

Waste Heat Recovery Systems Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 – 2034

https://marketpublishers.com/r/W729479ABB37EN.html

Date: January 2025 Pages: 120 Price: US\$ 4,850.00 (Single User License) ID: W729479ABB37EN

Abstracts

The Global Waste Heat Recovery Systems Market reached USD 64.76 billion in 2024 and is projected to expand at a 7.5% CAGR from 2025 to 2034, driven by rising sustainability initiatives, stringent environmental regulations, and advancements in energy efficiency. Companies across multiple industries are increasingly adopting waste heat recovery solutions to optimize resource utilization, enhance energy efficiency, and meet evolving regulatory requirements. These systems capture excess heat from industrial processes and convert it into usable energy, reducing carbon emissions and lowering operational costs. With industries such as cement, glass, chemicals, and petroleum refining seeking cost-effective solutions, waste heat recovery technologies are becoming indispensable in modern industrial operations. The push toward cleaner energy solutions and improved sustainability practices continues to reinforce the adoption of these advanced technologies, making them a critical component of the global energy transition.

As industries worldwide focus on reducing carbon footprints and achieving long-term energy efficiency, waste heat recovery systems are gaining momentum. Companies are realizing that these technologies not only contribute to environmental conservation but also provide significant cost savings by reducing energy consumption. The growing emphasis on circular economy practices and the push for energy-efficient manufacturing processes are accelerating market expansion. Furthermore, technological advancements in heat exchangers, thermoelectric generators, and organic Rankine cycles are enhancing system efficiency, making them more attractive to a wide range of industries. Government incentives and favorable policies promoting clean energy further support the adoption of waste heat recovery solutions. As businesses continue prioritizing sustainability, demand for these systems is expected to



surge, reshaping the future of industrial energy management.

By 2034, the electricity and steam generation segment is projected to generate USD 73.2 billion. Rising concerns over global environmental issues and increasing greenhouse gas emissions are pushing industries to integrate energy-efficient solutions into their operations. Waste heat recovery technologies effectively address these concerns by capturing residual heat and repurposing it for power generation, significantly improving operational sustainability. With global industries intensifying their decarbonization efforts, these systems have become essential tools for enhancing energy efficiency and reducing emissions. Businesses are increasingly recognizing the long-term benefits of implementing waste heat recovery, from cost reductions to improved regulatory compliance, driving sustained market growth.

The market for waste heat recovery systems operating at temperatures below 230 °C is expected to grow at a CAGR of 8% through 2034. The expansion is fueled by rising adoption in industries with moderate temperature ranges, including pulp and paper, food processing, and chemicals. Waste heat from industrial processes presents a substantial opportunity for energy recovery, making these sectors key adopters of recovery technologies. Companies investing in these systems benefit from long-term cost savings, reduced energy consumption, and minimized carbon emissions, reinforcing their commitment to sustainability. The increasing focus on resource optimization and energy-efficient manufacturing further amplifies the demand for these advanced systems.

The U.S. waste heat recovery systems market is poised to generate USD 28 billion by 2034, driven by high energy costs, stringent environmental regulations, and the growing shift toward sustainable industrial practices. Companies across various sectors are heavily investing in cutting-edge waste heat recovery solutions to enhance energy efficiency and support decarbonization initiatives. The collaboration between industries and technology providers is further strengthening the market, with efforts focused on utilizing recovered heat for power generation and reducing dependence on traditional energy sources. As industrial sectors continue prioritizing sustainability and cost-efficiency, the demand for waste heat recovery technologies is set to accelerate, shaping the future of energy management and industrial operations.



Contents

CHAPTER 1 METHODOLOGY & SCOPE

- 1.1 Market scope & definitions
- 1.2 Market estimates & forecast parameters
- 1.3 Forecast calculation
- 1.4 Data sources
- 1.4.1 Primary
- 1.4.2 Secondary
 - 1.4.2.1 Paid
 - 1.4.2.2 Public

CHAPTER 2 EXECUTIVE SUMMARY

2.1 Industry synopsis, 2021 - 2034

CHAPTER 3 INDUSTRY INSIGHTS

- 3.1 Industry ecosystem analysis
- 3.2 Regulatory landscape
- 3.3 Industry impact forces
 - 3.3.1 Growth drivers
- 3.3.2 Industry pitfalls & challenges
- 3.4 Growth potential analysis
- 3.5 Porter's analysis
 - 3.5.1 Bargaining power of suppliers
- 3.5.2 Bargaining power of buyers
- 3.5.3 Threat of new entrants
- 3.5.4 Threat of substitutes
- 3.6 PESTEL analysis

CHAPTER 4 COMPETITIVE LANDSCAPE, 2024

- 4.1 Introduction
- 4.2 Strategic outlook
- 4.3 Innovation & sustainability landscape

CHAPTER 5 MARKET SIZE AND FORECAST, BY APPLICATION, 2021 – 2034 (USD

Waste Heat Recovery Systems Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 -...



BILLION)

- 5.1 Key trends
- 5.2 Pre-Heating
- 5.3 Electricity & steam generation
 - 5.3.1 Steam rankine cycle
 - 5.3.2 Organic rankine cycle
 - 5.3.3 Kalina cycle
- 5.4 Other

CHAPTER 6 MARKET SIZE AND FORECAST, BY TEMPERATURE, 2021 – 2034 (USD BILLION)

6.1 Key trends 6.2 650 °C

CHAPTER 7 MARKET SIZE AND FORECAST, BY END USE, 2021 – 2034 (USD BILLION)

- 7.1 Key trends
- 7.2 Petroleum refining
- 7.3 Cement
- 7.4 Heavy metal manufacturing
- 7.5 Chemical
- 7.6 Pulp & paper
- 7.7 Food & beverage
- 7.8 Glass
- 7.9 Other manufacturing

CHAPTER 8 MARKET SIZE AND FORECAST, BY REGION, 2021 – 2034 (USD BILLION)

- 8.1 Key trends
 8.2 North America
 8.2.1 U.S.
 8.2.2 Canada
 8.2.3 Mexico
 8.3 Europe
 - 8.3.1 UK

Waste Heat Recovery Systems Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 -...



8.3.2 Germany

- 8.3.3 France
- 8.3.4 Spain
- 8.3.5 Italy
- 8.4 Asia Pacific
 - 8.4.1 China
 - 8.4.2 India
 - 8.4.3 Japan
 - 8.4.4 Australia
 - 8.4.5 South Korea
- 8.5 Middle East & Africa
 - 8.5.1 Saudi Arabia
 - 8.5.2 UAE
 - 8.5.3 South Africa
- 8.6 Latin America
- 8.6.1 Brazil
- 8.6.2 Argentina

CHAPTER 9 COMPANY PROFILES

- 9.1 Aura
- 9.2 BIHL
- 9.3 Bosch Industriekessel
- 9.4 Climeon
- 9.5 Cochran
- 9.6 Durr Group
- 9.7 Echogen
- 9.8 Exergy International
- 9.9 Forbes Marshall
- 9.10 General Electric
- 9.11 IHI Power Systems
- 9.12 John Wood Group
- 9.13 Mitsubishi Heavy Industries
- 9.14 Ormat
- 9.15 Promec Engineering
- 9.16 Rentech Boilers
- 9.17 Siemens Energy
- 9.18 Sofinter
- 9.19 Thermax



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