

## Corporate Sustainable Development Report 2007



### Renewable energy initiatives

Using renewable energy resources helps us diversify our energy mix and achieve our CO<sub>2</sub> reduction target. Owing to our versatile asset base, wide geographical presence, multitude of installations and product portfolio, Holcim is in an optimal position to take up the incentive of the flexible markets instruments offered by the Kyoto Protocol (Emissions Trading, Clean Development Mechanism (CDM) and Joint Implementation). We are also able to engage in projects and renewable energy initiatives that would not normally be common practice.

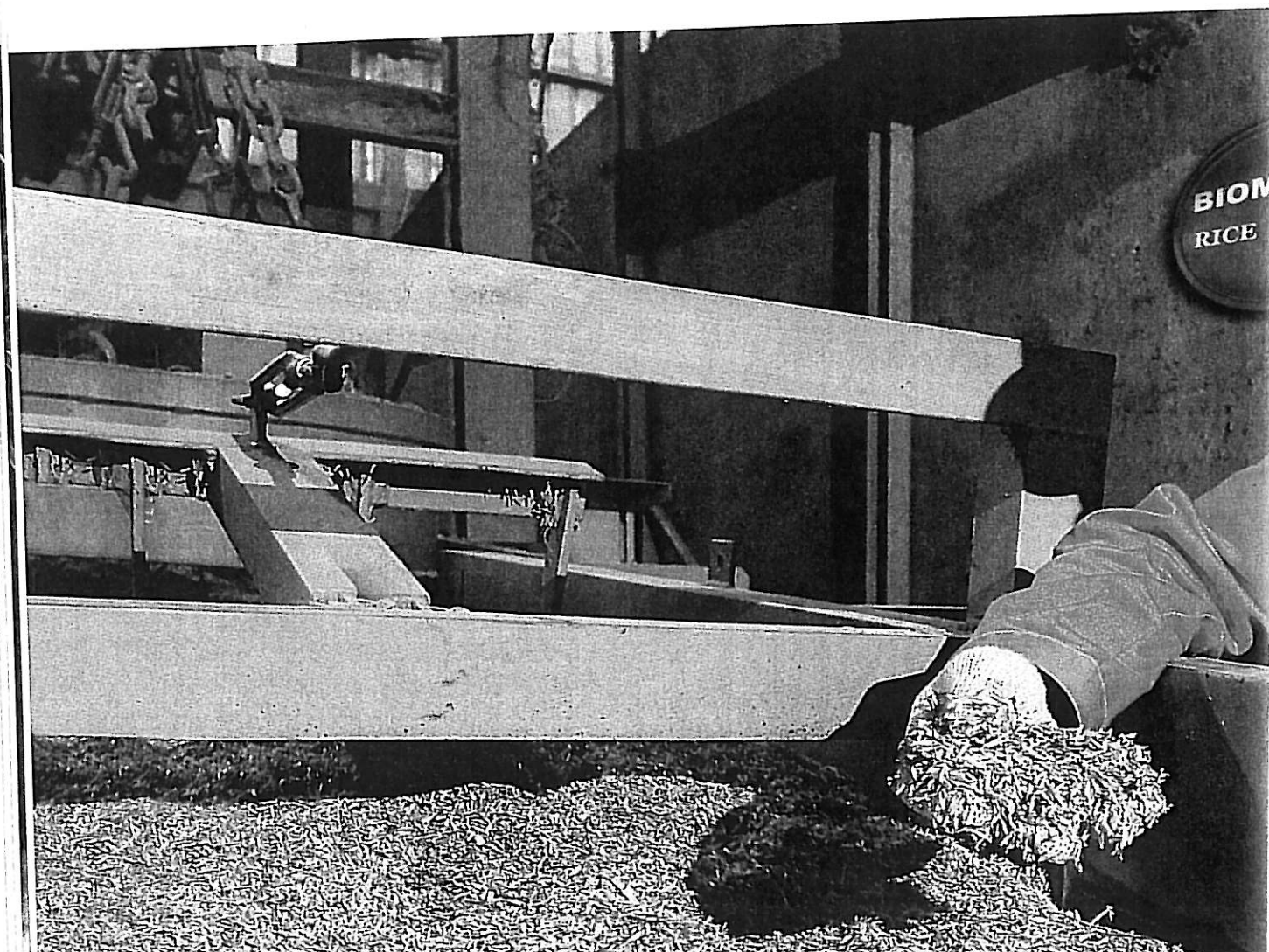
Holcim has taken several initiatives in CDM projects. Even though the applicable rules are quite restrictive, Holcim has pursued a number of challenging opportunities. We currently have more than eight projects in different stages of development in several countries, including the following initiatives qualifying under CDM:

- biomass and other alternative fossil fuel opportunities in Ecuador, India, Indonesia and the Philippines
- wind energy project in India
- biomass and waste heat recovery for power generation in China, India and Thailand.

In addition to projects already initiated, others are currently undergoing feasibility studies.

### Biomass at Holcim Indonesia

Holcim Indonesia has a biomass initiative currently under request of registration with the UN Framework Convention on Climate Change (UNFCCC). The project aims to co-process rice husks, sawdust and palm kernel shells to partially replace coal at its Narogong and Cilacap plants in Java. With the incentive of CDM, the project was launched in 2005 with tests and trials. It forms part of a wider eco-efficiency programme encompassing the other main drivers of CO<sub>2</sub> emission reductions.



### Wind energy in India

The state of Tamil Nadu in India has been proactively promoting and adopting renewable sources of energy. In October 2007, our Group company in India, ACC, commissioned its first wind energy farm. Wind power generated here is supplied to ACC's Madukkarai plant via the state power grid. Excess power not used by the plant is offered back to the grid.

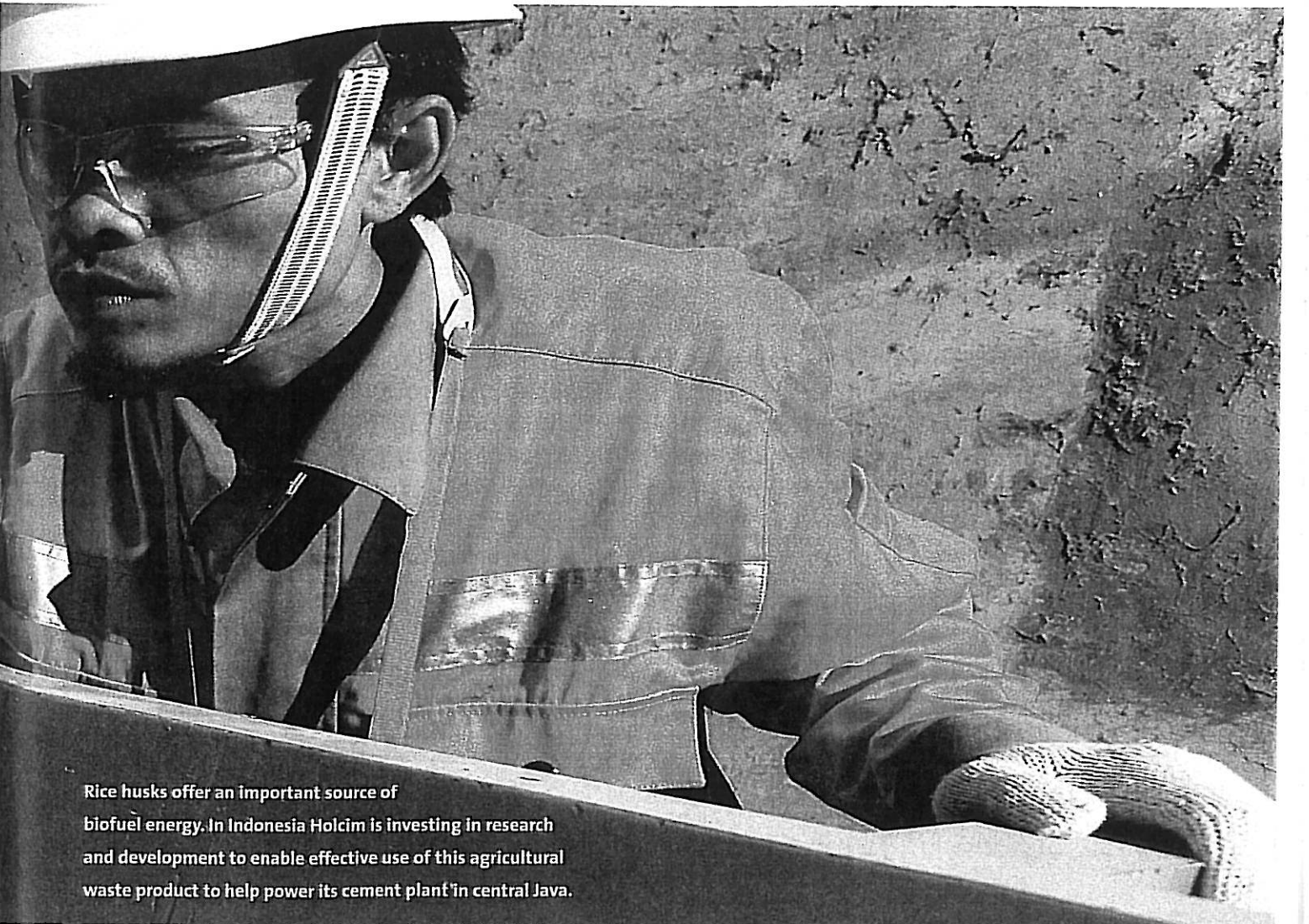
### Waste heat recovery in China

With the incentive of CDM, five Holcim cement plants in China are planning to invest in a low-temperature waste heat power-generation system that recovers waste heat from the cement production process. Using the heat recovered, special boilers will generate steam to drive turbines and generators. The resulting electricity supply will be used in cement production, thereby decreasing coal consumption. These projects are undergoing a validation process required by the UNFCCC.

### Other initiatives

Through advanced technologies, ACC in India and Holcim Spain are investigating the sequestration (capture and storage) of CO<sub>2</sub>. The aim is to produce algae biomass, which can then be used to return recycled energy to the cement production process, thus closing the energy loop and reducing emissions.

Holcim Italia is developing a biomass power plant at Valtellina, which will be able to deliver around 13% of Holcim Italia's current power consumption when it comes on stream in 2010. This will contribute toward realizing the EU target of sourcing 20% of energy needs from renewable sources by 2020. The plant will be fueled with biomass from local sources, using by-products from neighboring saw mills, pruning waste or wood sustainably extracted from local forests.



Rice husks offer an important source of biofuel energy. In Indonesia Holcim is investing in research and development to enable effective use of this agricultural waste product to help power its cement plant in central Java.