

# Lunar Energy Harvesting Industry Analysis Report 2025: Key Trends, Drivers, and Forecast Insights

*The Business Research Company's Lunar Energy Harvesting Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034*

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/EINPresswire.com/ -- [Lunar Energy Harvesting Market](#) Growth Forecast: What To Expect By 2025?

In the past few years, the size of the lunar energy harvesting market has experienced a significant expansion. It is projected to increase from \$1.39 billion in 2024 to \$1.62 billion in 2025, with a compound annual growth rate (CAGR) of 16.8%. Reasons for this growth during the



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historic period include the escalating global need for energy, heightened worries over the depletion of fossil fuels, increased government interest in space exploration, growth in investment in space infrastructure, and amplified international collaboration on space missions.

Rapid expansion is forecasted for the lunar energy harvesting market in the coming years, with its size predicted to reach \$3.00 billion by 2029, boasting a compound annual growth rate (CAGR) of 16.6%. The surge during this forecast period is attributed to the

reinforcement of global policies that favor energy production not restricted to our planet. It is also due to the escalating demand for diversity in renewable energy sources, a growing fascination with off-earth settlement, an increased requirement for relentless energy supply for space, and a heightened focus on energy preservation for prolonged space trips. The period under forecast will see trends improving in areas like wireless power transmission technologies, the refinement of lunar regolith-to-energy conversion procedures, the development of self-sustaining construction and upkeep systems, the optimization of energy preservation solutions designed for lunar conditions, and the enhancement of modular energy harvesting structure

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What Are Key Factors Driving The Demand In The Global Lunar Energy Harvesting Market?

The increasing monetary contributions towards space exploration are anticipated to drive the expansion of the lunar energy harvesting market. The term space exploration refers to the technical examination and revelation of the cosmos beyond our planet, involving the utilization of sophisticated technology to explore cosmic bodies and stellar phenomena. Commercial prospects are causing a surge in funding for space exploration as privately-owned firms are recognizing the profitability and enduring returns of space-bound services and technology. This upward trend in space exploration investments bolsters the requirement for lunar energy harvesting by fast-tracking the establishment of self-sufficient lunar bases which need localized and sustainable power supplies, such as helium-3 extraction systems or solar farms for their operation. For example, as reported by the House of Commons Library, a library and information resource of the UK Parliament's lower house, in March 2025, the UK government released a statement revealing that the nation had procured contracts worth \$1.135 billion (£844 million) via the European Space Agency (ESA) from 2022 to 2024. Thus, the growth of the lunar energy harvesting market is being accelerated by the increasing investments in space exploration.

Who Are The Leading Players In The Lunar Energy Harvesting Market?

Major players in the Lunar Energy Harvesting Global Market Report 2025 include:

- Boeing Co.
- Lockheed Martin Corporation
- Airbus SE
- Northrop Grumman Corporation
- Thales Group
- Leidos
- SpaceX Corp.
- Blue Origin LLC
- United Launch Alliance LLC
- Sierra Nevada Corporation

What Are Some Emerging Trends In The Lunar Energy Harvesting Market?

Leading businesses in the lunar energy harvesting market are prioritizing the creation of avant-garde innovations, specifically lunar regolith excavators, to ensure efficient and scalable extraction of resources on the Moon. A lunar regolith excavator is a bespoke machine designed to effectively unearth and manage large amounts of lunar soil in harsh extraterrestrial environments, thus aiding in the extraction of in-situ valuable resources, such as helium-3. In May 2025, Interlune Corporation, a space resources startup from the United States, introduced the Interlune Excavator. This full-scale prototype is designed to consistently process 100 metric

tons of lunar regolith each hour, emphasizing operational effectiveness and suitability for lunar surface difficulties. Its space-efficient design reduces energy consumption, mechanical wear and tear, and dust spreading, representing a crucial progress in the field of extraterrestrial excavation technology.

#### Analysis Of Major Segments Driving The Lunar Energy Harvesting Market Growth

The lunar energy harvesting market covered in this report is segmented –

- 1) By Technology: Solar Power, Nuclear Power, Regolith-Based Power, Other Technologies
- 2) By Application: Space Missions, Lunar Bases, Satellite Operations, Other Applications
- 3) By End-User: Government, Commercial, Research Institutions, Other End-Users

#### Subsegments:

- 1) By Solar Power: Photovoltaic Solar Panels, Concentrated Solar Power Systems, Dust-Resistant Solar Coatings, Solar Energy Storage Systems, Solar Tracking Systems
- 2) By Nuclear Power: Fission Reactors, Radioisotope Thermoelectric Generators (RTGs), Heat-To-Electricity Conversion Systems, Radiation Shielding Technologies, Compact Nuclear Reactor Modules
- 3) By Regolith-Based Power: Thermoelectric Generators Using Regolith, Regolith-Based Thermal Storage Systems, In-Situ Regolith Processing Technologies, Microwave Sintering Systems, Regolith-To-Fuel Conversion Units
- 4) By Other Technologies: Wireless Power Transmission Systems, Electromagnetic Beaming Technologies, Dynamic Power Systems, Hybrid Energy Systems, Energy Distribution And Control Units

View the full lunar energy harvesting market report:

<https://www.thebusinessresearchcompany.com/report/lunar-energy-harvesting-global-market-report>

#### Which Region Is Expected To Lead The Lunar Energy Harvesting Market By 2025?

In 2024, North America held the leading position in the Lunar Energy Harvesting Global Market Report 2025. The fastest growing region anticipated in the report is Asia-Pacific. The regions evaluated in the report include Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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Speak With Our Expert:

Saumya Sahay

Americas +1 310-496-7795

Asia +44 7882 955267 & +91 8897263534

Europe +44 7882 955267

Email: [saumyas@tbrc.info](mailto:saumyas@tbrc.info)

The Business Research Company - [www.thebusinessresearchcompany.com](http://www.thebusinessresearchcompany.com)

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Oliver Guirdham

The Business Research Company

+44 7882 955267

[info@tbrc.info](mailto:info@tbrc.info)

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