

# Green Bond Reporting 2024



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# 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. This green bond framework governs amongst other aspects the use of green bond proceeds and allocation within Eurogrid Group.

After issuing the green bonds in May 2020 and September 2022 Eurogrid issued two double green bonds under the green bond framework in the amount of EUR 1.5 billion on February 1<sup>st</sup> 2024 and EUR 1.5 billion on October 24<sup>th</sup> 2024. The new corporate bonds were issued on the regulated market with the support of Mizuho, Rabobank, Santander and Unicredit for the issuance in February and with ING, BNP, Commerzbank, Natwest, ABN Amro and Royal Bank of Canada for the issuance in October.

Like all Eurogrid public bonds these securities are listed on the Luxembourg Stock Exchange.

In February 2025, the green bond 6 was increased by means of a tap in the amount of EUR 200 million, this increase is not included in the table below.

## Green Bond Reporting

	<b>Issuance Date</b>	<b>Volume (in m€)</b>	<b>Domination (in €)</b>	<b>Maturity (in years)</b>	<b>Rate of interest (in %)</b>	<b>ISIN</b>
Green Bond 1	15 May 2020	750	100,000	12	1.113	XS2171713006
Green Bond 2	5 Sept. 2022	750	100,000	9	3.279	XS2527319979
Green Bond 3	1 Feb 2024	700	100,000	5	3.598	XS2756341314
Green Bond 4	1 Feb 2024	800	100,000	10	3.915	XS2756342122
Green Bond 5	24 Oct 2024	650	100,000	3	3.075	XS2919679816
Green Bond 6	24 Oct 2024	850	100,000	11	3.732	XS2919680236

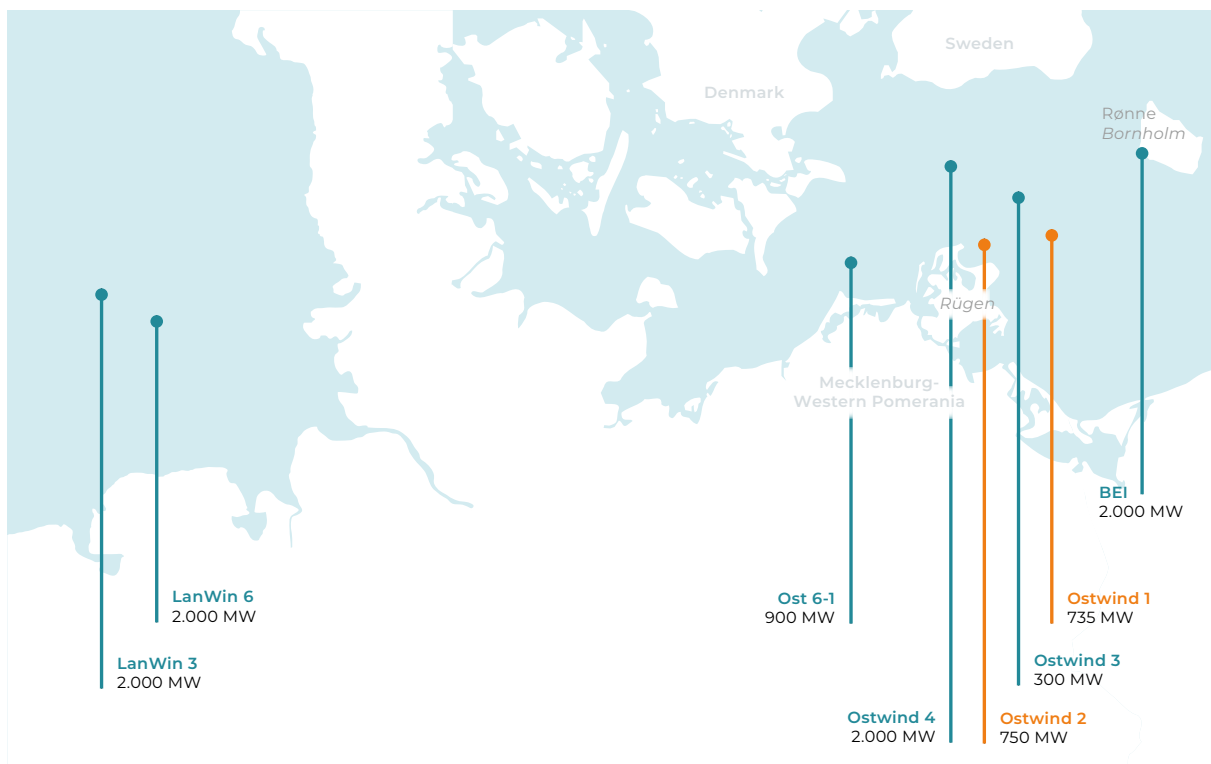
As of 31 December 2024.

# Projects under this report

Proceeds of this transaction are financing different eligible on- and offshore projects of Eurogrid's subsidiary 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 substations in the Lubmin region with a total capacity of around 1.05 gigawatts.  
  
The **Ostwind 2** project provides connection to the offshore wind farms "**Arcadis Ost 1**" and "**Baltic Eagle**". 50Hertz has jointly built two 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**" provides a maximum of 300 megawatts and the offshore platform will be built and operated by 50Hertz.
- **Ostwind 4** will be the first HVDC connection of 50Hertz in the Baltic Sea. A single HVDC cable will transmit the power of the OstseeEnergies windpark of TotalEnergies, collected and transmitted via a HVDC converter in latest 525-kV standard technology. The integration into the onshore grid will be made in the Stilow substation.
- **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 AC cable connections will be around 90 km long each, of which 54 km will be in the Baltic Sea and approximately 35 km on land.
- **LanWin3** is the first North Sea grid connection of 50Hertz. It will be built in 525-kV technology and the design is closely aligned with the **Lanwin2** grid connection of the transmission system operator Tennet. The offshore substation will connect the Oceanbeat East windfarm of BP.
- **LanWin6** will be the second 50Hertz grid connection in the North Sea, applying the latest 525-kV HVDC technology. The grid connection will be provided for a windfarm to be allocated in the 2026 auction cycle.
- **Bornholm Energy Island (BEI)** shall be the first hybrid interconnector project. A 2 GW HVDC connector will transport energy between Rappenhagen (near Lubmin) and Bornholm. Another link will connect the island of Bornholm and Danish mainland (1.2 GW capacity). Off Bornholm, 3 GW of offshore wind capacity shall be erected. The EU has recently awarded EUR 645m as support for this ground-breaking hybrid interconnector project.



-  Offshore connections in operation (over 1.8 GW)
-  Offshore connections under construction or in preparation (over 9 GW)

Figure 1: Current and future offshore projects from this report.

**Onshore cables – enabling long distance transport:**

**SuedOstLink (SOL)**

- In October 2022, 50Hertz received approval according to the Federal Emission Protection Act (BlmSchG) for the voltage-source converter at the Wolmirstedt sub-station 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 as well as most of the electrical equipment have been installed and the works are progressing.
- After submission of the application documents for the three approval sections in 2023 (Section 21 of the Transmission Grid Expansion Acceleration Act (NABEG)), the first approval (Section 24 of NABEG) has been received from the Federal Network Agency in December 2024 for approval section B. The remaining two approvals are expected in spring 2025.
- In addition to selected construction measures (e.g. horizontal directional drillings) and pipe jackings in crossings that have been realized based on approvals for an early start to construction (Section 44c EnWG) in all three sections, the building approvals according to Section 24 now allow for full-fledged construction works. In preparation to this, most of the civil works have been contracted.

- The production of the cable by NKT is progressing. A significant number of cable drums have in the meanwhile been stored in the intermediate storage area in Magdeburg, allowing for the first cable-sections to be pulled-into the protection pipes in the course of 2025.

**SuedOstLink+ (SOL+)**

- 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.
- 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 for the second converter to be in the search area Klein Rogahn.
- In autumn 2024, 50Hertz purchased the land required for the erection of the converter, allowing for the detailed planning by Siemens Energy.



- In September 2023, 50Hertz signed a long-term cable supply contract with NKT from Denmark and Prysmian from Italy, both project i.e. **SuedOstLink** and **SuedOstLink+** will receive cables from NKT.
- Whereas originally 50Hertz intended to make use of the Renewable Energies Directive III to speed-up the permit procedure, the breakup of the Federal Government in November 2024 required a change in the application strategy since the necessary adoption of this directive can no longer be expected in due time. This will cause a delay of the commissioning date. To minimize this delay, 50Hertz will make use of the EU emergency directive and will apply for Section 19 NABEG by June 2025.

### **NordOstLink (NOL)**

- For **NordOstLink** that is again a joint project with TenneT, 50Hertz in late 2023 signed a cooperation agreement with TenneT, defining the respective scopes and responsibilities to realize this project, which comprises two 2 GW cable systems and multi-terminal hubs in Heide and Pöschendorf near Hamburg to which the offshore grid connections **LanWin3** and **LanWin6** shall be connected, and DC cables to link the converters in Heide and Pöschendorf with two further converters in Klein Rogahn.
- In July 2024, 50Hertz signed a contract for the delivery of the converter in Klein Rogahn as well as for the offshore substation with a consortium of Siemens Energy and the shipyard Dragados from Spain. The required land in the search area Klein Rogahn was purchased in February 2025.
- The cables required for both systems DC31 and DC32 will be delivered by Prysmian (DC31) and NKT (DC32).
- **NordOstLink** was declared by the German Federal Ministry of Economics a show case project for the new permit procedure using so-called preference areas for the cable routes. The Federal Network Agency as the responsible permitting authority published the preference area in late 2023, and 50Hertz handed-in the applications for Section 19 NABEG according to the EU emergency directive in June 2024.

### **Onshore AC overhead lines – enabling long distance transport and increased infeed of renewable energies:**

- In 2024 nearly 130 km of overhead lines have been installed. The newly built 380-kV lines are mainly replacing lower capacity 220-kV lines. Thereby 50Hertz substantially reinforces the north-south connections, transporting on- and offshore renewable energy to industry and urban centers (e.g. projects like Wolmirstedt-Güstrow, Uckermark North and South lines).

At the same time also east-south connections have been reinforced for supporting the increased infeed from renewables (i.e. transition areas of former coal mining) and new industry clusters as well as energy exchange with neighboring grids (Pulgar-Vieselbach line, Röhrsdorf-Weida-Remptendorf line).

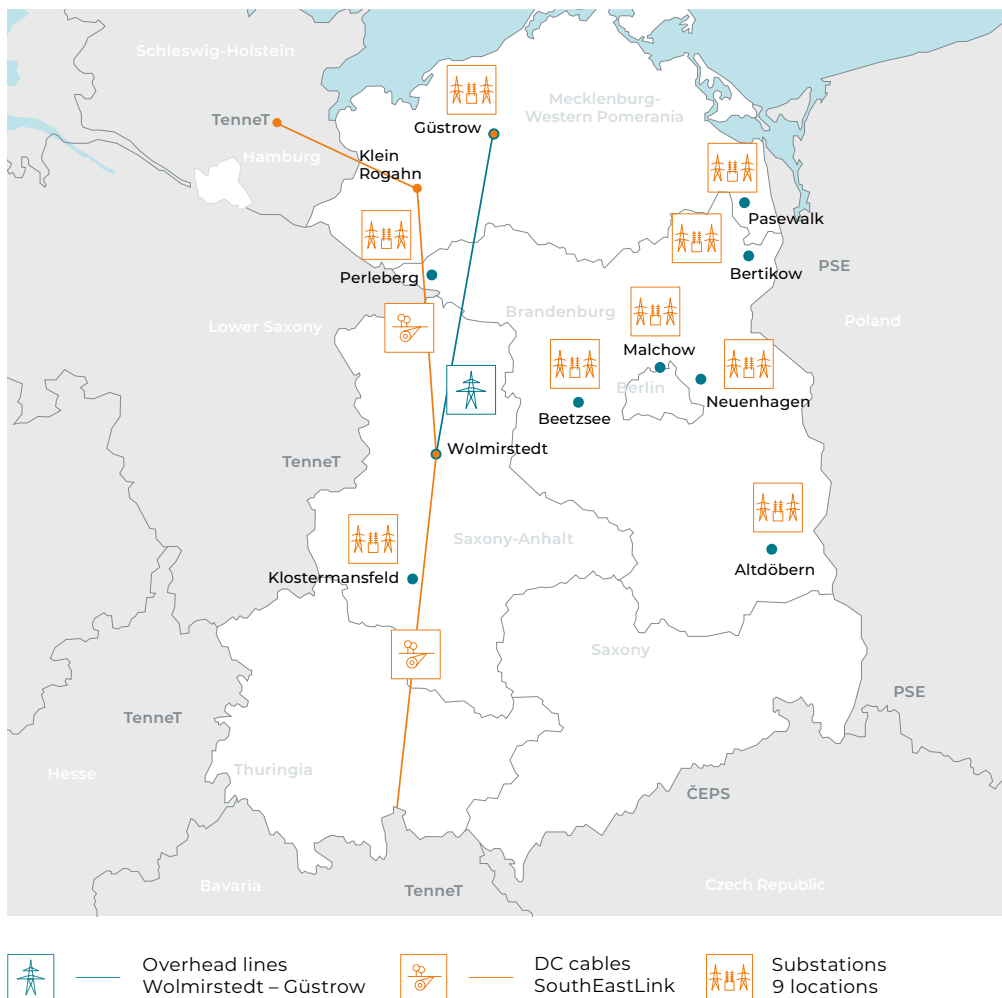
**Onshore substations – enabling the integration of renewable energy for long distance transport and/or the distribution and delivery of renewable energy to consumers:**

**Increase of transforming capacities by transformers in MVA (mega volt ampere) at the substation:**

	Pasewalk
<b>MVA</b> (mega volt ampere)	800

**Increase of reactive power capacities by shunt reactors in MVar (mega var) at five substations:**

	Pasewalk	Perleberg
<b>MVar</b> (mega var)	75	75



**Figure 2:** Current and future onshore projects from this report.

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<sub>2</sub> emissions. The green bond framework complies with the principles of the International Capital Market’s Association (ICMA).

An independent party evaluation of the green bond framework with the principles of ICMA was carried out by the second party opinion provider and ESG-rating agency imug rating (now part of Ethi Finance) in June 2022.

# Allocation and Impact Reporting

## a) Reporting on allocation of Green Bond proceeds

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

As stated in the second party opinion issued by imug rating in June 2022 green bond proceeds could be used to refinance up to 24 months looking backwards. Eurogrid decided to use new Green Bonds proceeds to refinance investments that occurred after 1st January 2024, i. e. only looking backwards for about 20 months

## Green Bond 1 issued in 2020

Proceeds of this green bond were fully allocated, we revert to our Green Bond Report 2021.

## Green Bond 2 issued in 2022

Proceeds of this green bond were fully allocated, we revert to our Green Bond Report 2023.

## Green Bond 3 issued in 2024

Proceeds of this green bond were fully allocated in projects from 2023 and 2024.

mEUR	allocated per 31 December 2023	allocated per 31 December 2024	Share of green bond proceeds
<b>Onshore cables, connecting wind and/or solar power installations and/or enabling long distance transport:</b>			
SuedOstLink (SOL))	246.6 ✓	453.4 ✓	100% ✓
<b>Total</b>	246.6 ✓	453.4 ✓	100% ✓

„✓“: assurance procedures performed

## Green Bond 4 issued in 2024

Proceeds of this Green bond was allocated to 98.1% in projects from 2023 and 2024.

mEUR	allocated per 31 December 2023	allocated per 31 December 2024	Share of green bond proceeds
<b>Offshore platforms:</b>			
Ostwind 2	118.4 ✓	51.3 ✓	21.2% ✓
Ostwind 3	208.3 ✓	362.0 ✓	71.3% ✓
Bornholm Energy Island		44.5 ✓	5.6% ✓
<b>Total</b>	326.7 ✓	457.9 ✓	98.1% ✓

„✓“: assurance procedures performed



### Green Bond 5 issued in 2024

Proceeds of this green bond was fully allocated in projects from 2023 and 2024.

mEUR	allocated per 31 December 2023	allocated per 31 December 2024	Share of green bond proceeds
<b>Onshore cables, connecting wind and/or solar power installations and/or enabling long distance transport:</b>			
SuedOstLink (SOL)	0 ✓	12.1 ✓	1.9% ✓
SuedOstLink+ (SOL+)	9.8 ✓	105.0 ✓	17.7% ✓
NordOstLink (NOL)	3.2 ✓	178.6 ✓	28.0% ✓
<b>Onshore lines and pylons enabling long distance transport:</b>			
OL Wol-Gue	38.0 ✓	18.1 ✓	8.6% ✓
Uckermark-Süd	117.5 ✓	78.0 ✓	30.1% ✓
Uckermark-Nord	22.6 ✓	14.5 ✓	5.7% ✓
<b>Substations:</b>			
for onshore connection	24.2 ✓	28.5 ✓	8.1% ✓
<b>Total</b>	<b>215.3 ✓</b>	<b>434.7 ✓</b>	<b>100.0% ✓</b>

„✓“: assurance procedures performed

### Green Bond 6 issued in 2024

Proceeds of this green bond were allocated to 26.3% in projects from 2023 and 2024.

mEUR	allocated per 31 December 2023	allocated per 31 December 2024	Share of green bond proceeds
<b>Offshore platforms:</b>			
Ostwind 2	0 ✓	4.4 ✓	0.5% ✓
Ostwind 4	0 ✓	95.1 ✓	11.2% ✓
LanWin3	2.1 ✓	98.3 ✓	11.8% ✓
LanWin6	0 ✓	23.3 ✓	2.7% ✓
<b>Total</b>	<b>2.1 ✓</b>	<b>221.1 ✓</b>	<b>26.3% ✓</b>

„✓“: assurance procedures performed

## b) Reporting on progress of the eligible projects in 2024:

### Offshore-Projects

#### 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 had already been successfully installed and were commissioned in 2024. The grid connection has been in regular operation since.

#### 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.
- 50Hertz has received the planning approval for the coastal sea section by the relevant authorities.
- The platform contracts for grid connection are in execution by 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. Both jacket and platform are under construction according to plan.
- By year-end 2024, 50Hertz has started the installation campaign for the sea cable. The duct work for the land cable section (including related work for Ostwind 4 and Bornholm Energy Island) was completed.

#### Ostwind 4

- By the end of 2024 50Hertz has awarded the HVDC converter and platform to a consortium composed out of GE Vernova and Drydocks Dubai World. The works include two HVDC converters with 2 GW each at a DC voltage level of 525kV and an offshore platform including substructure and installation.
- Site investigation and permit preparation are progressing as planned.

#### Ost 6-1

- The Dutch-Belgian platform consortium, consisting of the companies HSM Offshore Energy, Smulders and Iv-Offshore & Energy, has started the construction of the offshore grid platforms.
- 50Hertz and Skyborn Renewables have signed a memorandum of understanding on the joint platform use due to the specific legal requirements of the project in German coastal waters.
- Cable route preparation was started and is progressing on schedule.
- Construction works for the new onshore substation in Gnewitz have started.

#### LanWin3

- 50Hertz as awarded the platform and HVDC converter to a consortium comprised out of Siemens Energy and Dragados Offshore. The platform and the converter design will be highly aligned with TenneT's Lanwin2 converter and platform package in order to capture synergies.
- In addition, the HVDC cable production slots were reserved with Prysmian.
- Site investigations and route planning is ongoing.

#### LanWin6

- Preparation for route and site investigation were launched.
- The tender preparation was initiated and several models for the award are under investigation.

#### Bornholm Energy Island (BEI):

- The tender for the HVDC systems was held and offers were investigated.
- The EU has awarded EUR 645m as support for the novel hybrid interconnector approach.
- Reservation contracts for cable production and installation were concluded with NKT.

## Onshore-Projects

### SuedOstLink (SOL)

- In October 2022, 50Hertz received approval according to the Federal Emission Protection Act (BlmSchG) 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 as well as most of the electrical equipment have been installed and the works are progressing.
- After submission of the application documents for the three approval sections in 2023 (Section 21 of the Transmission Grid Expansion Acceleration Act (NABEG)), the first approval (Section 24 of NABEG) has been received from Federal Network Agency in December 2024 for approval section B. The remaining two approvals are expected in spring 2025.
- In addition to selected construction measures (e.g. horizontal directional drillings and pipe jackings in crossings) that have been realized based on approvals for an early start to construction (Section 44c EnWG) in all three sections, the building approvals according to Section 24 now allow for full-fledged construction works. In preparation for this, most of the civil works have been contracted.

The production of the cable by NKT is progressing. A significant number of cable drums have meanwhile been stored in the intermediate storage area in Magdeburg, allowing for the first cable-sections to be pulled-into the protection pipes in the course of 2025.

### SuedOstLink+ (SOL+)

- 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. 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 for the second converter to be in the search area Klein Rogahn.
- In autumn 2024, 50Hertz purchased the land required for the erection of the converter, allowing for the detailed planning by Siemens Energy.

- As part of the Long-Term Cable Supply contract 50Hertz signed with NKT from Denmark and Prysmian from Italy, the cable required for **SuedOstLink+ (SOL+)** will, likewise the cable for **SuedOstLink (SOL)**, be delivered by NKT.

Whereas originally 50Hertz intended to make use of the Renewable Energies Directive III to speed-up the permit procedure, the break of the Federal Government in November 2024 required a change in the application strategy since the necessary adoption of this directive can no longer be expected in due time. This will cause a delay of the commissioning date. To minimize this delay, 50Hertz will make use of the EU-emergency directive and will apply for Section 19 NABEG by June 2025.

### NordOstLink:

- For **NordOstLink** that is again a joint project with TenneT, 50Hertz in late 2023 signed a cooperation agreement with TenneT, defining the respective scopes and responsibilities to realize this project, which comprises two 2 GW cable systems and multi-terminal hubs in Heide and Pöschendorf near Hamburg to which the offshore grid connections LanWin3 and LanWin6 shall be connected, and DC cables to link the converters in Heide and Pöschendorf with two further converters in Klein Rogahn.
- In July 2024, 50Hertz signed a contract for the delivery of the converter in Klein Rogahn as well as for the offshore substation with a consortium of Siemens Energy and the shipyard Dragados from Spain. The required land in the search area Klein Rogahn was purchased in February 2025.
- The cables required for both systems DC31 and DC32 will be delivered by Prysmian (DC31) and NKT (DC32) under the Long-Term Cable Supply.
- **NordOstLink** was declared by the Federal Ministry of Economics a show case project for the new permit procedure using so-called preference areas for the cable routes. BNetzA as the responsible permitting authority published the preference area in late 2023, and 50Hertz handed-in the applications for Section 19 NABEG according to the EU emergency directive in June 2024.

## Overhead lines

### Wolmirstedt-Güstrow overhead line

- An existing 220-kV overhead line between the substations of Güstrow in Mecklenburg-Western Pomerania and Wolmirstedt is currently under replacement by a 380-kV overhead line in Brandenburg. The planned overhead line is divided into four sections and most of the parts run along the existing line route.
- Section Stendal West–Wolmirstedt, about 37 km: System was commissioned in 2020 and brought to operation after a successful testing phase thereafter.
- Section Parchim Süd–Perleberg with a length of 34 km was constructed in the years 2023 and 2024 and successfully commissioned in March 2024.
- Section Güstrow–Parchim Süd section with about 50 km has finally received all necessary permissions in 2024 and construction has started end of 2024.
- Section Stendal West–Perleberg, about 65 km: Last of the four sections is currently in permitting phase. Approvals expected in 2026 and construction is planned for the years 2027–2028.

### Uckermark-Süd

- The 380-kV Uckermark Süd will transport the infeed of renewable energies from Northeast of Brandenburg and parts of Mecklenburg-Vorpommern to load and industry intensive regions further south, especially the Berlin area. In addition the Uckermark Süd is an important part of European grid due to the link to substation Vierraden. Vierraden is connected with the Polish substation Krajnik.
- The Uckermark Süd is mainly replacing an old 220-kV overhead line with a new 380-kV overhead line with increased transport capacities. The total length is 125 km and it connects the Substations Pasewalk, Bertikow, Vierraden and Neuenhagen (near Berlin).
- After commissioning of certain section in 2023 and March of 2024 the commissioning of last section between Bertikow and Vierraden took place in November 2024.

### Uckermark-Nord

- Together with the newly constructed Uckermark Süd line the 380-kV Uckermark Nord overhead line plays an important role for the transport of the infeed by renewable energies (mainly wind) from North to Berlin region.

- The 380-kV overhead line between Pasewalk and Bertikow will increase the capacity for electricity transport in the north-eastern part of the 50Hertz control area and guarantee the security of supply in this region and enable the energy transition.
- There was already a 220-kV high voltage line between Pasewalk and Bertikow. During grid development, that was replaced with a 380-kV overhead line. For the more powerful 380-kV overhead line, new pylons are constructed on the 40 km long route between the substations of Bertikow in Brandenburg and Pasewalk Nord in Mecklenburg-Western Pomerania.
- All construction works have been finalised until the end of 2024, except for one last connection to the newly ordered transformer in Bertikow. Since the delivery of transformer was delayed both lines could be commissioned in 2024, but one runs still on 220 kV.

## Substations

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

### Projects with construction ongoing:

#### Pasewalk

- The feed-in power from onshore and offshore wind turbines and photovoltaic systems expected in the 50Hertz control area requires an increase in transmission capacity in the Pasewalk – Güstrow region. The aim is to complete the 3rd and 4th construction phases in 2025, including the commissioning of a transformer and the dismantling of the old 220-kV system. One 400 MVA transformer went into operation in July, one in October 2024. Additionally, one shunt reactor was installed in 2024.

#### Güstrow

- As in the Pasewalk substation, an increase in transmission capacity is also necessary here due to increased feed-in of renewable energy in the northern region. Therefore, among other things, two 380-kV line switch panels will be built, and four cross-control transformers will be installed. One of the transformers was delivered in December last year and the foundation was set accordingly.

### Stilow (for connection of offshore wind to onshore grid)

- The substation near Stilow is being built, to feed the electricity from the offshore wind parks in the Baltic Sea into the existing 50Hertz transmission grid. The substation will be built as an air-insulated switchgear. The construction work, which started in July 2024, is ongoing as planned. While steel construction will start at the beginning of 2025, the transport road was completed in September 2024.

### Malchow

- The aim of the project – new building due to expansion – is the bottleneck-free transmission of 380-kV load flows via the Malchow network node and increasing circuit flexibility in the north of Berlin. To ensure this and to be able to integrate renewable systems in the future, two existing transformers (250 MVA) will be replaced by more powerful transformers, among other things. In May 2024, a transformer was successfully put into operation on the new system.

### Perleberg

- The project is intended to enable the EEG feed-in power expected in the 110-kV network of the distribution network operator WEMAG to be recorded in the Perleberg region according to requirements. Therefore, two 200 MVA transformers will be replaced by two 400 MVA transformers. One of the necessary shunt reactors was put into operation in May 2024.

### Bertikow

- The aim of the project in substation Bertikow is to increase transport capacity on the Pasewalk-Bertikow line by increasing the operating voltage from 220 kV to 380 kV. The Bertikow substation is an important feed-in point for the electricity produced from renewable energies in the north-eastern part of the 50Hertz control area. Between August and October 2024, significant construction work was completed. The first construction phase, including the control panel, was commissioned in October 2024.

### Beetzsee/Nord

- The aim of this project is to absorb the EEG feed-in power expected in the 110-kV West sub-grid of the distribution network operator. In order to achieve this, a new substation with 380-/110-kV transformer is to be built in the Beetzsee/North area. The substation enables volatile wind and solar energy from the region to be fed into the grid, thus avoiding overloads in the transmission and distribution network. The project is currently – and was in 2024 – in the preparation and planning phase. Approval and thus the start of construction are expected in 2029.

### Lubmin

- The Arcadis Ost 1 and Baltic Eagle wind farms will be connected to the onshore transmission grid via Ostwind 2. The landing point is on the coast and from there the route is connected to the Lubmin substation via an overland cable. The aim of the substation project is to connect H<sub>2</sub> client projects in the direct vicinity of the substation and therefore to replace the existing throttle due to its age. In 2024, the technical preliminary planning and preparation of the approval took place. The BImSchG approval is expected in 2025. The connection installer contract was also concluded in 2024.

### Projects finished and/or went in operation:

#### Klostermansfeld

- The distribution network operator asked 50Hertz early on to initiate the expansion of the Klostermansfeld substation in order to increase the consumption of renewable energy power. New wind farms, the renewal of wind turbines and ground-mounted photovoltaic systems are planned or already implemented for the region. As part of the project, the transformer capacity in the Klostermansfeld substation was expanded by a fourth 380-/110-kV transformer and the installation of a third bushing. The recommissioning of the transformers after the corresponding renovation work and expansion was completed in 2024. In addition, e-charging stations were installed in Klostermansfeld, built in accordance with the e-mobility implementation concept.

#### Altdöbern

- In the Großräschen region, more and more electricity from photovoltaic and wind power plants is being fed into the distribution grid. Therefore, the aim of this project was the demand-oriented recording of the expected EEG feed-in power in the 110-kV grid of the distribution grid operator “Mitnetz Strom”. In order to achieve this, a new 380-/110-kV substation was built in the Großräschen/Altdöbern area. The new substation is connected to the existing 380-kV overhead line Preilack-Streumen via a loop-in and is thus integrated into the transmission grid. The substation went into operation in 2021.

#### Neuenhagen

- The focus of the project was to increase the transmission capacity and to create the possibility of fully absorbing EEG feed-ins from the 110-kV grid of the distribution grid operator into the 380-kV grid of 50Hertz. To achieve this, the current carrying capacity, the short-circuit current resistance of the 380-kV switchgear and the transformer capacity (380-/110-kV) were increased. The substation went into operation in 2023.

### 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<sup>1</sup> 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<sub>2</sub> emissions.

<sup>1</sup> 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 – fully allocated since 2021

	Renewable energy provided by the project (in kWh) in FY 2024	Avoided CO <sub>2</sub> emissions (in tons CO <sub>2</sub> equivalent) in FY 2024	Number of households supplied with 100% renewable energy in FY 2024
Ostwind 1	Approx 2,375,934,080 ✓	Approx 677,141 ✓	Approx 702,316 ✓
<b>Total</b>	<b>Approx 2,375,934,080 ✓</b>	<b>Approx 677,141 ✓</b>	<b>Approx 702,316 ✓</b>

„✓“: assurance procedures performed

#### II. Provided through Green Bond issued in 2022 – fully allocated since 2023

	Renewable energy provided by the project (in kWh) in FY 2024	Avoided CO <sub>2</sub> emissions (in tons CO <sub>2</sub> equivalent) in FY 2024	Number of households supplied with 100% renewable energy in FY 2024
Ostwind 2 (OST-2-1)	Approx 1,209,906,970 ✓	Approx 344,823 ✓	Approx 357,643 ✓
Neuenhagen substation	Approx 1,362,744,000 ✓	Approx 388,382 ✓	Approx 402,821 ✓
Altdöbern substation	Approx 1,225,112,000 ✓	Approx 349,157 ✓	Approx 362,138 ✓
<b>Total</b>	<b>Approx 3,797,762,970 ✓</b>	<b>Approx 1,082,362 ✓</b>	<b>Approx 1,122,602 ✓</b>

„✓“: assurance procedures performed



The avoided CO <sub>2</sub> emissions were calculated with this formular:		The Number of households supplied with 100% renewable energy was calculated with this formular:	
Avoided CO <sub>2</sub> emissions	= $\frac{\text{Amount of renewable energy provided in kWh}}{\text{CO}_2 \text{ emissions per kWh}}$	Number of households supplied	= $\frac{\text{amount of renewable energy provided in kWh}}{\text{average power consumption per year per household}}$
	using an own calculation from 01/2025 based on hourly consumption values (more information on methodology available at: <a href="#">eCO<sub>2</sub>grid   50Hertz</a> )		using the latest available reference, i.e. Statistisches Bundesamt (Federal Statistical Office) publication “Stromverbrauch der privaten Haushalte nach Haushaltsgrößenklasse, dated Sep. 2023: <a href="#">Private Households - German Federal Statistical Office (destatis.de)</a>
	<b>√ 285 g CO<sub>2</sub>/kWh in 2024</b>		<b>√ 3,383 kWh/p. a. per household in 2021</b>

**d) Reporting on working and safety conditions during construction and maintenance work at eligible project sites in 2024**

**Accidents 50Hertz**

Number of accidents 2022	Number of accidents 2023	Number of accidents 2024	thereof resulting in sick leave	Sick leave accident-related (days)
11	2 √	6 √	5 √	67 √

**Accidents subcontractors**

Number of accidents 2022	Number of accidents 2023	Number of accidents 2024	thereof resulting in sick leave	Sick leave accident-related (days)
37	34 √	37 √	33 √	587 √

„√“: assurance procedures performed

**e) Green Finance Committee Meetings**

In 2024, two meetings in July and November were held within the Green Finance Committee. The agenda contained questions of ideal allocation of green proceeds to certain projects within the organisation. A constant guidance is the current Green Bond Framework of Eurogrid.



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