

Green bond investor report

Vattenfall issued its first green bond in June 2019, and at year-end 2021 it had a total of EUR 2.1 billion in green financing outstanding. Vattenfall has decided to use green financing in its funding activities and expect all future long-term financing to be made under the Green Bond framework. Our framework¹ consists of four eligible categories: renewable energy and related infrastructure, energy efficiency, electrification of transport and heating, and industry projects. The framework has been analysed externally by the climate research institute CICERO² and received the highest rating, "Dark Green".

Investments under Vattenfall's Green Bond Framework

Category	Project/country	Type	Capacity	Est. CO ₂ reduction ¹ (ktonnes)	Vattenfall's share	Start/compl.	Total investment	Of which green bond spent ²		
								2019-2020	2021	Total
Renewable energy and related infrastructure	Kriegers Flak/ Denmark	Wind offshore	604 MW	300	100%	2019/2021	7,600 MDKK	2,414	6,398	8,812
	Princess Ariane (retained) ³ / Netherlands	Wind onshore	180 MW	175	100%	2018/2020	220 MEUR	1,154	194	1,348
	Princess Ariane (sold) ^{3,4} / Netherlands	Wind onshore	118 MW	115	0%	2018/2020	174 MEUR	1,089	-1,089	0
	Hollandse Kust Zuid 1-4/ Netherlands	Wind offshore	1,500 MW	2,000	50.5%	2020/2023	2,600 MEUR	14	2,311	2,325
Industry projects	HYBRIT/Sweden	Fossil-free steel	Pilot project	–	33%	2019/2021	858 MSEK	283	118	401
Total								4,954	7,932	12,886
Not yet used										9,038
Grand total										21,925

¹ Production from onshore wind estimated at 2.6 GWh/MW installed, from offshore wind to 3.5 GWh/MW installed, and from solar to 10 GWh/MW installed. Estimated 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 2021.

³ The project was previously called Wieringermeer and Wieringermeer extension.

⁴ Sold in December 2021. Funds returned to portfolio.

Kriegers Flak

Scandinavia's largest offshore wind farm was inaugurated in September 2021. It is estimated that the wind farm will reduce CO₂ emissions by 300 ktonnes per year. With 72 offshore wind turbines, it has a capacity of 604 MW and can generate electricity corresponding to the annual energy consumption of approximately 600,000 Danish households.



HYBRIT

A pilot project conducted in collaboration with SSAB and LKAB using innovative hydrogen gas technology with the potential to significantly reduce CO₂ emissions from the steel industry, which accounts for approximately 10% of Sweden's total CO₂ emissions. In August, the first steel was produced using HYBRIT technology with good results and delivered by SSAB to the first customer, Volvo Group.



¹ https://group.vattenfall.com/siteassets/corporate/investors/funding_ratings/doc/vattenfall-green-bond-framework.pdf

² https://group.vattenfall.com/siteassets/corporate/investors/funding_ratings/doc/vattenfall-second-opinion-29may2019.pdf