



Tim Mccabe/UNEP/Still Pictures

# Ultimate Energy

**TAKASHI TOMITA** says that solar power is needed to improve people's lives, protect the environment and enhance world peace

**G**lobal mean temperature has been increasing at a rate of about 0.74 degrees a century and its rate is accelerating, while the sea level has risen by 10 to 20 cm over the past 100 years. Ten typhoons landed on Japan in 2004, the most ever — while catastrophic hurricanes hit the south-east United States, causing huge damage in 2005.

Human activities, as well as natural phenomena, cause such climate anomalies. The accumulation of greenhouse gases since the Industrial Revolution — emitted by such human activities as the massive consumption of fossil fuels — is one of the causes of global warming, which is gradually leading to an unbalanced environment around the globe. The Kyoto Protocol was agreed in 1997 as one countermeasure and came into effect in 2005. It is time to improve our energy use and restructure our energy consumption patterns.

## Ultimate energy

Oil, coal, hydropower, wind energy, biomass, and solar energy are all directly or indirectly derived from the sun. Solar energy is the ultimate energy source and the time to establish the basis for a future society based on it is imminent.

Solar power generation systems convert sunlight directly into electricity, through so called solar cells. About 1,200MW of the cells were produced outside in 2004, while the cumulative amount of installed solar power generation systems across the globe reached 2,600MW that year. The cells do not emit any gases or noise and can replace fossil fuels. They are

being established and becoming important in Japan, Europe, the United States and other parts of world thanks to incentive programmes.

Every year each square metre (150W) of solar cells installed in Japan, in the planet's middle latitudes, generates 158 kilowatt hours of electricity, saves the equivalent of 39 litres of oil, and cuts the world's burden of carbon dioxide by as much as 316 square metres of forest.

The most beneficial feature of solar power generation can be summed up as: "wherever sunlight is, electricity can be generated". It enables people to be blessed with electricity — enjoying lighting, watching TV, listening to the radio, and even accessing the internet — even when the grid is far away. This in turn can be cleverly used:

- to produce water: Solar power can make it easier to supply drinking water, by pumping it up from wells, desalinating seawater and purifying waste.
- to provide food: It can help supply water for irrigation, thus increasing food production from crops and livestock.
- to maintain good health: It can help store medical supplies and keep a sanitary environment, which is particularly important for reducing infant mortality.
- to build global peace: As it helps provide access to information, water and food, the world will experience fewer conflicts and wars.

## Increased awareness

The Sharp Corporation, which was founded in 1912, began developing systems for generating solar power as long ago as 1959. Its business field is now very broad, ranging from home appliances to electrical components including Liquid Crystal Displays.

As protecting the global environment has become an important issue, and as awareness continues to increase, Sharp has set a medium-term goal of becoming an environmentally advanced company, focused on making products that contribute to environmental protection and healthy living.

In 2004, it defined its corporate vision as being a company that has "Zero Global Warming Impact by 2010". Its action plan aims

- to limit greenhouse gas emissions from its business activities around the world to the greatest extent possible.
- to reduce emissions significantly on a global basis through providing solar cells and energy efficient new products to our customers around the world.
- to achieve a net effect of cutting greenhouses gas emissions by the fiscal year 2010, by ensuring that the reductions in them achieved by using our products are greater than the amount of them emitted by our business.

The world's energy system must be revolutionised for a future sustainable society. Currently heavily dependent on fossil fuels, it should gradually evolve to a new one where renewable energy — including solar energy — plays an important role across the globe.

Global environmental protection has become a common cause for all people around the world. Generating solar power can not only improve people's lives but can increase the environmental protection of the earth, enhance world peace and ensure the continued existence of all humanity ■

*Takashi Tomita is Corporate Director and Group General Manager of Solar Systems Group, SHARP Corporation.*