

# **Sustainable ORLEN**

The Energy Transition Leader



# The European Green Deal: an opportunity for Poland and Central Europe to overhaul the power system and create new business lines



## Global trends



### Customers

expect low-emission renewable fuels



### Technology

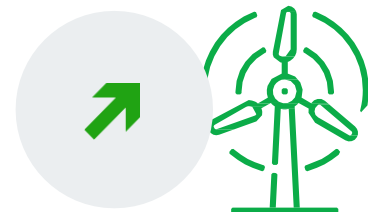
enabling cost-effective energy transition



### Regulations

require decarbonisation and production reorganisation

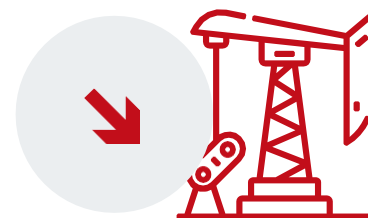
## Aspirations on the continent



RES as the system's base  
Biofuels



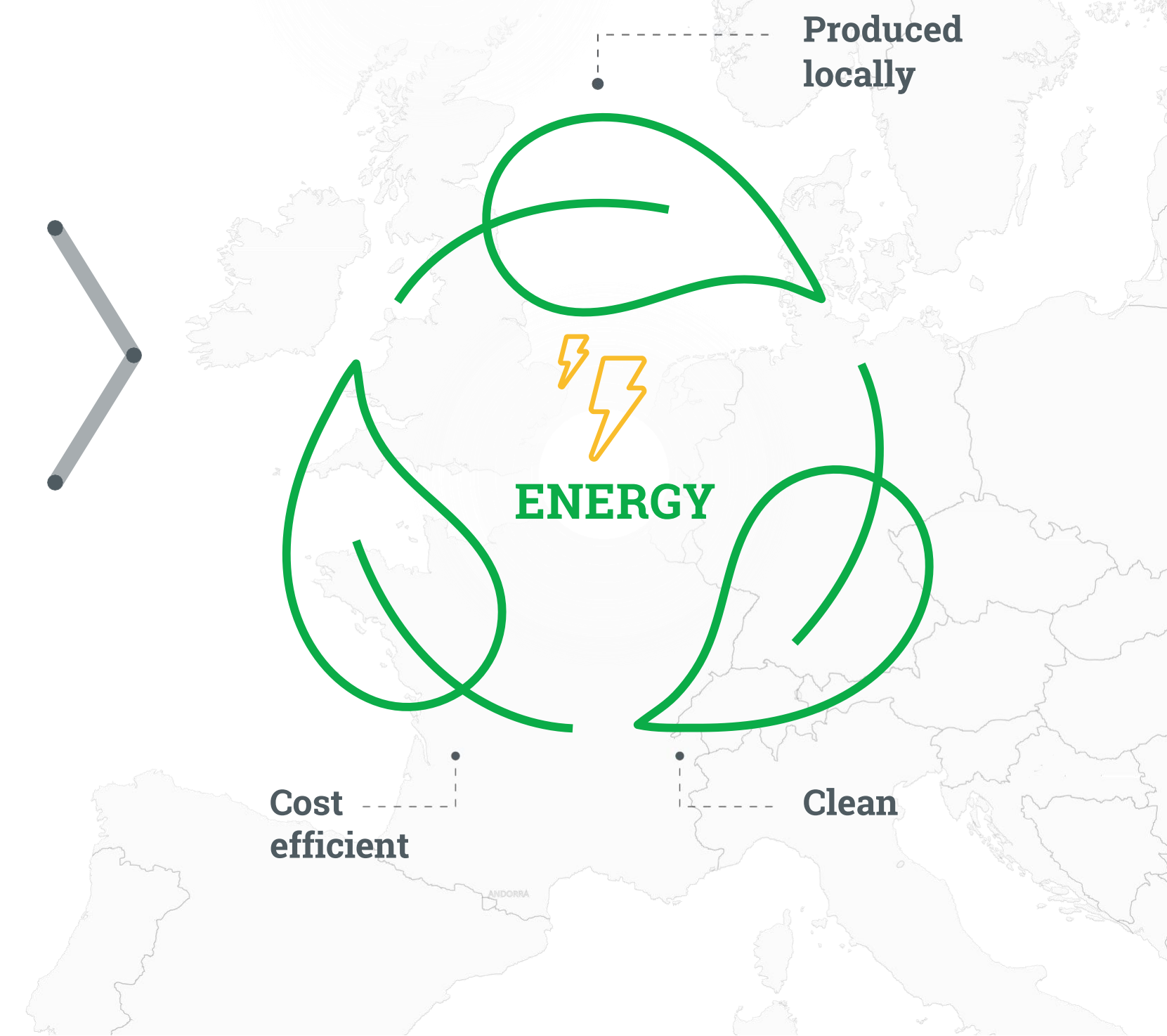
Gas as a transition  
fuel for stabilising  
power generation



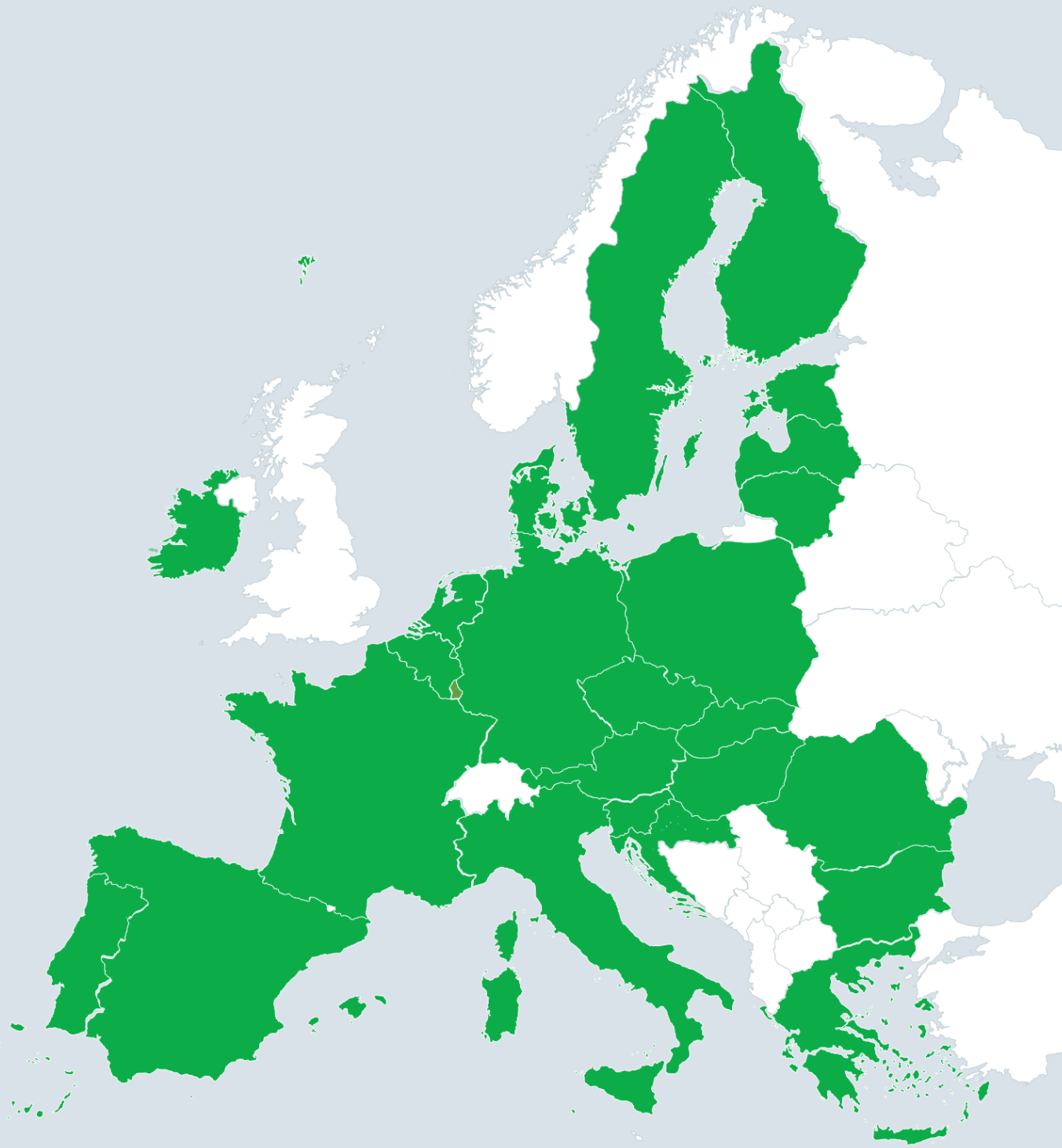
Lower fossil fuel  
consumption

**Net zero carbon emissions by 2050**

## Opportunity for Central Europe



## Poland supports the European goal: achieve carbon neutrality by 2050 jointly



- energy **security**
- technological **leadership position**



— Ambitious requirements only the best prepared will be able to meet

- Rising CO<sub>2</sub> prices and a lower volume of free allowances
- Growing investor expectations concerning power generation funding



— A business opportunity opening up for new players

- Power generation based on RES and natural gas
- Digitalisation and new business models
- New mobility and fuels of the future: hydrogen, biofuels, EV

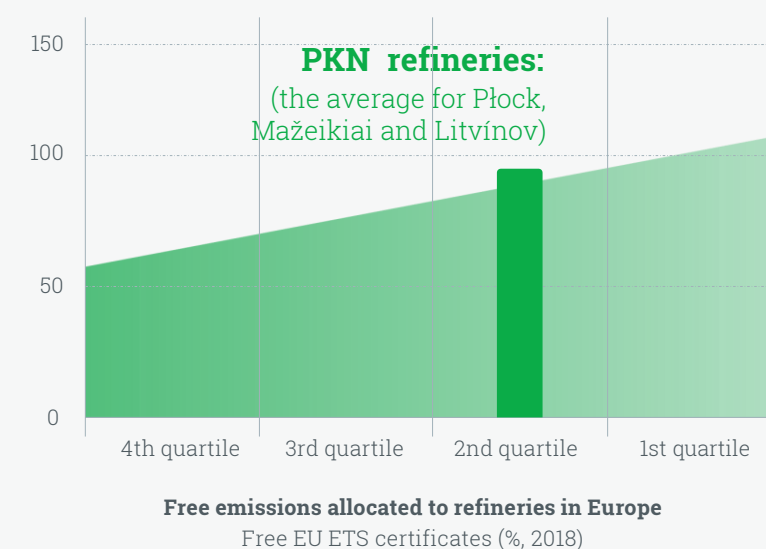


## The strength of ORLEN's assets lies in their readiness to face future challenges



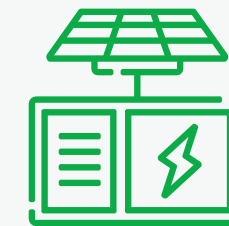
### Most efficient plants

- ORLEN is already **competitive in terms of CO<sub>2</sub> emissions**
- Investment in Grupa LOTOS** – another positive factor influencing the Group's average emissions



### Clean energy

- Modern CCGT gas-fired CHP plants** – over 1 GW of installed gas-fired power generating capacity
- 450 MW of RES generation capacity** in over 50 units



### Low-emission fuels

- A network of 86 EV chargers** in Central Europe
- Preparations for a hydrogen hub** with a capacity of 600 kg per hour
- A major biofuel producer** with ambitions to develop technology compliant with a new Renewable Energy Directive (REDII).



### Funding and management

- A proven track record of delivering large capex projects**
- Financial headroom for new projects**
- Reinforced organizational structure** – launching a task-force responsible for sustainable development issues

ORLEN has an ability and willpower to join European leaders to become a **transition leader** in Central Europe



PKN ORLEN has set up ambitious aspirations:

○ Target 2030

- **20% reduction in CO<sub>2</sub> emissions from petrochemical and refining operations** and reduction in - **33% CO<sub>2</sub> per MWh in energy sector**

○ Target 2050

**Net zero emissions**

○ Business model reorientation



## We build ORLEN capable of embracing the future and **supplying low-emission energy**



### The most efficient plants

**- 20%**

Reduction in CO<sub>2</sub> emissions from existing refining and petrochemical assets by 2030

- 60 energy efficiency projects
- Pilot projects and feasibility studies, including green hydrogen
- Best Available Technology applied in new investments

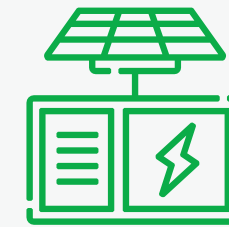


### Clean energy

Leading producer of zero-and low-emissions electricity in Poland. Reduction in CO<sub>2</sub> emissions per MWh by

**- 33%** by 2030

- Investment in offshore wind farms
- Investment in onshore RES: wind power and photovoltaics



### Low-emission fuels

5 large capex projects relating to

**biofuel productions**

- Fuel biocomponents: HVO, co-HVO, UCOME, bioethanol from lignocellulose, biomethane
- Alternative fuels charging stations: hydrogen, EV, CNG and LNG



### Green financing and management

ORLEN set to become a regular issuer of green and sustainable

**development bonds**

- ORLEN is a brand ready to compete in the Green Deal reality
- With over PLN 120bn in revenue and a strong financial position, ORLEN is a reliable partner in delivering ambitious RES projects portfolio

**Over PLN 25bn**

on carbon footprint reduction projects **by 2030**

We fuel the future.  
**Sustainably**

