



Photo © UNICEF

## Green Bricks

### Project Title

Energy Efficiency Improvements in India's Brick Industry

### Budget

Total: USD2.6 million  
Global Environment Facility: USD696,000;  
The Energy and Resources Institute:  
USD145,000; and Brick Kiln Units:  
USD1.8 million

### Duration

April 2008 – April 2012

### Partners

Ministry of Environment and Forests,  
Government of India; and  
The Energy and Resources Institute

### Project Location

Haryana, Karnataka, Maharashtra,  
Punjab and Uttar Pradesh

### Challenges

The construction sector in India is huge, contributing about 10 percent to the Gross Domestic Product and registering an annual growth of about nine percent. To feed this growth, an estimated 140 billion bricks are produced each year. Brick production consumes 24 million tonnes of coal and huge quantity of biomass fuel. The total carbon dioxide emission from brick production is estimated at 41.6 million tonnes, accounting for 4.5 percent of the total greenhouse gas emissions from India.

Most brick production in India takes place in small units, using manual labour and traditional firing technologies. Given that a large part of the demand for bricks is in urban centres, this has resulted in a mushrooming of brick-making clusters on the outskirts of major towns and cities.

The brick sector is one of the most-polluting industries in India and the Indian government has enforced air emission standards for brick-kilns. These emission norms were notified by the Ministry of Environment and Forests in 1996. The notification also banned the use of moving chimney type - Bull's Trench Kilns - and mandated the use of a pollution control system, called gravity settling chamber in brick kilns.

A stakeholder workshop was organised to design an intervention to address the challenges. The outcome indicated opportunities in the Indian brick industry to improve resource efficiencies and promote the production of resource-efficient bricks like perforated bricks, hollow blocks and fly-ash bricks. The challenge is to create awareness about the available cleaner technology and energy efficiency measures to encourage their use in the sector.

## Response

The Global Environment Facility and the United Nations Development Programme (UNDP) support the government's Ministry of Environment and Forests to implement a project that envisages to:

- Enhance public sector awareness on resource-efficient products;
- Provide brick-kiln entrepreneurs access to finance;
- Improve technology awareness and marketing skills;
- Make resource efficient technology models available in five clusters through local resource centres; and
- Improve capacity of brick-kiln entrepreneurs.

## Impact

The project demonstrates approaches to overcome the policy, financial, technology and awareness-related barriers. This project aims to install 12 demonstration projects in five clusters in the country. It is estimated that the 12 demonstration projects themselves will save approximately 62,000 tonnes of carbon dioxide emissions over a period of five years. Usage of resource-efficient bricks by new public department building contracts is likely to be increased by 20 percent by end of the project.

A project facilitation cell will be established at The Energy and Resources Institute (TERI), a leading research and advocacy organisation, to implement the project activities. Local Resource Centres will also be established in the five clusters identified for the project: Ghaziabad/Gurgaon, Varanasi, Pune, Ludhiana and Bengaluru.

For more information, please write to [info.in@undp.org](mailto:info.in@undp.org)

*Last updated: September 2009*