Improving Energy Efficiency in the Indian Brick Industry

Background

The construction sector in India, growing annually at 9 percent, contributes about 10 percent of the country’s gross domestic product. To feed this sector, India produces about 140 billion bricks per annum and, in the process, consumes 24 billion tonnes of coal, along with a huge quantity of biomass fuel. Brick production in India takes place in the numerous brick-making clusters at the outskirts of major towns, using manual labour and traditional firing technologies. Not only do these units consume about 350 million tonnes of good quality topsoil each year, they also cause acute air pollution locally (by suspended particulate matter, sulphur dioxide, and fugitive emission). Carbon dioxide emission from brick production alone is estimated at 41.6 million tonnes accounting for 4.5 percent of the total greenhouse gas (GHG) emissions from India.
About the project

The Ministry of Environment, Forests, and Climate Change, Government of India, in partnership with UNDP has initiated this project to promote the production of resource efficient bricks (REBs) such as perforated bricks, hollow blocks, and fly-ash bricks.

Developments so far

• Market linkage support has been provided to nine REB units which have increased the production of REBs by about 150 percent in last five years, producing 106.3 million bricks. Energy saved during production translates to 12,294 tCO2 of reduction in GHG emission.

• The REBs have been included in the procurement schedule of Punjab Public Works Department, Government of Punjab.

• Over 30 workshops and seminars have been organized during which more than 1000 engineers, architects, brick producers, developers, government officials and other stakeholders have been trained.

• A study entitled “Market assessment for Resource Efficient Bricks: Present Production and Future Markets” has been commissioned.

• Five model project reports have been prepared as templates for availing of loans from financial institutions.

• The project is providing technical assistance and REB equipment to three brick kilns in Hisar (Haryana), Solan (Himachal Pradesh) and Amritsar (Punjab).

• The project is helping 25 conventional brick producing units to develop bankable investment plans to establish REB production.

• An audio-visual Bricking a Greener India (8 minutes and 30 seconds in length) is being produced to create awareness and promote the use of REBs.

Looking to the future

• The project will facilitate the inclusion of REBs in the Revised Indian Standards endorsed by the Bureau of Indian Standards

• It is hoped that in the specifications of the procurement schedule, “Other Public Sector Units” will include REB units and the Public Works Department, Government of Punjab and other public sector entities will include REBs in their procurement schedule.

• Furthermore, under the project, the 500 brick kilns that have extruders will switch to REB equipment and start producing them.

• All REBs will be eco-labelled.