

Global Energy Harvesting System Market: Market Segments: By Technology (Light, Vibration, Thermal& Electromagnetic/RF); By Component (Transducer [Photovoltaic, Piezoelectric, Thermoelectric& Electro-Dynamic], PMIC, Storage Systems);Application (Building & Home Automation, Consumer Electronics, Industrial, Transportation& Security); and Region – Analysis of Market Size, Share & Trends for 2014 – 2019 and Forecasts to 2030

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Abstracts

Product Overview

Energy harvesting can be described as the process by which energy is collected, then captured and stored from external sources. Typically, it is carried out on lightweight, autonomous wireless devices, such as wearable electronics and wireless sensor networks. This device usually provides low-energy electronics with limited quantities of power and consists of electronic circuits to control and secure the storage units. An electronic circuit, sensing components (sensors and transducers), and a storage unit comprise an energy harvesting system. To charge the transducer, which is converted into electricity and stored in the battery pack, the energy harvesting device uses unusual energy sources. A complimentary electronic circuit to control the generated power and to protect the storage unit and the primary circuitry is also part of the device. The sensing elements act as a converter that transforms into electrical energy the physical type of energy (heat, light, pressure, vibration, radiofrequency, salinity gradients, among others). This electrical energy is either stored in storage devices such as thin-film condensers, ultracapacitors, supercapacitors or batteries, or is used to power electronic circuits with low power.

Market Highlights

Global Energy Harvesting System Market to surpass USD 980 Million by 2030 from USD 440.39 million in 2018 at a CAGR of 10.17% throughout the forecast period.

Due to the rising demand for a secure and durable power source, the Energy Harvesting Device Market is experiencing significant growth. Furthermore, the government's green and clean environment policy is driving positive impact factors for business growth. Moreover, in response to developments in technology, the implementation of energy harvesting technology in building infrastructure is another factor driving market development. In addition, optimistic socio-economic and demographic factors such as urbanization, increasing population, disposable incomes, and increase in living standards, coupled with substantial improvements in business aspects, have positively anticipated the growth of the global market for energy harvesting systems.

Global Energy Harvesting System Market: Segments

Vibration technology Segment to grow with the highest CAGR of XX.X% during 2019-30
Global Energy Harvesting System Market is segmented by Technologies into light, vibration, thermal, and electromagnetic/radio frequency (RF). The greater market share in 2018 was accounted for by light technology thus accounting for around 44% revenue. High revenue generation from this category can be attributed to the easy accessibility and advanced applications of light energy harvesting technology, especially in the solar energy sector. Because of the rising number of manufacturers of solar products for security applications, building automation, and consumer electronics, light EHS technology was the second-largest category. Vibration technology, however, is projected to experience the highest CAGR during the forecast period in terms of market growth. This can be attributed to the increasing acceptance of energy harvesting technology, particularly in harsh environments and remote locations.

Transducers segment to grow with the highest CAGR of XX.X% during 2019-30
Global Energy Harvesting System Market is segmented by component into transducers, power management integrated circuits (PMICs), and storage systems. Among these, transducers generated the highest revenue in the market in 2018. Transducers are further categorized as Photovoltaic, piezoelectric, thermoelectric, and electrodynamic structures, including photovoltaic, category accounted for around 41% revenue in the market in 2018. Climate change and increasing customer spending on renewable energy sources can be attributed to this. In addition, the growing emphasis on sustainable and environmentally-friendly energy sources is driving the growth of the market in this segment. Different technologies, such as piezoelectric, photovoltaic,

electromagnetic, radiofrequency, and thermoelectric, are used to design transducers. Among these, during the forecast period, the photovoltaic transducer market is expected to expand at the highest CAGR. The increase in photovoltaic transducers is due to the number of companies that sell photovoltaic cells and panels to turn solar energy into electricity.

Building and home automation segment to grow with the highest CAGR of XX.X% during 2019-30

Global Energy Harvesting System Market is segmented by application into building & home automation, consumer electronics, industrial, transportation, and security. The greater market share in 2018 was accounted for by building & home automation thus accounting for around 17% revenue. The increase can be attributed to the growing adoption rate of home automation and control systems through wireless sensor networking (WNS) and the Internet of Things (IoT) implementing energy storage devices and sensors. During the forecast era, the demand for this application is also expected to see the fastest growth. This is attributed to the rapid increase in sensor-based technology deployment and implementation and the increase in demand for energy-efficient power systems, driven by growth in the residential and commercial sectors.

Global Energy Harvesting System Market: Market Dynamics

Drivers

Growing demand for power-efficient systems

The growing need to minimize carbon emissions is a major driver of the global demand for energy harvesting systems. Increased demand for power-efficient systems is also a key factor driving the growth of the market for energy harvesting systems. Minimizing energy wastage is one of the easiest ways to reduce the carbon footprint. In addition, customers are exploring the use of energy harvesting technology-based devices for different advantages, as energy harvested from renewable energy sources significantly decreases power bills and decreases the individual contribution to the carbon footprint. The increasing emphasis on reducing the carbon footprint is therefore expected to continue driving the demand for devices based on technologies for energy harvesting.

IoT intervention in several industrial and non-industrial purposes

The rising IoT trend would effectively fuel the global market's need for wireless sensors and energy-efficient autonomous systems. As a result, this will stimulate the need for efficient systems for energy harvesting, reducing the need for battery charging and

thereby decreasing the overall cost. Consequently, IoT interference would increase consumer demand for energy harvesting for several industrial and non-industrial purposes. The major factors that drive the growth of the global Energy Harvesting System Market are the exaggerating focus on energy harvesting from various sources such as wind, solar and thermal power, along with excessive efforts by various government organizations to drive the use of renewable energy sources. In addition, growing processes for reducing global carbon footprints are another factor in the growth of the global market for energy harvesting systems.

Restraint

Lack of standardization and consumer awareness

The lack of customer awareness is observed to impede the market growth of the energy harvesting system. While major energy harvesters have had some significant marketing activities in recent years, the impact on the sales of such products has been less than anticipated. Thus, restricted consumer awareness of the availability and use of harvested energy-based devices is one of the main obstacles to the adoption of such products by the mass market. In addition, the availability of abundant encrypted devices and ecosystems decreases the less user-friendly energy harvesting system industry's effectiveness and restricts the growth of the worldwide Global Energy Harvesting System Market.

Global Energy Harvesting System Market: Regional Analysis

Global Energy Harvesting System Market is segmented based on regional analysis into five major regions. These include North America, Latin America, Europe, APAC, and MENA.

Global Energy Harvesting System Market in Europe held the largest market share of 27.13% in the year 2018 due to continuing rapid technological advances have become the most important market for investment in construction and home automation which use renewable energy and drive the growth of the energy harvesting systems market. Compared to other regions, the North American market is experiencing strong industrial IoT adoption, which is also driving demand for energy harvesting systems. Besides, as a market, APAC is expected to show robust growth. The market in these regions is mainly driven by increased demand for energy-efficient industrial components and peripherals; the development of advanced energy harvesting systems, particularly in developing countries such as India and China; and the enormous expenditure of regional governments to boost the adoption of public and private energy harvesting systems.

Competitive Landscape:

Global Energy Harvesting System Market, which is highly competitive, consists of several major players such as Arveni, Convergence Wireless, Cymbet Corporation, Powercast Corporation, which hold a substantial market share in the Global Energy Harvesting System Market. Other players analyzed in this report are Texas Instruments Incorporated, Fujitsu Limited, ABB Ltd., Honeywell International Inc., STMicroelectronics N.V., EnOcean GmbH, Voltree Power Inc., Bionic Power Inc., and Energy Partners.

Recently, various developments have been taking place in the market. For instance, In November 2019 - NOWI B.V., a dutch based semiconductor startup with expertise in energy harvesting of power management I.C. and I.P. design announced that it had secured multiple substantial series A investments by Disruptive Technology Ventures (DTV) bringing the total funding to around EUR 12.6 million. The company leveraging the funding aims to transition from a startup to a mature organization and further expand its commercial activities for its upcoming NW-A2.3 energy harvesting product.

Global Energy Harvesting System Market is further segmented by region into:

North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – the United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey and Rest of Europe

APAC Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia, and Rest of APAC

MENA Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa and Rest of MENA

Global Energy Harvesting System Market: Key Players

Microchip Technology Inc.

Company Overview

Business Strategy

Key Product Offerings

Financial Performance

Key Performance Indicators

Risk Analysis

Recent Development
Regional Presence
SWOT Analysis
E-Peas SA
EnOcean GmbH
ABB Limited
Powercast Corporation
Advanced Linear Devices Inc
Analog devices Inc
STMicroelectronics NV
Texas Instruments Incorporated
Cypress Semiconductor Corporation
Piezo.com.

Global Energy Harvesting System Market report also contains analysis on:
Global Energy Harvesting System market segments:

By Technology:

Light
Vibration
Thermal
Electromagnetic/Radio Frequency (RF)

By Component:

Transducers
Photovoltaic
Piezoelectric
Thermoelectric
Electro-dynamic
Power Management Integrated Circuits (PMICs)
Storage Systems

By Application:

Building & Home Automation
Consumer Electronics
Industrial
Transportation
Security

Global Energy Harvesting System market dynamics
Global Energy Harvesting System market size
Supply & Demand
Current Trends/Issues/Challenges

Competition & Companies Involved in the Market
Value Chain of the Market
Market Drivers and Restraints

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Consultant Recommendation

**The above given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

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