

INDIA'S CLIMATE AND ENERGY POLICIES



India is the fastest-growing major economy in the world. It is the fourth largest greenhouse gas emitter, accounting for 5.8 percent of global emissions. India's emissions increased by 67.1 percent between 1990 and 2012, and are projected to grow 85 percent by 2030 under a business-as-usual scenario.

By other measures, India's emissions are relatively low compared to those of other major economies. India accounts for only 4 percent of global cumulative energy-related emissions since 1850, compared to 16 percent and 15 percent for the United States and China.¹ India produces about 2 tons of CO₂e per capita, versus 20 tons and 8 tons, respectively, in the United States and China.

Coal accounted for 43.5 percent of the total energy supply in 2011, followed by biofuels and waste (24.7 percent), petroleum (22.1 percent), natural gas (6.7 percent), hydropower (1.5 percent) and nuclear (1.2 percent).² India is working to meet growing energy demand by securing affordable supplies and attracting infrastructure investment in. By 2022, it aims to provide electricity to the 25 percent of the population (more than 300 million people) who don't have it.³

India pledged under the Copenhagen Accord to reduce its CO₂ intensity (emissions per GDP) by 20 to 25 percent by 2020 compared to 2005 levels.⁴ India appears on track to achieve its voluntary pledge, though emissions are not projected to peak until around 2050 or later. On October 1, 2015, India formally submitted its intended nationally determined contribution (INDC) to the climate agreement due in December 2015 in Paris. Among its key elements:

- To reduce the emissions intensity of its GDP by 33 to 35 percent by 2030 from 2005 level.
- To achieve about 40 percent cumulative electric power

installed capacity from non-fossil fuel based energy resources by 2030, with the help of transfer of technology and low cost international finance including from Green Climate Fund (GCF).

- To create an additional carbon sink of 2.5 to 3 billion tons of CO₂ equivalent through additional forest and tree cover by 2030.

POLICIES CONTRIBUTING TO CLIMATE MITIGATION

India has a number of policies that contribute to climate mitigation by reducing or avoiding greenhouse gas emissions. In June 2008, the Prime Minister released India's first National Action Plan on Climate Change, which identified eight core "national missions" running through 2017. India's current Five-Year Plan (2012-2017), which guides overall economic policy, includes goals to:

- Achieve average 8 percent annual GDP growth;
- Reduce emissions intensity in line with India's Copenhagen pledge; and
- Add 300,000 MW of renewable energy capacity.⁵

Since taking office in May 2014, Prime Minister Narendra Modi has taken steps to scale up clean energy production and

has initiated a shift in India's stance in international climate negotiations. One of his first acts was to rename the environment ministry the Ministry of Environment, Forests and Climate Change. In January, the newly reconstituted Prime Minister's Council on Climate Change launched new initiatives on wind energy, coastal zone management, health and waste-to-energy.

RENEWABLE ENERGY

At the federal level, India has implemented two major renewable energy-related policies: the Strategic Plan for New and Renewable Energy,⁶ which provides a broad framework, and the National Solar Mission, which sets capacity targets for renewables.⁷ The original Solar Mission includes the following targets for 2017: 27.3 GW wind, 4 GW solar, 5 GW biomass and 5 GW other renewables. For 2022, these targets increase to: 20 GW solar, 7.3 GW biomass and 6.6 GW other renewables.

SOLAR

In November 2014, the Indian government announced that it would increase the solar ambition of its National Solar Mission to 100 GW installed capacity by 2022, a five-time increase and over 30 times more solar than it currently has installed. To this end, the government also announced its intention to bring solar power to every home by 2019 and invested in 25 solar parks, which have the potential to increase India's total installed solar capacity almost tenfold.

WIND

The Twelfth Five Year Plan proposes a National Wind Energy Mission, similar to the National Solar Mission, and the Indian government recently announced plans to boost wind energy production to 50,000 to 60,000 MW by 2022. It is also planning to promote an offshore wind energy market.

COAL

A tax on coal has raised \$2.85 billion for India's clean energy fund. The tax rose in July 2014 from Rs. 50 (\$.80) to Rs. 100 (\$1.60) per ton, and doubled again in March 2015 to Rs 200 (\$3.20) per ton.

ENERGY EFFICIENCY AND CONSERVATION

India's National Mission for Enhanced Energy Efficiency⁸ implements the Perform, Achieve and Trade (PAT) Mechanism, covering the country's largest industrial and power generation facilities.⁹ PAT covers more than 50 percent of fossil fuel use and set a target to reduce energy consumption at participating facilities 4-5 percent in 2015 compared to 2010 levels.

TRANSPORTATION

In early 2014, India announced new vehicle fuel-economy standards (Indian Corporate Average Fuel Consumption standard) of 4.8 liters per 100 kilometers (49 MPG) by 2021-2022, a 15 percent improvement. Biofuel legislation has set a target of 20 percent blending of ethanol and biodiesel in 2017.¹⁰

SMART CITIES

Prime Minister Modi has launched an initiative to create 100 "smart cities" with better transport systems, utilities, and energy networks to address the challenges of urban growth.¹¹ India's National Mission on Sustainable Habitat also includes initiatives such as the Energy Conservation Building Code, mandated for commercial buildings in eight states, and actions to support recycling, waste management, and improved urban planning.¹²

ENDNOTES

¹ Data from WRI, 2011. “6 Graphs Explain the World’s Top 10 Emitters,” available at www.wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters

² Data from US EIA. 2013. “India,” available at <http://www.eia.gov/countries/analysisbriefs/India/india.pdf>.

³ Data from World Bank, 2014. “Access to electricity (% of population),” available at <http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS/countries>.

⁴ Government of India, 2010. Copenhagen pledge, available at http://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/indiacphaccord_app2.pdf

⁵ Government of India, 2013. “Twelfth Five Year Plan (2012-2017),” available at <http://12thplan.gov.in>

⁶ Government of India, 2011. “Strategic Plan for New and Renewable Energy Sector for the Period 2011-17,” available at http://mnre.gov.in/file-manager/UserFiles/strategic_plan_mnre_2011_17.pdf

⁷ Government of India. “JNN Solar Mission,” available at <http://www.mnre.gov.in/solar-mission/jnnsmission/introduction-2/>

⁸ Government of India. “National Mission for Enhanced Energy Efficiency (NMEEE),” available at <http://www.beeindia.in/schemes/schemes.php?id=8>

⁹ Government of India. “Perform, Achieve and Trade (PAT),” available at <http://www.beeindia.in/content.php?page=schemes/schemes.php?id=9>

¹⁰ Data from IEA, 2014. “World Energy Outlook 2014.”

¹¹ Data from New Climate Economy, 2014. “India: Pathways to Sustaining Rapid Development in a New Climate Economy (Conference Draft),” available at <http://newclimateeconomy.report/india/#section-2784-content-2828>

¹² Government of India. “National Missions On Sustainable Habitat,” available at http://moud.gov.in/sites/upload_files/moud/files/NMSH_0.pdf



The Center for Climate and Energy Solutions (C2ES) is an independent nonprofit organization working to promote practical, effective policies and actions to address the twin challenges of energy and climate change.