



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



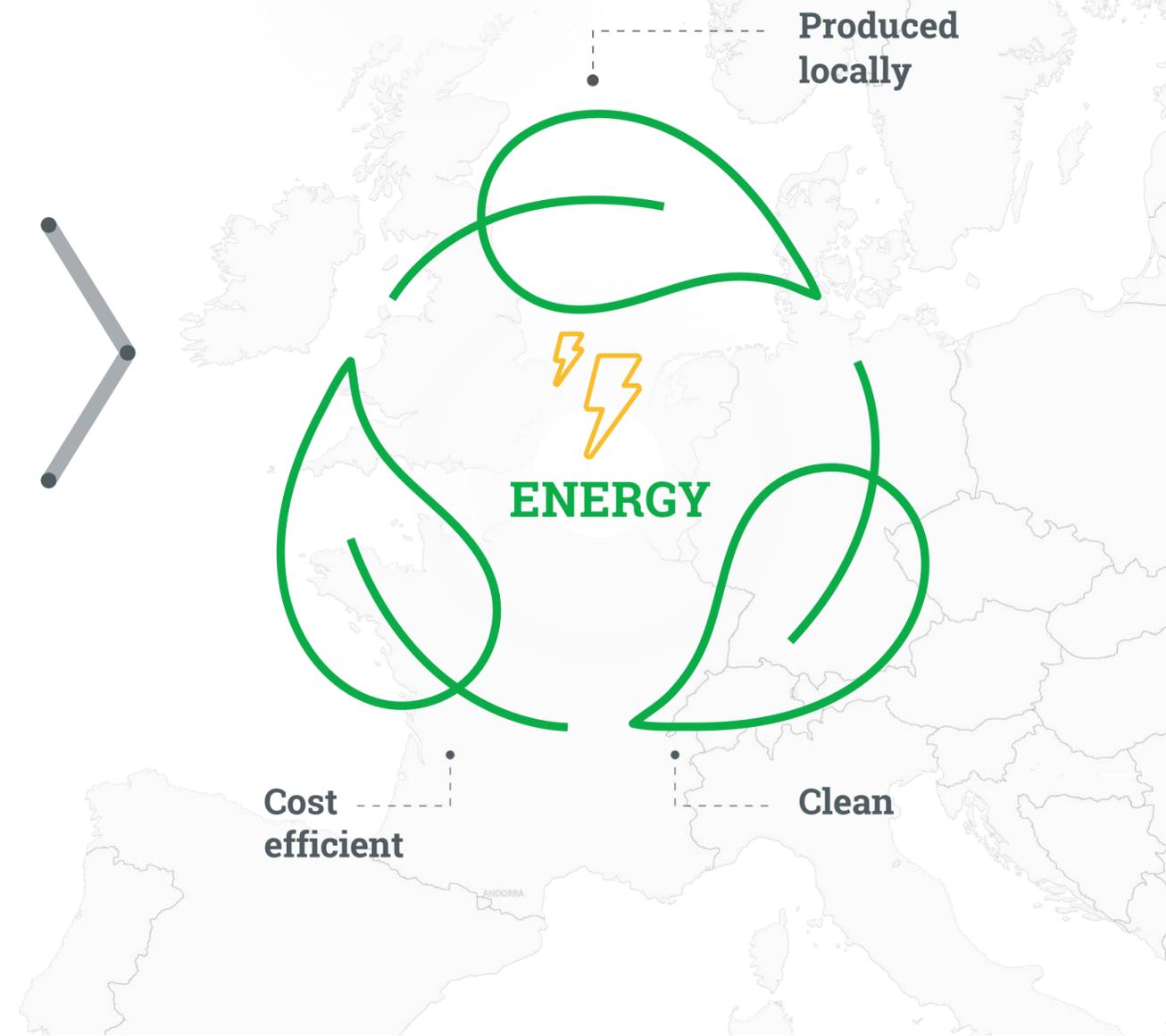
Gas as a transition fuel for stabilising power generation



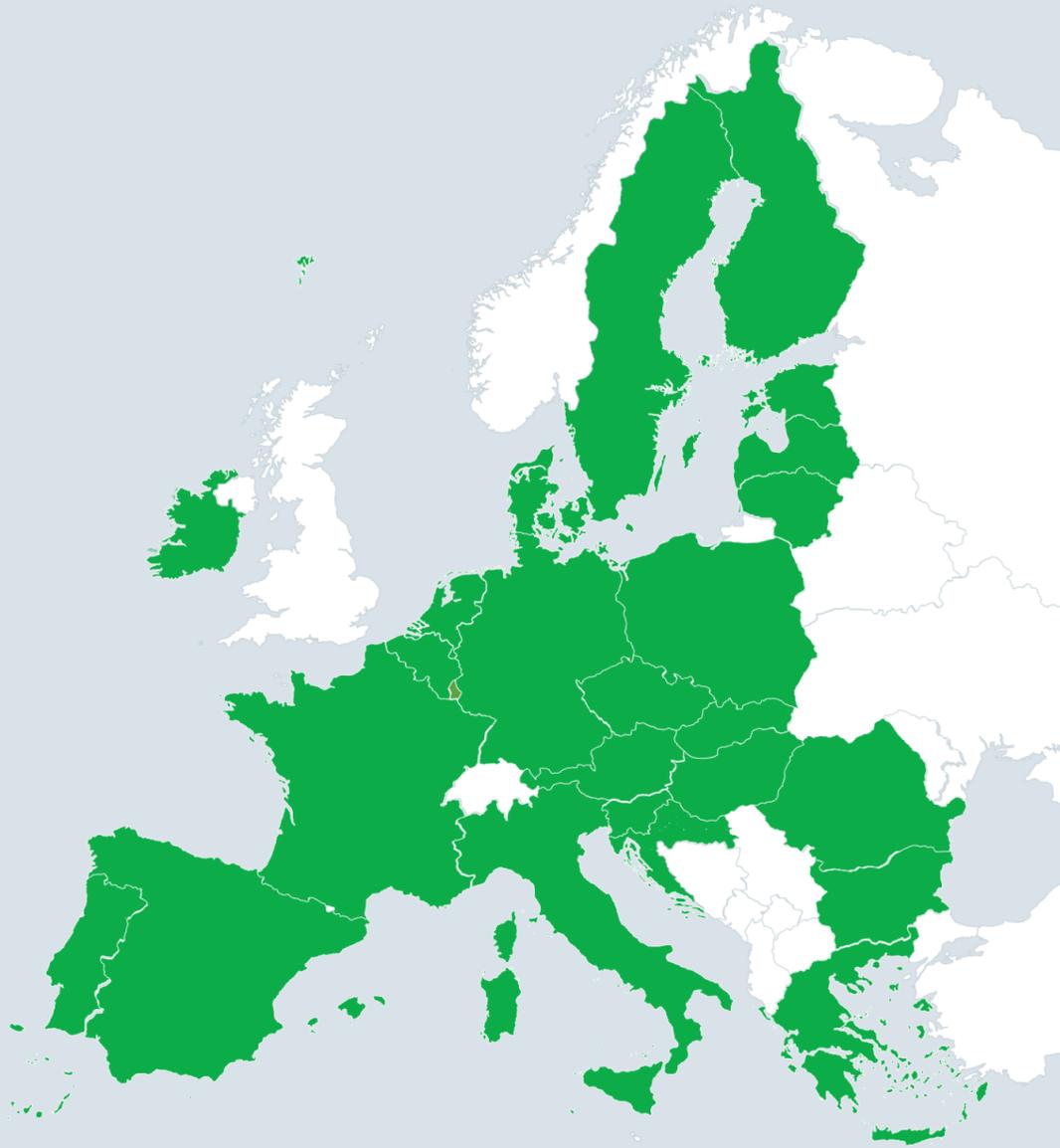
Lower fossil fuel consumption

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 CO₂ prices and a lower volume of free allowances
- Growing investor expectations concerning power generation funding



— A business opportunity opening up for new players

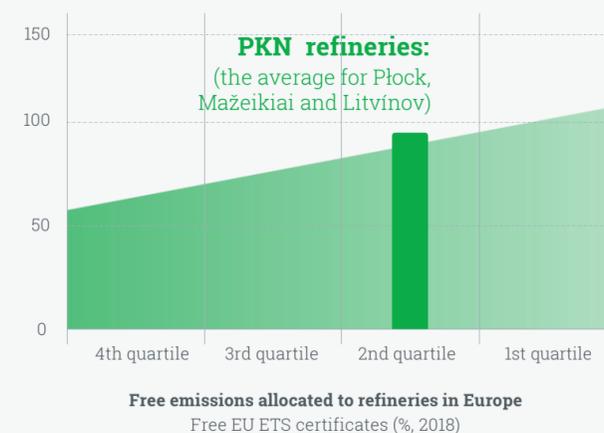
- Power generation based on RES and natural gas
- Digitalisation and new business models
- New mobility and fuels of the future: hydrogen, biofuels, EV

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



Most efficient plants

- ORLEN is already **competitive in terms of CO₂ 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 CO₂ emissions from petrochemical and refining operations** and reduction in **- 33% CO₂ 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 CO₂ 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 CO₂ 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

