

Global Thermoelectric Generators Market Size Study & Forecast, By Material (Bismuth Telluride, Lead Telluride, Others), By Application (Waste Heat Recovery, Energy Harvesting, Direct Power Generation, Co-generation), By End-User (Automotive, Aerospace, Industrial, Consumer, Healthcare, Others), and Regional Analysis, 2023-2030

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Abstracts

Global Thermoelectric Generators Market is valued at approximately USD XX billion in 2022 and is anticipated to grow with a healthy growth rate of more than XX% over the forecast period 2023-2030. Thermoelectric generators (TEGs) are devices that convert heat directly into electricity through the Seebeck effect, which is the phenomenon of generating a voltage difference between two points of a conductive material when there is a temperature difference between them. TEGs typically consist of multiple thermocouples connected electrically in series and thermally in parallel. Moreover, the increasing demand for waste heat recovery, rising interest in portable and wearable electronics are anticipated to create a lucrative demand for the market during the forecast period 2023-2030.

Additionally, the increasing adoption of portable and wearable electronics necessitates the development of compact and lightweight power sources. TEGs offer a promising solution for powering such devices by harvesting ambient heat from the environment or the human body, thereby driving demand in this segment. According to Statista, in 2020, the number of smart wearable users in the United States was 64.2 million users and the number is anticipated to reach 74.9 million users by 2024. As a result, the rising adoption of wearable is anticipated to support the market growth. Moreover, the widescale adoption of thermoelectric generators across various sectors, and the

increase in research and development activities for the development of thermoelectric generators are anticipated to create a lucrative opportunity for the market. However, the high initial cost lack of skilled personnel, and low efficiency of thermoelectric generators stifles market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Thermoelectric Generators Market study include Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the rising demand for energy efficiency, cohesive government support and regulations, increasing focus on renewable energy, and rising demand for remote power solutions. Whereas the Asia Pacific is expected to grow with the fastest growth rate during the forecast period, owing to factors such as the rising demand for energy efficiency, increasing focus on renewable energy, growing automotive sector, expanding electronics industry, cohesive government initiatives, and incentives in the region.

Major market players included in this report are:

Gentherm, Inc.

Ferrotec Holdings Corporation

Yamaha Corp.

Laird Thermal Systems

Komatsu Ltd.

Kyocera Corporation

Coherent Corp.

Toshiba Corporation

Mahle Gmbh

Murata Manufacturing Co., Ltd.

Recent Developments in the Market:

In February 2022, Laird Thermal Systems, Inc. introduced an innovative solution, the PowerCycling PCX Elongated Thermoelectric Cooler, aimed at accelerating PCR testing processes. Tailored specifically for DNA amplification, analytical, and medical applications, this advanced cooler promises to enhance testing efficiency and precision. This heightened efficiency can lead to increased adoption of thermoelectric generators in various industries, driving market growth as demand for reliable and precise temperature control solutions rises.

Global Thermoelectric Generators Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Material, Application, End-user, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define the market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters to detailed information about the crucial aspects such as driving factors & challenges that will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with a detailed analysis of the competitive landscape and product offerings of key

players. The detailed segments and sub-segment of the market are explained below:

By Material:

Bismuth telluride

Lead telluride

Other

By Application:

Waste Heat Recovery

Energy Harvesting

Direct Power Generation

Co-Generation

By End-User:

Automotive

Aerospace

Industrial

Healthcare

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

Contents

CHAPTER 1. EXECUTIVE SUMMARY

- 1.1. Market Snapshot
- 1.2. Global & Segmental Market Estimates & Forecasts, 2020-2030 (USD Billion)
 - 1.2.1. Thermoelectric Generators Market, by Region, 2020-2030 (USD Billion)
 - 1.2.2. Thermoelectric Generators Market, by Material, 2020-2030 (USD Billion)
 - 1.2.3. Thermoelectric Generators Market, by Application, 2020-2030 (USD Billion)
 - 1.2.4. Thermoelectric Generators Market, by End-User, 2020-2030 (USD Billion)
- 1.3. Key Trends
- 1.4. Estimation Methodology
- 1.5. Research Assumption

CHAPTER 2. GLOBAL THERMOELECTRIC GENERATORS MARKET DEFINITION AND SCOPE

- 2.1. Objective of the Study
- 2.2. Market Definition & Scope
 - 2.2.1. Industry Evolution
 - 2.2.2. Scope of the Study
- 2.3. Years Considered for the Study
- 2.4. Currency Conversion Rates

CHAPTER 3. GLOBAL THERMOELECTRIC GENERATORS MARKET DYNAMICS

- 3.1. Thermoelectric Generators Market Impact Analysis (2020-2030)
 - 3.1.1. Market Drivers
 - 3.1.1.1. Increasing Demand for Waste Heat Recovery
 - 3.1.1.2. Rising Interest in Portable and Wearable Electronics
 - 3.1.1.3. Growing Expansion in Space Exploration and Aerospace Applications
 - 3.1.2. Market Challenges
 - 3.1.2.1. High Initial Cost and Lack of Skilled Personnel
 - 3.1.2.2. Low Efficiency of Thermoelectric Generators
 - 3.1.3. Market Opportunities
 - 3.1.3.1. Widescale Adoption of Thermoelectric Generators Across Various Sectors
 - 3.1.3.2. Increase In Research and Development Activities

CHAPTER 4. GLOBAL THERMOELECTRIC GENERATORS MARKET INDUSTRY

ANALYSIS

- 4.1. Porter's 5 Force Model
 - 4.1.1. Bargaining Power of Suppliers
 - 4.1.2. Bargaining Power of Buyers
 - 4.1.3. Threat of New Entrants
 - 4.1.4. Threat of Substitutes
 - 4.1.5. Competitive Rivalry
- 4.2. Porter's 5 Force Impact Analysis
- 4.3. PEST Analysis
 - 4.3.1. Political
 - 4.3.2. Economical
 - 4.3.3. Social
 - 4.3.4. Technological
 - 4.3.5. Environmental
 - 4.3.6. Legal
- 4.4. Top investment opportunity
- 4.5. Top winning strategies
- 4.6. COVID-19 Impact Analysis
- 4.7. Disruptive Trends
- 4.8. Industry Expert Perspective
- 4.9. Analyst Recommendation & Conclusion

CHAPTER 5. GLOBAL THERMOELECTRIC GENERATORS MARKET, BY MATERIAL

- 5.1. Market Snapshot
- 5.2. Global Thermoelectric Generators Market by Material, Performance - Potential Analysis
- 5.3. Global Thermoelectric Generators Market Estimates & Forecasts by Material 2020-2030 (USD Billion)
- 5.4. Thermoelectric Generators Market, Sub Segment Analysis
 - 5.4.1. Bismuth telluride
 - 5.4.2. Lead telluride
 - 5.4.3. Other

CHAPTER 6. GLOBAL THERMOELECTRIC GENERATORS MARKET, BY APPLICATION

- 6.1. Market Snapshot
- 6.2. Global Thermoelectric Generators Market by Application, Performance - Potential Analysis
- 6.3. Global Thermoelectric Generators Market Estimates & Forecasts by Application 2020-2030 (USD Billion)
- 6.4. Thermoelectric Generators Market, Sub Segment Analysis
 - 6.4.1. Waste Heat Recovery
 - 6.4.2. Energy Harvesting
 - 6.4.3. Direct Power Generation
 - 6.4.4. Co-Generation

CHAPTER 7. THERMOELECTRIC GENERATORS MARKET, BY END-USER

- 7.1. Market Snapshot
- 7.2. Global Thermoelectric Generators Market by End-User, Performance - Potential Analysis
- 7.3. Global Thermoelectric Generators Market Estimates & Forecasts by End-User 2020-2030 (USD Billion)
- 7.4. Thermoelectric Generators Market, Sub Segment Analysis
 - 7.4.1. Automotive
 - 7.4.2. Aerospace
 - 7.4.3. Industrial
 - 7.4.4. Healthcare
 - 7.4.5. Others

CHAPTER 8. GLOBAL THERMOELECTRIC GENERATORS MARKET, REGIONAL ANALYSIS

- 8.1. Top Leading Countries
- 8.2. Top Emerging Countries
- 8.3. Thermoelectric Generators Market, Regional Market Snapshot
- 8.4. North America Thermoelectric Generators Market
 - 8.4.1. U.S. Thermoelectric Generators Market
 - 8.4.1.1. Material breakdown estimates & forecasts, 2020-2030
 - 8.4.1.2. Application breakdown estimates & forecasts, 2020-2030
 - 8.4.1.3. End-User breakdown estimates & forecasts, 2020-2030
 - 8.4.2. Canada Thermoelectric Generators Market
- 8.5. Europe Thermoelectric Generators Market Snapshot
 - 8.5.1. U.K. Thermoelectric Generators Market

- 8.5.2. Germany Thermoelectric Generators Market
- 8.5.3. France Thermoelectric Generators Market
- 8.5.4. Spain Thermoelectric Generators Market
- 8.5.5. Italy Thermoelectric Generators Market
- 8.5.6. Rest of Europe Thermoelectric Generators Market
- 8.6. Asia-Pacific Thermoelectric Generators Market Snapshot
 - 8.6.1. China Thermoelectric Generators Market
 - 8.6.2. India Thermoelectric Generators Market
 - 8.6.3. Japan Thermoelectric Generators Market
 - 8.6.4. Australia Thermoelectric Generators Market
 - 8.6.5. South Korea Thermoelectric Generators Market
 - 8.6.6. Rest of Asia Pacific Thermoelectric Generators Market
- 8.7. Latin America Thermoelectric Generators Market Snapshot
 - 8.7.1. Brazil Thermoelectric Generators Market
 - 8.7.2. Mexico Thermoelectric Generators Market
- 8.8. Middle East & Africa Thermoelectric Generators Market
 - 8.8.1. Saudi Arabia Thermoelectric Generators Market
 - 8.8.2. South Africa Thermoelectric Generators Market
 - 8.8.3. Rest of Middle East & Africa Thermoelectric Generators Market

CHAPTER 9. COMPETITIVE INTELLIGENCE

- 9.1. Key Company SWOT Analysis
 - 9.1.1. Company
 - 9.1.2. Company
 - 9.1.3. Company
- 9.2. Top Market Strategies
- 9.3. Company Profiles
 - 9.3.1. Gentherm, Inc.
 - 9.3.1.1. Key Information
 - 9.3.1.2. Overview
 - 9.3.1.3. Financial (Subject to Data Availability)
 - 9.3.1.4. Product Summary
 - 9.3.1.5. Recent Developments
 - 9.3.2. Ferrotec Holdings Corporation
 - 9.3.3. Yamaha Corp.
 - 9.3.4. Laird Thermal Systems
 - 9.3.5. Komatsu Ltd.
 - 9.3.6. Kyocera Corporation

- 9.3.7. Coherent Corp.
- 9.3.8. Toshiba Corporation
- 9.3.9. Mahle Gmbh
- 9.3.10. Murata Manufacturing Co., Ltd.

CHAPTER 10. RESEARCH PROCESS

- 10.1. Research Process
 - 10.1.1. Data Mining
 - 10.1.2. Analysis
 - 10.1.3. Market Estimation
 - 10.1.4. Validation
 - 10.1.5. Publishing
- 10.2. Research Attributes
- 10.3. Research Assumption

List Of Tables

LIST OF TABLES

TABLE 1. Global Thermoelectric Generators Market, report scope

TABLE 2. Global Thermoelectric Generators Market estimates & forecasts by Region 2020-2030 (USD Billion)

TABLE 3. Global Thermoelectric Generators Market estimates & forecasts by Material 2020-2030 (USD Billion)

TABLE 4. Global Thermoelectric Generators Market estimates & forecasts by Application 2020-2030 (USD Billion)

TABLE 5. Global Thermoelectric Generators Market estimates & forecasts by End-User 2020-2030 (USD Billion)

TABLE 6. Global Thermoelectric Generators Market by segment, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 7. Global Thermoelectric Generators Market by region, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 8. Global Thermoelectric Generators Market by segment, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 9. Global Thermoelectric Generators Market by region, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 10. Global Thermoelectric Generators Market by segment, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 11. Global Thermoelectric Generators Market by region, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 12. Global Thermoelectric Generators Market by segment, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 13. Global Thermoelectric Generators Market by region, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 14. Global Thermoelectric Generators Market by segment, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 15. Global Thermoelectric Generators Market by region, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 16. U.S. Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 17. U.S. Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 18. U.S. Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

- TABLE 19. Canada Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)
- TABLE 20. Canada Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 21. Canada Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 22. UK Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)
- TABLE 23. UK Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 24. UK Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 25. Germany Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)
- TABLE 26. Germany Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 27. Germany Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 28. France Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)
- TABLE 29. France Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 30. France Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 31. Italy Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)
- TABLE 32. Italy Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 33. Italy Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 34. Spain Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)
- TABLE 35. Spain Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 36. Spain Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)
- TABLE 37. RoE Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)
- TABLE 38. RoE Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 39. RoE Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 40. China Thermoelectric Generators Market estimates & forecasts, 2020-2030

(USD Billion)

TABLE 41. China Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 42. China Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 43. India Thermoelectric Generators Market estimates & forecasts, 2020-2030

(USD Billion)

TABLE 44. India Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 45. India Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 46. Japan Thermoelectric Generators Market estimates & forecasts, 2020-2030

(USD Billion)

TABLE 47. Japan Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 48. Japan Thermoelectric Generators Market estimates & forecasts by segment

2020-2030 (USD Billion)

TABLE 49. South Korea Thermoelectric Generators Market estimates & forecasts,

2020-2030 (USD Billion)

TABLE 50. South Korea Thermoelectric Generators Market estimates & forecasts by

segment 2020-2030 (USD Billion)

TABLE 51. South Korea Thermoelectric Generators Market estimates & forecasts by

segment 2020-2030 (USD Billion)

TABLE 52. Australia Thermoelectric Generators Market estimates & forecasts,

2020-2030 (USD Billion)

TABLE 53. Australia Thermoelectric Generators Market estimates & forecasts by

segment 2020-2030 (USD Billion)

TABLE 54. Australia Thermoelectric Generators Market estimates & forecasts by

segment 2020-2030 (USD Billion)

TABLE 55. RoAPAC Thermoelectric Generators Market estimates & forecasts,

2020-2030 (USD Billion)

TABLE 56. RoAPAC Thermoelectric Generators Market estimates & forecasts by

segment 2020-2030 (USD Billion)

TABLE 57. RoAPAC Thermoelectric Generators Market estimates & forecasts by

segment 2020-2030 (USD Billion)

TABLE 58. Brazil Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 59. Brazil Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 60. Brazil Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 61. Mexico Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 62. Mexico Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 63. Mexico Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 64. RoLA Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 65. RoLA Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 66. RoLA Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 67. Saudi Arabia Thermoelectric Generators Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 68. South Africa Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 69. RoMEA Thermoelectric Generators Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 70. List of secondary sources, used in the study of global Thermoelectric Generators Market

TABLE 71. List of primary sources, used in the study of global Thermoelectric Generators Market

TABLE 72. Years considered for the study

TABLE 73. Exchange rates considered

List of tables and figures and dummy in nature, final lists may vary in the final deliverable

List Of Figures

LIST OF FIGURES

- FIG 1. Global Thermoelectric Generators Market, research methodology
 - FIG 2. Global Thermoelectric Generators Market, Market estimation techniques
 - FIG 3. Global Market size estimates & forecast methods
 - FIG 4. Global Thermoelectric Generators Market, key trends 2022
 - FIG 5. Global Thermoelectric Generators Market, growth prospects 2023-2030
 - FIG 6. Global Thermoelectric Generators Market, porters 5 force model
 - FIG 7. Global Thermoelectric Generators Market, pest analysis
 - FIG 8. Global Thermoelectric Generators Market, value chain analysis
 - FIG 9. Global Thermoelectric Generators Market by segment, 2020 & 2030 (USD Billion)
 - FIG 10. Global Thermoelectric Generators Market by segment, 2020 & 2030 (USD Billion)
 - FIG 11. Global Thermoelectric Generators Market by segment, 2020 & 2030 (USD Billion)
 - FIG 12. Global Thermoelectric Generators Market by segment, 2020 & 2030 (USD Billion)
 - FIG 13. Global Thermoelectric Generators Market by segment, 2020 & 2030 (USD Billion)
 - FIG 14. Global Thermoelectric Generators Market, regional snapshot 2020 & 2030
 - FIG 15. North America Thermoelectric Generators Market 2020 & 2030 (USD Billion)
 - FIG 16. Europe Thermoelectric Generators Market 2020 & 2030 (USD Billion)
 - FIG 17. Asia Pacific Thermoelectric Generators Market 2020 & 2030 (USD Billion)
 - FIG 18. Latin America Thermoelectric Generators Market 2020 & 2030 (USD Billion)
 - FIG 19. Middle East & Africa Thermoelectric Generators Market 2020 & 2030 (USD Billion)
- List of tables and figures and dummy in nature, final lists may vary in the final deliverable

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