India Facts

India's Actions to Address Climate Change and Move Toward a Low-Carbon Future

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India is becoming an economic powerhouse and a global environmental leader. With the world's second-fastest growing economy, India will see significantly increased energy consumption and greenhouse gas emissions. At the same time, India recognizes that its people, mostly rural and very poor, will disproportionately suffer from climate change. The Government of India has decided that reducing its carbon footprint and introducing clean energy technologies is in its own national interest. Outlined here are the steps India is taking toward a low-carbon energy future.

Developing a Comprehensive Approach

In 2008, Prime Minister Singh unveiled a comprehensive *National Action Plan on Climate Change*. India is currently implementing the first phase of the plan's two key components: the Solar, and Energy Efficiency Missions, and has formed the Expert Group on Low-Carbon Strategy for Inclusive Growth. The group's recommendations will be adopted in India's Twelfth Five-Year plan in 2012. This year, the Indian Parliament constituted a Parliamentary Forum on Global Warming and Climate Change. Momentum is building in India's states as well; Delhi became the first of many states to release a Climate Action Plan, and Gujarat established a dedicated Department of Climate Change.

Showing International Leadership on Climate Change

Just before the Copenhagen Climate Change Summit in December 2009, India announced its first-ever domestic emissions intensity reduction target of 20 to 25 percent below 2005 levels by the year 2020. Also, Prime Minister Singh was one of the key leaders from a developing country who negotiated the Copenhagen Accord with President Obama.

Promoting Green Buildings and Efficiency Standards

India is expected to have 1,000 LEED-certified buildings and a four billion dollar green building market by 2012. In July 2009, the Bureau of Energy Efficiency (BEE) revised the *Energy Conservation Building Code* and prepared a User Guide. The code is anticipated to become mandatory in the next two years. The BEE has also established voluntary efficiency standards for more than a dozen appliances and mandatory standards for refrigerators, air conditioners, tube-lights, and transformers. India will accelerate the shift to efficient appliances through its *Market Transformation for Energy Efficiency* program, an incentives scheme to make energy efficient home appliances more affordable for consumers.

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Going Places: Greener Transportation Methods in India

India will institute mandatory fuel efficiency standards for all cars and trucks by 2011. India has already converted its bus, taxi, and city vehicle fleets to compressed natural gas (CNG) in four megacities and is expanding the CNG program to large and medium sized cities. A number of major cities in India including Delhi and Mumbai are building new metro rail and bus rapid transit systems.

Charting a Course to a Clean Energy Future

As a step to constrain its dependence on fossil fuels, India announced in February 2010 a "coal tax" of 50 Rupees per metric ton, with revenues going to a National Clean Energy Fund to finance clean energy research and development. In June 2010, India repealed subsidies for gasoline, lowered subsidies for diesel and kerosene, and reduced import duties on renewable energy equipment. The country also exempted some renewable energy machinery, like wind turbine parts, from a domestic production tax on new goods. India is preparing to launch a Renewable Energy Certificate (REC) trading scheme.[1]

Under its Solar Mission, India set robust goals to develop 20 gigawatts of solar power by 2022. Between 2010 and 2013, India plans to develop 1,100 megawatts (MW) of solar energy with both grid-connected solar power plants and decentralized solar projects. India is providing funding incentives to solar power operators, financial institutions, state and local governments, utilities, NGOs, and entrepreneurs. These incentives include capital subsidies of up to 30 percent, low-interest loans, and feed-in-tariffs for rooftop solar and large grid-connected solar projects.[2] Already the fifth-largest producer of wind energy, India's total potential wind energy capacity is estimated to be more than 45,000 MW. Of this, the government aims to develop 10,500 MW installed capacity by the end of India's Eleventh Five-Year plan, for the period 2007-2012.

Growing Forests

In May 2010, India released a draft of its National Green Mission which calls for doubling the rate of forest cover restoration and removing 43 million tons of carbon dioxide equivalent (CO_2e) each year, or 6.35 percent of India's annual greenhouse gas emissions, by 2020.[3] India has created a technical group and coordinating agency for the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UNREDD+). India is also institutionalizing National Forest Carbon Accounting methodologies.

NRDC'S India Initiative

In 2009, NRDC launched a new effort focused on India to advocate increased cooperation between the United States and India on the shared challenge of climate change and clean energy. NRDC is working with Indian partners on strategic projects to encourage and assist in India's current efforts to move toward a green economy. We are encouraging more energy efficient building construction, addressing adaptation needs resulting from the health impacts of climate change, and providing support for strengthening environmental enforcement and compliance.

Building an Energy Efficient Economy

In June 2010, India approved its Energy Efficiency Mission with a a goal of cutting annual energy consumption by 5 percent by 2015. The proposed efficiency programs and policies will avoid the need to add nearly 20,000 MW of capacity, attain fuel savings of 23 million tons per year, and curb carbon dioxide emissions by nearly 100 million tons a year. The BEE is establishing the innovative *Perform, Achieve and Trade (PAT) Mechanism for Energy Efficiency*, an Energy Savings Certificate trading program for energy intensive industrial facilities and power stations, which is expected to reduce carbon emissions by 25 million tons per year by 2014 or 2015.[4]

Increasing Scientific Research and Monitoring

India has created a comprehensive science program with its Indian Network of Climate Change Assessment (INCCA), involving 120 research institutions. In addition to the recent emissions inventory, INCCA will release an assessment of the impacts of climate change on water, agriculture, forests and human health. Earlier this year, India became the first developing country to publish its 2007 emissions inventory and promised to release it biannually. In 2013, India will become one of the first developing nations to launch a dedicated satellite to monitor its emissions. India has also created the Global Advisory Network Group on Environmental Sciences (GANGES) for climate research and policy analysis.

Strengthening Collaboration Between the United States and India

In November 2009, Prime Minister Singh and President Obama launched a *Green Partnership* on climate change, energy, and food security. Since then, the two governments have worked closely to develop one of the partnership's key initiatives, the *Program to Advance Clean Energy* (PACE), focused on research and deployment of clean energy technologies. Indian and U.S. labs are also working closely together on developing solar, wind and energy efficiency technologies. The joint U.S.-India ECO-III project is enhancing the commercial viability and performance of the Indian energy sector, including the promotion of clean and energy efficient technologies.

The United States and India have also launched the *Superefficient Equipment and Appliances Deployment* (SEAD) Initiative, which seeks to transform the global appliance market by improving incentive and labeling programs, strengthening standards, and funding research and development. Initially, SEAD will focus on strengthening standards for various consumer products, including lights and televisions.

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[1] "Development of Conceptual Framework for Renewable Energy Certificate Mechanism in India." MNRE, Government of India. http://mnre.gov.in/pdf/MNRE_REC_Report.pdf

[2] "Jawaharlal Nehru National Solar Mission." MoEF, Government of India. http://mnre.gov.in/pdf/mission-document-JNNSM.pdf

[3] "National Mission for a Green India." MNRE, Government of India. http://moef.nic.in/downloads/public-information/green-india-mission.pdf

[4] "National Mission for Enhanced Energy Efficiency." BEE Factsheet. http://www.bee-india.nic.in/seminar/Dr.%20Ajay%20mathur.ppt