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LONDON, GREATER LONDON, UNITED KINGDOM, December 3, 2025 /EINPresswire.com/ -- "Space-Based Solar Power Market Growth Forecast: What To Expect By 2025?

The market size for solar power in space has seen a fast-paced growth in the recent past. The market is projected to expand from a size of $1.54 billion in 2024 to $1.71 billion in 2025, showcasing a compound annual growth rate (CAGR) of 10.8%. This significant growth during the historical period is due to factors like greater investments in renewable energy projects, heightened environmental consciousness, improvements in space launch capabilities, an increase in the deployment of satellites, a growing emphasis on energy security, and a rise in funding for space exploration from both public and private sectors.

> Expected to grow to $2.54 billion in 2029 at a compound annual growth rate (CAGR) of 10.5%”
>
> *The Business Research Company*

Expectations are high for the space-based solar power market which is set to witness fast-paced expansion in the ensuing years. The market value is set to soar to $2.54 billion by the year 2029, with a compound annual growth rate (CAGR) of 10.5%. The prediction for such substantial growth in the forecast period is due to the upsurge in government policies and inducements, augmented need for non-stop power, cost-effectiveness of space hardware, the ascending potential for wireless power transmission in far-off places, and the increasing emphasis on attaining net-zero carbon output. The period also anticipates trends such as the development of outer-space power infrastructures, amalgamation of automation and artificial intelligence, breakthroughs in module spacecraft designs, integration with defence and crisis energy systems, as well as the progress towards a cost-efficient power beaming network.

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What Are Key Factors Driving The Demand In The Global Space-Based Solar Power Market?
The upward trajectory of the space-based solar power market is anticipated to be driven by the increased attention on renewable energy. This type of energy, derived from endlessly renewing natural sources—including sunlight, the wind, water, and geothermal heat—has become the focal point due to escalating apprehensions about climate change. As nations and industries proactively search for sustainable means to trim down greenhouse gas emissions and cut reliance on fossil fuels, attention on renewable energy grows. Space-based solar power amplifies this kind of energy by offering an uninterrupted, dependably potent source of solar energy, impervious to the Earth's weather or daylight conditions. As an instance, Eurostat, a government agency based in Luxembourg, indicated in December 2024, that there was an increase in the EU's total energy consumption from renewable sources—from 23.0% in 2022 to 24.5% in 2023. Hence, the amplified attention on renewable energy is catalysing the expansion of the space-based solar power market.

Who Are The Leading Players In The Space-Based Solar Power Market?
Major players in the Space-Based Solar Power Global Market Report 2025 include:
• The Boeing Company
• Lockheed Martin Corporation
• Northrop Grumman Corporation
• Mitsubishi Heavy Industries Ltd.
• Shimizu Corporation
• Thales Alenia Space
• Aetherflux Inc.
• OHB SE
• Celestia Energy Corporation
• SpaceTech GmbH

What Are Some Emerging Trends In The Space-Based Solar Power Market?
Leading businesses in the space-based solar power sector are channeling efforts into creating innovative solutions like advanced wireless power transmission to boost energy effectiveness and permit persistent power delivery from space. Advanced wireless power transmission is a technology that allows electrical energy to be sent across great distances without the need for physical wires, utilizing methods like microwaves or lasers for an efficient power transfer from space to our planet. For instance, the California Institute of Technology, a private research university located in the United States, propelled the Space Solar Power Demonstrator (SSPD) into orbit in January 2023. The aim was to test essential technologies for harvesting solar energy in space and transmitting it wirelessly, whether in orbit or, eventually, to Earth. The SSPD is designed with a substantial, ultra-light composite structure for ease of deployment in space and supports scalable solar panel arrays. The demonstrator includes 32 distinct solar photovoltaic cells that are being evaluated for their robustness and efficiency in the severe conditions of

space. Additionally, the SSPD features a flexible microwave power transmitter that can wirelessly beam solar energy in space, which is a crucial technology for potential power transmission to Earth or other space vessels.

Analysis Of Major Segments Driving The Space-Based Solar Power Market Growth
The space-based solar power market covered in this report is segmented –

1) By Type: Microwave Transmitting, Laser Transmitting
2) By Component: Solar Collectors, Power Conversion Units, Transmission Systems, Control And Management Systems
3) By Technology: Photovoltaic Systems, Thermal Systems, Hybrid Systems
4) By Application: Electricity Generation, Space Applications
5) By End-Users: Government And defense, Commercial

Subsegments:
1) By Microwave Transmitting, Rectenna Receiver, Phased Array Transmitter, Waveguide System, Beam Forming Unit
2) By Laser Transmitting, Optical Amplifier, Beam Steering Module, Photovoltaic Receiver, Laser Source Unit

View the full space-based solar power market report:
https://www.thebusinessresearchcompany.com/report/space-based-solar-power-global-market-report

Which Region Is Expected To Lead The Space-Based Solar Power Market By 2025?
In the 2024 Space-Based Solar Power Global Market Report, North America held the most significant share. Europe, however, is projected to experience the quickest growth in the forthcoming period. The report encompasses various regions, including the Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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