impact

Materiality matrix



- Top material topics
1. Reducing CO₂ emissions and phasing out fossil fuels
 2. Investing in renewable energy
 3. Providing affordable energy
 4. Minimising emissions of pollutants into air, water and land
 5. Protecting nature and biodiversity
 6. Providing affordable, stable, and flexible grid infrastructure for future needs
 7. Developing innovative and sustainable services and solutions for customers

Top 7 most material topics




	7 AFFORDABLE AND CLEAN ENERGY	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	17 PARTNERSHIPS FOR THE GOALS
Reducing CO ₂ emissions	✓	✓	✓	✓	✓	✓
Providing affordable energy	✓		✓			
Investing in renewable energy	✓	✓	✓	✓	✓	✓
Minimising non-CO ₂ emissions		✓		✓		
Protecting nature and biodiversity				✓		
Providing affordable, stable and flexible grid infrastructure	✓	✓				
Developing sustainable solutions for customers and partners		✓	✓	✓		✓

Between May and June 2020, over 2,900 stakeholders from Vattenfall's main markets have rated the most material topics based on importance and significance of impact on the environment, society, or economy. Few take away things are mentioned below,

- Vattenfall's strategy remains in line with stakeholder's expectations. Covid-19 has had little impact on expectations
- Affordability, CO₂ reduction and renewables remain top 3 important topics
- Interview responses highlighted the importance of public acceptance to realise energy transition and engaging with local communities

Biodiversity – examples of actions

We strive to minimise any direct and indirect negative impacts on biodiversity throughout our operations

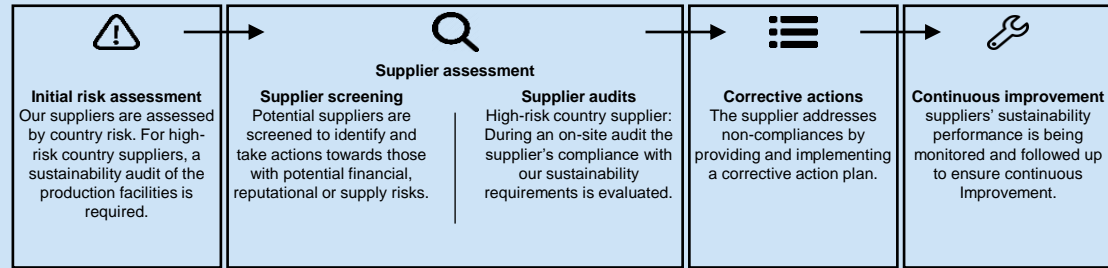
Business area	Aim	Examples
Hydro power	Identify new solutions to reduce environmental impact of hydro power production	 <p>"Laxeleratorn" is a unique, large-scale laboratory for hydro power-related environmental and hydraulic experiments that was inaugurated in 2018. It combines knowledge of biology and hydraulics to find solutions that allow and attract fish to safely pass by the power plant with the smallest possible effect on operations. In 2019, the main projects focused on innovation for downstream fish migration such as bubble curtains and flexible nets to avoid turbine passage.</p> <p>We are investigating how we can use machine learning to identify and count animal species and how environmental DNA (eDNA i.e. the residual DNA left in the ambient environment by plants and animals) can be used to quickly identify species in our hydro operations. This would be less resource-intensive than the process is today and make it easier to evaluate the effect of measures like fish compensation programmes.</p>
	Biotope restoration and species protection	
	Knowledge building activities includes both research and pilot studies	
	Preserve and manage biodiversity and enhance recreation values	
Offshore wind power	Limit impacts on the marine environment	 <p>Many R&D projects are conducted at the European Offshore Wind Deployment Centre (EOWDC) located in Aberdeen Bay, Scotland. A first project was conducted during construction of the Aberdeen Bay offshore wind farm, where a new type of jacket foundation was used, so-called suction buckets. Instead of monopiles driven into the seabed, giant upside-down buckets paired with jacket substructures anchor the wind turbines to the seabed. The method is virtually noiseless, which reduces the disturbance to marine life.</p>
	Reduce impact on and contribute to conservation of fauna	
Power distribution	Maintenance of habitats and protecting species	 <p>Clearance work for power lines opens meadow-like fields for threatened and rare species, like the butterfly marsh fritillary. With GIS mapping and field inventories performed during 2018, important biodiversity hotspots have been identified, and adjusted clearance plans have been developed accordingly. A pilot project outside Stockholm uses goats instead of machines to clear the landscape, which favours biodiversity.</p>

Sustainability throughout the supply chain

Key activities in our sustainable supply chain work

- **New supplier risk assessment tool** provides a more precise risk categorization of our supplier base covering environmental, social, human rights, business and governance risks.
- **Deep-dives conducted** on full value chain of new, exposed, or high-risk product categories, investigating environmental and social risks and opportunities
- **Counterparty onboarding approach** ensures quality due diligence and enables strategic resource allocation throughout Vattenfall
- **Platform for best practice sharing** enables faster integration of sustainability criteria into all types of contracts
- **Education and awareness raising** both internally and with suppliers on general and high-risk issues, via tools, trainings, and improved guidance documents

Vetting process to ensure compliance with the Code of Conduct for Suppliers



Sustainable supply chain across four primary sourcing and purchasing streams (2020 data)

	Number of suppliers	Primary products	Primary countries	Number of site audits conducted	% new suppliers that have undergone social/environmental assessments	% new suppliers from high-risk countries that have undergone social/environmental assessments
Goods and services	~31,000	Diverse	Sweden, Germany, Netherlands	4	100%	NA*
Commodity fuels	~40	<ul style="list-style-type: none"> Coal (C) Gas (G) Biomass (B) 	<ul style="list-style-type: none"> C: Russia, USA G: Russia B: Baltic states 	34 (external audits)	100%	NA*
Heat fuels	~100	Biomass, waste	Primarily (60-100%) local to country of use	1	67%	NA*
Nuclear fuel	~10	Uranium	Namibia, Canada, Australia, Kazakhstan and Russia	4	No new suppliers	NA*

*Not applicable. No new suppliers from high risk countries

Towards a circular economy

We are committed to enable sustainable use of resources and contribute to a circular economy

Vattenfall contributes to the circular economy:

- ✓ **We invest heavily in renewable energy**
 - Our key role as an energy company is providing renewable energy to drive the circular economy.
- ✓ **We use resources in smarter ways**
 - We use life cycle assessments to assess and manage environmental performance across the full value chain. We also work to design our assets and processes to reduce resource consumption, increase reuse and recycling, and extend the lifetime of our assets.
- ✓ **We offer new products and business models**
 - We are developing new products and energy solutions, as-a-service based models and digital solutions to integrate small scale producers.
- ✓ **We change unsustainable processes and sectors**
 - We switch fuels, partner with industry to make materials more sustainable and fossil free (e.g. steel, cement, fuels), and work to electrify the transport sector.

Examples of activities



Recycling excess heat

In the initiative Samenergi, Vattenfall collaborates with SME's to help them recycle excess heat and utilise it in the district heating network. (Image from Lindvall's coffee manufacturing site, a Samenergi partner.)



Phase-out of creosote poles

In a circular economy, hazardous substances must be kept out of material streams. Vattenfall is phasing out creosote poles from distribution grids. Alternative materials and methods are used and tested for new poles.



Declaring life cycle impacts

Vattenfall provides transparent, verified and comparable information about the life-cycle resource utilisation and environmental impacts from our electricity generation through environmental product declarations®.

Adaptation to climate change

We continuously monitor, invest in and modernise our assets to ensure safety and resilience

- There is increasing urgency linked to climate change and the reduction of emissions needs to accelerate. Climate change affects Vattenfall through both physical effects on our assets and operations, and through changes associated with the transition to a fossil-free society. We are committed to our goal of enabling fossil-free living within one generation and have a high focus on adapting to change.
- Vattenfall supports the disclosure of climate related risks and opportunities in accordance with recommendations from the Task Force on Climate-related Financial Disclosures (TCFD).



Climate change affects Vattenfall

Today, the world is about 1 °C warmer than preindustrial levels and it is rising. Climate change leads to physical changes in parameters such as temperature, rainfall and sea level. This will affect Vattenfall's assets and operations.

As an example, changes in the frequency and magnitude of extreme weather events such as strong winds, flooding or forest fires can lead to infrastructure damage. Similarly, changes to rainfall and snowmelt affects river flows, which has relevance for our hydropower production, planning and dam safety aspects. Vattenfall continuously works to improve the safety and robustness of our operations.



Ensuring security of supply and resilient operations






In 2019 an assessment of effects of climate change and status of adaptation was conducted for Vattenfall's operations. It showed that there is a good general level of awareness and measures in place to reduce climate-related risks.

Examples of measures to ensure resilient operations are replacing overhead powerlines with underground cables, tree clearance, flood protection, investments to adapt hydropower dams to future higher flows, and improved monitoring. Vattenfall will continue to have strong focus on management of climate risks, through e.g. scenario analyses and increased focus on supply chain aspects.

Environmental, social and governance (ESG) ratings

Vattenfall is assessed by several sustainability rating agencies on its ESG performance

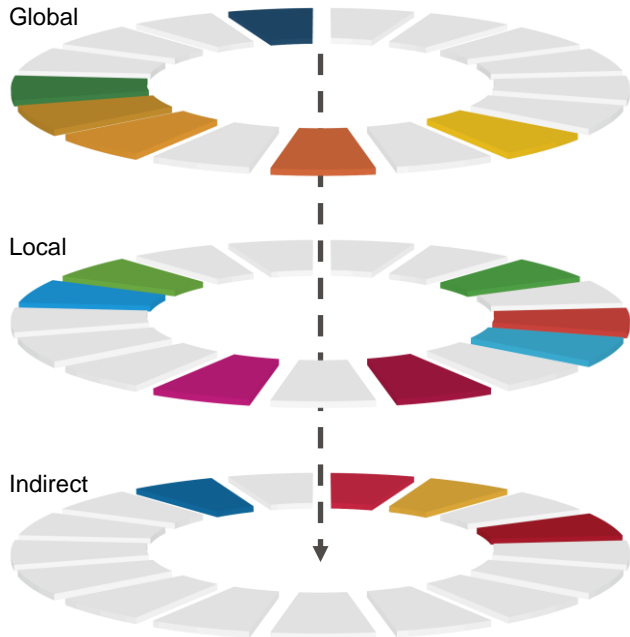
We aim to be as open and transparent as possible in our sustainability reporting and we are proud to be highly ranked for our sustainability performance. The below table shows the agencies we actively engage with and our most recent rating scores

Rating Agency	Rating focus	Score	Latest assessment
 CDP <small>DISCLOSE INVENT ACTION</small>	The leading system globally for disclosing environment data for investors, companies, cities, states and regions	Score A: top 3% of all rated companies	December 2020
 ecovadis	An online platform that enables companies to monitor the CSR performance of their supply chains by providing supplier sustainability ratings	Platinum rating: top 1% of all rated companies and top 3% in the sector	February 2021
 ISS ESG	ESG rating mainly for the investment community. The assessment spans a broad range of ESG issues that are analysed on the basis of up to 100 rating criteria, most of them sector specific	Score B “Prime”: highest decile of companies assessed in the sector	January 2020
 MSCI	ESG rating mainly for the investment community. Uses a rules-based methodology 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 AA “Leader”: meaning top 26% of companies assessed in the sector.	June 2020
 SUSTAINALYTICS <small>a Morningstar company</small>	ESG rating mainly for the investment community. Uses a two-dimensional materiality framework that measures a company’s exposure to industry specific material risks and how well a company is managing those risks.	ESG risk rating: Medium (strong management score and medium exposure). Top-9% of companies in subindustry	November 2020

A strategy and purpose that reflects UN's agenda 2030

Vattenfall's strategy is driving our contribution to the UN's Global Sustainable Development Goals (SDGs)

SUSTAINABLE DEVELOPMENT GOALS



Vattenfall's contribution to the UN's Sustainable Development Goals

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 when it comes to climate change and consequences for the energy system.

Responsible operations SDGs with local impact



Vattenfall contributes to the goals through its ways of working. Our responsible operations contribute locally, whether in the form of e.g., health & safety or internal diversity standards, or working to have a net positive contribution to biodiversity at our external operating sites.

Responsible supply chain SDGs with indirect impact









Vattenfall contributes to the goals through its engagement and influence in the value chain via suppliers and partners. By engaging only 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, as exemplified here.

Execution of our strategy contributes the most to six prioritised goals

Overview

- In 2016, Vattenfall identified the most relevant SDG's for the business, where we can have the greatest global impact
- These remain valid internally, as reflected in our strategy, as well as for our stakeholders, as confirmed by our materiality analysis

Examples of contribution to our selected SDGs by sub-category

SDG	Target	Examples
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.	In addition to commission an extra 334 MW of new renewables, we took the decision to build the world's largest non-subsidised offshore wind farm
	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable.	Vattenfall's Power-as-a-Service offering enables industries to smoothly transition from fossil-fuels to fossil-free electricity.
	11.6 By 2030, reduce the adverse per capita environmental impact of cities.	The 22,400 charging points we operate, and 90,000 that our customers have access to, as well as our partnerships with local city mobility providers, help reduce transport emissions in cities.
	12.2 By 2030, achieve sustainable management and efficient use of natural resources. 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.	By integrating waste heat and heat pumps, Vattenfall's Heat operation in the UK will introduce a district heating system that will deliver low-carbon and low-cost heat. Over 90% of residual products from our combustion plants are sold to the construction industry for re-use.
	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters.	Climate risks are part of our ERM. Some examples of climate adaptation measures include strengthening our hydro power dams and weatherproofing our grid infrastructure against anticipated future climate risks.
	17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.	Vattenfall has formed an environmental fund with seven other hydro power companies which will invest SEK 10 billion over a 20-year period to improve the aquatic environment in Sweden.

Project deep dives



VATTENFALL

Kriegers Flak

Overview

- Danish Kriegers Flak is the latest and largest of Vattenfall's recent offshore projects in Denmark, located 15-40 km off the coast in the Baltic Sea
- The project is in construction and in May 2020 the first foundation was placed in the seabed
- When in full operation, scheduled by the end of 2021, this will be Denmark's largest offshore wind farm with a capacity to cover the annual electricity consumption of approximately 600,000 Danish households



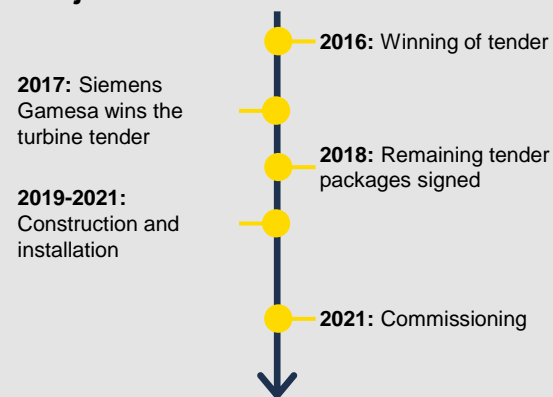
Key data

Capacity	605 MW
Country	Denmark
Technology type	Wind offshore
Turbine model	Siemens Gamesa Turbines 8.4 MW
Ownership	100% Vattenfall
Total Investment (SEK million¹)	10,200
Green bond/spent (SEK million²)	2,414
Estimated CO₂ reduction³	325 ktonnes p.a.
Completion	2021

UN SDG's



Project Timeline



¹ Year end exchange rate as per 31 December 2020

² Pertains to actual payments to third parties. No acquisition costs or retroactive payments are included. Converted to SEK using year-end exchange rate as per 31 December 2020

³ Production from offshore wind estimated to 3.5 GWh/MW installed. Actual production factors and savings will vary

Princess Ariane

Overview

- Princess Ariane is the largest onshore wind farm in the Netherlands
- The project is completed in 2021
- The electricity generated by the wind farm is used to power a nearby data centre, saving approximately 350 ktonnes of CO₂ emissions per year



Key data

Capacity	301 MW
Country	The Netherlands
Technology type	Wind onshore
Turbine model	Nordex N117 3.6 MW
Ownership	100% Vattenfall
Total Investment (SEK million ¹)	4,000
Green bond/spent (SEK million ²)	2, 243
Estimated CO ₂ reduction ³	350 ktonnes p.a.
Completion	2021

UN SDG's



Project Timeline



¹ Year end exchange rate as per 31 December 2020

² Pertains to actual payments to third parties. No acquisition costs or retroactive payments are included. Converted to SEK using year-end exchange rate as per 31 December 2020

³ Production from offshore wind estimated to 3.5 GWh/MW installed. Actual production factors and savings will vary

Hollandse Kust Zuid

Commitment to build the world's first subsidy-free offshore wind farm in the Netherlands

UN SDG's



ACHIEVEMENT: After winning sites 1 & 2 in 2018, Vattenfall was awarded sites 3 & 4 in July 2019. The world's first subsidy-free offshore wind farm will be put in operation at the latest by 2023.

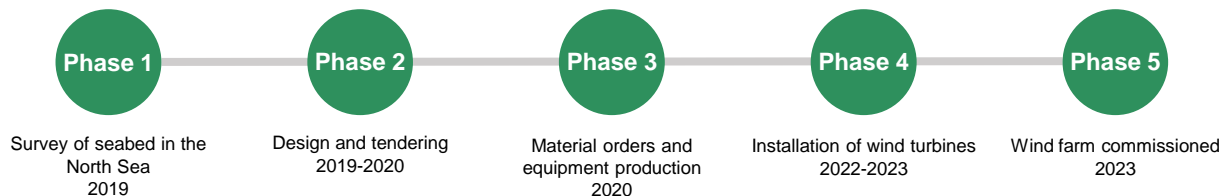
OUR WINNING FORMULA

- Project with excellent site conditions (shallow waters, proximity to shore) combined with continuous cost reduction focus and portfolio approach
- Attractive opportunity to support the Dutch energy transition
- Strong customer base demanding renewable energy

KEY DATA

Capacity	2 x 760 MW
Grid connection	provided by TenneT
Distance from shore	18-30 km
Water depth	18-28 m
Foundations	monopiles
Turbine model	140 x SG 11.0-200 DD
Ownership	100% Vattenfall

TIMELINE



More info: <https://vattenfall-hollandsekust.nl/en/>

HYBRIT

HYBRIT – towards the world's first fossil-free steel

UN SDG's



A joint initiative by



What is HYBRIT?

- HYBRIT – short for Hydrogen Breakthrough Ironmaking Technology – is a joint venture between Vattenfall, SSAB (steel) and LKAB (mining and minerals)
- The aim is to replace coking coal, traditionally needed for ore-based steel making, with green hydrogen
- The result will be the world's first fossil-free steel, with virtually no carbon footprint

Why is this important?

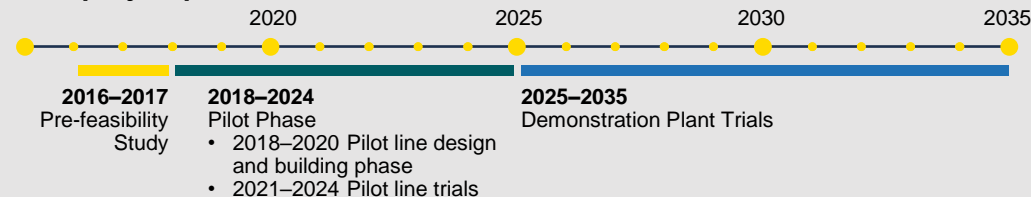
- The steel industry is one of the highest CO₂-emitting industries, accounting for 7% of global and 10% of Swedish total CO₂ emissions
- Steel demand is set to grow due to population and urbanisation → carbon footprint of the industry needs to be addressed

Financing and timeline

The total cost for the pilot phase is estimated to be SEK 1.4 billion. The Swedish Energy Agency will contribute more than SEK 500 million towards the pilot phase and the three owners, SSAB, LKAB and Vattenfall, will each contribute one third of the remaining costs. The Swedish Energy Agency has earlier contributed SEK 60 million to the pre-feasibility study and a four-year-long research project.

The pilot phase is planned to last until 2024, after which it will move to the demonstration phase in 2025-2035.

Main project phases



Green bond investor report



VATTENFALL

Green bond investor report

Investments under Vattenfall's Green Bond Framework, as of year-end 2020

Category	Project/country	Type	Capacity/ impact	Est. CO ₂ reduction (ktonnes) ¹	Vattenfall's share	Start/ completion	Total investment	Of which green bond spent SEK million ²		
								2019	2020	Total
Renewable energy and related infrastructure	Kriegers Flak/ Denmark	Wind offshore	605 MW	325	100%	2019/ 2021	7,600 MDKK	801	1,613	2,414
	Princess Ariane ³ / Netherlands	Wind onshore	301 MW	350	100%	2018/ 2020	394 MEUR	1,073	1,170	2,243
	Hollandse Kust Zuid 1–4 /Netherlands	Wind offshore	1,500 MW	2,400	100%	2020/2023	2,600 MEUR	–	14	14
Industry projects	HYBRIT/Sweden	Pilot project	Fossil-free steel	–	33%	2019/ 2021	858 MSEK	51	232	283
Total								1,925	3,029	4,954
Not yet used										5,080
Grand total										10,034

¹ 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

² Pertains to actual payments to third parties. No acquisition costs or retroactive payments are included. Converted to SEK using year-end exchange rate as per 31 December 2020

³ The project was formerly called Wieringermeer and Wieringermeer extension