

Rooftop plan for solar power production

(China Daily)

Updated: 2005-08-08 09:02

SHANGHAI: A government-funded project, to turn the city's roofs into sites for solar-energy production, will soon be submitted for final approval.

If the project becomes operational, 100,000 of the 6 million roofs in Shanghai, a city plagued by chronic power shortages, will be used to supply solar energy to local residents, revealed Professor Cui Rongqiang, director of the Institute of Solar Energy at Shanghai Jiaotong University and the head of the project, over the weekend.

According to Cui, the selected roofs will be equipped with a system that is able to convert sunlight into electricity by the end of 2015,

Crystalline silicon solar cells inset onto large boards, that turn sunlight into solar energy, will be linked to the buildings' cables, which will then transmit electricity to the power grid.

It is estimated that the 100,000 roofs will be able to generate at least 430 million kilowatt hours (kwhs) of electricity every year, enough to supply the city for nearly two days.

Last summer, the peak daily power consumption went up to 300 million kwhs. "If it works well, the system will be applied more widely," said Cui. All of the current 200-million-square-metres of rooftops could produce more than 28.6 billion kwhs of power, as each square metre is capable of giving out 143 kwhs every year.

This is equal to one-fourth of the city's power consumption for a year. The roof areas will expand as the city is constructing more houses, malls and factories.

"Shanghai does not have huge oil or coal resources, but it has all those roofs which are exposed to sunlight 1,100 to 1,300 hours a year," enthused Cui.

However, the financial cost is high. It costs at least 150,000 yuan (US\$18,496) just to set up one roof.

Currently, only some big enterprises in the city are using the 6.2 million kwhs of electricity generated by wind or sunlight. It is about two times that of the usual power price. The enterprises pay the extra money to arouse people's awareness of clean energy and improve their own public image. But Cui said that the initial high cost of turning ordinary roofs into "generator roofs" would pay off in the future. "Once it is installed, it will work for 30 to 35 years, during which no more investment is needed," said Cui.

And unlike the conventional power plant burning coal or fuel, it produces no pollution at all.

Chen Jinhai from the Shanghai Municipal Economic Commission said the system would first be tried in some factory buildings.