



# Vattenfall

Credit Suisse Global Energy Conference 2022

14 June 2022




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+ positive outlook by S&P and A3 stable outlook by Moody's**

 **7.1 Million**  
Electricity customers

 **1.8 Million**  
Heat customers

 **1 000 000<sup>1</sup>**  
Electricity grid customers

 **2.4 Million**  
Gas customers

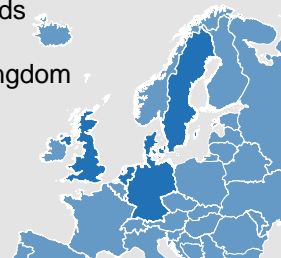
 **18,835**  
Employees

## Activities in the Value Chain ● Active ● Inactive

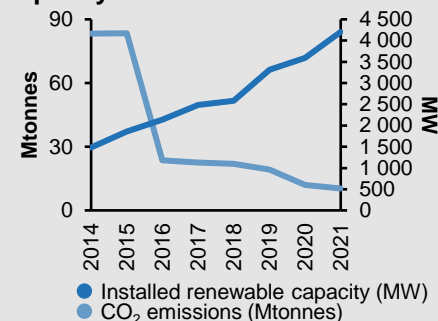


## Main markets

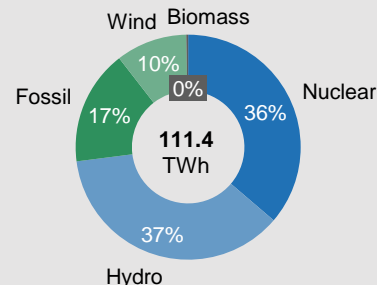
- Sweden
- Germany
- Netherlands
- Denmark
- United Kingdom



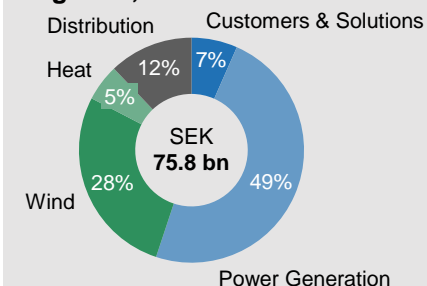
## CO<sub>2</sub> emissions & renewable capacity



## Electricity generation breakdown by technology, 2021



## EBITDA breakdown by segment, 2021



<sup>1</sup> Excluding the Berlin grid business which was sold to the city of Berlin on July 1st, 2021

# 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 grids and smart grid solutions
- Enables customers to feed self-generated electricity into the grid ("prosumers")
- Flexibility services to both electricity producers and consumers to optimise grid functionality

## 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 understand and reduce their environmental impact

## District heating

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

## Energy services & decentralised generation

Offers energy services

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

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

# A strategy based on an “integrated utility logic”

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

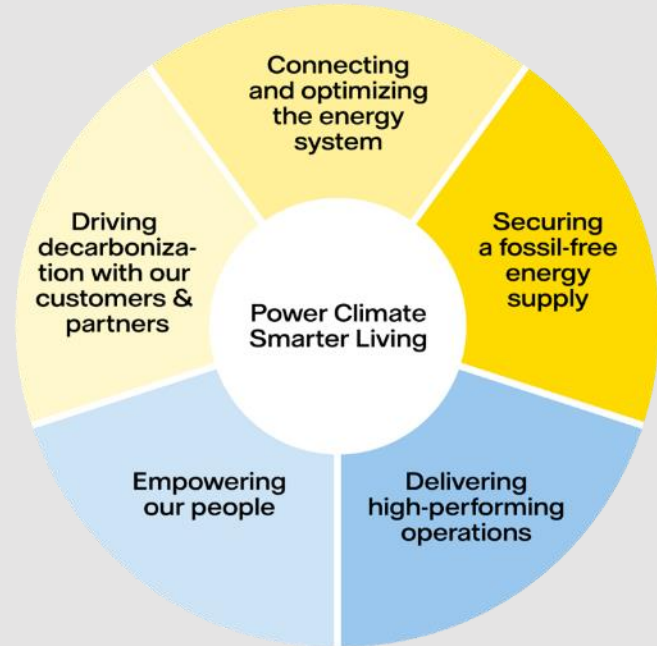
We believe being active in the whole value chain is strategically important:

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

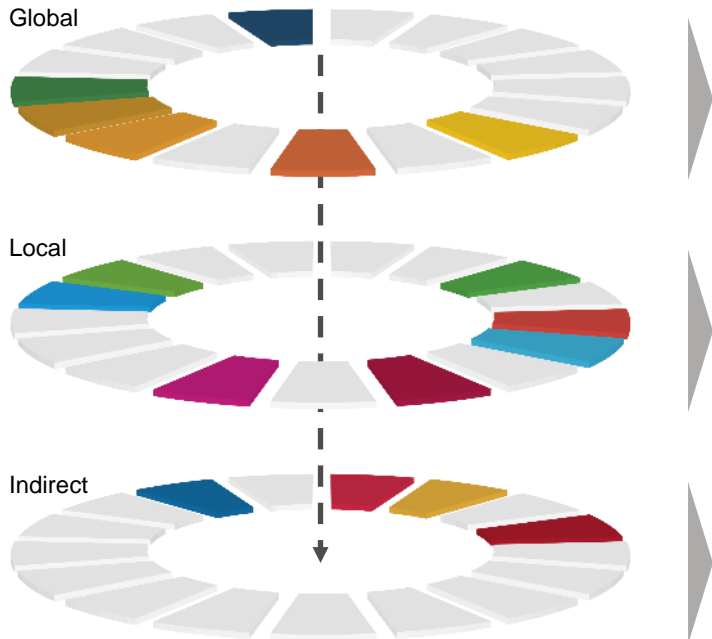
Diversifying and reducing total portfolio risk means lower cost of capital and an ability to take on more debt



# 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 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.

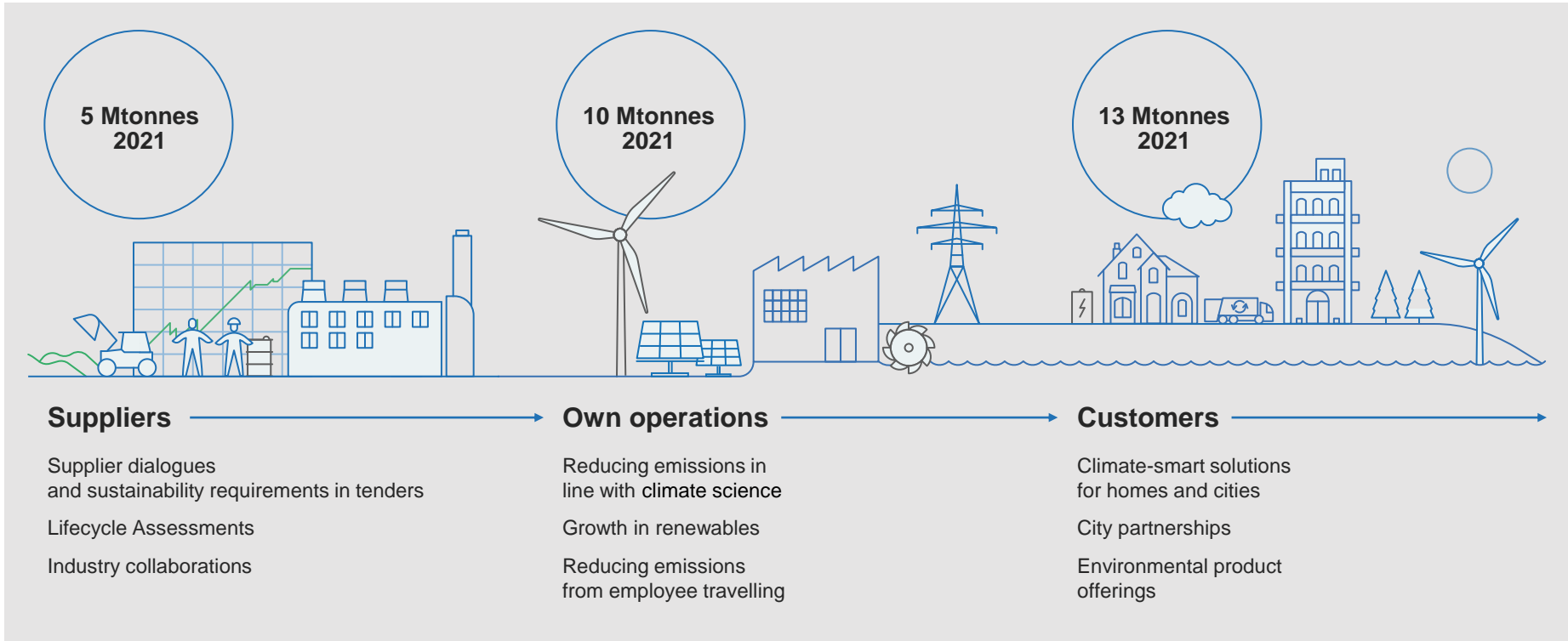
#### Responsible supply chain SDGs with indirect impact



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.

# Cutting CO<sub>2</sub> emissions throughout the value chain

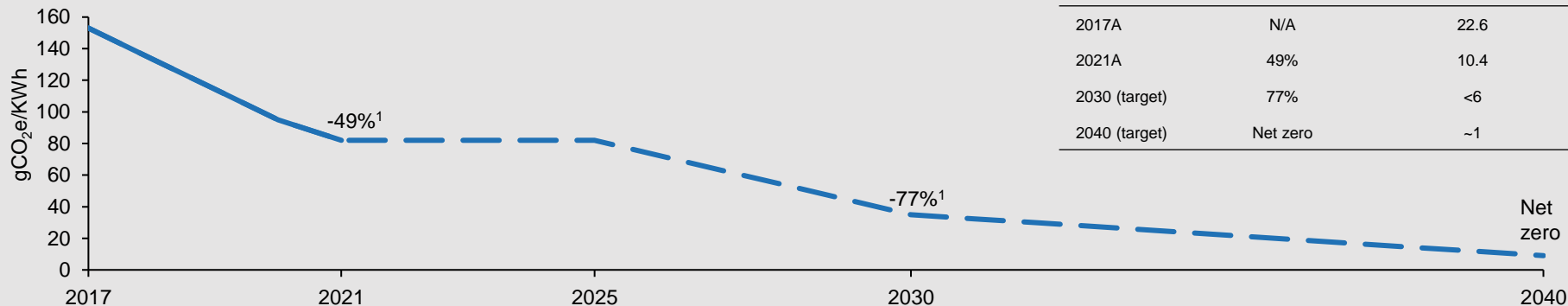
Examples of actions



# The road to net zero emissions

Vattenfall's targets align with the 1.5°C-scenario according to the Science Based Target initiative (SBTi)

Trajectory for CO<sub>2</sub> emissions intensity (Scope 1 + 2), 2017-2040



## Key priorities

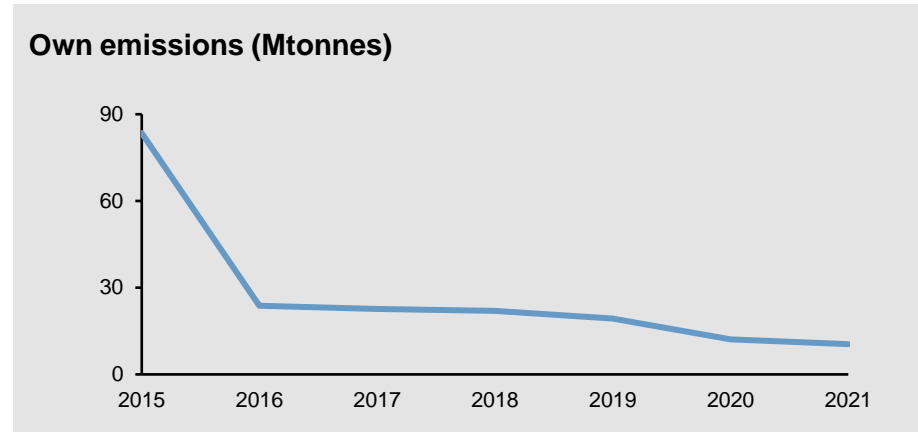
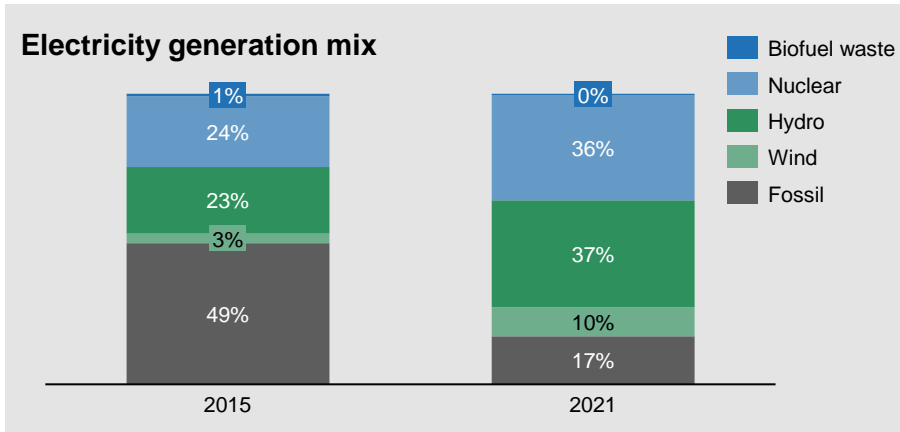
- Complete phase-out of coal by 2030
- Ambition to commission four times our 2020 wind and solar capacity by 2030 → would bring Vattenfall's total commissioned capacity to over 16 GW
- Phase-out of natural gas to require a combination of all fossil-free technologies, such as biomass, waste heat, green hydrogen, large-scale heat pumps and heat storage

<sup>1</sup> Base year 2017

For more info: see page 10-13 in the Annual- and Sustainability Report 2021

# Significant shift in production portfolio

With dramatic effects on our emissions profile



## Milestones

2017 - Phase out of lignite with closure of Klingenberg CHP plant in Berlin, Germany and Pen y Cymoedd inaugurated as then the largest onshore wind farm in Wales

2018 - Phase out of peat in Uppsala, Sweden and the start of SamEnergi (third party integration of commercial heat surpluses to district heating networks)

2019 - Closure of coal-fired Hemweg-8 power plant in Amsterdam (NL)

2020 - Closure of coal-fired Moorburg power plant in Hamburg (DE) and opened Princess Ariane Wind Farm, the largest Dutch Onshore wind farm

2021 - Kriegers Flak in Denmark operational as Scandinavia's largest wind farm



# Vattenfall has been part of shaping the renewables industry

Milestones from 2017 to year-end 2021

2017 >

## Sandbank

288 MW offshore wind farm in Germany commissioned



## Pen y Cymoedd

Vattenfall's biggest UK onshore wind farm (228 MW) and one of the largest batteries operational (22 MW)



## Wieringermeer ext.

Decision to expand Dutch onshore windfarm to 295 MW



< 2019

## Aberdeen Bay

Deployment of most powerful, commercially available WTG (8.8 MW)



## Hollandse Kust Zuid 1&2

First "zero-subsidy" tender win for up to 760 MW



< 2018

## Haringvliet

First hybrid onshore & solar PV project close to construction start



## Hollandse Kust Zuid 3&4

Second "zero-subsidy" tender win for up to 760 MW



2020 >

## Princess Ariane

Commissioning of largest Dutch onshore wind farm (301 MW)



2021 >

## Kriegers Flak

Commissioning of Scandinavia's largest offshore wind farm (604 MW)



2022 >

## Blakliden Fäbodberget

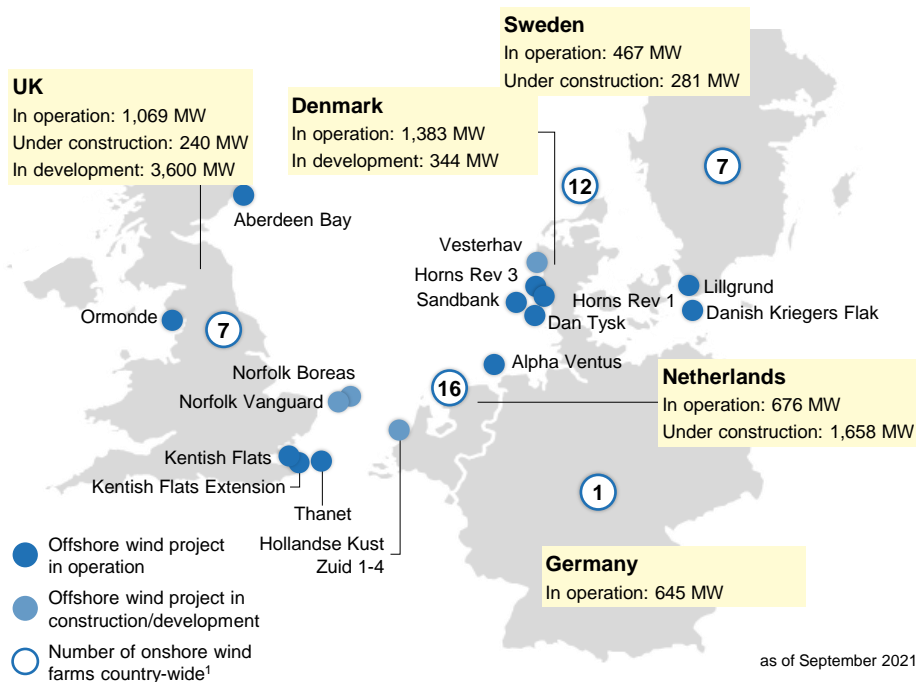
Commissioning of Vattenfall's largest onshore wind farm (353 MW)



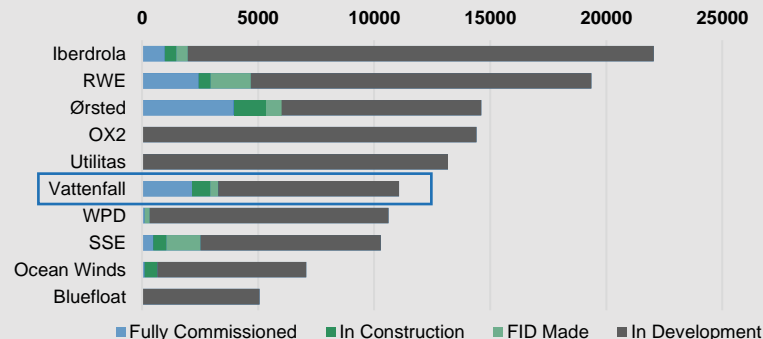
# A leader in the European renewables transition

Strong position within offshore wind and extensive European pipeline ahead

Geographical overview – we develop, construct and operate wind and solar PV farms in our core European markets<sup>1</sup>



## Capacity of top 10 European Offshore Players (MW)<sup>2</sup>



<sup>2</sup> 4cOffshore database as of Mar '22; Net capacity (i.e. only showing owned capacity)

## Under construction and pipeline<sup>1</sup>

> 2 GW

Wind projects under construction

> 4 GW

Wind projects in mature stage development

~ 2 GW

Solar PV projects in development

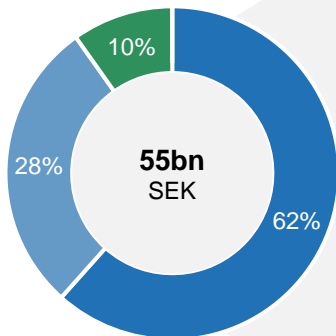
~ 500 MW

Batteries pipeline

<sup>1</sup> As of March 2022

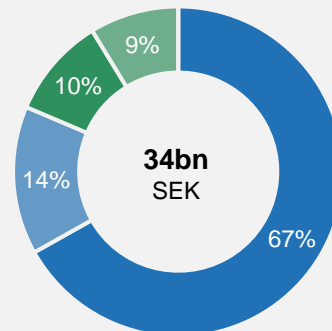
# Investment plan 2022-2023

**Total capex  
2022-2023**



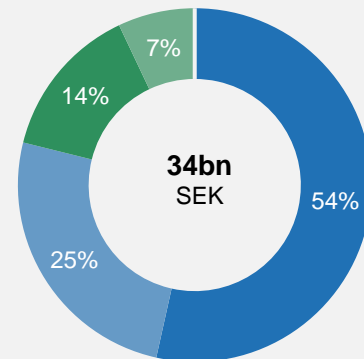
- Growth, 34 bn SEK
- Maintenance, 16 bn SEK
- Replacement, 6 bn SEK

**Growth capex per  
technology 2022-2023**



- Wind power, 23 bn SEK
- Heat supply, 5 bn SEK
- Electricity distribution, 3 bn SEK
- Other<sup>1</sup>, 3 bn SEK

**Growth capex per country  
2022-2023**



- The Netherlands, 18 bn SEK
- Denmark, 9 bn SEK
- Sweden, 5 bn SEK
- Germany and other<sup>2</sup>, 2 bn SEK

<sup>1</sup> Mainly charging solutions, solar and battery projects, decentralised solutions and the HYBRIT project

<sup>2</sup> Germany (SEK 3 billion) and other (SEK -1 billion). Other countries mainly relate to France and the UK, negative value owing to expected income from partnerships and from projects developed for sale.

# 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-free<sup>1</sup> district heating and cooling
- Energy recovery







## Industry projects



- Activities enabling the transformation to fossil-free<sup>1</sup> production

<sup>1</sup> 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)

# Strategic targets 2025

Strategic focus area	Strategic targets to 2025	Actual 2021	Actual 2020	Progress	Comments
Driving decarbonisation with our customers & partners	Net Promoter Score <sup>1</sup> (Absolute): <b>+18</b>	+10	+7 <sup>2</sup>		Higher NPS mainly owing to the Customers & Solutions operating segment as a result of strong performance in Germany and the Netherlands
Securing a fossil-free energy supply	CO <sub>2</sub> Emissions Intensity <sup>3</sup> : <b>≤86 gCO<sub>2</sub>e/kWh</b>	79	97		Improvement due to lower fossil-based generation, including closure of Moorburg coal-fired power plant at the end of 2020
Empowering our people	Lost Time Injury Frequency (LTIF): <b>≤1.0</b>	1.7	1.8		Ongoing initiatives to improve safety, including common H&S strategy and framework for follow-up throughout the organisation
	Employee Engagement Index: <b>≥75%</b>	75	74 <sup>4</sup>		Improved result puts Vattenfall among the highest ranked organisations well above industry average
Delivering high-performing operations	FFO/Adjusted Net Debt: <b>22-27%</b>	171.2%	28.8%		Significant increase mainly due to decrease in adjusted net debt largely driven by a positive net change in margin calls for commodity hedging activities
	ROCE: <b>≥8%</b>	22.2%	5.8%		Outcome well above target, impacted by compensation for closure of nuclear power in Germany, unrealised changes in market value of energy derivatives and inventories as well as capital gain from sale of Stromnetz Berlin

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

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

<sup>3</sup> Targeting 86 gCO<sub>2</sub>/kWh by 2025 puts us on a “1.5°C” trajectory by 2030 according to Science Based Target levels

<sup>4</sup> The value has been adjusted compared with previously published information due to change in methodology

# Financial targets

Financial targets	Targets over a business cycle <sup>1</sup>	FY 2021	FY 2020	Comment
<b>Profitability</b>	Return on capital employed: $\geq 8\%$ <sup>2</sup>	22.2%	5.8%	Return on capital employed increased to 22.2%, which is well above the target of 8%, impacted by compensation for closure of nuclear power in Germany, unrealised changes in market value of energy derivatives and inventories as well as capital gain from sale of Stromnetz Berlin
<b>Capital structure</b>	FFO/adjusted net debt: 22%–27%	171.2%	28.8%	FFO/adjusted net debt increased to 171.2% in 2021. Significant increase mainly due to decrease in adjusted net debt largely driven by a positive net change in margin calls for commodity hedging activities.
<b>Dividend policy</b>	Dividend: 40%–70% of the year's profit after tax	SEK 23.4 bn	SEK 4.0 bn	

<sup>1</sup> 5–7 years

<sup>2</sup> The key ratio is based on EBIT and average capital employed