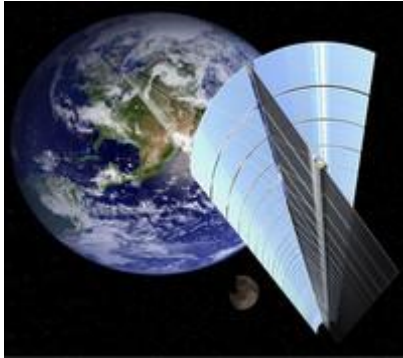


# Mitsubishi, IHI to Join \$21 Bln Space Solar Project (Update1)

*By Shigeru Sato and Yuji Okada - August 31, 2009 23:19 EDT*



JAXA's Space Solar Power Systems (SSPS)

Sept. 1 (Bloomberg) -- [Mitsubishi Electric Corp.](#) and [IHI Corp.](#) will join a 2 trillion yen (\$21 billion) Japanese project intending to build a giant solar-power generator in space within three decades and beam electricity to earth.

A research group representing 16 companies, including [Mitsubishi Heavy Industries Ltd.](#), will spend four years developing technology to send electricity without cables in the form of microwaves, according to a statement on the trade ministry's Web site today.

“It sounds like a science-fiction cartoon, but solar power generation in space may be a significant alternative energy source in the century ahead as fossil fuel disappears,” said [Kensuke Kanekiyo](#), managing director of the Institute of Energy Economics, a government research body.

Japan is developing the technology for the 1-gigawatt solar station, fitted with four square kilometers of solar panels, and hopes to have it running in three decades, according to a 15-page background document prepared by the trade ministry in August. Being in space it will generate power from the sun regardless of weather conditions, unlike earth-based solar generators, according to the document. One gigawatt is enough to supply about 294,000 average Tokyo homes.

Takashi Imai, a spokesman for the Institute of Unmanned Space Experiment Free Flyer, which represents the 16 companies, confirmed the selection when reached by phone in Tokyo.

Mitsubishi Electric gained 0.1 percent to 693 yen at the morning break in Tokyo trading, while [IHI](#) fell 0.5 percent to 189 yen and Mitsubishi Heavy slipped 0.3 percent to 384 yen. The benchmark Topix index rose 0.3 percent.

Far, Far Away

Transporting panels to the solar station 36,000 kilometers above the earth's surface will be prohibitively costly, so Japan has to figure out a way to slash expenses to make the solar

station commercially viable, said Hiroshi Yoshida, Chief Executive Officer of Excalibur KK, a Tokyo-based space and defense-policy consulting company.

“These expenses need to be lowered to a hundredth of current estimates,” Yoshida said by phone from Tokyo.

The project to generate electricity in space and transmit it to earth may cost at least 2 trillion yen, said Koji Umehara, deputy director of space development and utilization at the science ministry. Launching a single rocket costs about 10 billion yen, he said.

“Humankind will some day need this technology, but it will take a long time before we use it,” Yoshida said.

The trade ministry and the [Japan Aerospace Exploration Agency](#), which are leading the project, plan to launch a small satellite fitted with solar panels in 2015, and test beaming the electricity from space through the ionosphere, the outermost layer of the earth’s atmosphere, according to the trade ministry document. The government hopes to have the solar station fully operational in the 2030s, it said.

In the U.S., the [National Aeronautics and Space Administration](#) and the energy department have spent \$80 million over three decades in sporadic efforts to study solar generation in space, according to a 2007 report by the U.S. National Security Space Office.

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