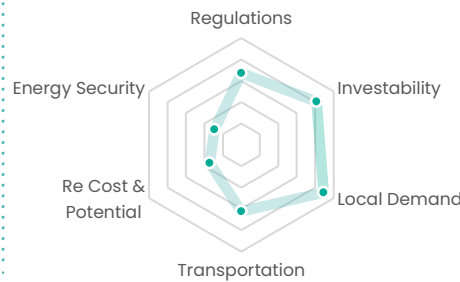
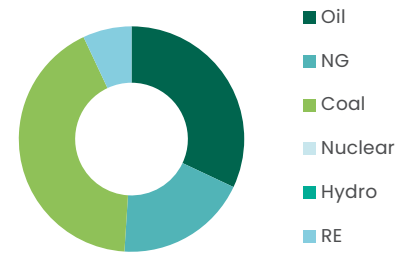


GDP – USD (bn):	594
GDP per capita – USD:	15,656
Land area (km ²):	313
Population density (per km ²):	124
Grid emissions factor (gCO ₂ /kWh):	846

Hydrogen Drivers Matrix



Primary Energy Mix



3.4 Regulatory commitment

- Recent political support for coal phase out backed by roadmap & planned EUR34bn funding
- Subject to EU ETS

3.1 Transportation

- Massive salt cavern technical storage potential
- Strong East–West natural gas and chemical pipeline connection

4.1 “Investability”

- A- rated by S&P
- Equity risk prem.: 5.54% (Aug 21)
- 40th in WB Ease of Business

1.7 RE cost and potential

- Good onshore wind resources and burgeoning solar sector
- Well-funded plans to develop offshore wind potential

4.5 Local demand potential

- One of the most carbon intensive grids in EU; high RE seasonality
- 19th largest steel manufacturing
- 16th largest ammonia producer

1.5 Energy security

- 29% net importer

Abundant funding for energy transition and concrete plans for coal phase out

Poland, which employs more than half of Europe’s coal industry workforce and operates the most carbon intensive grid in the EU, has historically battled EU efforts in decarbonization but attitudes are mellowing. Its 2040 energy strategy released in September 2021 plans to invest EUR33.7bn in coal phase out and renewables/nuclear ramp up. Due to its carbon-intensive economy, Poland is actually recipient to a large share of clean transition financing packages from the EU, including EUR3.5bn under the Just Transition Fund and 43% of the EU ETS-financed Modernisation Fund (est. EUR6bn over 2021–2030)¹.

In January 2021, the Polish Ministry of the Climate and the Environment published the draft Polish Hydrogen Strategy 2030 that sets out the key parameters of planned hydrogen developments, including: 2GW of electrolyser capacity; 2,000 Polish-manufactured hydrogen fuel cell buses and five industrial hydrogen valleys. The strategy pledges near PLN1b (USD250m) of state support, with c.60% for energy-related projects and the remaining to clean transportation.

With only average and highly seasonal solar resources, the onshore and offshore wind sectors—the latter ramping up today—will be the main avenues of decarbonisation and green hydrogen. Poland has massive technical salt cavern storage technical potential of 7.4PWh.

Massive EU funding support

In its national reconstruction plan submitted to the European Commission, Poland has earmarked EUR4bn from the EU Reconstruction Fund for offshore wind, offshore port development and hydrogen production. In addition, as mentioned above, Poland is recipient to a large share of clean transition financing packages from the EU.

EUR22.5bn offshore wind CfD scheme

In May 2021, the European Commission approved a EUR22.5b Polish CfD scheme for offshore wind that will fund projects through 2030. 5.9GW of this capacity was awarded CfD in June this year, and the remaining 5GW is planned for auctions in 2025 and 2027. One of the projects, Baltic Power (1.2GW), includes plans for an electrolyser.

Orlen Group 50,000 tons p.a. by 2030

Polish oil refiner and petrol retailer Orlen Group has announced plans to build 250MW of electrolysers under a “Hydrogen Eagle” programme across Poland, the Czech Republic and Slovakia, with target of 50,000 t.p.a. capacity by 2030. Last year, it announced plans to build a hydrogen hub at its refinery site in Włocławek by the end of 2021. The group also has plans to build 54 hydrogen refueling stations in Poland – tenders for the first stations have already been launched.