



GLOBAL CLIMATE CHANGE

MAY 2006



USAID's climate change activities in India include promoting clean energy, efficient energy use, and pollution reduction in key industrial sectors. Initiatives and investments in clean technology practices, climate-friendly environmental management systems, and capacity building are having an important impact on reducing greenhouse gas emissions.

Background. India is the second most populous country in the world, with more than 1 billion citizens in an area little more than one-third the size of the United States. Despite its gross domestic product of \$719.8 billion, its enormous population means its economy (measured per capita) ranks low on the world scale. Due to its high rate of energy consumption, (growing at a rate of over 5% annually) it will become the world's fourth largest energy user.¹ It is also the world's fifth largest source of greenhouse gas (GHG) emissions and the second fastest growing source of emissions after China. Its high level of emissions stems from electric power generation, followed by the wastes of its transportation sector. Carbon dioxide (CO₂) emissions from land use changes are also a concern in India, as rapid deforestation degrades more than 50% of India's land area. Given these environmental challenges, USAID/India's environment objectives include increasing environmental protection in the energy and urban sectors.

USAID helped the Government of India (GoI) to foster Indo-US cooperation in clean energy (coal) generation, promoted national and state energy efficiency strategies and programs and created sustainable "best practice" models of power distribution. USAID is strengthening incentives for the adoption of clean technology practices and certified environmental management systems that are climate-friendly. USAID's work in greenhouse gas (GHG) mitigation continued its dual role of financing clean energy projects and providing select technical assistance to advance adoption of GHG emission reduction technologies.

Sector-Specific Climate Change Activities. Efficient Energy Use. In 2005, USAID assisted the state of Maharashtra to become the first to develop an Energy Conservation Action Plan. This strategic plan, prepared in partnership with the Maharashtra Energy Development Agency (MEDA), outlines several programs that promote energy conservation while maximizing the participation of the private sector in its implementation. Other states have expressed interest in the approach, including Andhra Pradesh, Gujarat and Delhi.

Other USAID accomplishments include the preparation of India's first comprehensive Energy Conservation Building Code, in partnership with the Indian Bureau of Energy Efficiency (BEE). The draft code, currently under review, is to be launched by BEE as a voluntary program aimed at fostering the adoption of energy saving measures in government, commercial and residential buildings.

¹ International Energy Agency, "World Energy Outlook, 2004." (<http://www.iea.org/textbase/hppdf/free/2004/weo2004.pdf>)

USAID's partners in climate change activities in India include*:

- National Energy Technology Laboratory (NETL)
- Indian Bureau of Energy Efficiency (BEE)
- U.S. Environmental Protection Agency (USEPA)
- U.S. Department of Energy (USDOE)
- West Bengal Renewable Energy Development Agency
- Maharashtra Energy Development Agency (MEDA)
- International Institute for Energy Conservation (IIEC)
- International Council on Local Environment Initiatives (ICLEI)
- Gas Technology Institute
- University of North Dakota

*Because partners change as new activities arise, this list of partners is not comprehensive.

For more information on India, visit USAID/India's Mission Web site at:

<http://www.usaid.gov/in/>

In Bangalore, the BESCO Efficient Lighting Program, designed with the assistance of the local utility, increased consumer awareness of energy efficient lighting and helped to increase the sales of compact fluorescent lamps (CFL) from 50,000 to more than 300,000 lamps/month.

An efficient buildings program bringing together USAID, the U.S. Environmental Protection Agency and the U.S. Department of Energy was initiated in Maharashtra. The program seeks to adapt the experiences of the U.S. to Indian conditions to reduce costs, energy use, local air pollution and greenhouse gas emissions.

Mobilizing Clean Energy Technologies through Leveraged Resources. Under USAID's Clean Technology Initiative, three industrial firms were ISO 14001 certified in 2004. Additionally, 11 more firms were targeted for ISO certification in the small and medium enterprises of foundry, glass and diesel generator manufacturers. In 2005, USAID provided financial support to four clean energy projects in the private sector. These projects have contributed to the greenhouse gas reduction of about 67,000 tons of CO₂. Additionally, USAID, along with the West Bengal Renewable Energy Development Agency, co-funded the first demonstration project of two 30 kilowatt state-of-the-art micro-turbines to operate on bio-gas which were commissioned in July 2006. The technical demonstration project will help to stimulate the market for micro-turbines based distributed generation systems.

Mitigation of GHG Emissions: The Greenhouse Gas Pollution Prevention (GEP) project, a key USAID activity for mitigating CO₂ emissions, has helped India to avoid approximately 12.4 million tons of CO₂. The project also created and operated a fund administered by the Indian financial institutions to support clean energy projects. Financial support of \$ 1.49 million was provided to four clean energy projects in the private sector. These projects have contributed to GHG reduction of more than 100,000 tons of CO₂ to date. Under the feasibility study on advance power generation technology, Indian coal was successfully tested at the Gas Technology Institute pilot plant in Chicago and at the University of North Dakota. The feasibility study will be completed by September 2006 and will include basic design details for a 100 megawatt demonstration plant in India.

Finally, USAID partnered with the International Council on Local Environment Initiatives (ICLEI) to create emission inventories for nine cities, along with action plans for each city to mitigate those GHG emissions. Half of the cities have already begun to implement those plans. USAID also helped to create three pilot programs for urban municipalities to reduce lighting and water pumping loads through energy services companies, along with a demand side management handbook.