



The Right Livelihood Award

for outstanding vision and work on behalf of our planet and its people

Grameen Shakti (Bangladesh)

(2007)



"... for bringing sustainable light and power to thousands of Bangladeshi villages, promoting health, education and productivity".

A woman engineer demonstrating a Solar Home System

Grameen Shakti, under its Managing Director Dipal Barua, has installed more than 110,000 solar home systems in rural Bangladesh. It has shown that solar energy applications can be scaled up massively and rapidly to provide an affordable and climate-friendly energy option for the rural poor.

The company

Grameen Shakti (shakti meaning "energy" in Bengali) was created in 1996 as a not-for-profit company under the Grameen Bank. The goal of Grameen Shakti is to promote and supply renewable energy technology at an affordable rate to rural households of Bangladesh. Thus, their work not only focuses on the technical and capacity-building sides of renewable energy promotion. They have also adopted the Grameen Bank's experience in micro financing to make renewable energy applications affordable for poor rural people.

Grameen Shakti employs 1500 field staff, and has trained 1000 engineers and 1000 local technicians in renewable energy technology. These either work for Grameen Shakti or have started their own renewable energy businesses. The Managing Director of Grameen Shakti is Dipal Barua, born in 1954, who holds BA and MA degrees in economics from the University of Chittagong. Barua has been working closely with Muhammad Yunus since 1976, and was a co-founder of the Grameen Bank. In addition to his position as the Managing Director of Grameen Shakti, he is also Deputy Managing Director of Grameen Bank. Yunus and the Grameen Bank received the Nobel Peace Prize in 2006.

Installing renewable energy technologies in rural villages

Grameen Shakti has built up a network of 390 village unit offices, in all of Bangladesh's 64 districts, reaching out to the rural areas where 70% of the country's 135m inhabitants live. In these areas, there is no electricity grid and the population therefore often has no access to electricity. Through the village unit offices, Grameen Shakti promotes renewable energy technologies - especially solar home systems, which typically consist of a small 30-100 W photovoltaic panel connected to a battery for storage. By June 2007 Grameen Shakti had installed more than 110,000 solar home systems, with a capacity of about 5MW peak, covering 30,000 villages. The installation rate is growing

exponentially, with plans to reach 1 million installations in 2015. Currently, more than 4000 solar home systems are being installed per month. In addition, 4 wind energy plants, 1000 biogas plants and 3 solar thermal projects have been installed, and 9 solar-powered computer training centres have been created. The biogas programme is linked to the emerging poultry and livestock industry in Bangladesh with a focus on market slurry as a replacement for chemical fertiliser.

Involving the local community

Grameen Shakti has always sought to involve the local community in the planning, implementation and maintenance of solar home systems and has started a network of technology centres. The technology centres are managed mainly by women engineers, who train women as solar technicians. The women are equipped with tools to service and repair the systems in their areas, and to manufacture solar home system accessories. Seven technology centres are already in operation and there are plans to expand to 30 technology centres and to train 2000 women technicians.

The benefits of solar home systems

Solar home systems are replacing kerosene lamps, avoiding the fumes and fire-risk of such lamps. Each solar home system saves about 375 kg CO₂ per year. Owners of a solar home system also save about Tk 400 to Tk 500 (USD 6.00 to 7.50) per month on kerosene, which in many cases covers their loan repayment. Kerosene costs have risen by 60% in the past year, and are continuing to increase due to rising world oil prices and higher transport costs. They will increase further when the government reduces its subsidy of kerosene. Therefore the economic benefit of owning a solar home system will also continue to increase.

Solar home systems also bring significant social benefits. Many clinics use them to provide lighting during check-ups or operations. Schools also use them for lighting, and children also have a better environment for studying at home in the evening. The availability of power for mobile phone chargers has made it possible for more people to use mobile phones and to maintain contact with family members throughout Bangladesh and abroad. Women gain particular benefits from owning a solar home system. They feel more secure after dusk and can be more mobile. Since they usually spend more time in the home, they benefit most from the elimination of kerosene smoke. Many women have used the increased working time provided by the solar home system to start small-scale businesses such as poultry and handicrafts.

Solar home systems have significant income-generating potential. Many businesses can remain open for longer, including tailoring shops, restaurants and grocery shops. Solar home systems have also led to increased production in areas such as fishing, rice processing, poultry farming and handicraft. New jobs have been created for solar technicians, electronic repairers and in running community TV stations. New business opportunities are also made possible, such as renting mobile phone time. Grameen Shakti set up the micro-utility model to help shopkeepers get access to photovoltaic lights and extend their business hours. There are now more than 10,000 micro-utility lights operating in rural market places.

The financing

Grameen Shakti has developed four different credit schemes to make the solar home systems affordable. Customers pay different proportions of down-payment and monthly instalment according to their circumstances, supported by low-interest loans that Grameen Shakti receives from the Dutch Stichting Gilles Foundation and from the World Bank through the Bangladesh Ministry of Finance's Infrastructure Development Company Limited (IDCOL). Grameen Shakti has also received grants from USAID to cover their overhead costs, which has made it possible for them to deliver less expensive services. The company is widely recognised to comprise a strong business model based on vertical integration of solar home system technology and micro-finance. Grameen Shakti got its initial funds from the Grameen Trust and Grameen Fund. But the current massive scale-up is part of a World Bank and Global Environment Facility (GEF)-supported government programme, which was launched in 2003.

A role model for rural electrification

Grameen Shakti received the European Solar Award in 2003 and the Ashden Award for Sustainable Energy in the UK in 2006. Hermann Scheer, President of Eurosolar and a 1999 Recipient of the Right Livelihood Award has commented: "Grameen Shakti has pioneered ways to create awareness for solar energy, brought significant changes to the quality of life of rural people, and is achieving its overall goal to alleviate poverty in Bangladesh. In the future, the promotion of renewable energy in developing countries will depend on the development of rural renewable energy service companies (RESCOs). Grameen Shakti has created a sustainable business model, which could lead the way to start up other RESCOs and to promote rural electrification in developing countries."

Quotation

"It is a fact that the future belongs to Renewable Energy Technologies. But unless this technology can reach the millions of rural people who suffer most from the energy crisis, it will not reach its full potential, and neither will the economic and social problems of the world be solved."

Dipal Barua

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