The concept of space-based solar power, also referred to as solar power satellites (SPS), has been evolving for decades. In 1968, Dr. Peter Glaser of Arthur D. Little, Inc. introduced the concept using microwaves for power transmission from geosynchronous orbit

Solar Power Satellite (SPS) systems, based on wireless power transmission, are attractive candidate solutions to provide power to space vehicles or to elements on planet surface. Studies have been carried out for many years on the problem of providing renewable electrical energy

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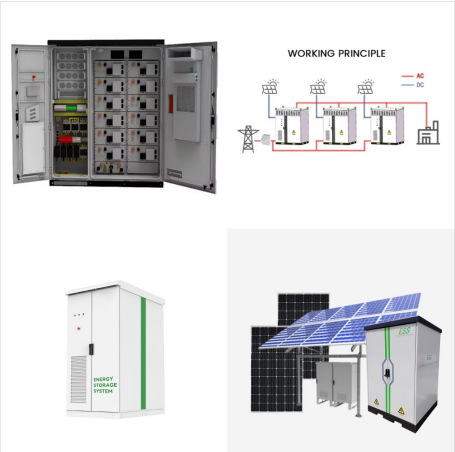
SOLAR POWER SATELLITES

Solar power involves placing satellites into space, outside the sovereign territory of any nation, to deliver energy to Earth via beams that pass through the atmosphere. 30 Therefore, countries need to coordinate international

Space-Based Solar Power Purpose of the Study This study evaluates the potential benefits, challenges, and options for NASA to engage with growing global interest in space-based solar power (SBSP). Utilizing SBSP entails in-space collection of solar energy



power technology that could lead to an economically viable Solar Power Satellite system. INTRODUCTION In 1990, the world demand for power exceeded 10 terrawatts (10X1012 Watts) thermal, with about 30% of the thermal

SOLAR POWER SATELLITES

Cube satellites, or CubeSats, are small satellites commonly used to perform Earth imaging and on-orbit scientific experiments. CubeSats are often powered using expensive, inflexible commercial-off-the-shelf solar panels, largely

Space Based Solar Power concepts promise the generation of large amounts of renewable power by launching vast Solar Power Satellites (SPS) into space and beaming the power back to rectennas on Earth. Due to diffraction physics, large scale arrays delivering 2GW of power to the ground will be on the order of a

Based on European particularities, like its high and increasing energy import dependence and the strong engagement to significantly reduce its emission of greenhouse gases (GHG), the effort of the recently created European Network on Space Solar Power, lead by the European Space Agency (ESA), are described.