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News Release

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New Technologies could help Revolutionize the Brick Making Industry

Greenhouse gases to be reduced, communities to reap benefits

New Delhi, India, July 27, 2006—The World Bank, as trustee of the Community Development Carbon Fund (CDCF) has signed two agreements with two Indian companies to promote technologies that may help revolutionize the building material industry—one utilizes a more energy efficient kiln to produce burnt clay bricks, and the other replaces burnt clay brick with fly ash bricks which are manufactured without the use of thermal energy.

“These Projects will help clean up the brick industry which is not just one of the major contributors to India’s carbon dioxide emissions, but also uses up inordinate amounts of coal energy,” said **Michael F. Carter, World Bank Country Director for India.** *“Importantly, it would also result in significant local environmental and social benefits. The Bank-managed CDCF will purchase the carbon credits and we hope this will help finance the spread of these energy-efficient technologies in India.”*

In India, clay bricks have been extensively used for centuries and are the predominant construction material even today. Current demand is over 100 billion bricks a year. The fuel costs alone account for almost 30-40 percent of the production cost. The conventional practice of firing clay bricks in traditional kilns consumes large quantities of coal, firewood, and other biomass fuels. The Indian brick industry which is the second largest producer in the world, next to China, consumes more than 24 million tons of coal annually. Brick making is a traditional, unorganized industry, generally

confined to rural and semi-urban areas. It is one of the largest employment-generating industries, employing millions of workers.

The Vertical Shaft Brick Kiln (VSBK) technology project aims to improve the thermal performance of the brick manufacturing units in selected clusters of the country, especially in the states of Chattishgarh, Madhya Pradesh, Rajasthan, Orissa, Jharkhand, Uttar Pradesh and West Bengal. This technology is both cleaner and more energy efficient than the clamp technology, which is commonly used by the small and medium scale brick manufacturers. Technology and Action for Rural Advancement (TARA), the agency which provides the VSBK technology in the country, intends to set up a total of about 126 VSBK plants, in a time frame of two to three years in selected clusters in the participating states through different entrepreneurs. The almost 400,000 tons of greenhouse gas emission reductions generated by the project over 10 years will be purchased by the CDCF.

TARA, the social enterprise arm of the Development Alternatives Group, has played a key role in introducing and adapting the technology to India. TARA will be the implementing agency for the project.

“The TARA Eco-Kiln, the first major innovation in brick-making in several centuries, is the only solution currently available to replace conventional brick-making technology and save the countryside from air pollution and the small and medium enterprise segment of the industry from oblivion,” said **Dr Arun Kumar, President of TARA**. *“With a rapidly growing demand for bricks every year in our country, already at 160 billion, and the huge saving it enables of greenhouse gases emitted into the atmosphere, the sky is literally the limit for the VSBK technology—and clear skies are among the prizes.”*

The project will also deliver community benefits to the VSBK workers including provision of health insurance and accident coverage for brick workers at the project sites; provision of basic sanitation facilities for men and women; employment for a longer period), minimizing the need for alternative employment.

The second project is the FaL-G project. The initiative will replace environmentally damaging burnt clay building bricks in India’s construction sector with fly ash brick which is manufactured using available industrial wastes/by-products as basic raw materials. Burnt clay bricks are predominantly used as walling material by the construction sector in India. The process of producing the brick requires fossil fuel consumption and denudation of fertile topsoil. Fly ash, the key ingredient of FaL-G technology, is a byproduct from coal power plants and abundantly available in India. Fly ash is mixed with two other ingredients: lime, which is a byproduct of the acetylene industry and gypsum from chemical plants. This blending recipe is a revolutionary invention, as this technology does not require a sintering process in brick production. No thermal energy is required and consequently no greenhouse gases are emitted. The project will facilitate setting up about 100 micro industrial plants in different parts of the country, particular in the states of Tamil Nadu, Kanartaka, Orissa and Utter Pradesh, by micro enterprises to manufacture fly ash bricks using the FaL-G technology.

“INSWAREB has been spearheading the cause of fly ash utilization for the last 16 years and propagating FaL-G technology relentlessly. I hope that, with the World Bank’s assistance in fetching carbon revenues, entrepreneurs would generate much more enthusiasm, contributing to the rapid proliferation of the technology to meet our company’s vision”, said **N. Kalidas, Executive Director of Eco-Carbon and founder director of INSWAREB (Institute for Solid Waste Research and Ecological Balance)**.

The CDCF will purchase 600,000 tons of greenhouse gas reductions over a 10 year period from the FaL-G project. The FaL-G project will deliver community benefits as well: Provision of health insurance and accident coverage for workers; improved living condition for workers (toilets, drinking water and washing/bathing facilities) and year round employment for workers (compared to seasonal employment in the clay brick industry).

The construction sector in India is considered one of the most carbon intensive sectors representing about 17% of India's carbon dioxide (CO₂) emissions, roughly equal to 170 million tons of CO₂ emissions per year. The government of India has already committed to banning clay bricks in urban centers; both the FaL-G and VSBK brick-making technologies and the potential they hold for reducing climate altering greenhouse gases demonstrate a technological solution that is economical for traditional brick producers.

For more information, please visit the websites:

www.carbonfinance.org

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ANNEX 1:

The Kyoto Protocol and the Clean Development Mechanism (CDM)

The Kyoto Protocol provides an unprecedented opportunity for the Organization for Economic Co-Operation and Development (OECD) countries to reduce greenhouse gas emissions and at the same time help developing countries and economies in transition invest in climate friendly technologies and infrastructure. The Protocol's Clean Development Mechanism (CDM) and Joint Implementation (JI) provide an element of flexibility for the industrialized countries to meet their obligations under the Protocol to reduce greenhouse gas emissions by on average 5.2 percent below their 1990 levels by 2012. In so doing, the Protocol provides an unprecedented incentive for those seeking lower cost emission reductions, to leverage the flow of private capital and privately held clean technology from North to South.

ANNEX 2:

The Carbon Finance Business

Carbon finance is the general term applied to financing seeking to purchase greenhouse gas emission reductions ("carbon" for short) to offset emissions in the OECD. Commitments of carbon finance for the purchase of carbon have grown rapidly since the first carbon purchases began less than 10 years ago. Volumes are expected to continue to grow as countries that have already ratified the Kyoto Protocol work to meet their commitments, and as national and regional markets for emission reductions are put into place. Trading started in the European Union in January 2005 with the Emissions Trading Scheme (EU ETS).

ANNEX 3:

The Community Development Carbon Fund (CDCF)

The CDCF is partnership of nine governments and 16 companies and organizations and is designed to provide communities in developing countries, and in particular least developed countries with an opportunity to benefit from new investments in renewable energy and clean technologies that aim to

reduce greenhouse gas emissions and mitigate the effects of climate change, while measurably improving the welfare of the communities involved.