



PSE Polskie Sieci
Elektroenergetyczne

ENERGY IN GOOD HANDS

1

PSE - we work for you 24/7

PSE is a strategic State Treasury company responsible for balancing the power system in Poland. We make sure that electricity is delivered to consumers throughout the country all day and all year long. Electricity generated in the Polish power system is transmitted via PSE's high voltage lines to local distributors' grids, and through them to businesses and households. Therefore, everyone who uses electricity uses PSE's transmission infrastructure.

Homes, schools, factories and businesses need electricity supply on a daily basis. Therefore, our operations are crucial to our lives and the entire economy.

Since 3 July 2021 PSE has been acting as an Energy Market Information Operator (PL: OIRE). Its main task is to implement and manage the Central System of Energy Market Information (PL: CSIRE).



2 We manage the Polish power system

Can electric energy be stored?

Technological progress has enabled energy to be stored, but energy storage facilities have, as yet, small capacity. Therefore, there must be as much electricity generated as it is consumed at any one time

How do we know how much electricity to produce?

PSE employees work day and night, for 365 days a year, monitoring the national electricity consumption and demand and forecasting how much electricity has to be generated in the coming hours, days and months. The balance is complemented with export or import of electricity in line with market preferences.

What are the energetic rush hours?

These are the hours when in order to cover power demand it is necessary to use conventional power plants – which are least cost-effective units. Therefore, we encourage you to save electricity during these hours and shift energy consumption into other times. More about how to save electricity and how it affects Polish Power System's operation – see on www.pse.pl.



We are responsible for reliable operation of the electric power system within the territory of Poland.

- we forecast electricity demand
- we cooperate with foreign TSOs
- we evacuate power from generating sources – power plants and RES, transmitting it to distribution grid
- we intervene in the case of system contingencies
- we cooperate with electricity generators and suppliers in planning the output level
- we take care of our infrastructure and expand the extra-high voltage grid

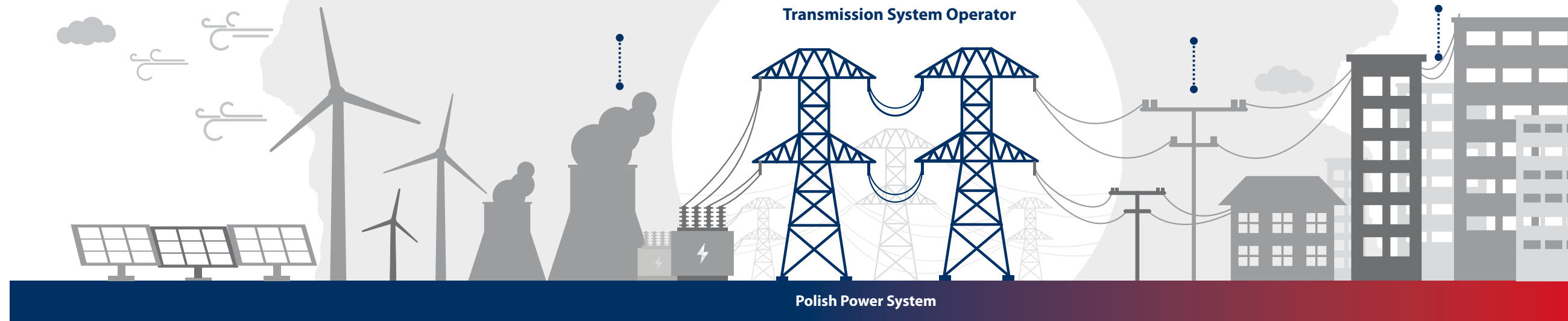
electricity generators
– power plants, CHP plants, RES



Transmission System Operator

electricity distributors
– medium and low voltage grid – electricity supply to consumers

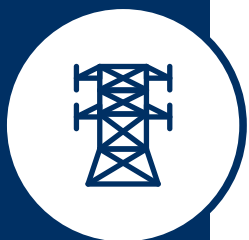
electricity consumers
– businesses, hospitals, schools and households



3 Transmission grid operation and development

Our grid:
about
15,964 km
of 220 kV
and 400 kV
extra-high voltage lines

110
electrical
substations



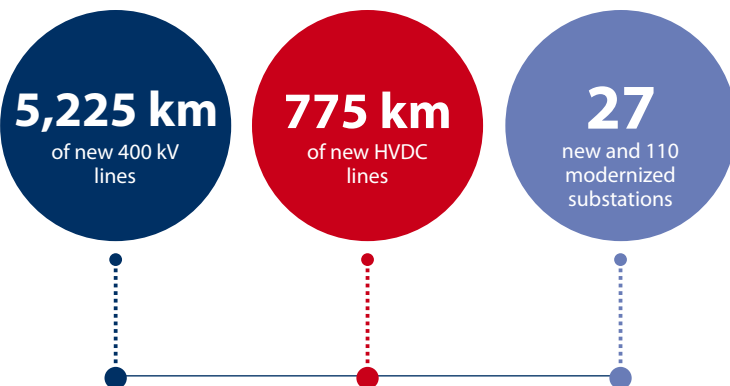
Maintenance

We guarantee suitable technical condition of Network devices. We effectively ensure high availability of our grid. **The continuity of electricity supply index in our grid remains at 99.99%.**

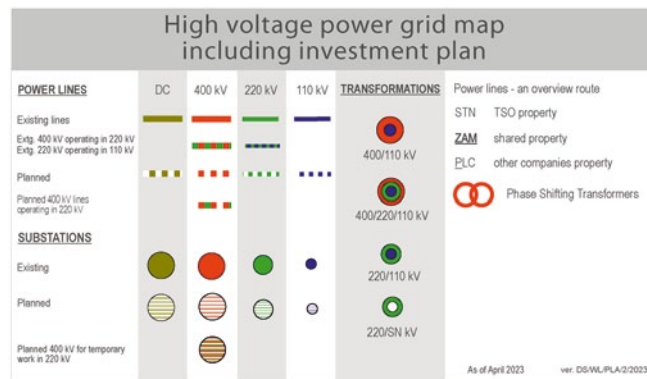
Grid development

Electricity demand is growing along with the development of the economy. Therefore we develop power grid prudently and responsibly for future generations.

We will allocate more than PLN 61,8 billion for the construction and modernization of our infrastructure until 2036*.



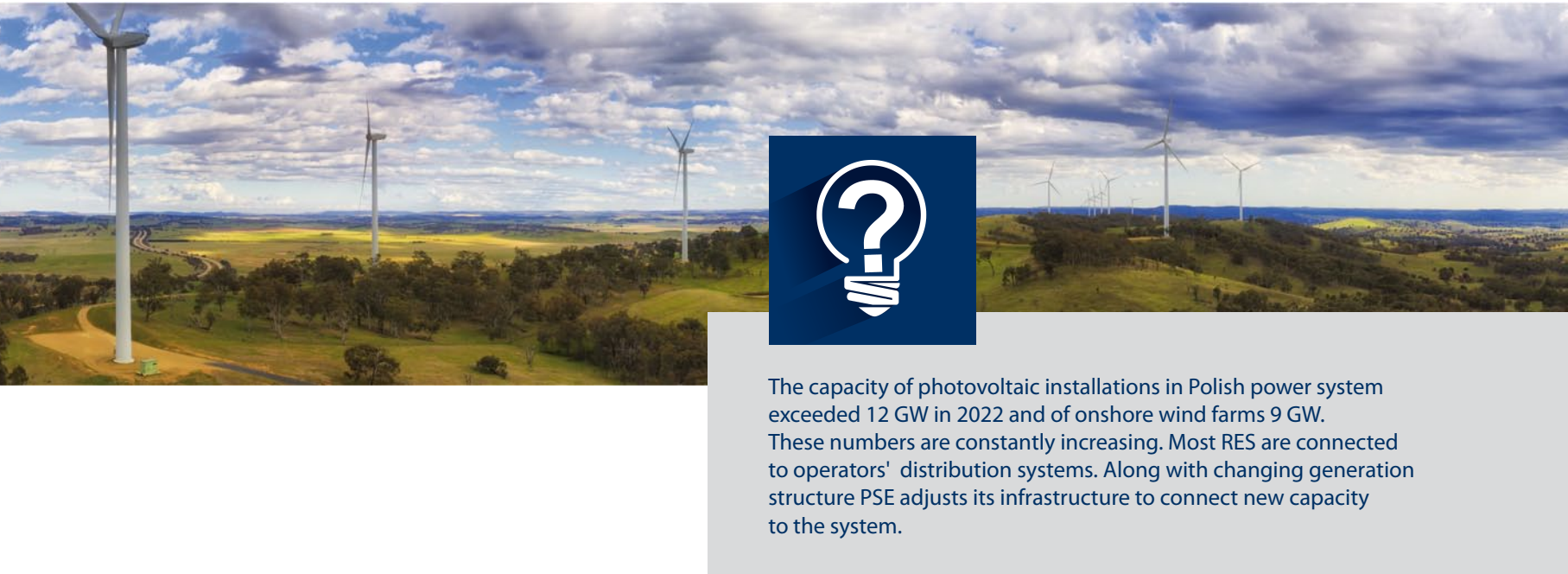
PSE's grid has one of the lowest transmission losses among European TSOs. **In 2021, it amounted to 1.47%**



4

We participate in the transition of the energy sector and work on solutions of the future

We study trends and changes taking place on the electricity market in Poland and in Europe. We give opinions on legal acts, participate in international projects, and look for modern solutions addressing future challenges.



The **challenges** affecting our operations:



climate change



growth of electricity demand



widespread digitisation



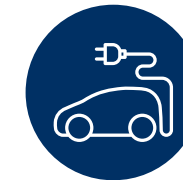
continuously growing share of RES power



connection of new capacity



growing number of prosumers



electrification of transport



growing cyber-threats



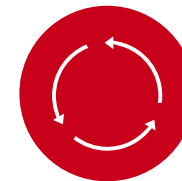
cloud energy trading



building energy storage facilities



integration with the European system



the pace of ongoing changes

5

We operate on the European electricity market

Our grid is an element of the synchronous interconnected European systems being foundations of the integrated European energy market.



We are one of the biggest transmission system operators in Europe.







We are member of the **European Network of Transmission System Operators for Electricity (ENTSO-E)**.

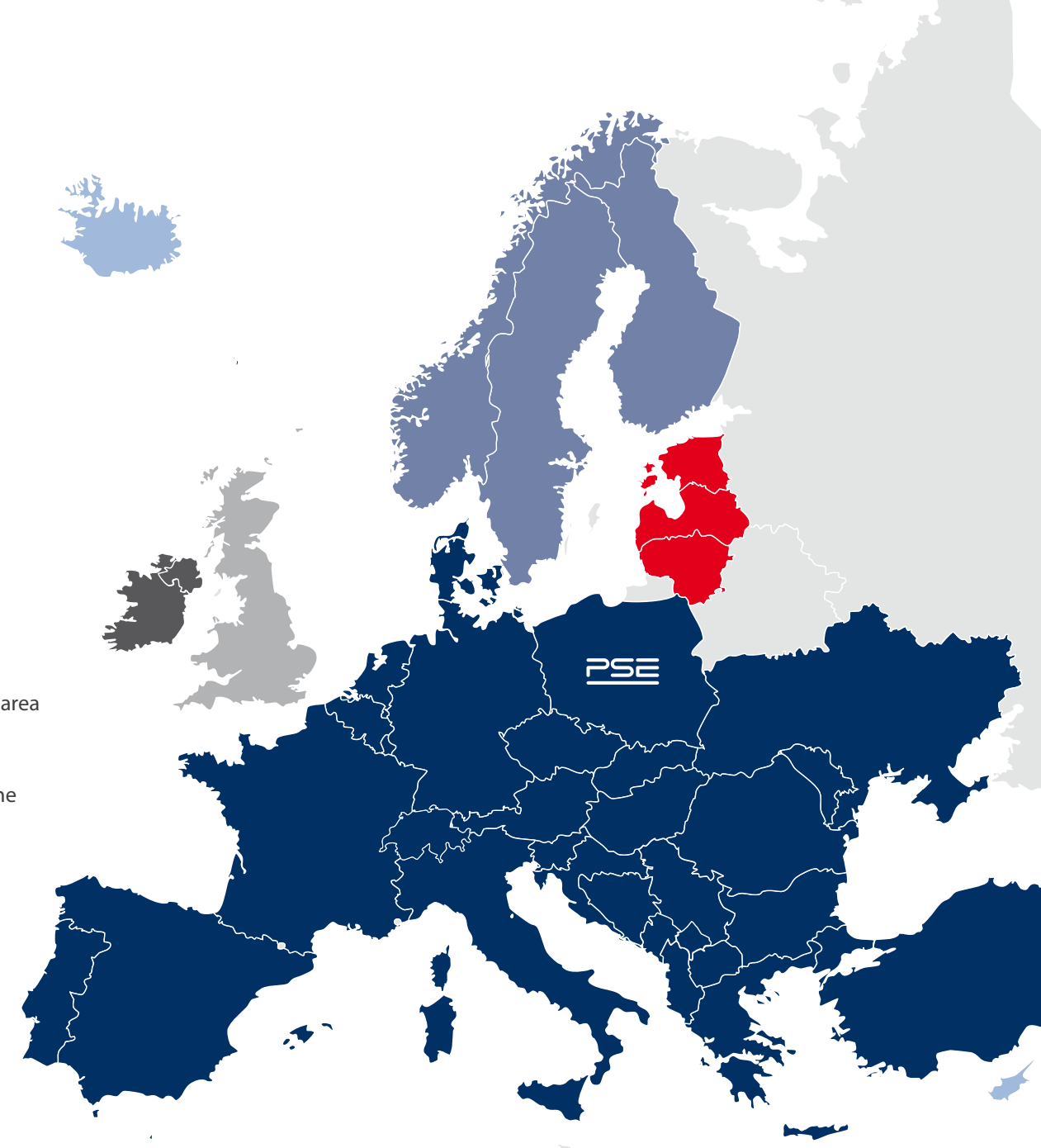
We actively participate in the synchronisation **of the Baltic states' electricity grid** with the continental European system. One of the elements of this activity is the construction of the Harmony Link submarine interconnection between Poland and Lithuania.

Our experts cooperate on a permanent basis with leading international energy organisations. We actively participate in the debate on the current and future European electricity market design.



Synchronous Areas

-  Continental Europe synchronous area
-  Baltic synchronous area to be synchronised in the future with the continental Europe system
-  Nordic synchronous area
-  British synchronous area
-  Irish synchronous area
-  Isolated systems of Cyprus and Iceland



6

We take care of security

The Polish Power System is of crucial importance to national security. Therefore, PSE attaches great importance both to physical security and to cyber-security. We cooperate and exchange information with other energy companies, agencies and the administration. In order to share the theoretical and practical knowledge within the power sector, we regularly arrange specialist training for the industry:

- **CC4ES** - national conference on cyber-security in the energy sector,
- **PolEx** - the first cyber-defence workshop held in Poland, modelled on the American GridEx system.



Who manages the Polish power system?

Our control room, the National Dispatch Centre, is located in a purpose-built secured underground building. From here we centrally manage the power system in Poland.



7

We take care of our environment

Social commitment

We pursue initiatives supporting local communities, e.g. through the "EmPower your environment!" programme we finance projects that improve life quality of the local residents in the communes where PSE has or is building its infrastructure.

Dialogue with stakeholders

We have been reporting on corporate social responsibility since 2013, meeting the best global practices and standards. Since 2018 we have been measuring and reporting on PSE's impact on the economy.

Sustainability

While implementing its investment projects PSE tries to minimise their environmental impact. In all areas of our activity, we apply the highest HSEQ (Health, Safety, Environment, Quality) standards. Together with the State Forests we pursue measures for the protection of ospreys.



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PSE in numbers



99.99%

electricity supply continuity index in 2021

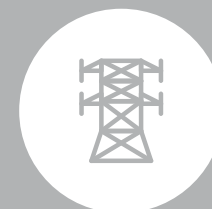


more than **2700**
employees of the PSE group



we manage the operation of the power system on a

24/7 basis



15,964 km

overall length of the extra-high voltage lines



PLN 61.8 bn

investment plan for 2023-2032
with an outlook to 2036

PLN 6.4 million

for neighbourhood projects in 2022



9

PSE's impact on the Polish economy



PLN
11.95 bn

value generated
for Polish economy in 2021



36.6 k

retained jobs



PLN
1.08 bn

overall value of taxes
and contributions into
the state and local
budgets



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