

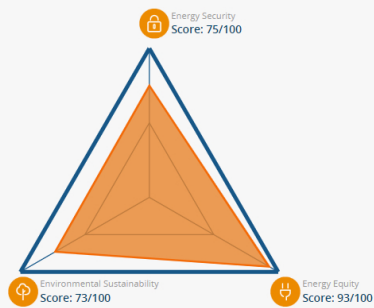
Finland

Trilemma Rank
#5Trilemma Score
81.1Balance Grade
AAA

Finland is one of the strongest Trilemma performers, ranking 5th globally, with strong scores across the board. Security and Equity indices have been maintained at high levels of performance for many years. The sustainability index has shown marked improvements since the mid 2000s, driven by GHG emission management and reduced CO2 emissions per capita. Finland's balance score is AAA.

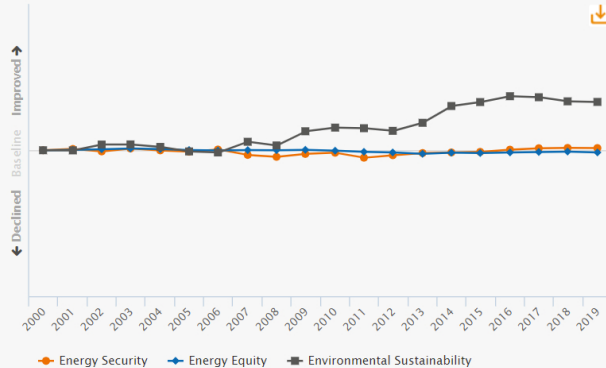
Population
5.5 (millions)Land Area
303.9 (thousand sq. km)GDP Per Capita
46,344 (PPP US\$)Industrial Sector
24.3 (% of GDP)GDP Growth
2.7 (annual %)

Balance



Historical Trilemma Scores

Trend lines track the country's performance in each dimension, beginning with a baseline of 100 in the year of 2000



Trends and Outlook

The Finnish government has set out ambitious climate targets and energy policy action. The new government outlines policies and measures that will enable Finland to attain carbon neutrality by 2035. The power sector in Finland is mostly (80%) decarbonised and covered under the EU Emissions Trading System. Finland's electricity generation mainly consists of nuclear energy (34%), hydro (22%) and biomass (18%), while the role of fossil fuels has declined over the past years. Phasing out coal use for energy production comes into force 2029.

District heating covers significant heat demand in Finland. Renewable energy accounts for 55 % of district heating and cooling, which is the second-highest figure in the EU. Almost 10% of district heating is covered by recovered heat from data centres, wastewater and flue gases.

Import dependence will be high until a new nuclear power plant, and several wind power parks under construction are commissioned in 2020. Finland's energy-intensive industry structure and sparsely populated cold country with long distances lead to the country's high energy intensity. Transmission and distribution system operators have made significant investments in strengthening the interconnections and networks. Collaboration of electricity markets across the Nordic countries is progressing towards a new regional market design. Transmission system operators and utilities are working on smarter grids with a data hub and a new balance model.

New natural gas infrastructure is being built; both liquefied natural gas and pipelines, and the currently isolated Finnish gas market will be opened to competition under the New Natural Gas Market Act by 2020.

Well-endowed with forest resources, Finland has an export-oriented forest industry. The by-products and wood residues are used as fuels in power and heat generation or processed to second-generation renewable fuels.

Finland has been a leader in energy research, development and demonstration spending (as a ratio of gross domestic product). The country's ranking is expected to improve in the future when the new government will remove regulatory barriers for the smart energy sector and boost industrial innovation.

Key metrics

Metrics are determined relative to other countries, with the top performer receiving a full bar.

