

Germany



Trilemma Rank
7

Trilemma Score
80.9

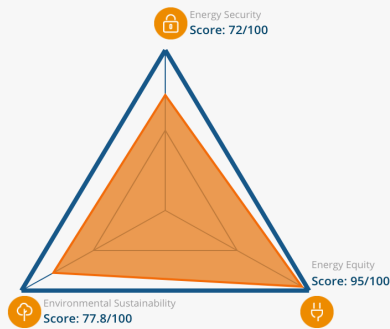
Balance Grade
AAA

Germany is one of the strongest Trilemma performers, ranking in the top 10 globally. It scores highly across the board. Primary energy consumption in Germany reached its lowest level since the early 1970s - and this despite a significant increase in economic output. Germany's dependence on energy imports increased from 58% in 1990 to 72% in 2019 - despite the tenfold increase in the use of renewable energies since then. Greenhouse gas emissions have come down by 35.7% since 1990. The entire population in Germany has access to affordable energy, even though Germany holds a leading position in the international comparison of consumer prices for electricity. Germany's balance grade is AAA and its global ranking is 7.

- Population**
82.9 (millions)
- GDP Per Capita**
47,603 (PPP US\$)
- GDP Growth**
1.5 (annual %)

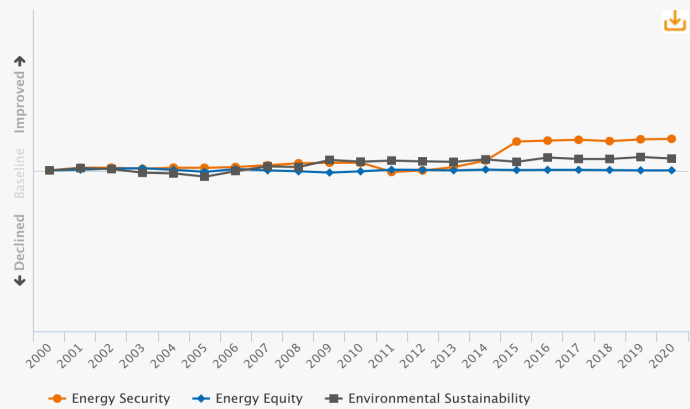
- Land Area**
349.4 (thousand sq. km)
- Industrial Sector**
27.5 (% of GDP)

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

Germany will not only completely phase out the use of nuclear energy by the end of 2022, but will also gradually reduce its use of coal and phase it out completely by 2038. Renewable energies are to take over the supply as far as possible. The capacity of electricity generation plants based on renewable energies in Germany has increased from 4.2 GW in 1990 to 124.4 GW in 2019 or from 3% to 40% in terms of gross electricity generation. Their share in the heating market is still low. The aim is to increasingly replace fossil fuels in these sectors with renewable generated electricity and through a CO2 pricing mechanism. A national emissions trading scheme for transport and heating will start with a fixed-price system. The agreed price will initially be € 25/t CO2 from January 2021 onwards and will then increase gradually to € 55/t CO2 in 2025 and even higher in the future. Greenhouse gas emissions are to be reduced by 55% by 2030 from 1990 levels. Greenhouse gas neutrality is to be achieved by 2050.

The hydrogen strategy adopted in June 2020 is another important building block in the transformation of the energy supply. As part of the 'Corona economic stimulus package', €7 billion is to be invested in the development of domestic markets for hydrogen production and use technologies. A further €2 billion is earmarked for international projects. By 2030, 5 GW of electrolysis capacity is expected to be available and another 5 GW by 2035. In the chemical and steel sectors, hydrogen can help to significantly reduce CO2 emissions. A blending quota of up to 2% hydrogen is envisaged for aviation fuel.

The corona epidemic has led to a significant reduction in energy consumption in Germany. In the course of the decline in gas prices and the simultaneous increase in CO2 certificate prices under the European emissions trading system, coal consumption fell sharply in the first half of 2020. The share of renewable energies in electricity generation has risen to almost 50%. As a result of these developments, the national greenhouse gas reduction target of 40% in 2020 compared to 1990 is certain to be achieved.

Key metrics

Metrics are determined relative to other countries, with a full bar representing a score of 100.

	2020 Performance	Trend 2010-20
Energy security		
Import dependence	██████████	▲
Diversity of electricity generation	██████████	▲
Energy storage	██████████	▲
Energy equity		
Access to electricity	██████████	▶
Electricity prices	██████████	▼
Gasoline and diesel prices	██████████	▲
Environmental sustainability		
Final energy intensity	██████████	▼
Low carbon electricity generation	██████████	▲
CO2 emissions per capita	██████████	▲
Country context		
Macroeconomic stability	██████████	▲
Effectiveness of government	██████████	▲
Innovation capability	██████████	▼