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Weaning the world off fossil fuel

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THE times are indeed changing. Big oil companies promoting solar power?

That's what happened earlier this year when fossil fuel giant Shell launched a project in South Africa to light up 50,000 homes with solar energy.

Under the scheme, each home was furnished with its own US\$500 (RM1,900) solar panel and battery. Consumers need only pay US\$10 for the service, about the same amount they normally fork out for candles and paraffin.

And solar energy continues to attract attention.

Recently, it was a nondescript solar panel which caught Prime Minister Datuk Seri Dr Mahathir Mohamad's eye at an exhibition held in Kuala Lumpur in conjunction with the four-day World Renewable Energy Congress.

Dr Mahathir went on to remark that in view of the way technology of renewable energy was advancing, Malaysia was reviewing its four-fuel National Energy Policy. It could not have come at a more opportune time.

Today, fossil fuels meet about 88 per cent of the world's energy demand. This is mainly from oil (38 per cent), coal (30 per cent) and natural gas (20 per cent). The rest of the supply is made up of electricity, of which hydropower contributes seven per cent while nuclear energy contributes the rest.

A.C. Gillet, chairman of the World Renewable Energy Network, set the tone for the congress when he warned that the discovery of more hidden deposits of fossil fuel would be offset by an increasing world population and a rise in demand.

Since the burning of fossil fuel releases dangerous greenhouse gases into the atmosphere, Gillet put forward renewable energy as a solution to our future energy demands. As he succinctly said: "In the long term, mankind has no other choice."

Instead, he says, hydrogen, with its superior qualities, is a good substitute. Not only is it the cleanest fuel, it only produces water and a small amount of the noxious nitrous oxide when burned.

That means no acid rain, no greenhouse effect and no ozone depletion.

Participants also spoke about wind power. Christian Frimann Rasmussen and Olav Pedersen, who both work for the International Wind Technology Company, a wind turbine manufacturer, said that 30 countries in the world now use wind power compared with the 1980s, when only the United States and Denmark had installed wind turbines.

"We believe wind energy is here to stay, we believe that the cost will be reduced by an additional 20-30 per cent over the next 5-10 years," they said.

Another topic discussed was the energy that can be drawn from water. This comes in the form of geothermal, hydraulic, ocean, wave, tidal and thermal gradient energy and the energy from maritime biomass.

Turkey is one example of how geothermal energy can be harnessed.

The country has 1,000 hot and mineral water sources and 95 per cent of these areas are suitable for heating. The total geothermal heat capacity of Turkey supplies power to five million homes.

Thus far Turkey has one operating geothermal plant with a capacity of 20.4mw.

Malaysia, however, has barely tapped its renewable energy potential. The Malaysian Energy Centre has identified five such sources - hydroelectric power with a potential of 29,000mw, solar (5,000mw), biomass (2,000mw),

fuel cell (100mw) and landfill gas (35mw) - for further exploitation.

Despite this abundance of positive news, the fate of renewable energy still remains in the doldrums.

Dr Hassan Ibrahim of the Tokyo-based Asia Pacific Energy Research Centre listed three factors hindering the acceptance of renewable energy:

- \* lack of sufficient information on the energy resource base and on the market for renewable energy,

- \* immature or unproven technology under local conditions, and;

- \* the high initial cost of the technology.

To solve the third problem, the Malaysian Energy Centre has proposed a Green Energy Revolving Fund to bankroll renewable energy projects.

But at the end of the day, no matter how advanced the technology or how much money is pumped into it, no product will be automatically accepted by the market.

To get around this, Germany's Magdala Gronau emphasised that education about renewable energy products is as important as money.

"It has to be understood and accepted by everyone."

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