

Japan



Trilemma Rank
24

Trilemma Score
75.7

Balance Grade
BAB

Japan presents a varied Trilemma performance with an unbalanced triangle, ranking 24 globally. Energy Equity is strong and sustained in Japan, although affordability in the relation of prices to incomes fluctuates. Japan's Sustainability index shows low improvements over time, driven, mostly by reducing the carbon intensity of the economy. Security has been Japan's weakest dimension although there has been some improvement in recent years. Japan gets a balance grade of BAB.

Population
126.4 (millions)

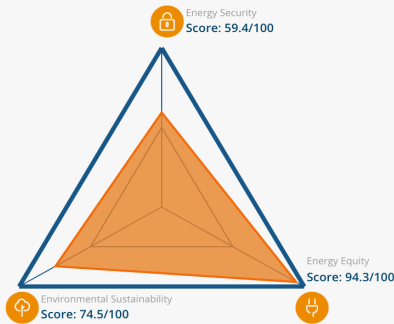
Land Area
364.6 (thousand sq. km)

GDP Per Capita
39,290 (PPP US\$)

Industrial Sector
29.1 (% of GDP)

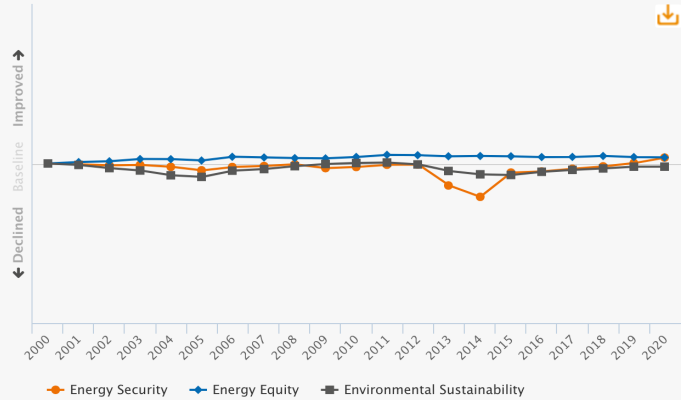
GDP Growth
0.8 (annual %)

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 government published the second "Basic Energy Plan" in July 2018. The energy mix in 2030 will be 22-24% renewable, 20-22% nuclear and 56% fossil fuel. The basic policy contained in the plan is that renewable energy will be the primary power source in 2050, and dependence on nuclear will be decreased as much as possible. In light of the current restart of nuclear power plants, attaining the 2030 target might be difficult.

Japan, faced with rising environmental challenges and high dependence on Middle Eastern oil and gas supplies, revised the Electricity Business Act and other measures on June 6 to strengthen resilience and ensure sustainable electricity supply. The revised act requires electricity transmission/distribution businesses to formulate joint action plans for disaster responses.

Furthermore, the revised Renewable Energy Special Measures act seeks to encourage investment in renewable energy by establishing a Feed-in-Premium (FIP) scheme in addition to the existing Feed-in Tariff scheme. This would allow renewable energy generators to receive a certain premium over market prices. These acts are expected to go into effect in April 2022.

On July 3, 2020, the Minister of Economy, Trade and Industry announced that Japan should phase out inefficient coal-fired power plants and make renewable energy the main power source by fiscal 2030. Japan currently has a fleet of 140 coal-fired plants, but most of the 114 old plants built before the mid-1990s that emit more carbon dioxide than new plants will be phased out. At the same time, Japan will continue to use coal because it is less subject to geopolitical risk and is more cost-effective than oil. Twenty-six of Japan's existing coal-fired generators are considered to be high efficiency, and 16 more are under construction. Energy-intensive industries have expressed concern over a possible increase in electricity prices and the loss of their competitiveness on the international market when the policy is implemented.

Japan has been criticized for dragging its feet on cutting emissions, being the only member of the Group of Seven industrialised nations still pursuing new coal-fired power plants. The policy seems to have been decided to avoid such criticism, but utilities will need to ensure that energy prices remain affordable and security of supply is not compromised.

Key metrics

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

