

VATTENFALL 



Biodiversity Footprint Assessment

Assessment of Vattenfall's biodiversity footprint using the
Global Biodiversity Score (GBS).



VATTENFALL 

Vattenfall Biodiversity Footprint Assessment: Summary sheet

CONTEXT

WHY?

Quantify where biodiversity impacts occur to prioritize areas for action. Comply with step 1 and 2 in the SBTN framework.

FOR WHO?

Strategic decisions, internal and external communication.

WHAT?

End-to-end (scope 1, 2 and 3 upstream). For Scope 3, main focus has been on supply chain impacts.

BIODIVERSITY FOOTPRINT ASSESSMENT

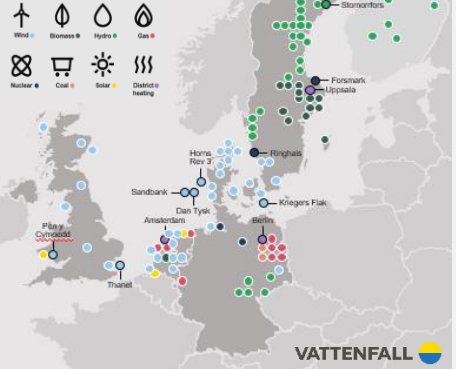
Extent of assessment: Corporate level

Assessment year: 2020

Pressures:	LUEFN*	Climate change	Aquatic
Scope 1	✓	✓	✓
Scope 2	✓	✓	✓
Scope 3	Tier 1	✓	✓
	Rest of value chain	✓	✓
	Downstream	✓	✓

About Vattenfall

Vattenfall is one of Europe's largest producers and retailers of electricity and heat and is 100% owned by the Swedish state.



*LUEFN= Land Use, Encroachment, Fragmentation and atmospheric Nitrogen deposition.

DATA COLLECTED	Source	Not included
Turnover data	Total net sales	Procurement data for fuels Land use data for gas and offshore Water withdrawn Impacts on marine biodiversity Other ecotoxic substances
Procurement data	Vattenfall provided the spends per procurement category	
Land use pressure data wind	Land use data (e.g. from GIS)	
Climate change pressure data	Emission data for all scopes CO ₂ eq or CO ₂	
Water use pressure data	Water withdrawal and water consumption	
Ecotoxicity data	Air emissions data (mercury)	
Mining data	Hard coal consumption (in MWh)	
Oil and gas data	Oil and natural gas consumption (in MWh)	
Crop data	Energy crops (Germany/Poland)	
Product data	Uranium, peat, waste (as fuel), biomass, blast furnace gas	
Electricity data	Purchased electricity	

RESULTS

Global biodiversity footprint

Terrestrial static
1200 MSA.km²

Terrestrial dynamic
90 MSA.km²

Aquatic static
1600 MSA.km^{2*}

Vertically integrated (Scope 1, 2, 3 upstream).

*Due to historical conversion of rivers with hydroelectric dams. The hydropower module is still experimental, and results should not be considered with the same accuracy as the terrestrial impacts.

Vattenfall's terrestrial static biodiversity footprint³, in MSA.km²

Scope 1: Land use impacts from own operations

Power line corridors	328
Properties surrounding hydropower stations	27
Industrial sites	19
Onshore wind farms	6

Scope 3: Upstream land use impacts in all geographies

Fossil fuel extraction	310
Purchased goods and services	235
Biomass fuels	234
Nuclear fuels	1

KEY MESSAGES

> Climate change impacts

When assessing how our biodiversity footprint increased every year (i.e. dynamic impacts due to our operations and growing business), the results show that 95% of the total impacts comes from greenhouse gas emissions and impacts are connected to all scopes. Climate change is the reform the main single contributor to biodiversity loss for terrestrial dynamic impacts.

> Historic land transformation

The main historical land transformation (i.e. static impacts) is caused by land occupation. Around 30% is due to our own operations, mainly linked to land occupation needed for the distribution grids. In addition, there is an almost equally large static land use footprint from sourcing of fuels, mainly linked to biomass and gas.

> Aquatic static impacts

Aquatic static impacts are also material, mainly through hydrological disturbance linked to hydropower operations. However, data refinements are required e.g. since the hydropower module in Global Biodiversity Score tool is still experimental and needs further development.