eurogrid GmbH

Green Bond
Reporting 2023

“For us Green bonds are an important credit instrument in order to secure the necessary and increasing investments in our grid infrastructure. Our past issuances have been very successful and demonstrate the confidence of investors in our corporate strategy, our sustainability ambitions and our investment plans. We will therefore continue to use Green bonds as an important instrument of our financing strategy in the future and accelerate the green transition.”

Marco Nix Chief
Financial and Grid Development Project
Officer of 50Hertz

Content

Introduction

Green bonds are issued on financial markets exclusively with the intent to fund climate friendly projects. Eurogrid GmbH, the parent company of the transmission system operator 50Hertz, is securing liquidity for the further grid expansion focusing on the integration of Renewable Energies to support the energy transition. In 2017 Eurogrid drafted its first Green Bond Framework, the latest update was made in May 2022 (Eurogrid.com/en-us/Investorrelations/Green-Financing). This Green Bond Framework governs amongst other aspects the use of green bond proceeds and allocation within Eurogrid Group.

After issuing it debut Green Bond in May 2020 Eurogrid issued its second Green Bond under the Green Bond Framework as of May 2022 in the amount of EUR 750 million on September 5th 2022 . The corporate bond with a term of 9 years and an interest rate of 3.279 percent was issued on the regulated market in Luxembourg with the support of Banco Santander, Mizuho, Rabobank and UniCredit Bank. Like all Eurogrid public bonds these securities are listed on the Luxembourg Stock Exchange.

Green Bond

Issuance Date	Volume (in m€)	Domination (in €)	Maturity (in years)	Rate of interest (in %)	ISIN
15 May 2020	750	100,000	12	1.113	XS2171713006
5 Sept. 2022	750	100,000	9	3.279	XS2527319979

Proceeds of this transaction are financing different eligible on- and offshore projects of 50Hertz, i.e.:

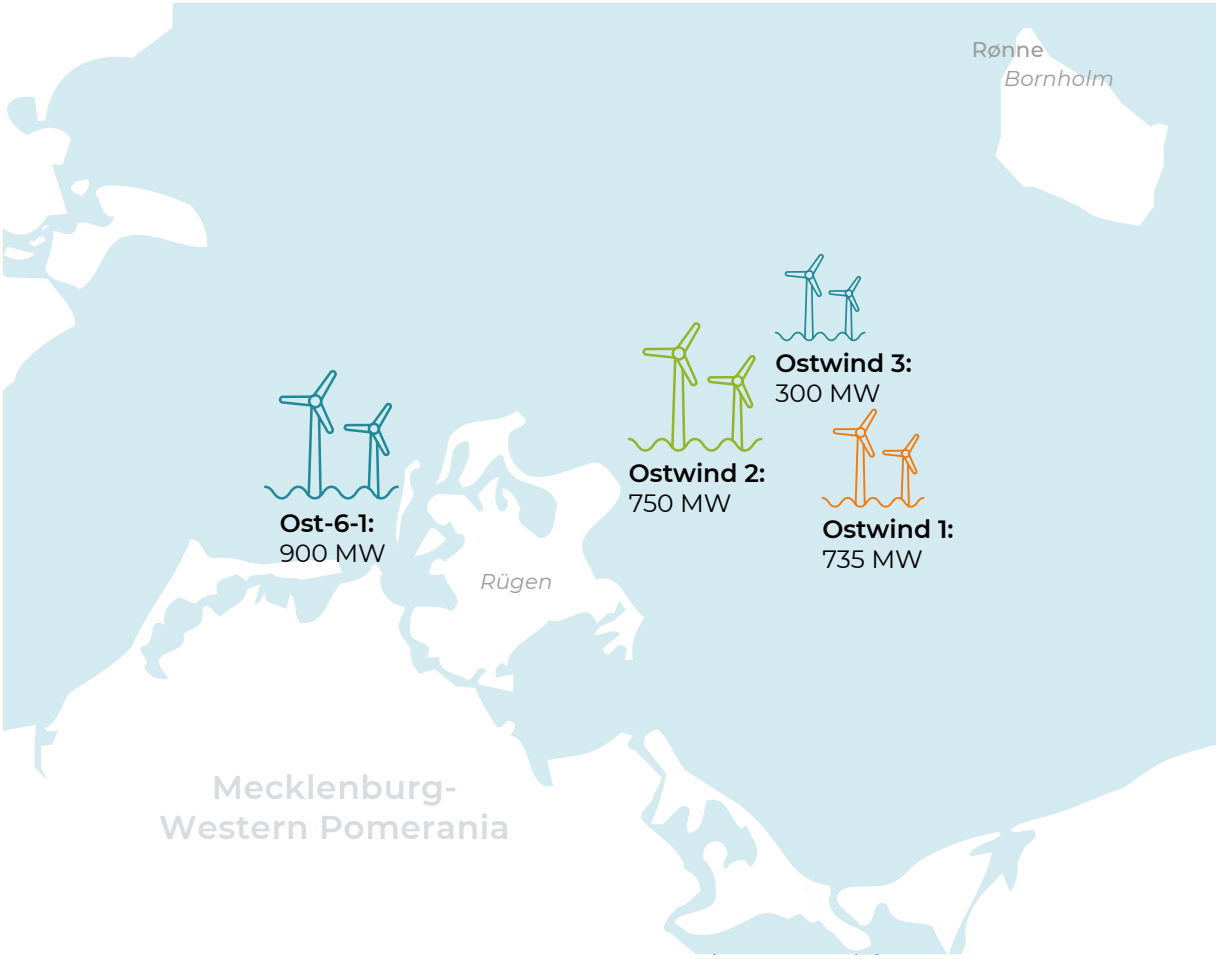
Offshore platforms and wind farm connections (including substations)

— **Ostwind 2** and **Ostwind 3**, connecting wind farms northeast of the island of Rügen with Lubmin substation with a total capacity of around 1.05 gigawatts.

The **Ostwind 2** project will provide connection to the offshore wind farms **“Arcadis Ost 1”** and **“Baltic Eagle”**. 50Hertz has jointly built two further offshore platforms together with the wind farm operators and has laid three 220 kV AC submarine cable systems.

Ostwind 3 will connect the wind farm area **“Windanker”**, north of the operating wind farms connected by 50Hertz under **Ostwind 1**. The wind farm area Windanker is 25 square kilometres in size, provides a maximum of 300 megawatts and the offshore platform will be built and operated by 50Hertz.

— **Ost-6-1**, will connect the future 900 megawatts wind farm **“Gennaker”** west of the island of Rügen with the new substation to be constructed east of the city of Rostock. The three cable connections will be around 90 kilometres long, of which 54 kilometres will be in the Baltic Sea and approximately 35 kilometres on land.



Offshore connections in preparation

Offshore connections in operation

Offshore connection under construction

Onshore cables enabling long distance transport:

— **SouthEastLink**, consisting of two 525kV DC connections of 2 gigawatts each, connecting Wolmirstedt (Saxony-Anhalt) for almost 600 kilometres, respectively Klein-Rogahn (Mecklenburg-Western Pomerania) for approximately 750 kilometres with the Isar power plant site near Landshut (Bavaria). Each of both connections will have a maximum transportation capacity of 17,520 GWh per year.

SouthEastLink is a project in cooperation with TenneT TSO. 50Hertz is responsible for northern part ending at the federal state border between Thuringia and Bavaria.

Commissioning of the section Wolmirstedt with Isar is currently expected for 2027, for the extension track to Klein-Rogahn by 2030.

Onshore overhead lines enabling long distance transport and increased infeed of renewable energies:

— In 2023 more than 150 kilometres of overhead lines have been installed. This is more than double compared to 2022. The newly build 380kV lines are replacing lower capacity 220kV lines. Thereby 50Hertz substantially reinforces the north-south connections, transporting mainly on- and offshore renewable energy to industry and urban centers (eg projects like Wolmirstedt-Güstrow, Uckermark line, Nordring Berlin). At the same time also east-south connections have been reinforced for supporting the increased infeed from renewables (ie transition areas of former coal mining) and new industry clusters as well as energy exchange with neighboring grids.

Onshore substations enabling the integration of renewable energy for long distance transport and/or the distribution and delivery of renewable energy to consumers. Only the remaining delta is depicted here between total proceeds and invested proceeds:

Increase of transforming capacities by transformers

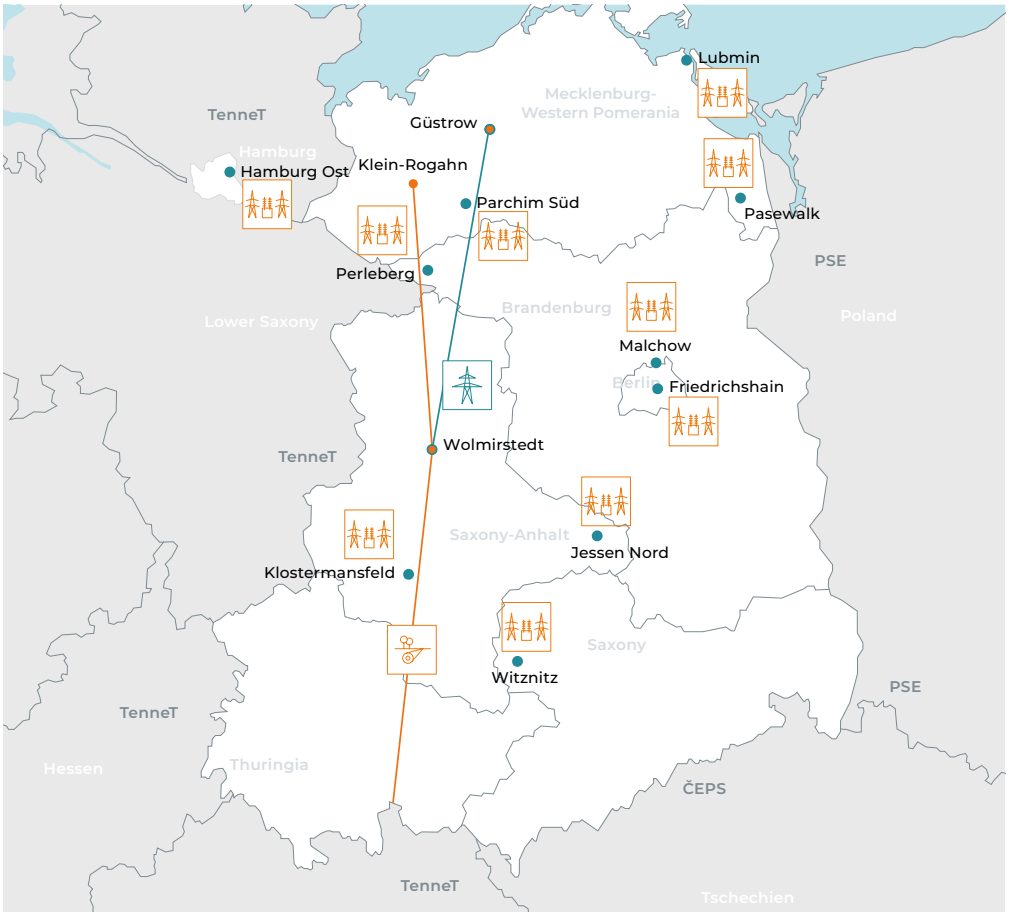
	Kloster-mansfeld	Pasewalk	Witznitz	Parchim Süd	Friedrichshain	Perleberg	Malchow
MVA (mega volt ampere)	800	800	600	400	250	200	50

Increase of transforming capacities by shunt reactors

	Lubmin	Kloster-mansfeld	Pasewalk	Fridrichshain	Jessen Nord	Parchim Süd	Malchow
MVar (mega var)	176	75	75	75	75	75	40

Increase of transforming capacities by phase shifting transformers (PSTs)

	Hamburg Ost
MVA (mega volt ampere)	2400



Overhead lines Wolmirstedt - Güstrow

DC cables SouthEastLink

Substations 9 locations

All the projects mentioned are in line with the European Union's (EU) Action Plan on Climate Change. The EU's aim is to increase the number of households and businesses that can be supplied with electricity produced by wind energy, thereby avoiding CO_2 emissions. The Green Bond complies with the principles of the International Capital Market's Association (ICMA).

An independent party verification of the Green Bond and Green Bond Framework compliance with the principles of ICMA was carried out by the second party opinion provider and ESG-rating agency imug rating GmbH in June 2022. An update to the second party opinion is currently underway as required and expected to be published in the third quarter 2024.

Allocation and Impact Reporting

a) Reporting on allocation of Green Bond proceeds

Green Bond proceeds have been allocated to investments (capex) only, there has not been made any allocation to operating expenses.

I. Green Bond issued in 2022 (ISIN XS2527319979)

As stated in the second party opinion issued by imug in June 2022 Green Bond proceeds could be used to finance up to 24 months looking backwards. Eurogrid decided to use Green Bond proceeds to refinance investments that occurred after 1st January 2021, i.e. only looking backwards for about 20 months.

Overview of investment allocation

mEUR	allocated per 31 December 2022	allocated per 31 December 2023	Share of green bond proceeds
Offshore platforms:			
Ostwind 2	98,9 √	0,3 √	14.0% √
Ostwind 3	44,2 √	2,1 √	5,9% √
Grid connections between offshore energy projects and onshore substations through sea and land cables:			
Ostwind 3	54,6 √	1,6 √	7,3% √
Ost-6-1	12,5 √	1,9 √	1,7% √
Onshore cables, connecting wind and/or solar power installations and/or enabling long distance transport:			
SouthEastLink	290,2 √	43,1 √	46,2% √
Onshore lines and pylons enabling long distance transport:			
OL Wol-Gue	51,0 √	6,4 √	6,8% √
Substations:			
for offshore connections	33,6 √	0,3 √	4,5% √
for onshore connection	102,7 √	6,6 √	13,7% √
Total	**687,7 √**	**62,3 √**	**100% √**

„√“: assurance procedures performed

b) Reporting on progress of the eligible projects in 2023:

Ostwind 1

- In 2020 the project was accomplished and the cable connection is running in regular mode since then.

Ostwind 2

- The third and last sea cable system was successfully laid in 2022 after the laying of the first two sea cable systems was completed in 2021.
- Offshore substation (OSS) Arcadis Ost 1, a 2,380 ton structure, has been installed on top of a single pylon in June 2022. The grid connection OST-2-1 went into operation in 2023 and is running in regular mode since then.
- The installation works within onshore substation Lubmin were completed in 2022.
- The two cable systems for the grid connection of the Baltic Eagle offshore wind farm have already been successfully laid in the seabed and pulled into the platform.

Ostwind 3

- Start-up consultations carried out in preparation for the planning approval process, followed by the submission of the application for planning approval for the section in the German Exclusive Economic Zone of the Baltic Sea (EEZ) to the Federal Maritime and Hydrographic Agency (BSH) in 2022.
- Before year-end 2022, 50Hertz submitted the planning approval application for the coastal sea section to the relevant authorities.
- 50Hertz awarded platform contracts for grid connections to a Dutch-Belgian consortium, consisting of the companies HSM Offshore Energy, Smulders and Iv-Offshore & Energy. Together, they are responsible for the planning, engineering, procurement of components, construction, offshore installation and commissioning of the substation and of the foundations, the so-called jacket.
- By year-end 2023, 50Hertz has received the permits for the offshore platform, and cable sections in EEZ and territorial waters by the respective authorities. Preparatory activities have also begun.

Ost 6-1

- Planning approval procedures for the onshore as well as for the offshore section have started in 2022.
- Important procurement processes were started immediately after the grid connection was awarded by the Federal Network Agency and successfully completed in 2023. In contrast to the new projects in the Exclusive Economic Zone, the platforms will be shared with the offshore wind farms, with a corresponding cost sharing between the offshore wind farm and 50Hertz. The procurement of the platform is the responsibility of 50Hertz.
- 50Hertz awarded platform contracts for grid connections to a Dutch-Belgian consortium, consisting of the companies HSM Offshore Energy, Smulders and Iv-Offshore & Energy. Together, they are responsible for the planning, engineering, procurement of components, construction, offshore installation and commissioning of the substations and of the foundations, the so-called jacket.

SouthEastLink

- Ahead of schedule, 50Hertz signed a contract for the second pair of cables, awarding manufacturer NKT from Denmark in August 2022.
- In October 2022, 50Hertz received approval according to the Federal Emission Protection Act (BImSchG) for the voltage-source converter at the Wolmirstedt substation site. The converter will produce the direct current for one of the two HVDC-lines. First ground works started in late 2022. Meanwhile, the converter hall buildings have been largely erected and the works are progressing.
- Along the possible routing, various activities took place, such as archeological investigations, soil investigations as well as search and clearance of possible unexploded ordnance.
- First property owners in Thuringia and Saxony were contacted to negotiate the registration of the SouthEastLink routes in the land registries.
- In 2023, the documents for all three approval sections in relation to the application procedure (Section 21 of the Grid Expansion Acceleration Act Transmission Grid Expansion Acceleration Act (NABEG)) were submitted to the BNetzA. In addition, for selected construction measures in approval section B for an early start to construction (Section 44c EnWG) were submitted to the BNetzA and approved. Currently, the project team is working on some adjustments in section B and on the preparation of the public reviews.

SouthEastLink+

- In summer 2022, 50Hertz started the intense planning phase for the northern section between Klein-Rogahn and Wolmirstedt. This was supported by various public participation events to introduce first the planning methodology and later the drafted corridor planning. The aim was to get feedback from authorities, associations and the broader public. 50Hertz received more than 100 hints and suggestions.

- In December 2022, earlier than previously expected, 50Hertz submitted the application to initiate the Federal Sectoral Planning process to the Federal Network Agency in Bonn. This again was supported by public participation measures.

- In late 2023, 50Hertz signed an order extension to the existing contract with Siemens Energy AG for the second converter to be in the search area Klein Rogahn.

Wolmirstedt-Güstrow overhead line:

- Güstrow – Parchim Süd section, about 50 kilometres: 50Hertz has received the urban land use plan for the construction of the 380-kV headline between Güstrow and the substation of Parchim Süd. The relevant ministry in Mecklenburg-Western Pomerania issued the permit in December 2023. This marks the successful end of various years of planning.

- Parchim Süd – state border Mecklenburg-Western Pomerania to Brandenburg section, about 22 kilometres: In 2022 permission was granted and construction has started in November.

- State boarder Mecklenburg-Western Pomerania to Brandenburg – Perleberg, about 18 kilometres: Project approval was still pending at competent authority in 2022, however has been granted in February 2023.

- Perleberg – state border Brandenburg to Saxony-Anhalt, about 16 kilometres:
Application documents for approval were submitted in September 2023.

- State border Brandenburg to Saxony-Anhalt – Stendal West, about 49 kilometres:
Application documents for approval of construction were submitted in April 2022, public disclosure ended in January 2023.

- Stendal West – Wolmirstedt, about 37 kilometres: System was commissioned in 2020 and brought to operation after a successful testing phase thereafter.

Substations:

- Projects in approval phase at different stages and/or procurement procedures started:
Beetzsee

- Projects with construction ongoing:
Klostermansfeld, Malchow, Pasewalk, Güstrow, Perleberg, Bertikow

- Projects entirely finished and / or in operation:
Altdöbern, Neuenhagen

c) Reporting on the impact

Through the Eligible Projects, Eurogrid contributes to the realization of the United Nations Sustainable Development Goals (SDGs), more specially to “SDG 7: Affordable and Clean Energy” and “SDG 13: Climate Action”.

The Eligible Projects are also in line with the EU’s Action Plan for Financing Sustainable Growth as they contribute to the EU’s environmental objective of Climate Change Mitigation and fall under the NACE[1] sector: “transmission of electricity” (D35.1.2). The aim is to increase the numbers of households that could be supplied by wind energy and consequently avoid CO_2-emissions. The impact report contains the overall project impacts with information about the total project size.

[1] NACE : Nomenclature statistique des activités économiques dans la Communauté Européenne, is the European statistical classification of economic activities.

I. Provided through Green Bond issued in 2020 (ISIN XS2171713006) – fully allocated since 2021

	Renewable energy provided by the project (in kWh) in FY 2023	**Avoided CO_2 emissions (in tons CO_2 equivalent) in FY 2023**	**Number of households supplied with 100 % renewable energy in FY 2023**
Ostwind 1	Approx 2,426,158,367 √	Approx 793,354 √	Approx 717,162 √
Total	**Approx 2,426,158,367 √**	**Approx 793,354 √**	**Approx 717,162 √**

„√“: assurance procedures performed

II. Provided through Green Bond issued in 2022 (ISIN XS2527319979) – fully allocated since 2023

	Renewable energy provided by the project (in kWh) in FY 2023	**Avoided CO_2 emissions (in tons CO_2 equivalent) in FY 2023**	**Number of households supplied with 100 % renewable energy in FY 2023**
Ostwind 2 (OST-2-1)	Approx 587,284,315 √	Approx 192,042 √	Approx 173,599 √
Neuenhagen substation	Approx 899,000,000 √	Approx 293,973 √	Approx 265,740 √
Altdöbern substation	Approx 745,000,000 √	Approx 243,615 √	Approx 220,219 √
Total	**Approx 2,231,284,315 √**	**Approx 729,630 √**	**Approx 659,558 √**

„√“: assurance procedures performed

		The avoided CO_2 emissions were calculated with this formular:
Avoided CO_2 emissions	=	Amount of renewable energy provided in kWh × CO_2 emissions per kWh
		using an own calculation from 01/2024 based on hourly consumption values (more information on methodology available at: https://eco2grid.50hertz.com/calculation **√ 327 g CO_2/kWh in 2023**

		The Number of households supplied with 100% renewable energy was calculated with this formular:
Number of households supplied	=	amount of renewable energy provided in kWh average power consumption per year per household
		using the latest available reference, i.e. Statistisches Bundesamt (Federal Statistical Office) publication "Stromverbrauch der privaten Haushalte nach Haushaltsgrößenklasse, dated Sep. 2023: https://www.destatis.de/EN/Themes/Society-Environment/Environment/Environmental-Economic-Accounting/private-households/Tables/electricity-consumption-private-households.html **√ 3,383 kWh/p.a. per household in 2021**

d) Reporting on working and safety conditions during construction and maintenance work at eligible project sites in 2023

Accidents 50Hertz

Number of accidents 2022	Number of accidents 2023	thereof resulting in sick leave	Sick leave accident-related (days)
11	2 √	1 √	11 √

Accidents subcontractors

Number of accidents 2022	Number of accidents 2023	thereof resulting in sick leave	Sick leave accident-related (days)
37	34 √	24 √	329 √

„√": assurance procedures performed

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