

SPACE POWER SYMPOSIUM (C3)

Space-Based Solar Power Architectures – New Governmental and Commercial Concepts and Ventures (1)

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THE PROMISE OF ELECTRICITY FROM SPACE USING SATELLITE SOLAR POWER STATIONS  
FOR WORLD ECONOMIC DEVELOPMENT - NOVEL CONCEPTS

**Abstract**

This paper considers the prospects for delivering electric power from space to Earth on a large scale. In order to provide the world population with average electricity supplies of 1 kW capacity per head during the 21st century, an average of some 100 GW of new capacity would have to be installed each year. To achieve this using existing electricity generation technology is probably not possible. One approach that may be feasible is the delivery of electricity from "satellite solar power stations" (SPS) in space to microwave power receiving antennas (rectennas) on Earth. It is concluded that if the "SPS 2000" pilot plant and "Delta Clipper" reusable launch vehicle projects achieve their stated cost goals, SPS may be able to supply competitive electric power to Earth on the necessary scale.