



Prajapita Brahma Kumaris

Ishwariya Vishwa Vidyalyaya

presents

RENEWABLE ENERGY

FOR THE

FUTURE



***New developed 16 m² dish,
R&D sponsored by MNRE,
Shantivan Campus 2006***

PRAJAPITA BRAHMA KUMARIS
ISWHARIYA VISHWA VIDYALAYA

presents

Renewable Energy for the Future

THE CHALLENGE FOR THE 21. CENTURY

Day by day we hear more disturbing news about the “Climate Change” that is happening all over the world. More and more people are getting seriously impacted by increasingly strong and more frequent hurricanes. We hear about unprecedented droughts in one area while there is severe flooding in another. People are forced to leave entire regions due to desertification of the land.

Many scientists today accept that we are in the midst of a dramatic and accelerating climatic shift. There seems to be no viable solution and there is no clear vision of where we are heading. It is becoming increasingly clear that this climatic shift will pose enormous costs for most countries and there is a distinct possibility that the world economic structure and balance will be irrevocably destroyed. Every person living on this planet will ultimately have to face the consequences of dramatic environmental changes which are induced by human intervention in the delicate ecological balance of nature.

As per the latest UN report, Scientists have determined that the main causes of these changes are toxic emissions from industries and motor vehicles throughout the world. Increasing global pollution levels and urbanization together with rapid deforestation add to these problems.

Achieving a secure, efficient and clean energy supply is one of the major issues facing the world community. The growing scarcity and lack of availability of fuels remains a serious problem for many and the consequential depletion of precious financial, environmental and time resources affects all humanity. It seems clear, that humanity has reached a crossroads and an immediate shift in the used technology has to take place.

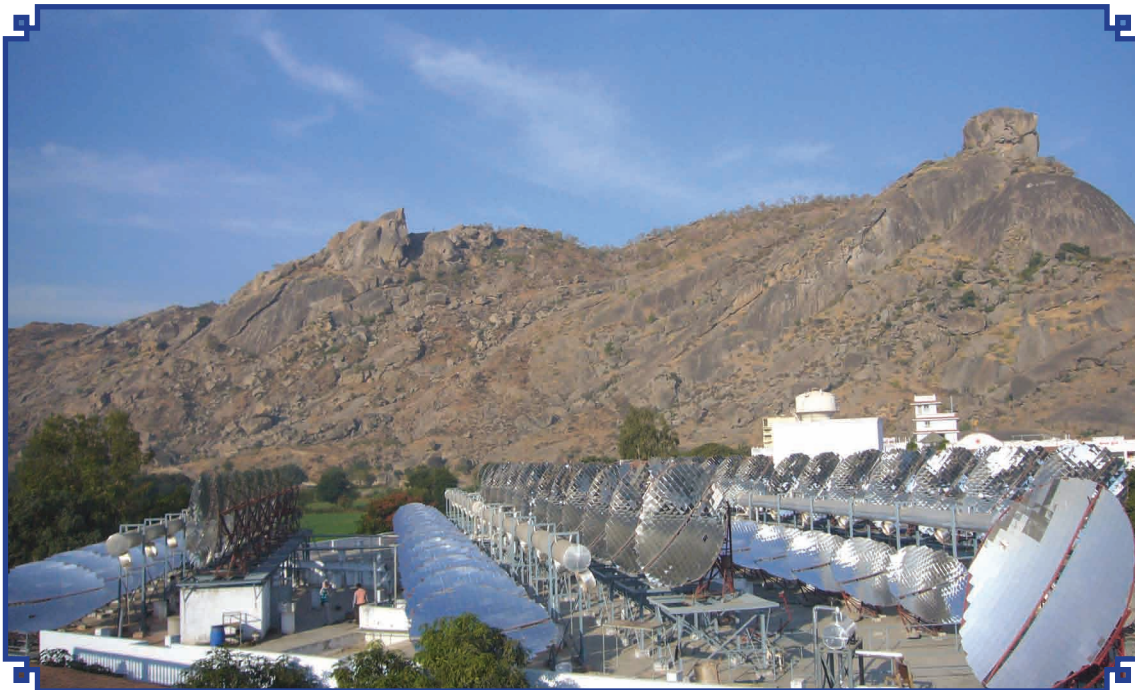
Since long alternatives have been shown and tested. One of the most promising technologies is the area of renewable energies. Our sun sends daily more than 100 times enough energy to our planet to easily cater for all our energy requirements.

Renewable energy technologies offer a sustainable and clean solution for bringing power to the people, whether in an urban or rural setting. What is urgently needed is a shift in Values, Policies, Education and Awareness. Here is where Non -Government organizations can play a major role.

RENEWABLE ENERGY WITH A SPIRITUAL FOUNDATION

Since more than 15 years PRAJAPITA BRAHMA KUMARIS ISWHARIYA VISHWA VIDYALAYA (BK) which has more than 7000 Meditation centers in India and more than 500 abroad is actively involved in the research and demonstration of alternative renewable energy concepts.

The Brahma Kumaris is mainly administered by women and teaches spiritual and ethical values in India as well as in more than 100 countries of the world. The institution is a Non-Governmental Organization (NGO) of the United Nations, affiliated to the Department of Public Information (DPI). It has general consultative status on the roster of the UN Economic and Social Council / UNICEF. The institution has participated in several UN peace projects, the Earth Summit in Rio, Habitat 2 in Istanbul, and the recent Summit in Johannesburg. The Brahma Kumaris received six UN Peace Messenger Awards.

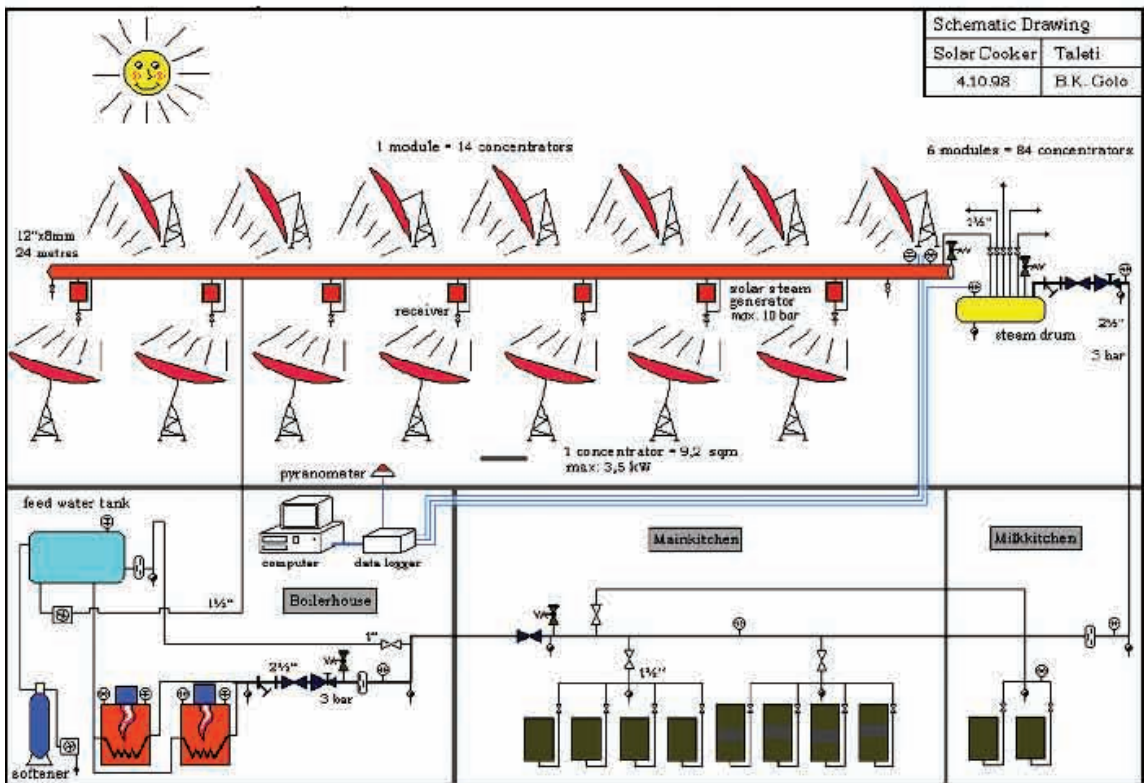


Solar Steam System (30000 meal/ day), partly sponsored by Indian Ministry of New and Renewable Energy (MNRE), build 1998, Shantivan Complex, Abu Road

The Brahma Kumaris headquarters comprises of three large complexes at Mt. Abu and Abu Road. Pandav Bhawan, the International Headquarter, the Academy for a Better World (Gyan Sarovar), near Mt. Abu and Shantivan Campus at Abu Road. The institution can accommodate up to 25,000 people at a time.

Established in 1992, the Brahma Kumaris Department of Renewable Energy works in tandem with the World Renewal Spiritual Trust, an affiliate of the Institution. After focusing almost exclusively on education in values and spirituality since its foundation in 1937, the University expanded its purview to include the field of renewable energy. This decision was taken in the context of worldwide environmental degeneration and the pressing needs to meet the requirements for electricity and other power sources for its many residents and visitors. It became obvious to combine Spirituality and Values with development of solar energy and other alternative technologies. The fusion of both drives us towards a better future.

Since then BK became one of the key developers in the world in solar institutional cooking systems.



Schematic diagram of solar cooker, Shantivan Campus



We also work in the area of solar photovoltaic power stations with an installed capacity of more than 700 kw peak, spread throughout the Indian subcontinent. In addition various wind & solar photovoltaic hybrid systems have been tested. With the help of a solar Aditya shop the local residents are supplied with solar lanterns, photovoltaic home light systems and solar cooking boxes.

Kitchen in Shanrivan Campus operated on solar steam, Shantivan Complex, Abu Road

The Engineers Wing of the Rajyoga Education and Research Foundation, a sister organization of the Brahma Kumaris, conducts environmental awareness campaigns on a regular basis throughout India. The Brahma Kumaris also supports medical institutions such as Global Hospital & Research Center, Mt. Abu.

BRAHMA KUMARIS

Renewable Energy Projects

A Department for Renewable Energy was established by BK in 1992, at the Gyan Sarovar Academy for a better World and a Solar Energy House was constructed.

Since then, the solar radiation and wind speed have been continuously monitored on a computerized data logger. In 1994, a research and development project on solar and wind energy and solar cooking, sponsored by the German Government (GTZ), was implemented successfully.

In 1995, small wind generators sponsored by Ministry of New and Renewable Energy (MNRE) were tested and certified. At this time approximately 40,000 litres per day of solar hot water are generated at the Academy.

In 1996, a 10kw hybrid system (wind/solar), sponsored by the Australian Government, and a solar steam cooking system for 1000 people were installed.

The cooking system was sponsored by GTZ and designed by Wolfgang Scheffler / Brahma Kumaris/ Eco Centre, Valsad, and HTT, one of the leading German companies in heat transfer technology.

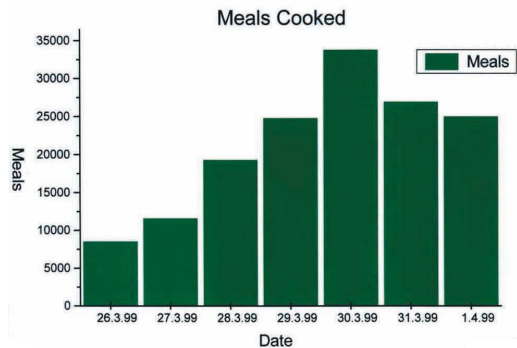
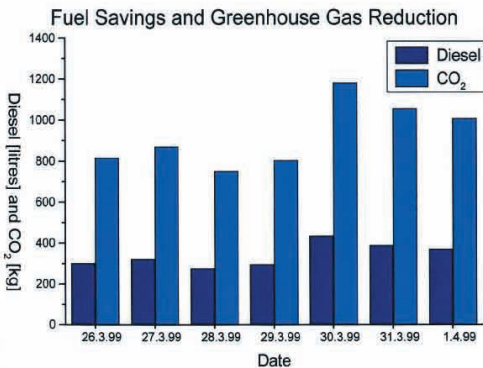


The parabolic concentrators of the cooking system are made in India and have a total surface area of 190 sq meters. With an output of 650 kg steam per day, the cooker is a fine example of the successful use of solar thermal energy on large scale.

During 1997–98, the Brahma Kumaris installed 100 solar pumping systems at Mt. Abu and Abu Road under IREDA Scheme.

Solar Steam Cooking System, R&D sponsored by German Government (GTZ), build 1997, Gyan Sarovar Complex, Mt.Abu

In January 1998, a solar steam cooking system for a maximum of 35000 meals per day was designated and constructed in Shantivan Complex, Abu Road. This system consists of 84 concentrators and generates the steam directly in the receivers. The system produces around 3500 Kg steam per day.



Solar Steam Cooking System, Shantivan Complex, Abu Road, performance data

The plant was successfully commissioned and tested and has been running excellently for the last nine years. Since than solar steam cooking systems developed by the Brahma Kumaris have been recognized by the ministry of Non Conventional energy sources and are eligible for ~ 50 % grant of the total costs.



A second steam cooking system for 600 people was set up in Yelapur (Hubli), and an additional system for 2000 people has been construction at Om Shanti Retreat Centre near Delhi. In 1999, the nearby village of Salgaon (Mt. Abu) was equipped with solar street light systems / solar lanterns and solar cooking boxes with the assistance of Brahma Kumaris and funds from MNRS under the rural demonstration scheme. In 1999, 60 branches of the Brahma Kumaris/ WRST throughout India were equipped with a 5 kW solar PV system (World Bank funded). In 2000, 3 x 50 kW solar photovoltaic power plants with Sunpower inverters were installed at the Brahma Kumaris Headquarters.

Location of 60 x 5kW PV in India

In 2003, one more solar steam cooking system with financial assistance of MNRE with an increased dish size of 12.6 sq m and new improved layout to provide steam for the canteen, sterilizers and laundry was completed at the Global Hospital and Research Centre in Mt. Abu.



The Brahma Kumaris Peace Park in Mt. Abu received a grant in 2003 to set up a solar demonstration area with hot water systems / solar home light system and cooking box for greater public awareness.

50 kwp SPV power plant, Academy for better World, Mt. Abu

A smaller solar steam cooking system with 7 dishes and state of the art receiver/ tracking / steam tank design was completed in 2005 at the Headquarters of Brahma Kumaris in Mt. Abu. In 2006 a new 16 sq meter prototype dish was successfully designed and tested as an R&D together with the MNRE.



The organization has distributed 15000 solar lanterns, 500 home lighting systems and 400 solar cooking boxes and operates a solar Aditya shop with the help MNRE to market further solar lantern, solar cooking box and solar home light system.

*Solar Aditya Shop,
Shantivan Complex,
Abu Road*

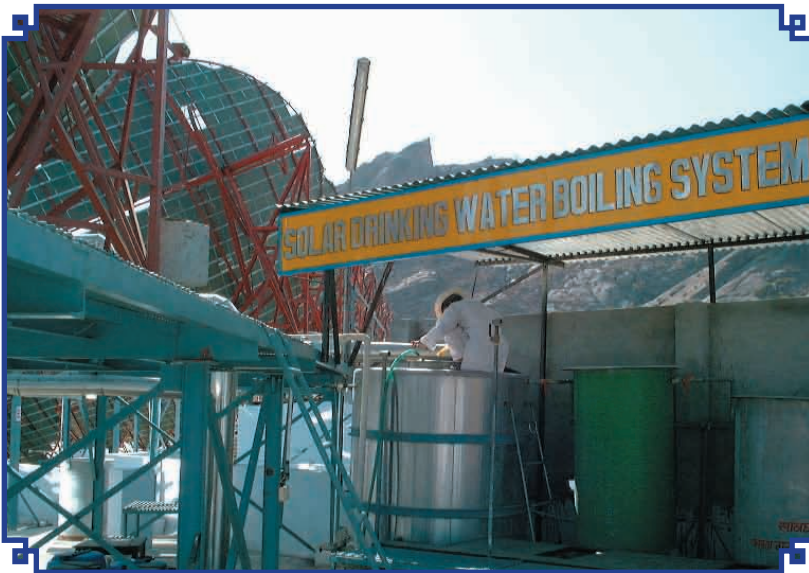
In 2006 a 200 kW SPV stand-alone solar power plant was installed at the Om Shanti Complex of Brahma Kumaris near Delhi. This plant was partly funded by MNRE and caters for almost the entire load of the complex. Further PV & Thermal power plants are being planned.



*200 kwp solar
power plant at
Om Shanti
Retreat centre
near New Dehli,
2006*

Brahma Kumaris does Research on the following technologies:

- Photo Voltaic Power Systems
- Solar Thermal Power Plants
- Solar Steam Cooking Systems
- Water Recycling Technologies
- Solar Hot Water Plants
- Passive Solar Architecture
- Energy Efficient Lamps



*15.000 L drinking water
pasteurisation by
Solar Steam*

Participating and contributing organizations:

- Ministry of New and Renewable Energy, New Delhi
- Indian Renewable Energy Development Agency, IREDA
- The Indian Institute of Technology (IIT), New Delhi
- World Bank , Washington, USA
- The German Agency for Technical Operations (GTZ), Eschborn, Germany
- Institute of Solar Energy Technologies (ISET), Kassel, Germany
- Research Laboratory Experimental Building, University of Kassel, Germany
- IndiaCare Charitable Trust, Berlin , Germany
- HTT, High Temperature Technology, Herford, Germany
- Sunpower, Frankfurt, Germany
- Advanced Energy Systems, Perth, Australia
- Australian High Commission, New Delhi
- ECO Centre, Valsad, India
- Solar Brücke, Germany



Visitors solar cooker, Academy for a better World, Mt. Abu

For further information please contact:

Brahma Kumaris

BK Golo Pilz, Advisor Solar Department

Pandav Bhawan, Mt. Abu - 307501, Rajasthan, INDIA

Ph: (91) 02974 - 237049 (office, Mt. Abu) or 02974-238788 (general)

Aditya Solar Shop, Abu Road: 02974 -228298

Fax : 02974 - 238951 & 238952

email: solar.abu@in.bkwsu.org

www.bkwsu.org

www.solar.bkwsu.de



*Erection of
steam tank,
Gyan Sarovar*



*20.000 visitors
Universal Peace
Hall, Shantivan,
Abu Road*