

S'pore-made solar panel more efficient, works even if partially shaded

Local solar firm REC Solar believes it has found a possible solution to tackle Singapore's lack of space for solar panels. It said its new panel can convert more of the sun's energy into electricity, compared with a conventional panel of the same size. The REC TwinPeak solar panel can produce 280 watts, compared with the usual 260 watts generated by a conventional solar panel.

Professor Armin Aberle, chief executive of the National University of Singapore's Solar Energy Research Institute of Singapore, said that considering Singapore's limited space, it is important to maximise the energy output from every square metre available for solar panels.

He worked with the REC team on developing the new solar panel, which is also able to work even if part of it is shaded, something conventional panels cannot do.

Dr Shankar Sridhara, the firm's vice-president of technology, said the differences may appear small, but are significant in the quest to make solar energy a more viable option here.

TwinPeak has higher efficiency because of a number of novel technologies, such as using smaller solar cells which reduce energy lost to heat, said Dr Shankar.

A solar panel is made up of many solar cells, and the REC panel uses cells about half the size of conventional ones. This halves the current running through the cell, and reduces heat loss.

The REC team also maximises the amount of sunlight absorbed by the panel. Besides capturing sunlight that hits its surface, the panel harnesses the infrared energy that passes through it, thanks to a reflective material at the rear of the solar cell. The infrared light is reflected back into the cell to be converted into electricity.

Mr Goh Chee Kiong, executive director for cleantech at the Economic Development Board, which supported TwinPeak's development, said: "Singapore is grooming clean energy as a growth area, which will address the opportunities from increasing urbanisation and environmental sustainability in Asia..."

"Innovations such as REC's TwinPeak solar technology are one such example where companies have successfully tapped Singapore's position as Asia's clean energy hub to serve the regional markets."

Audrey Tan