AIR 04 - 1. place

Applicant: Escorts Foundation
Country: Pakistan
Continent: Asia

Cooking efficiency

50% less fuel wood and a 70% reduction of gaseous emissions: Pakistan has reinvented the kitchen stove. According to a recent study, open fire stoves consume approximately 10kg of firewood per household and day, which means 9,125,000 kg of firewood annually. Due to the high demand for wood as fuel the rate of theft was 600 trees for every 760 planted per acre every year - resulting in deforestation and terrible situation for the environment.

The new stove affectionately called "nada" is cost efficient and simply constructed. It is less of a health hazard to women, time efficient, causes less blackening of cooking utensils & kitchen walls. The stove uses wood and cow dung cake for heating. The technology of the stoves is as close as possible to the traditional stoves used by the women in the area, unlike in previous projects that were more technology orientated, not taking into account local demands. The Escorts stove uses the same materials as the traditional stove and is constructed in the home needy families, by local women who are trained as "Chulah Mechanics" and local blacksmiths.
The result is a significant transformation of the lives especially for the women. Not only the health risks associated with cooking on open fires are reduced (chimney pipe), but their status in the household is greatly enhanced by the fact that they are able to cook two meals at once and keep the food warm for their families. Women have also found that they have to spend less time (normally a 16 hours day) for collecting fuel-wood and preparing food and therefore have more time to assist the family in income-generating activities. Women trained as "Chullah Mechanics" are also able to earn additional income for themselves by constructing the stoves. Women are also trained to set up the stoves themselves and in the meantime about 7000 women in 24 villages have received such training. The simplicity of the stoves together with involvement of the community through training sessions and workshops, resulted in an acceptance ratio of over 70% in the 54 villages where the stove has been introduced. Dependent on the necessary funding, ESCORT plans, to extend the project area to 80 further villages. The average number of people per household in this target area is almost 8, with approximately 210 households per village. Over the course of the past ten years the NGO Escorts Foundation has installed 11,578 stoves.

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AIR 04 - 2. place

Applicant: Schmack Biogas AG
Country: Germany
Continent: Europe

It's a biogas for fuel

In 2002 the Schmack Biogas AG started an 800,000 Euro project in cooperation with MTU CFC Solutions GmbH and E.ON Energie AG. Focus point was to create an effective cleaning method for agricultural biogas for the application in fuel cells. As a result of the Schmack Biogas AG efforts a process, using a combination of different procedures, for achieving a sufficient purification at lower expenses was discovered. The gas is transformed directly inside the fuel cell so an additional trans-former isn't necessary. An efficiency of 50% can be reached by the use of such high temperature fuel cells.

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	photo AIR 2. place (1)
	photo AIR 2. place (2)

AIR 04 - 3. place

Applicant: Nimbkar Agricultural Research Institute (NARI)
Country: India
Continent: Asia

Peddle power

There are other means of getting mobile than cars and gasoline. In India they are proving exactly how this is possible: an electric cycle rickshaw. The so-called MAPRAS rickshaws with a small additional battery-driven motor allow their drivers to easily go uphill. This integrated 0.375 kW PMDC motor with 24V, 40 A-hr lead acid battery can easily take 2 passengers up a 10% slope at a speed of 10 km/hr, which provides much needed help for the rickshaw puller. With over 20 million gas-powered two and three wheelers this is a major step in helping India combat its pollution problems.

Download photos AIR 3. place 04

photo AIR 3. place (1)

AIR 04 - 4. place

Applicant: Austrian Development Agency (ADA)
Country: Bhutan
Continent: Asia

A cleaner kitchen

The focus of the project is on improving technology and efficiency of the traditionally used kitchen stoves in rural areas with the aim of developing a new, highly accepted and affordable stove model using locally available materials. Construction and maintenance should be done by the local inhabitants, which also provide an additional income for them. The expected increase of efficiency of about 30% will markedly reduce the high level of fire wood use, which is among the highest in the world. The reduced indoor smoke will correlate to better health within the population and women will need to spend less time collecting fire wood and for cooking.

AIR 04 - 5. place

Applicant: National Energy Research Center, Amman
Country: Jordania
Continent: Asia

Give me your garbage and I'll give you power

There is plenty of garbage but not enough electricity for many countries around the world, so what better idea is there than to use waste to create power. In 1996 the Jordanian Government initiated a 5.5 million US$ biogas project. By the end of February 2003 about 7.2 million cubic meters landfill gas and 621.000 cm methane from an additional anaerobe reactor in Amman were extracted, producing about 13,800 MW/h, which was fed into the local power grid. The reduction of greenhouse gas emissions is about 1540 tons per year - a project with immense potential.

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