

India

**Trilemma Rank**  
# 86

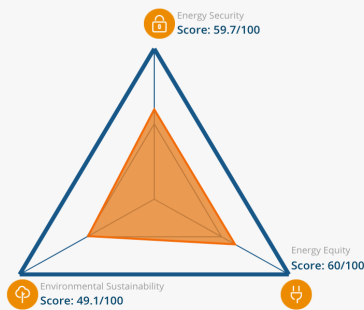
**Trilemma Score**  
56.2

**Balance Grade**  
BCD

India has marked improvement in the Energy Equity dimension since 2000 which was achieved by better access to electricity and clean cooking facilities. Although Sustainability scores are still low, there has been a more than 25% improvement in the past decade. On Energy Security, high import dependence and low storage capacity are issues preventing better performance. India gets a balance grade of BCD and its global ranking is 86.

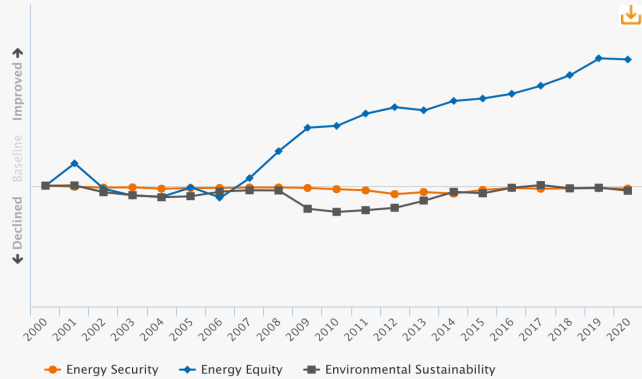
- Population**  
1,339.2 (millions)
- Land Area**  
2,973.2 (thousand sq. km)
- GDP Per Capita**  
2,010 (PPP US\$)
- Industrial Sector**  
26.7 (% of GDP)
- GDP Growth**  
6.8 (annual %)

**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**

India has made a significant progress toward the Paris Agreement climate targets. It pledged to reduce the emissions intensity of its gross domestic product by 30-33% from 2005 levels by 2030, to achieve 40% of generation capacity from non-fossil fuels, and to create an additional carbon sink by increased forest and tree cover. While the first pledge is in line with the target, increasing the electricity supply proves to be challenging. The country is however in the midst of one of the largest renewable energy expansion programmes in the world and a significant progress has been made in adopting renewable energy since 2010. Installed renewable capacity has increased from 16.8 GW at the end of 2009 to 87 GW in the beginning of 2020, growing at an annual rate of around 18%. The government is targeting 175 GW renewable energy capacity by 2022 and aspires to achieve 500 GW by 2030.

India is also introducing energy pricing reforms for coal, oil & gas and power (Real-Time Market, Smart Metering Programme) to further open up the energy market. Around 85% of its oil consumption and 52.7% of gas is being imported. To improve energy storage, it is increasing its strategic crude oil reserves.

India is promoting domestic production of oil & gas with the implementation of the Hydrocarbon Exploration Licensing Policy (HELP) to boost domestic production and has also introduced a national policy on biofuels.

Electricity access has been expanding and is aiming for "24x7 Power for all".

To cut emissions in coal-fired power plants, India has made use of Flue Gas desulphurisation (FGD) and Selective Catalytic Reduction (SCR) mandatory. The National Mission on Transformative Mobility and Battery Storage includes a phased manufacturing program and the manufacture of Electric Vehicles in India. In 2019, the National Clean Air Programme was introduced to reduce levels of particle pollution by 20-30% across the country by 2024 compared with 2017 levels.

Key challenges for policymakers include:

- 1) Improving the financial performance of electricity distribution companies;
- 2) Mitigating import dependency of oil and gas through continuous assessment of exploration and production potential by domestic resources;
- 3) Enhancing domestic manufacturing;
- 4) Integrating large variable renewable energy capacity and optimum flexible operation of conventional generation for grid stability.

**Key metrics**

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

