

## **Energy Harvesting System Market by Technology (Light, Vibration, Radio Frequency (RF), Thermal), Component (Transducers (Photovoltaic, Piezoelectric, Electromagnetic, RF, Thermoelectric), PMICs, Secondary Batteries) - Global Forecast to 2028**

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### **Report description:**

The energy harvesting system market is projected to grow from USD 0.6 billion in 2023 and is projected to reach USD 0.9 billion by 2028; it is expected to grow at a CAGR of 10.0% from 2023 to 2028.

Surging implementation of IoT devices in automation and energy harvesting systems for building and home automation, and growing demand for safe, power-efficient, and durable systems that require minimum or no maintenance are the factors expected to fuel the growth of the energy harvesting system market.

"Vibration energy harvesting segment of the energy harvesting system market to witness high growth during the forecast period." By technology, the energy harvesting system market has been segmented into light energy harvesting, vibration energy harvesting, radio frequency (RF) energy harvesting, and thermal energy harvesting. The vibration energy harvesting segment is expected to grow at the high CAGR during the forecast period. Ongoing research and development efforts in the field of vibration energy harvesting contribute to its growth. Researchers are exploring new materials, optimized designs, and advanced techniques to enhance the efficiency, durability, and scalability of vibration energy harvesting technologies. For instance, in December 2022, researchers from Osaka Metropolitan University (Japan) developed a two-centimeter energy harvester that uses piezoelectric vibration energy generated by walking to power small wearable devices like smartphones and smartwatches. The harvester, equipped with a U-shaped metal component called a dynamic magnifier, allows for 90 times more power conversion from impulsive vibrations during the human walking motion. This breakthrough technology offers the potential for self-charging wearable devices and contributes to the advancement of energy-efficient electronic devices.

"Building & home automation application segment to witness high growth for energy harvesting system market during the

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forecast period."

Building & home automation segment to grow at high CAGR during the forecast period. Building & home automation technologies offer wireless, smart, and intelligent control over home electronics. Smart home technology connects home appliances, lighting systems, HVAC devices, and security systems with a gateway that can be remotely controlled through cloud services. Traditional wireless network systems are installed with batteries that need timely replacements. The recurring cost associated with traditional batteries can be reduced by installing devices powered by energy harvesting systems. Building automation products such as wall switches, sensors, and relay receivers can be easily interconnected without complexity. Energy harvesting in building automation systems are used for occupancy sensors, humidity sensors, window positioning systems, temperature sensors, climate control systems, radiator control systems, and other lighting control systems. Therefore, rising emphasis on energy-efficient buildings and smart homes to drive the market growth over the forecast period.

"North America to hold a major market share of the energy harvesting system market during the forecast period" North America is expected to hold a major market share for energy harvesting system market during the forecast period. The energy harvesting system market in North America has experienced significant growth in recent years and is expected to continue expanding in the years ahead. One of the key market drivers in this region is the increasing focus on renewable energy sources and sustainable practices. North American countries are actively investing in energy harvesting technologies to reduce their dependence on fossil fuels and mitigate the environmental impact of energy generation. Additionally, government initiatives and favorable policies promoting clean energy adoption are driving market growth. The demand for energy harvesting systems is also fueled by the rising need for reliable and efficient power sources in remote and off-grid applications. Moreover, the growing awareness among industries and consumers about the benefits of energy harvesting, such as cost savings and reduced carbon emissions, is further propelling the market in North America.

Extensive primary interviews were conducted with key industry experts in the energy harvesting system market space to determine and verify the market size for various segments and subsegments gathered through secondary research. The break-up of primary participants for the report has been shown below:

The break-up of the profile of primary participants in the Energy Harvesting System market:

- By Company Type: Tier 1 - 30%, Tier 2 - 10%, and Tier 3 - 60%
- By Designation: C Level - 20%, Director Level - 20%, Others-50%
- By Region: North America - 30%, Europe - 40%, Asia Pacific - 20%, ROW- 10%

The report profiles key players in the energy harvesting system market with their respective market ranking analysis. Prominent players profiled in this report are STMicroelectronics (Switzerland), Microchip Technology Inc. (US), Texas Instruments Incorporated (US), Analog Devices, Inc. (US), Infineon Technologies AG (Germany), Qorvo, Inc. (US), Honeywell International Inc. (US), ABB (Switzerland), Renesas Electronics Corporation (Japan), and EnOcean GmbH (Germany).

Apart from this, Powercast Corporation (US), Nexperia (Netherlands), CeramTec GmbH (Germany), Bionic Power Inc. (Canada), Kinergizer (Netherlands), Physik Instrumente (PI) GmbH & Co. KG (Germany), CTS Corporation (US), and Trameto Limited (UK) are among a few emerging companies in the energy harvesting system market.

**Research Coverage:** This research report categorizes the energy harvesting system market on the basis of technology, component, end-use system, application, and region. The report describes the major drivers, restraints, challenges, and opportunities pertaining to the energy harvesting system market and forecasts the same till 2028. Apart from these, the report also consists of leadership mapping and analysis of all the companies included in the energy harvesting system ecosystem.

**Key Benefits of Buying the Report** The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall energy harvesting system market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

- Analysis of key drivers (Rising environmental concerns, Miniaturization and flexibility requirements, Integration of IoT devices in energy harvesting systems for building and home automation, Favorable government initiatives, Growing preference for wireless sensor networks equipped with energy harvesting systems), restraints (Geographic and environmental constraints, Limitations of

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remotely installed networking modules), opportunities (Emergence of smart cities, Adoption of sensors in wearable electronics, Use of human energy harvesting for implantable biomedical devices, Ocean energy harvesting) and challenges (Limitations associated with integrating energy harvesting systems into existing infrastructure, Standardization of communications protocols, Damages caused to energy harvesting devices by surrounding environments) influencing the growth of the energy harvesting system market.

-□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the energy harvesting system market.

-□Market Development: Comprehensive information about lucrative markets - the report analysis the energy harvesting system market across varied regions

-□Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the energy harvesting system market

-□Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like STMicroelectronics (Switzerland), Microchip Technology Inc. (US), Texas Instruments Incorporated (US), Analog Devices, Inc. (US), Infineon Technologies AG (Germany), among others in the energy harvesting system market.

## **Table of Contents:**

|   |   |    |
|---|---|----|
| 1   | INTRODUCTION                              | 32 |
| 1.1   | STUDY OBJECTIVES                          | 32 |
| 1.2   | MARKET DEFINITION                         | 32 |
| 1.3   | STUDY SCOPE                               | 33 |
| 1.3.1   | MARKETS COVERED                           | 33 |
| FIGURE 1 ENERGY HARVESTING SYSTEM MARKET SEGMENTATION |   |    |
| 1.3.2   | REGIONS COVERED                           | 33 |
| 1.4   | INCLUSIONS AND EXCLUSIONS                 | 34 |
| 1.4.1   | INCLUSIONS AND EXCLUSIONS, BY COMPANY     | 34 |
| 1.4.2   | INCLUSIONS AND EXCLUSIONS, BY TECHNOLOGY  | 35 |
| 1.4.3   | INCLUSIONS AND EXCLUSIONS, BY COMPONENT   | 35 |
| 1.4.4   | INCLUSIONS AND EXCLUSIONS, BY APPLICATION | 35 |
| 1.5   | YEARS CONSIDERED                          | 36 |
| 1.6   | CURRENCY                                  | 36 |
| 1.7   | LIMITATIONS                               | 36 |
| 1.8   | STAKEHOLDERS                              | 37 |
| 1.9   | SUMMARY OF CHANGES                        | 37 |
| 1.10  | RECESSION IMPACT                          | 38 |
| 2   | RESEARCH METHODOLOGY                      | 39 |
| 2.1   | RESEARCH DATA                             | 39 |
| FIGURE 2 RESEARCH DESIGN                              |   |    |
| 2.1.1   | SECONDARY DATA                            | 40 |
| 2.1.1.1   | Major secondary sources                   | 41 |
| 2.1.1.2   | Key data from secondary sources           | 41 |
| 2.1.2   | PRIMARY DATA                              | 41 |
| 2.1.2.1   | Primary interviews with experts           | 42 |
| 2.1.2.2   | Breakdown of primaries                    | 42 |
| 2.1.2.3   | Key data from primary sources             | 43 |
| 2.1.3   | SECONDARY AND PRIMARY RESEARCH            | 44 |
| 2.1.3.1   | Key industry insights                     | 44 |

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|           |   |    |
|-----------|---|----|
| 2.2       | MARKET SIZE ESTIMATION  | 45 |
| FIGURE 3  | RESEARCH PROCESS FLOW   | 45 |
| 2.2.1     | BOTTOM-UP APPROACH  | 45 |
| 2.2.1.1   | Approach to capture market size using bottom-up analysis (demand side)                    | 45 |
| FIGURE 4  | BOTTOM-UP APPROACH  | 46 |
| 2.2.2     | DEMAND-SIDE ANALYSIS  | 46 |
| FIGURE 5  | DEMAND-SIDE APPROACH  | 47 |
| 2.2.3     | TOP-DOWN APPROACH   | 47 |
| 2.2.3.1   | Approach to capture market share using top-down analysis (supply side)                    | 48 |
| FIGURE 6  | TOP-DOWN APPROACH   | 48 |
| 2.3       | DATA TRIANGULATION  | 49 |
| FIGURE 7  | DATA TRIANGULATION  | 49 |
| 2.4       | RESEARCH ASSUMPTIONS  | 50 |
| FIGURE 8  | RESEARCH ASSUMPTIONS  | 50 |
| 2.5       | RECESSION IMPACT ANALYSIS   | 51 |
| 2.6       | RISK ASSESSMENT   | 51 |
| TABLE 1   | RISK ASSESSMENT   | 51 |
| 2.7       | RESEARCH LIMITATIONS  | 52 |
| 3         | EXECUTIVE SUMMARY   | 53 |
| FIGURE 9  | GDP GROWTH PROJECTIONS FOR MAJOR ECONOMIES, 2021-2023                                     | 54 |
| FIGURE 10 | IMPACT OF RECESSION ON ENERGY HARVESTING SYSTEM MARKET, 2019-2028 (USD MILLION)           | 54 |
| FIGURE 11 | LIGHT ENERGY HARVESTING TO BE FASTEST-GROWING SEGMENT DURING FORECAST PERIOD              | 55 |
| FIGURE 12 | TRANSDUCERS TO ACQUIRE MAXIMUM MARKET SHARE IN 2028                                       | 55 |
| FIGURE 13 | BUILDING & HOME AUTOMATION TO SURPASS OTHER SEGMENTS DURING FORECAST PERIOD               | 56 |
| FIGURE 14 | NORTH AMERICA TO BE LARGEST MARKET DURING FORECAST PERIOD                                 | 57 |
| 4         | PREMIUM INSIGHTS  | 58 |
| 4.1       | ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN ENERGY HARVESTING SYSTEM MARKET                   | 58 |
| FIGURE 15 | INCREASED ADOPTION OF WIRELESS SENSOR NETWORKS EQUIPPED WITH ENERGY HARVESTING SYSTEMS    | 58 |
| 4.2       | ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY  | 58 |
| FIGURE 16 | LIGHT ENERGY HARVESTING SEGMENT TO DOMINATE MARKET DURING FORECAST PERIOD                 | 58 |
| 4.3       | ENERGY HARVESTING SYSTEM MARKET, BY COMPONENT AND APPLICATION                             | 59 |
| FIGURE 17 | TRANSDUCERS AND BUILDING & HOME AUTOMATION SEGMENTS TO HOLD LARGEST MARKET SHARES IN 2023 | 59 |
| 4.4       | ENERGY HARVESTING SYSTEM MARKET, BY REGION  | 59 |
| FIGURE 18 | NORTH AMERICA TO SECURE LEADING MARKET POSITION IN 2023                                   | 59 |
| 4.5       | ENERGY HARVESTING SYSTEM MARKET, BY COUNTRY   | 60 |
| FIGURE 19 | CHINA TO BE FASTEST-GROWING COUNTRY BETWEEN 2023 AND 2028                                 | 60 |
| 5         | MARKET OVERVIEW   | 61 |
| 5.1       | INTRODUCTION  | 61 |
| 5.2       | MARKET DYNAMICS   | 61 |
| FIGURE 20 | ENERGY HARVESTING SYSTEM MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES       | 61 |
| ?         |   |    |
| 5.2.1     | DRIVERS   | 62 |
| 5.2.1.1   | Rising environmental concerns   | 62 |
| 5.2.1.2   | Miniaturization and flexibility requirements  | 62 |
| 5.2.1.3   | Integration of IoT devices in energy harvesting systems for building and home automation  | 62 |

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|-----------|--|----|
| FIGURE 21 | FACILITY MANAGEMENT SYSTEM MARKET SIZE, 2019-2027  | 63 |
| 5.2.1.4   | Favorable government initiatives   | 63 |
| TABLE 2   | GOVERNMENT INITIATIVES   | 63 |
| 5.2.1.5   | Growing preference for wireless sensor networks equipped with energy harvesting systems        | 64 |
| FIGURE 22 | IMPACT OF ENERGY HARVESTING SYSTEM MARKET DRIVERS  | 64 |
| 5.2.2     | RESTRAINTS   | 65 |
| 5.2.2.1   | Geographic and environmental constraints   | 65 |
| 5.2.2.2   | Limitations of remotely installed networking modules   | 65 |
| 5.2.2.3   | High initial cost of energy harvesting systems   | 65 |
| FIGURE 23 | IMPACT OF ENERGY HARVESTING SYSTEM MARKET RESTRAINTS   | 66 |
| 5.2.3     | OPPORTUNITIES  | 66 |
| 5.2.3.1   | Emergence of smart cities  | 66 |
| 5.2.3.2   | Adoption of sensors in wearable electronics  | 67 |
| 5.2.3.3   | Use of human energy harvesting for implantable biomedical devices                              | 67 |
| 5.2.3.4   | Ocean energy harvesting  | 67 |
| FIGURE 24 | IMPACT OF ENERGY HARVESTING SYSTEM MARKET OPPORTUNITIES  | 68 |
| 5.2.4     | CHALLENGES   | 68 |
| 5.2.4.1   | Limitations associated with integrating energy harvesting systems into existing infrastructure | 68 |
| 5.2.4.2   | Standardization of communications protocols  | 69 |
| 5.2.4.3   | Damages caused to energy harvesting devices by surrounding environments                        | 69 |
| FIGURE 25 | IMPACT OF ENERGY HARVESTING SYSTEM MARKET CHALLENGES   | 69 |
| 5.3       | TECHNOLOGY ANALYSIS  | 70 |
| FIGURE 26 | COMPARATIVE ANALYSIS OF ENERGY HARVESTING TECHNOLOGY, BY APPLICATION                           | 70 |
| FIGURE 27 | IMPACT OF TECHNOLOGY PENETRATION ON EACH APPLICATION   | 71 |
| 5.3.1     | MULTI-SOURCE HARVESTING  | 72 |
| 5.3.2     | NANOMATERIALS AND METAMATERIALS  | 72 |
| 5.3.3     | 3D PRINTING  | 73 |
| 5.3.4     | BODY MOTION ENERGY HARVESTING  | 73 |
| 5.3.5     | PHOTO-ELECTROCHEMISTRY-BASED ENERGY HARVESTING   | 73 |
| 5.4       | VALUE CHAIN ANALYSIS   | 74 |
| FIGURE 28 | VALUE CHAIN ANALYSIS   | 74 |
| 5.5       | ECOSYSTEM MAPPING  | 75 |
| TABLE 3   | ENERGY HARVESTING SYSTEM MARKET ECOSYSTEM  | 75 |
| FIGURE 29 | KEY PLAYERS IN ENERGY HARVESTING SYSTEM ECOSYSTEM  | 77 |
| FIGURE 30 | ENERGY HARVESTING SYSTEM ECOSYSTEM   | 77 |
| 5.6       | TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES   | 78 |
| FIGURE 31 | TRENDS/DISRUPTIONS IN ENERGY HARVESTING SYSTEM MARKET  | 78 |
| 5.7       | PORTER'S FIVE FORCES ANALYSIS  | 78 |
| TABLE 4   | IMPACT OF PORTER'S FIVE FORCES   | 79 |
| FIGURE 32 | PORTER'S FIVE FORCES ANALYSIS  | 79 |
| 5.7.1     | THREAT OF NEW ENTRANTS   | 79 |
| 5.7.2     | THREAT OF SUBSTITUTES  | 80 |
| 5.7.3     | BARGAINING POWER OF SUPPLIERS  | 80 |
| 5.7.4     | BARGAINING POWER OF BUYERS   | 80 |
| 5.7.5     | INTENSITY OF COMPETITIVE RIVALRY   | 80 |
| 5.8       | AVERAGE SELLING PRICE (ASP) ANALYSIS   | 80 |
| 5.8.1     | AVERAGE SELLING PRICE TREND, BY COMPONENT  | 81 |

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FIGURE 33 AVERAGE SELLING PRICE OF COMPONENTS, 2019-2028 81

TABLE 5 AVERAGE SELLING PRICE OF COMPONENTS (USD) 81

5.8.2 AVERAGE SELLING PRICE TREND OF COMPONENTS, BY KEY PLAYER 82

TABLE 6 AVERAGE SELLING PRICE OF COMPONENTS, BY KEY PLAYER (USD) 82

FIGURE 34 AVERAGE SELLING PRICE OF TRANSDUCERS, BY KEY PLAYERS 82

FIGURE 35 AVERAGE SELLING PRICE OF PMICS, BY KEY PLAYERS 83

FIGURE 36 AVERAGE SELLING PRICE OF SECONDARY BATTERIES, BY KEY PLAYERS 83

5.9 CASE STUDY ANALYSIS 84

5.9.1 THERMOKON ACHIEVES ENERGY EFFICIENCY IN HISTORIC TOWN HALL WITH WIRELESS SOLUTIONS 84

5.9.2 PAVEGEN POWERS PHONE CHARGING THROUGH FOOTSTEPS 84

5.9.3 NXP AND ENOCEAN STREAMLINE WIRELESS ENERGY HARVESTING IN SMART HOME DEVICES WITH NFC 85

5.9.4 PAVEGEN DEVELOPS KINETIC TENNIS EXPERIENCE TO SUPPORT SUSTAINABILITY 85

5.9.5 SIEMENS LEVERAGES PAVEGEN'S KINETIC TECHNOLOGY TO ENGAGE AUDIENCES IN SUSTAINABLE MOBILITY 86

5.9.6 CENTRAL BEDFORDSHIRE COUNCIL PROMOTES CLEAN-ENERGY GENERATION 86

5.10 TRADE ANALYSIS 87

FIGURE 37 IMPORT DATA FOR HS CODE 854140, BY COUNTRY, 2018-2022 87

FIGURE 38 EXPORT DATA FOR HS CODE 854140, BY COUNTRY, 2018-2022 88

5.11 TARIFF ANALYSIS 88

TABLE 7 TARIFF IMPOSED BY BRAZIL ON IMPORTS OF PHOTSENSITIVE SEMICONDUCTOR DEVICES, 2021 88

TABLE 8 TARIFF IMPOSED BY ARGENTINA ON IMPORTS OF PHOTSENSITIVE SEMICONDUCTOR DEVICES, 2022 89

5.12 PATENT ANALYSIS 89

FIGURE 39 NUMBER OF PATENTS RELATED TO ENERGY HARVESTING SYSTEMS, 2013-2022 89

FIGURE 40 TOP 10 PATENT APPLICANTS, 2013-2022 89

TABLE 9 TOP 20 PATENT OWNERS, 2013-2022 90

TABLE 10 PATENT REGISTRATIONS, 2019-2023 91

5.13 KEY CONFERENCES AND EVENTS, 2023-2024 95

TABLE 11 KEY CONFERENCES AND EVENTS, 2023-2024 95

5.14 REGULATORY LANDSCAPE 97

5.14.1 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 97

TABLE 12 NORTH AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 97

TABLE 13 EUROPE: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 98

TABLE 14 ASIA PACIFIC: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 98

TABLE 15 ROW: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 99

5.14.2 REGULATORY STANDARDS 99

5.14.2.1 ISO 50001 99

5.14.2.2 ISO 50003:2021 99

5.14.2.3 ISO 50004:2020 99

5.14.2.4 IEC 62830-1:2017 99

5.14.2.5 IEC 62830-2:2017 99

5.14.2.6 IEC 62830-3:2017 100

5.14.2.7 IEC 62830-4:2019 100

5.14.3 GOVERNMENT REGULATIONS 100

5.14.3.1 US 100

5.14.3.2 Europe 100

5.14.3.3 China 100

5.14.3.4 Japan 101

5.15 KEY STAKEHOLDERS AND BUYING CRITERIA 101

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5.15.1 KEY STAKEHOLDERS IN BUYING PROCESS 101

FIGURE 41 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE APPLICATIONS 101

TABLE 16 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE APPLICATIONS (%) 101

5.15.2 BUYING CRITERIA 102

FIGURE 42 KEY BUYING CRITERIA FOR TOP THREE APPLICATIONS 102

TABLE 17 KEY BUYING CRITERIA FOR TOP THREE APPLICATIONS 102

6 ENERGY HARVESTING SYSTEM MARKET, BY END-USE SYSTEM 103

6.1 INTRODUCTION 103

6.2 WIRELESS SWITCHING SYSTEMS 103

6.3 WIRELESS HVAC SYSTEMS 103

6.4 WIRELESS SENSING & TELEMATICS SYSTEMS 104

6.5 TIRE PRESSURE MONITORING SYSTEMS 104

6.6 ASSET TRACKING SYSTEMS 105

6.7 REMOTE HEALTH MONITORING SYSTEMS 105

6.8 REGENERATIVE ENERGY HARVESTING SYSTEMS 105

6.8.1 FOOTWEAR INDUSTRY 106

6.8.2 TEXTILE INDUSTRY 106

6.8.3 TECHNOLOGY ANALYSIS 107

6.8.3.1 Piezoelectric 107

6.8.3.2 Electromagnetic 107

6.8.3.3 Triboelectric effect 108

6.8.3.4 R&D breakthroughs 108

7 ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY 110

7.1 INTRODUCTION 111

FIGURE 43 ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION) 111

TABLE 18 ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION) 111

TABLE 19 ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION) 112

7.2 LIGHT ENERGY HARVESTING 112

7.2.1 GROWING PREFERENCE FOR SUSTAINABLE AND SELF-POWERED DEVICES TO DRIVE GROWTH 112

TABLE 20 LIGHT ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD MILLION) 113

TABLE 21 LIGHT ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD MILLION) 113

TABLE 22 LIGHT ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD MILLION) 113

TABLE 23 LIGHT ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD MILLION) 114

TABLE 24 BUILDING & HOME AUTOMATION: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD MILLION) 114

TABLE 25 BUILDING & HOME AUTOMATION: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD MILLION) 114

TABLE 26 CONSUMER ELECTRONICS: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 115

TABLE 27 CONSUMER ELECTRONICS: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 115

TABLE 28 INDUSTRIAL: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 115

TABLE 29 INDUSTRIAL: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 116

TABLE 30 TRANSPORTATION: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 116

TABLE 31 TRANSPORTATION: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 116

TABLE 32 SECURITY: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 117

TABLE 33 SECURITY: LIGHT ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 117

7.3 VIBRATION ENERGY HARVESTING 117

7.3.1 INCREASING DEMAND FOR HOME AUTOMATION AND INDUSTRIAL SENSOR NETWORK APPLICATIONS TO DRIVE GROWTH 117

TABLE 34 VIBRATION ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD MILLION) 118

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TABLE 35 VIBRATION ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD MILLION) 118

TABLE 36 VIBRATION ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD MILLION) 119

TABLE 37 VIBRATION ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD MILLION) 119

TABLE 38 BUILDING & HOME AUTOMATION: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD MILLION) 119

TABLE 39 BUILDING & HOME AUTOMATION: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD MILLION) 120

TABLE 40 CONSUMER ELECTRONICS: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 120

TABLE 41 CONSUMER ELECTRONICS: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 120

TABLE 42 INDUSTRIAL: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 121

TABLE 43 INDUSTRIAL: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 121

TABLE 44 TRANSPORTATION: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 121

TABLE 45 TRANSPORTATION: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 122

TABLE 46 SECURITY: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 122

TABLE 47 SECURITY: VIBRATION ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 122

7.4 RF ENERGY HARVESTING 123

7.4.1 WIDESPREAD ADOPTION OF WIRELESS COMMUNICATIONS TECHNOLOGIES TO DRIVE GROWTH 123

TABLE 48 RF ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD THOUSAND) 123

TABLE 49 RF ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD THOUSAND) 123

TABLE 50 RF ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD THOUSAND) 124

TABLE 51 RF ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD THOUSAND) 124

TABLE 52 BUILDING & HOME AUTOMATION: RF ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 124

TABLE 53 BUILDING & HOME AUTOMATION: RF ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 125

TABLE 54 INDUSTRIAL: RF ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 125

TABLE 55 INDUSTRIAL: RF ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 125

TABLE 56 SECURITY: RF ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 126

TABLE 57 SECURITY: RF ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 126

7.5 THERMAL ENERGY HARVESTING 126

7.5.1 LARGE THERMAL ENERGY RESERVES IN INDUSTRIAL APPLICATIONS TO DRIVE GROWTH 126

TABLE 58 THERMAL ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD THOUSAND) 127

TABLE 59 THERMAL ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD THOUSAND) 127

TABLE 60 THERMAL ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD THOUSAND) 127

TABLE 61 THERMAL ENERGY HARVESTING: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD THOUSAND) 128

TABLE 62 BUILDING & HOME AUTOMATION: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 128

TABLE 63 BUILDING & HOME AUTOMATION: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 128

TABLE 64 CONSUMER ELECTRONICS: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 129

TABLE 65 CONSUMER ELECTRONICS: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 129

TABLE 66 INDUSTRIAL: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 129

TABLE 67 INDUSTRIAL: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 130

TABLE 68 TRANSPORTATION: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 130

TABLE 69 TRANSPORTATION: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 130

TABLE 70 SECURITY: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2019-2022 (USD THOUSAND) 131

TABLE 71 SECURITY: THERMAL ENERGY HARVESTING MARKET, BY REGION, 2023-2028 (USD THOUSAND) 131

7.5.2 THERMAL ENERGY HARVESTING, BY SUB-TYPE 131

7.5.2.1 Low-temperature range 131

7.5.2.2 Medium-temperature range 131

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### 7.5.2.3 High-temperature range 131

TABLE 72 THERMAL ENERGY HARVESTING MARKET: APPLICATION/SUB-APPLICATION 132

TABLE 73 THERMAL ENERGY HARVESTING MARKET, BY SUB-TYPE, 2019-2022 (USD MILLION) 133

TABLE 74 THERMAL ENERGY HARVESTING MARKET, BY SUB-TYPE, 2023-2028 (USD MILLION) 133

## 8 ENERGY HARVESTING SYSTEM MARKET, BY COMPONENT 134

### 8.1 INTRODUCTION 135

FIGURE 44 ENERGY HARVESTING SYSTEM MARKET, BY COMPONENT, 2023-2028 (USD MILLION) 135

TABLE 75 ENERGY HARVESTING SYSTEM MARKET, BY COMPONENT, 2019-2022 (USD MILLION) 135

TABLE 76 ENERGY HARVESTING SYSTEM MARKET, BY COMPONENT, 2023-2028 (USD MILLION) 136

TABLE 77 ENERGY HARVESTING SYSTEM MARKET, BY COMPONENT, 2019-2022 (MILLION UNITS) 136

TABLE 78 ENERGY HARVESTING SYSTEM MARKET, BY COMPONENT, 2023-2028 (MILLION UNITS) 136

### 8.2 TRANSDUCERS 136

#### 8.2.1 PHOTOVOLTAIC 137

8.2.1.1 Increasing adoption in building automation, consumer electronics, and transportation applications to drive growth 137

FIGURE 45 PHOTOVOLTAIC CELL 137

#### 8.2.2 ELECTRODYNAMIC, PIEZOELECTRIC, AND ELECTROMAGNETIC 138

##### 8.2.2.1 Electrodynamic 138

8.2.2.1.1 Ability to withstand harsh conditions in centrifugal acceleration to drive growth 138

FIGURE 46 ELECTRODYNAMIC TRANSDUCER 138

##### 8.2.2.2 Piezoelectric 138

8.2.2.2.1 Growing adoption of piezoelectric energy harvesters in pressure-sensitive switches and boots to drive growth 138

FIGURE 47 PIEZOELECTRIC TRANSDUCER 139

##### 8.2.2.3 Electromagnetic 139

8.2.2.3.1 Rapid deployment in infrastructure and automotive applications to drive growth 139

FIGURE 48 ELECTROMAGNETIC TRANSDUCER 140

#### 8.2.3 THERMOELECTRIC 140

8.2.3.1 Need for sustainable power sources across industrial sector to drive growth 140

FIGURE 49 THERMOELECTRIC TRANSDUCER 141

#### 8.2.4 RADIO FREQUENCY (RF) 141

8.2.4.1 Growing use in switches, fitness trackers, smart cards, and RFID tags to drive growth 141

FIGURE 50 RF ENERGY HARVESTING PROCESS 142

FIGURE 51 RADIO FREQUENCY-TO-DC CONVERTER 142

TABLE 79 TRANSDUCERS: ENERGY HARVESTING SYSTEM MARKET, BY TYPE, 2019-2022 (USD MILLION) 143

TABLE 80 TRANSDUCERS: ENERGY HARVESTING SYSTEM MARKET, BY TYPE, 2023-2028 (USD MILLION) 143

TABLE 81 TRANSDUCERS: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION) 143

TABLE 82 TRANSDUCERS: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION) 144

### 8.3 POWER MANAGEMENT INTEGRATED CIRCUITS (PMICS) 144

8.3.1 HIGH DEMAND FOR POWER REGULATION IN ENERGY HARVESTING SOLUTIONS TO DRIVE GROWTH 144

TABLE 83 PMICS: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD THOUSAND) 144

TABLE 84 PMICS: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD THOUSAND) 145

### 8.4 SECONDARY BATTERIES 145

8.4.1 EXPANDING NEED FOR RELIABLE ENERGY STORAGE SOLUTIONS TO DRIVE GROWTH 145

TABLE 85 SECONDARY BATTERIES: ENERGY HARVESTING SYSTEM MARKET, BY TYPE, 2019-2022 (USD MILLION) 145

TABLE 86 SECONDARY BATTERIES: ENERGY HARVESTING SYSTEM MARKET, BY TYPE, 2023-2028 (USD MILLION) 146

TABLE 87 SECONDARY BATTERIES: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION) 146

TABLE 88 SECONDARY BATTERIES: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION) 146

## 9 ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION 147

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## 9.1 INTRODUCTION 148

FIGURE 52 ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD MILLION) 148

TABLE 89 ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD MILLION) 148

TABLE 90 ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD MILLION) 149

## 9.2 BUILDING & HOME AUTOMATION 149

9.2.1 RISING EMPHASIS ON ENERGY-EFFICIENT BUILDINGS AND SMART HOMES TO DRIVE GROWTH 149

TABLE 91 BUILDING & HOME AUTOMATION: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD MILLION) 150

TABLE 92 BUILDING & HOME AUTOMATION: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD MILLION) 150

TABLE 93 BUILDING & HOME AUTOMATION: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION) 150

TABLE 94 BUILDING & HOME AUTOMATION: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION) 151

## 9.3 CONSUMER ELECTRONICS 151

9.3.1 INCREASED PREFERENCE FOR EXTENDED BATTERY LIFE AND SUSTAINABLE POWER SOLUTIONS TO DRIVE GROWTH 151

TABLE 95 CONSUMER ELECTRONICS: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD THOUSAND) 152

TABLE 96 CONSUMER ELECTRONICS: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD THOUSAND) 152

TABLE 97 CONSUMER ELECTRONICS: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD THOUSAND) 152

TABLE 98 CONSUMER ELECTRONICS: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD THOUSAND) 152

## 9.4 INDUSTRIAL 153

9.4.1 EXTENSIVE USE OF SELF-POWERED SENSORS AND IOT DEVICES IN INDUSTRIAL SETTINGS TO DRIVE GROWTH 153

TABLE 99 INDUSTRIAL: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD MILLION) 153

TABLE 100 INDUSTRIAL: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD MILLION) 154

TABLE 101 INDUSTRIAL: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION) 154

TABLE 102 INDUSTRIAL: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION) 154

## 9.5 TRANSPORTATION 155

9.5.1 NEED TO REDUCE EMISSIONS IN TRANSPORTATION TO DRIVE GROWTH 155

TABLE 103 TRANSPORTATION: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD THOUSAND) 155

TABLE 104 TRANSPORTATION: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD THOUSAND) 155

TABLE 105 TRANSPORTATION: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION) 156

TABLE 106 TRANSPORTATION: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION) 156

## 9.6 SECURITY 156

9.6.1 SOARING ADOPTION OF SOLAR AND VIBRATION ENERGY HARVESTING TECHNOLOGIES TO DRIVE GROWTH 156

TABLE 107 SECURITY: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD THOUSAND) 157

TABLE 108 SECURITY: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD THOUSAND) 157

TABLE 109 SECURITY: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD THOUSAND) 157

TABLE 110 SECURITY: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD THOUSAND) 158

## 10 ENERGY HARVESTING SYSTEM MARKET, BY REGION 159

### 10.1 INTRODUCTION 160

FIGURE 53 ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD MILLION) 160

TABLE 111 ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD MILLION) 161

TABLE 112 ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD MILLION) 161

### 10.2 NORTH AMERICA 161

10.2.1 NORTH AMERICA: RECESSION IMPACT 161

FIGURE 54 NORTH AMERICA: ENERGY HARVESTING SYSTEM MARKET SNAPSHOT 162

FIGURE 55 US TO DOMINATE NORTH AMERICAN MARKET DURING FORECAST PERIOD 163

TABLE 113 NORTH AMERICA: ENERGY HARVESTING SYSTEM MARKET, BY COUNTRY, 2019-2022 (USD MILLION) 163

TABLE 114 NORTH AMERICA: ENERGY HARVESTING SYSTEM MARKET, BY COUNTRY, 2023-2028 (USD MILLION) 163

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|           |   |     |
|-----------|---|-----|
| TABLE 115 | NORTH AMERICA: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD MILLION) | 164 |
| TABLE 116 | NORTH AMERICA: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD MILLION) | 164 |
| TABLE 117 | NORTH AMERICA: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION)  | 164 |
| TABLE 118 | NORTH AMERICA: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION)  | 165 |
| 10.2.2    | US  | 165 |
| 10.2.2.1  | Government initiatives for renewable energy adoption to drive growth                    | 165 |
| 10.2.3    | CANADA  | 165 |
| 10.2.3.1  | Abundant availability of natural resources to drive growth                              | 165 |
| 10.2.4    | MEXICO  | 166 |
| 10.2.4.1  | Focus on energy diversification to drive growth   | 166 |
| 10.3      | EUROPE  | 166 |
| 10.3.1    | EUROPE: RECESSION IMPACT  | 166 |
| FIGURE 56 | EUROPE: ENERGY HARVESTING SYSTEM MARKET SNAPSHOT  | 167 |
| FIGURE 57 | UK TO DOMINATE EUROPEAN MARKET DURING FORECAST PERIOD                                   | 168 |
| TABLE 119 | EUROPE: ENERGY HARVESTING SYSTEM MARKET, BY COUNTRY, 2019-2022 (USD MILLION)            | 168 |
| TABLE 120 | EUROPE: ENERGY HARVESTING SYSTEM MARKET, BY COUNTRY, 2023-2028 (USD MILLION)            | 168 |
| TABLE 121 | EUROPE: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD MILLION)        | 169 |
| TABLE 122 | EUROPE: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD MILLION)        | 169 |
| TABLE 123 | EUROPE: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION)         | 169 |
| TABLE 124 | EUROPE: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION)         | 170 |
| 10.3.2    | UK  | 170 |
| 10.3.2.1  | Focus on smart city initiatives and building automation to drive growth                 | 170 |
| 10.3.3    | GERMANY   | 170 |
| 10.3.3.1  | Increased investments in renewable energy sources to drive growth                       | 170 |
| 10.3.4    | FRANCE  | 171 |
| 10.3.4.1  | Rising adoption of electric vehicles to drive growth                                    | 171 |
| 10.3.5    | REST OF EUROPE  | 171 |
| 10.4      | ASIA PACIFIC  | 172 |
| 10.4.1    | ASIA PACIFIC: RECESSION IMPACT  | 172 |
| FIGURE 58 | ASIA PACIFIC: ENERGY HARVESTING SYSTEM MARKET SNAPSHOT                                  | 173 |
| FIGURE 59 | CHINA TO DOMINATE ASIA PACIFIC MARKET DURING FORECAST PERIOD                            | 173 |
| TABLE 125 | ASIA PACIFIC: ENERGY HARVESTING SYSTEM MARKET, BY COUNTRY, 2019-2022 (USD MILLION)      | 174 |
| TABLE 126 | ASIA PACIFIC: ENERGY HARVESTING SYSTEM MARKET, BY COUNTRY, 2023-2028 (USD MILLION)      | 174 |
| TABLE 127 | ASIA PACIFIC: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD MILLION)  | 174 |
| TABLE 128 | ASIA PACIFIC: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD MILLION)  | 175 |
| TABLE 129 | ASIA PACIFIC: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION)   | 175 |
| TABLE 130 | ASIA PACIFIC: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION)   | 175 |
| 10.4.2    | CHINA   | 176 |
| 10.4.2.1  | Government emphasis on reducing carbon emissions to drive growth                        | 176 |
| 10.4.3    | JAPAN   | 176 |
| 10.4.3.1  | Growing uptake of regenerative braking in domestic railway sector to drive growth       | 176 |
| 10.4.4    | SOUTH KOREA   | 176 |
| 10.4.4.1  | Technological innovation to drive market growth   | 176 |
| 10.4.5    | REST OF ASIA PACIFIC  | 177 |
| 10.5      | ROW   | 177 |
| 10.5.1    | ROW: RECESSION IMPACT   | 177 |
| TABLE 131 | ROW: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2019-2022 (USD MILLION)                | 178 |

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|           |  |     |
|-----------|--|-----|
| TABLE 132 | ROW: ENERGY HARVESTING SYSTEM MARKET, BY REGION, 2023-2028 (USD MILLION)       | 178 |
| TABLE 133 | ROW: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2019-2022 (USD THOUSAND) | 178 |
| TABLE 134 | ROW: ENERGY HARVESTING SYSTEM MARKET, BY APPLICATION, 2023-2028 (USD THOUSAND) | 179 |
| TABLE 135 | ROW: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2019-2022 (USD THOUSAND)  | 179 |
| TABLE 136 | ROW: ENERGY HARVESTING SYSTEM MARKET, BY TECHNOLOGY, 2023-2028 (USD THOUSAND)  | 179 |
| 10.5.2    | SOUTH AMERICA  | 180 |
| 10.5.2.1  | Industrial and infrastructure development projects to drive growth             | 180 |
| 10.5.3    | MIDDLE EAST & AFRICA   | 180 |
| 10.5.3.1  | Growing demand for smart building solutions to drive growth                    | 180 |
| 11        | COMPETITIVE LANDSCAPE  | 181 |
| 11.1      | OVERVIEW   | 181 |
| 11.2      | STRATEGIES ADOPTED BY KEY PLAYERS  | 181 |
| TABLE 137 | STRATEGIES ADOPTED BY KEY PLAYERS IN ENERGY HARVESTING SYSTEM MARKET           | 181 |
| ?         |  |     |
| 11.3      | REVENUE ANALYSIS   | 183 |
| FIGURE 60 | REVENUE ANALYSIS OF TOP FIVE PLAYERS, 2022-2022                                | 183 |
| 11.4      | MARKET SHARE ANALYSIS, 2022  | 183 |
| TABLE 138 | ENERGY HARVESTING SYSTEM MARKET: DEGREE OF COMPETITION                         | 184 |
| 11.5      | COMPANY EVALUATION MATRIX  | 186 |
| 11.5.1    | STARS  | 186 |
| 11.5.2    | EMERGING LEADERS   | 186 |
| 11.5.3    | PERVASIVE PLAYERS  | 186 |
| 11.5.4    | PARTICIPANTS   | 186 |
| FIGURE 61 | COMPANY EVALUATION MATRIX, 2022  | 187 |
| 11.6      | START-UP/SME EVALUATION MATRIX   | 187 |
| TABLE 139 | START-UPS IN ENERGY HARVESTING SYSTEM MARKET                                   | 188 |
| 11.6.1    | PROGRESSIVE COMPANIES  | 189 |
| 11.6.2    | RESPONSIVE COMPANIES   | 189 |
| 11.6.3    | DYNAMIC COMPANIES  | 189 |
| 11.6.4    | STARTING BLOCKS  | 189 |
| FIGURE 62 | START-UP/SME EVALUATION MATRIX, 2022   | 190 |
| TABLE 140 | START-UP/SME EVALUATION MATRIX: KEY START-UPS                                  | 190 |
| 11.7      | COMPETITIVE BENCHMARKING   | 191 |
| TABLE 141 | COMPETITIVE BENCHMARKING OF KEY START-UPS/SMES                                 | 191 |
| 11.8      | COMPANY FOOTPRINT ANALYSIS   | 192 |
| TABLE 142 | COMPANY FOOTPRINT  | 192 |
| TABLE 143 | TECHNOLOGY FOOTPRINT   | 193 |
| TABLE 144 | APPLICATION FOOTPRINT  | 194 |
| TABLE 145 | REGION FOOTPRINT   | 195 |
| 11.9      | COMPETITIVE SCENARIO AND TRENDS  | 196 |
| 11.9.1    | PRODUCT LAUNCHES   | 196 |
| TABLE 146 | PRODUCT LAUNCHES, 2019-2023  | 196 |
| 11.9.2    | DEALS  | 200 |
| TABLE 147 | DEALS, 2019-2022   | 200 |
| 12        | COMPANY PROFILES   | 205 |

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## 12.1 KEY PLAYERS 205

### 12.1.1 STMICROELECTRONICS 205

TABLE 148 STMICROELECTRONICS: BUSINESS OVERVIEW 205

FIGURE 63 STMICROELECTRONICS: COMPANY SNAPSHOT 206

TABLE 149 STMICROELECTRONICS: PRODUCTS/SOLUTIONS/SERVICES OFFERED 206

TABLE 150 STMICROELECTRONICS: PRODUCT LAUNCHES 207

TABLE 151 STMICROELECTRONICS: DEALS 208

### 12.1.2 MICROCHIP TECHNOLOGY INC. 210

TABLE 152 MICROCHIP TECHNOLOGY INC.: BUSINESS OVERVIEW 210

FIGURE 64 MICROCHIP TECHNOLOGY INC.: COMPANY SNAPSHOT 211

TABLE 153 MICROCHIP TECHNOLOGY INC.: PRODUCTS/SOLUTIONS/SERVICES OFFERED 211

TABLE 154 MICROCHIP TECHNOLOGY INC.: PRODUCT LAUNCHES 212

TABLE 155 MICROCHIP TECHNOLOGY INC.: DEALS 213

### 12.1.3 TEXAS INSTRUMENTS INCORPORATED 215

TABLE 156 TEXAS INSTRUMENTS INCORPORATED: BUSINESS OVERVIEW 215

FIGURE 65 TEXAS INSTRUMENTS INCORPORATED: COMPANY SNAPSHOT 216

TABLE 157 TEXAS INSTRUMENTS INCORPORATED: PRODUCTS/SOLUTIONS/SERVICES OFFERED 216

TABLE 158 TEXAS INSTRUMENTS INCORPORATED: PRODUCT LAUNCHES 217

TABLE 159 TEXAS INSTRUMENTS INCORPORATED: DEALS 218

### 12.1.4 ANALOG DEVICES, INC. 219

TABLE 160 ANALOG DEVICES, INC.: BUSINESS OVERVIEW 219

FIGURE 66 ANALOG DEVICES, INC.: COMPANY SNAPSHOT 220

TABLE 161 ANALOG DEVICES, INC.: PRODUCTS/SOLUTIONS/SERVICES OFFERED 220

TABLE 162 ANALOG DEVICES, INC.: PRODUCT LAUNCHES 224

TABLE 163 ANALOG DEVICES, INC.: DEALS 224

TABLE 164 ANALOG DEVICES, INC.: OTHERS 224

### 12.1.5 INFINEON TECHNOLOGIES AG 226

TABLE 165 INFINEON TECHNOLOGIES AG: BUSINESS OVERVIEW 226

FIGURE 67 INFINEON TECHNOLOGIES AG: COMPANY SNAPSHOT 227

TABLE 166 INFINEON TECHNOLOGIES AG: PRODUCTS/SOLUTIONS/SERVICES OFFERED 227

TABLE 167 INFINEON TECHNOLOGIES AG: PRODUCT LAUNCHES 228

TABLE 168 INFINEON TECHNOLOGIES AG: DEALS 228

TABLE 169 INFINEON TECHNOLOGIES AG: OTHERS 229

### 12.1.6 RENESAS ELECTRONICS CORPORATION 230

TABLE 170 RENESAS ELECTRONICS CORPORATION: BUSINESS OVERVIEW 230

FIGURE 68 RENESAS ELECTRONICS CORPORATION: COMPANY SNAPSHOT 231

TABLE 171 RENESAS ELECTRONICS CORPORATION: PRODUCTS/SOLUTIONS/SERVICES OFFERED 231

TABLE 172 RENESAS ELECTRONICS CORPORATION: PRODUCT LAUNCHES 232

TABLE 173 RENESAS ELECTRONICS CORPORATION: DEALS 233

### 12.1.7 ENOCEAN GMBH 234

TABLE 174 ENOCEAN GMBH: BUSINESS OVERVIEW 234

TABLE 175 ENOCEAN GMBH: PRODUCTS/SOLUTIONS/SERVICES OFFERED 234

TABLE 176 ENOCEAN GMBH: PRODUCT LAUNCHES 235

TABLE 177 ENOCEAN GMBH: DEALS 237

### 12.1.8 ABB 238

TABLE 178 ABB: BUSINESS OVERVIEW 238

FIGURE 69 ABB: COMPANY SNAPSHOT 239

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|           |   |     |
|-----------|---|-----|
| TABLE 179 | ABB: PRODUCTS/SOLUTIONS/SERVICES OFFERED                          | 239 |
| TABLE 180 | ABB: PRODUCT LAUNCHES   | 240 |
| TABLE 181 | ABB: DEALS  | 240 |
| 12.1.9    | HONEYWELL INTERNATIONAL INC.                                      | 241 |
| TABLE 182 | HONEYWELL INTERNATIONAL INC.: BUSINESS OVERVIEW                   | 241 |
| FIGURE 70 | HONEYWELL INTERNATIONAL INC.: COMPANY SNAPSHOT                    | 242 |
| TABLE 183 | HONEYWELL INTERNATIONAL INC.: PRODUCTS/SOLUTIONS/SERVICES OFFERED | 242 |
| TABLE 184 | HONEYWELL INTERNATIONAL INC.: PRODUCT LAUNCHES                    | 243 |
| TABLE 185 | HONEYWELL INTERNATIONAL INC.: DEALS                               | 243 |
| 12.1.10   | QORVO, INC.   | 244 |
| TABLE 186 | QORVO, INC.: BUSINESS OVERVIEW                                    | 244 |
| FIGURE 71 | QORVO, INC.: COMPANY SNAPSHOT                                     | 245 |
| TABLE 187 | QORVO, INC.: PRODUCTS/SOLUTIONS/SERVICES OFFERED                  | 245 |
| TABLE 188 | QORVO, INC.: PRODUCT LAUNCHES                                     | 246 |
| TABLE 189 | QORVO, INC.: DEALS  | 246 |
| 12.2      | OTHER PLAYERS   | 247 |
| 12.2.1    | KISTLER GROUP   | 247 |
| 12.2.2    | CYMBET  | 248 |
| 12.2.3    | MIDE TECHNOLOGY CORPORATION                                       | 249 |
| 12.2.4    | PHYSIK INSTRUMENTE (PI) GMBH & CO. KG                             | 250 |
| 12.2.5    | CTS CORPORATION   | 251 |
| 12.2.6    | TRAMETO LIMITED   | 252 |
| 12.2.7    | NEXPERIA  | 252 |
| 12.2.8    | CERAMTEC GMBH   | 253 |
| 12.2.9    | BIONIC POWER INC.   | 254 |
| 12.2.10   | KINERGIZER  | 255 |
| 12.2.11   | POWERCAST CORPORATION   | 256 |
| 12.2.12   | MICROPELT GMBH  | 257 |
| 12.2.13   | ADVANCED LINEAR DEVICES, INC.                                     | 258 |
| 12.2.14   | APC INTERNATIONAL LTD.  | 259 |
| 12.2.15   | VOLTREE POWER   | 260 |

\*Details on Business Overview, Products/Solutions/Services Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

|      |  |     |
|------|--|-----|
| 13   | APPENDIX   | 261 |
| 13.1 | DISCUSSION GUIDE                                       | 261 |
| 13.2 | KNOWLEDGESTORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL | 264 |
| 13.3 | CUSTOMIZATION OPTIONS                                  | 266 |
| 13.4 | RELATED REPORTS  | 266 |
| 13.5 | AUTHOR DETAILS   | 267 |

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|                | Single User             | \$4950.00  |
|                | Multi User              | \$6650.00  |
|                | Corporate License       | \$8150.00  |
|                | Enterprise Site License | \$10000.00 |
|                |                         | VAT        |
|                |                         | Total      |

\*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

\*\* VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

|               |                      |                               |                      |
|---------------|----------------------|-------------------------------|----------------------|
| Email*        | <input type="text"/> | Phone*                        | <input type="text"/> |
| First Name*   | <input type="text"/> | Last Name*                    | <input type="text"/> |
| Job title*    | <input type="text"/> |                               |                      |
| Company Name* | <input type="text"/> | EU Vat / Tax ID / NIP number* | <input type="text"/> |
| Address*      | <input type="text"/> | City*                         | <input type="text"/> |

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