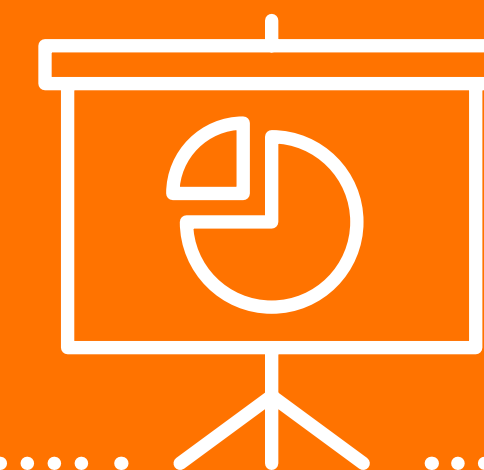


# Facts & figures 2022





## About us

We operate the electricity transmission system in the north and east of Germany and are expanding it to meet the requirements of the energy transition. We are leaders in renewable energy sources (RE) – by 2032, we aim to reliably incorporate 100 per cent RE into our grid and system, calculated over the course of a year.

The 50Hertz grid area covers the federal states of Brandenburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt and Thuringia, as well as the federal city states of Berlin and Hamburg. In these regions, the 50Hertz team of roughly 1,600 employees ensures the power supply for 18 million people around the clock. In 2022, our extra-high-voltage grid had a total circuit length of over 10,500 kilometres – that is the distance from Berlin to Rio de Janeiro.

The shareholders of 50Hertz are the listed Belgian holding company Elia Group (80 per cent) and the KfW banking group with a stake of 20 per cent. As a European transmission system operator, we are members of the European association ENTSO-E.







## Our locations

### 50Hertz Netzquartier

Company headquarters in Berlin  
+49 (0) 30 5150-0  
info@50hertz.com

### Northern Regional Centre

+49 (0) 3843-2852 95  
ralf.plischke@50hertz.com

### Central Regional Centre

+49 (0) 3342-2332 21  
carsten.hose@50hertz.com

### Eastern Regional Centre





+49 (0) 3542-8719 0431  
+49 (0) 3722-6393 00  
uwe.granzow@50hertz.com

### Southern Regional Centre

+49 (0) 3456-1364 71  
uwe.herrmann@50hertz.com

### Western Regional Centre

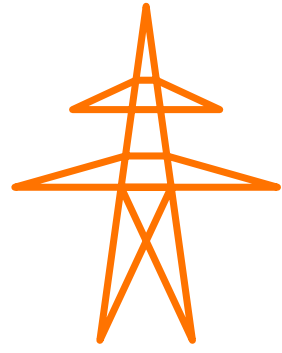
+49 (0) 39201-68411  
andreas.moetzing@50hertz.com

-  Headquarters
-  Regional centre
-  Central regional centre / control centre
-  Central regional west / Sub Station Hamburg East





## Our roles



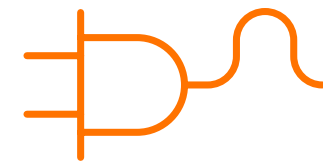
### Transmission system operator

We provide the electricity network infrastructure for today and tomorrow.



### System controller

We keep the electricity system in balance.



### Market facilitator

We are part of the integrated European energy market.



### Trustee


We integrate renewable energies into the market transparently.

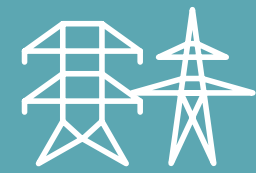





# 2022 in overview

## Context

  
approx.  
**18 million**  
consumers in the 50Hertz grid area, supplied via the distribution system operators

  
**10,500 km**  
circuit length

  
**109,712 km<sup>2</sup>**  
grid area


## Finances

  
**€1.086 billion**  
investment volume

  
**€236 million**  
profit (IFRS)

  
**€2.188 billion**  
order volume (companies with their headquarters in Germany)

## Environment

  
approx.  
**65%**  
share of renewable energies in electricity consumption (calculated as an annual average based on total consumption in 2022)


  
**368 km**  
bird-protection markers

  
**652**  
construction site inspections

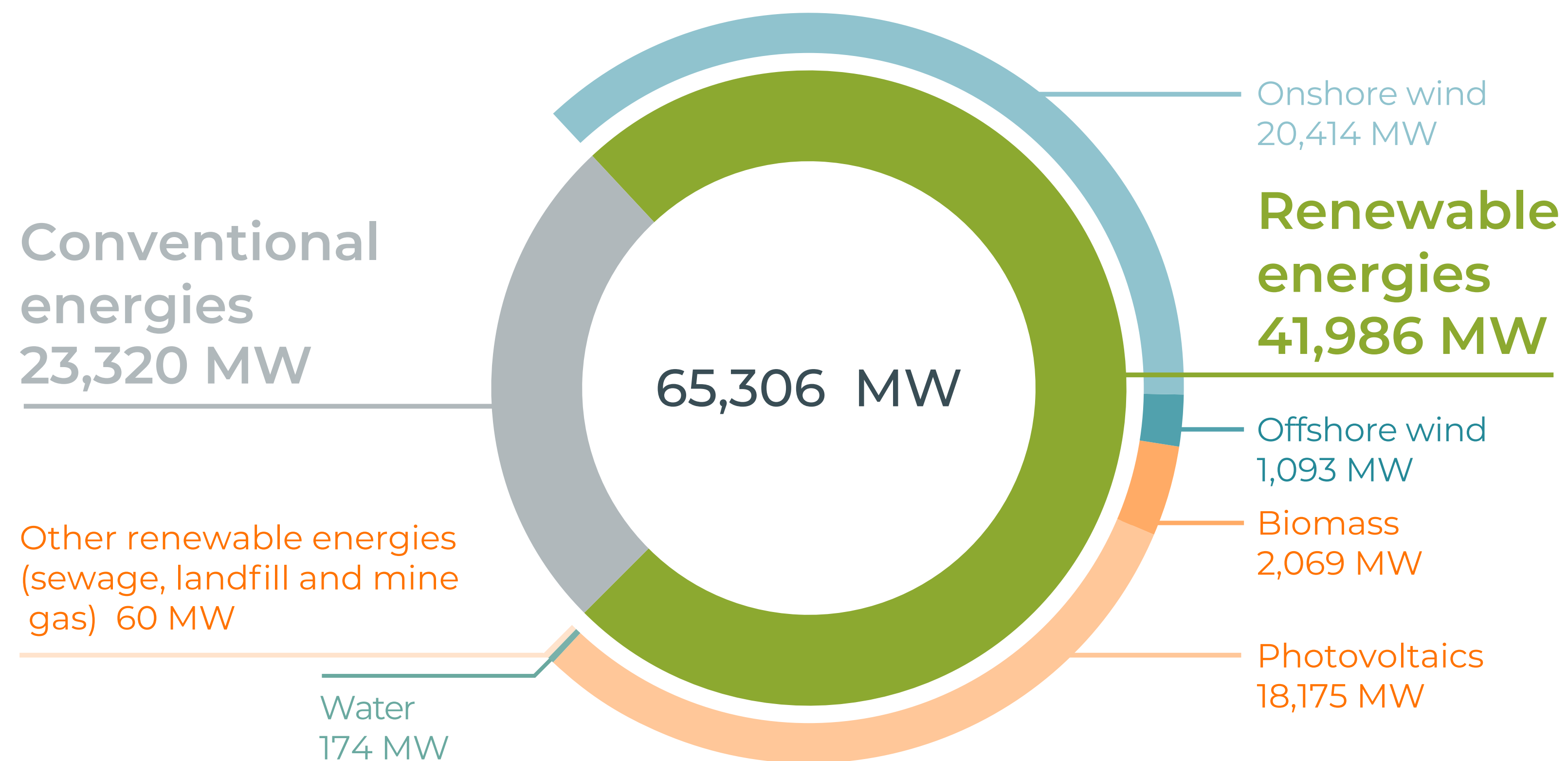
## Society

  
approx.  
**1,600**  
employees

  
**250**  
new employees

  
approx.  
**25%**  
proportion of women in the overall workforce

## Installed capacity in the 50Hertz grid area

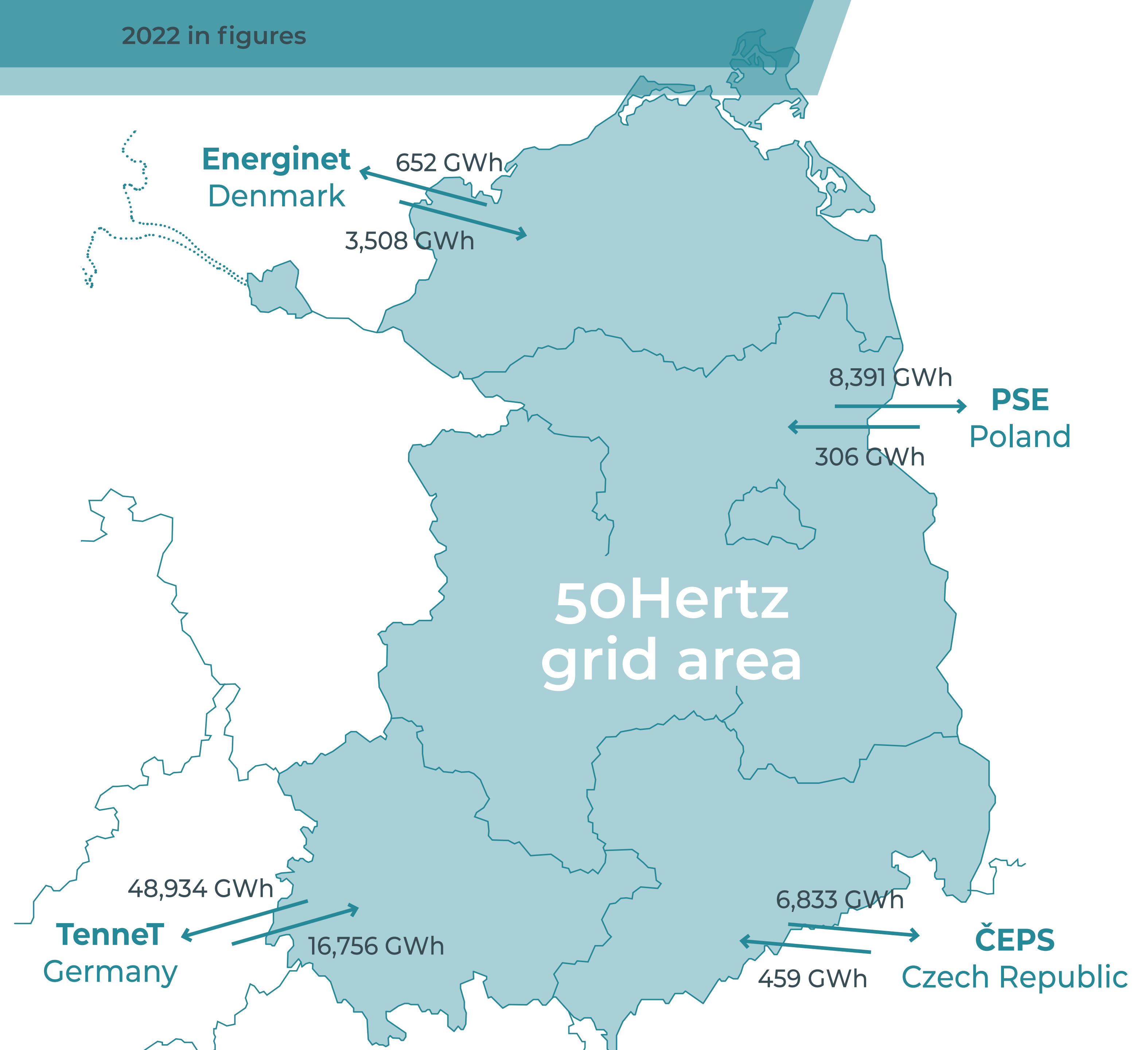


## 50Hertz generates a positive export balance\*

We are a major exporter of electricity in Germany and in Europe. Within the 50Hertz grid area, a continually increasing volume of electricity comes from renewable sources. By contrast, the population is relatively small and hence the energy demand lower.

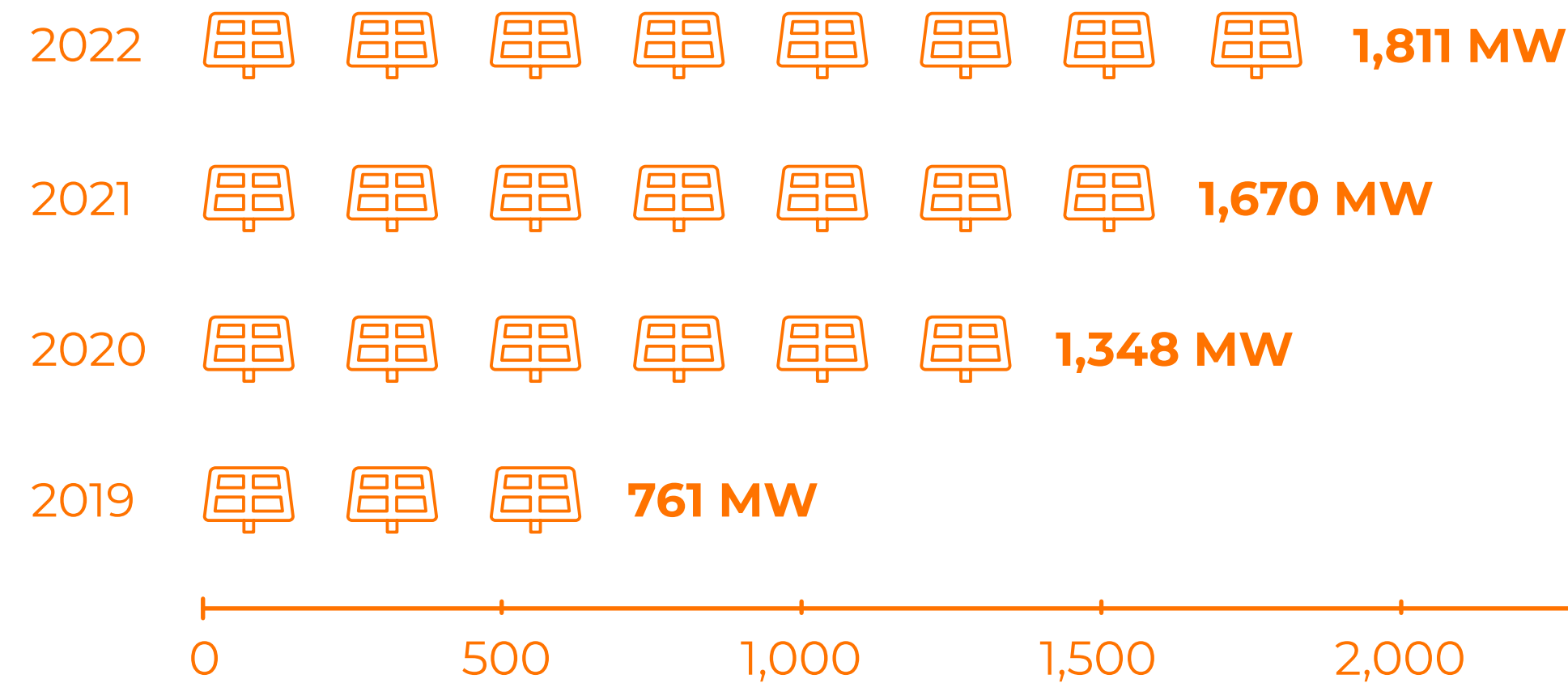
We transport the resulting surplus via the extra-high-voltage grid to metropolitan areas in the south and west of Germany and to our European neighbours.

\* The amounts shown refer to physical electricity flows, not to commercial exports.

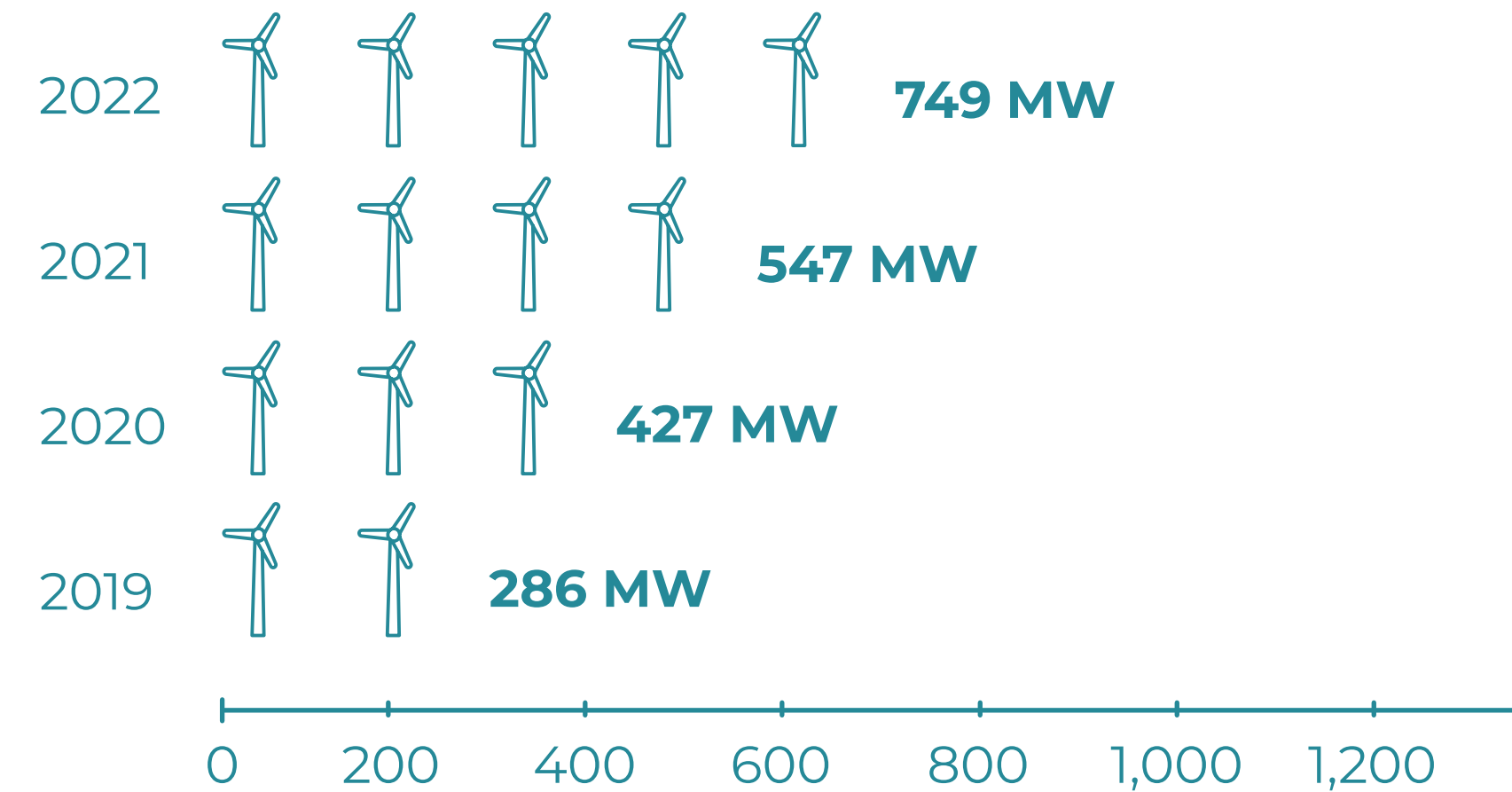


## Annual expansion of renewable energies in the 50Hertz grid area

### Expansion of **photovoltaics** (per year in MW)



### Expansion of **onshore wind power** (per year in MW)



Required annual expansion to achieve 100 per cent renewables by 2032:











## Grid

# 50Hertz grid map

Switchgear (mostly at transition points between the 50Hertz grid and distribution system operators' grids)

-  380 kV
  -  220 kV
  -  Transformation 380/220 kV
  -  Transformation 380/150 kV
  -  Planned/under construction
  -  Other companies
- 110 Operating voltage kV

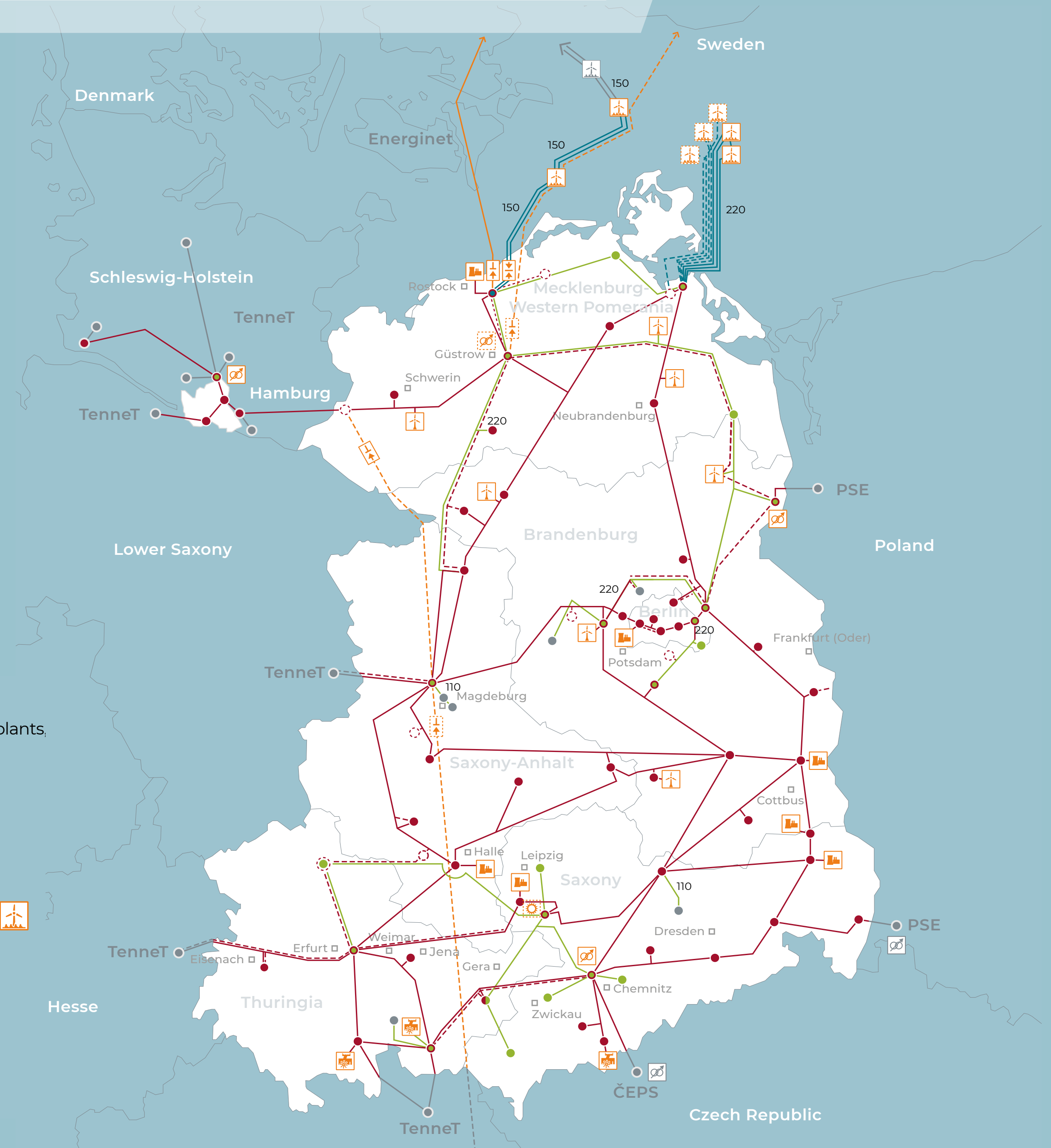
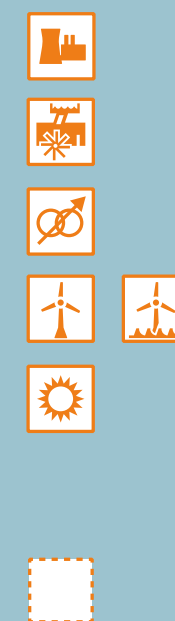
\* New construction, mainly along existing route

Line	380 kV
Line planned/under construction*	380 kV
Line	220 kV
HVDC/direct-current connection	400 kV
HVDC/direct-current connection planned/under construction	300/400/525 kV
Other companies	380/220 kV
HDVC/back-to-back converter	380/150 kV
HVDC/converter	400 kV
HVDC/converter planned/under construction	300/525 kV
Offshore grid connection	150/220 kV
Offshore grid connection planned/under construction	150/220 kV

Grid users:

Our customers are regional distribution system operators and power stations, pumped storage plants, wind farms and large industrial facilities that are connected to the transmission system.

- Conventional power station
- Pumped storage plant
- Phase-shifting transformers
- Onshore wind farm/Offshore wind farm
- Photovoltaic (PV)
- Onshore wind farm planned/under construction
- Offshore wind farm planned/under construction
- PV farm planned/under construction





# Our transmission system

We operate an extra-high-voltage electricity transmission system. In the east of Germany and in Hamburg, we are responsible for the reliable transmission of electricity over long distances, the connection of offshore wind farms, and for distributing electricity via substations. In 2022, the total length of 50Hertz's transmission system was over 10,500 kilometres.

## 50Hertz offshore circuit lengths in 2022 (total values):

220 kV AC undersea cables	290 km
150 kV AC undersea cables	290 km

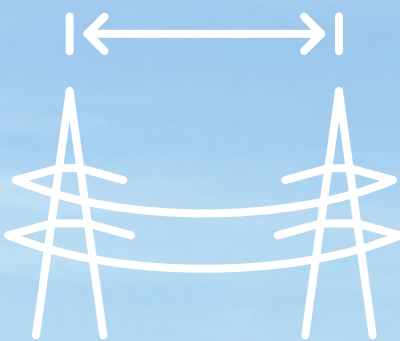
## 50Hertz onshore circuit lengths in 2022 (total values):

380 kV AC overhead lines	7,480 km
220 kV AC overhead lines	2,370 km
380 kV AC cables	55 km
400 kV DC cables (HVDC)	15 km
220 kV AC cables	3 km



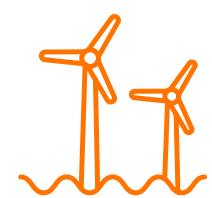
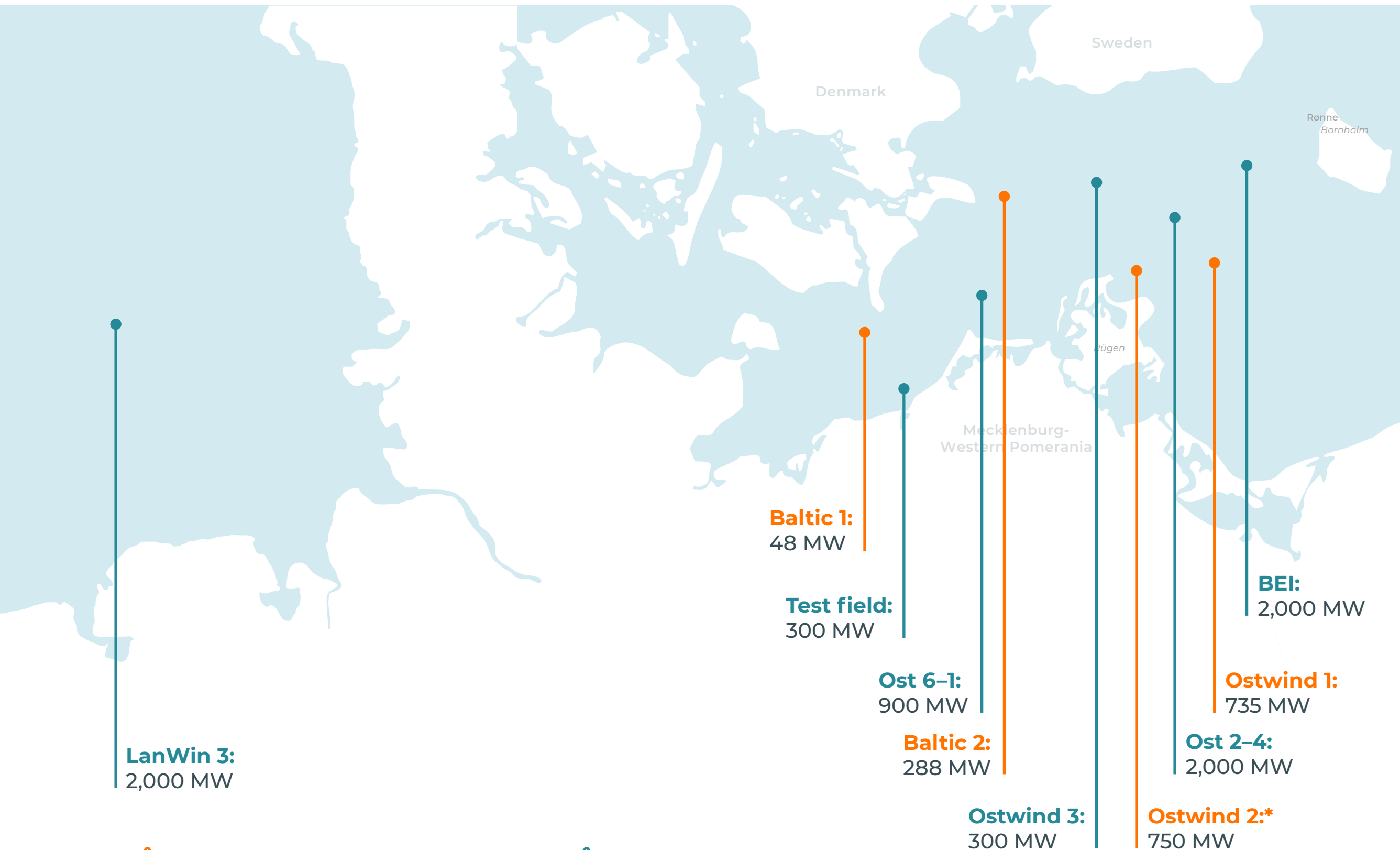
Quantity of electricity transported in 2022

111.8 TWh

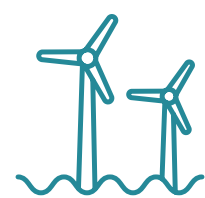




## Our offshore wind energy



Offshore grid connections realised  
(over **1.8 GW**)



Offshore grid connections planned or  
under construction (over **8 GW**)

\* Electricity has been supplied by Arcadis Ost 1 since January 2023.





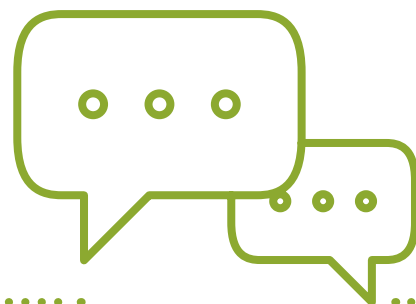
## 50Hertz listens

For the energy transition to succeed, we need to develop the extra-high-voltage grids further. In the regions where the existing capacities are being increased or new substations and lines are being built, there is a real need to inform and involve the local residents. 50Hertz engages in this dialogue openly and transparently: we involve the public at an early stage, thereby improving the projects and laying the foundation for the widest possible acceptance of our proposals.

You can find further information at:  
[csr.50hertz.com](https://csr.50hertz.com)



Would you like to get  
in touch?  
You can find all our key  
contacts here.

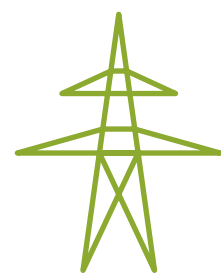




# Nature conservation is important to us

50Hertz takes appropriate measures to compensate for unavoidable interference with nature, the environment and habitats. Our goal is for our compensatory measures to have the greatest possible benefit for all of society. We divide our measures into six categories:

Planting, forestry, hydraulic engineering, species protection, re-naturation and other measures. We involve the affected communities, nature conservation authorities, interested citizens and non-governmental organisations in the planning and implementation from an early stage – because they know the specifics of the nature and habitats in their localities best. In partnership with each other, we develop suitable projects and put them forward in the course of the planning approval process.



By 2030 **95%**  
ecological corridor management



826

compensatory measures were being planned, implemented or maintained within the 50Hertz grid area as of the end of 2022.





## Contact and legal notice

### **Publisher**

50Hertz Transmission GmbH  
Heidestraße 2  
10557 Berlin  
T +49 (0) 30 5150-0  
F +49 (0) 30 5150-2199  
info@50hertz.com

### **Management**

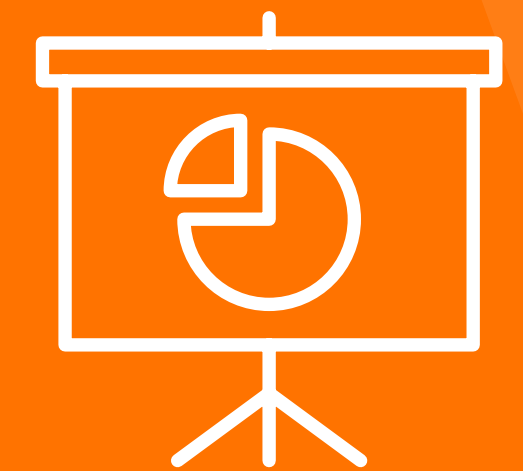
Stefan Kapferer (CEO)  
Dr Frank Golletz (CTO)  
Dr Dirk Biermann (CMO)  
Marco Nix (CFO)  
Sylvia Borchering (CHRO)

### **Design**

Heimrich & Hannot GmbH

### **Image credits**

50Hertz  
Jan Pauls  
Frank Wölffing  
Manfred Vogel



**50hertz.com**