

India's rapidly expanding clean energy sector offers lessons for other emerging and developing countries

IEA policy solutions and expertise help accelerate clean energy transitions in India

- **IEA is supporting India's renewable energy expansion as it is expected to become the world's second-largest market for renewables growth**
- **The IEA's *India Bioenergy Market Report* informed India's revised biogas support programme**
- **IEA analysis offers practical recommendations for efficient, grid-interactive buildings in India**
- **A stronger partnership is advancing India's bid to join the IEA as a Member country**

Key facts

2023

In 2023, India became the world's most populous country

3rd

world's third-largest **energy consuming country,** thanks to rising incomes and improving standards of living

0 CO_2 **2070**

India announced ambitious **energy transition plans** at COP26, including reaching net **zero emissions by 2070**

x2

Energy use has doubled since 2000

with **90% of demand** being met by **coal, oil and solid biomass**

2022

electricity generation

+6.1%

Solar has grown to 6.1% (from 0% in 2010)

72%

Coal is currently close to 72%

Sources: IEA (2026), World Energy Balances; IEA (2026), Renewables 2026

Scaling up renewables

The IEA's partnership with the Government of India supports one of the world's fastest renewable energy expansions, with India on track to add around 345 GW between 2025 and 2030 – becoming the second-largest growth market for renewables worldwide. Working with the Ministry of New and Renewable Energy, the Ministry of Power and other partners, the IEA provides advice on renewable energy policies, solar PV supply chains and the development of India's emerging offshore wind sector. The *India Renewable Energy Market Report*, produced in cooperation with Denmark and India's Ministry of New and Renewable Energy, identifies opportunities for international cooperation and diversification in this fast-growing market.

Advancing low-carbon fuels

The IEA supports India's efforts to expand bioenergy, biofuels and low-emissions hydrogen, sharing international best practice, improving data and providing market forecasts to help the country reduce fuel imports and decarbonise hard-to-abate sectors. This cooperation builds on India's leadership in launching the Global Biofuel Alliance during its 2023 G20 Presidency, which the IEA helped shape through its coordination of the Clean Energy Ministerial's Biofuture Platform. The IEA also contributes to policy design and implementation under India's National Green Hydrogen Mission. The IEA's *India Bioenergy Market Report* informed the government's revised support programme for biogas, which incorporated several IEA recommendations.

Critical Minerals

The IEA works with India's Ministry of Mines to secure the supply of the critical minerals essential to clean energy transitions. A Joint Working Group launched in 2025 shares international best practices on traceability, recycling and stockpiling, giving Indian policymakers access to the IEA's critical minerals data and policy tools. This partnership is already shaping national policy: it fed into India's National Critical Minerals Mission and contributed to a new incentive scheme worth INR 1,500 crore (around EUR 145 million), helping build the country's capacity to recover critical minerals from e-waste and spent batteries.

Mobilising finance and investment

India's clean energy ambitions require investment at scale, and the IEA works with governments, finance and industry to help making capital flow. In 2025, the IEA deepened its engagement with Indian partners, including NITI Aayog and India's National Institute of Public Finance and Policy, to identify practical ways to lower the cost of capital, from credit guarantees and blended finance to managing currency risk. IEA analysis is informing this national conversation: its investment findings were cited by the Minister of New and Renewable Energy at a major industry summit in 2025, underlining the IEA's role as a trusted bridge between India's ambitions and the investment needed to realise them.

Energy efficiency

The IEA works with the Government of India and other partners to provide policy advice, practical tools and training for Indian officials, focusing on sectors with the greatest potential for energy savings and lowering emissions: buildings, industry and transport. In 2025, the IEA was the knowledge partner for India's National Conference on Sustainable Cooling and Doubling the Rate of Energy Efficiency Improvement in New Delhi, leading a workshop on doubling efficiency in the country's small and medium-sized industries. It also released a 2026 report on how efficient, grid-interactive buildings can support India's clean energy transition.

Opportunities for engagement

- **Scaling up renewables**
  India is set to become the world's second-largest market for renewable capacity growth by 2030, doubling capacity to over 500 GW and opening opportunities for cooperation on auction design, manufacturing and storage.
- **Indian power grids and demand**
  Through capacity building across the ecosystem of Indian power system stakeholders, the IEA is supporting policy design on grid reinforcement and managing peak loads to advance India's energy transition.
- **Clean energy manufacturing and investment**
  The Agency continues to build on strategic partnerships to expand the trade and financing of clean energy technologies in India.
- **Focus on critical minerals**
  The IEA is analysing India's strategic position in global critical mineral supply chains and investment de-risking strategies. This joint study with the Ministry of Mines and ADB identifies the policy and investment areas that can help India become a processing and recycling hub for critical minerals.
- **Doubling energy efficiency by 2030**
  Together, the IEA and India are working to strengthen capacity and knowledge building in policy making, tracking the country's progress towards the global goal of doubling energy efficiency by 2030 and analysing frameworks that advance electrification.

This work is supported by the **Clean Energy Transitions Programme,** the IEA's flagship programme for taking action to achieve a clean energy transformation worldwide.

Last updated: November 2026

Want to know more?

- **Bookmark the CETP webpage** | https://bit.ly/iea-cetp
- **Subscribe to the CETP Newsletter** | www.iea.org/newsletters
- **Engage with IEA social media** |
- **Contact** | cetp@iea.org