

# Organic Rankine Cycle (ORC) Waste Heat to Power Market – Will Grow At a CAGR of 8.6%, Company Revenue Share, Market Size

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PUNE, MAHARASHTRA, INDIA, December 21, 2022 / EINPresswire.com/ -- Data Bridge Market Research has recently published a Report, titled, " <u>Organic</u> <u>Rankine Cycle (ORC) Waste Heat to</u> <u>Power Market</u>" The report offers an extensive analysis of key growth



strategies, drivers, opportunities, key segments, Porter's Five Forces analysis, and competitive landscape. The <u>Organic Rankine Cycle (ORC) Waste Heat to Power</u> report provides a list of leading competitors, strategic industry analysis, and insights into key factors influencing the Organic Rankine Cycle (ORC) Waste Heat to Power industry. The market analysis and insights included in this Organic Rankine Cycle (ORC) Waste Heat to Power market research report offer key statistics on the market status of global and regional manufacturers and are an imperative source of guidance that provides the right direction to the companies and individuals interested in the industry. This Organic Rankine Cycle (ORC) Waste Heat to Power report is also allembracing of the data which includes market definition, classifications, applications, engagements, market drivers, and market restraints that are obtained with the help of SWOT analysis.

Data Bridge Market Research analyses that the <u>global organic rankine cycle (ORC) waste heat to</u> <u>power market</u> is expected to reach the value of USD 3,637,069.31 thousand by 2029, at a CAGR of 8.6% during the forecast period. The organic rankine cycle (ORC) waste heat to power market report also comprehensively covers pricing analysis, patent analysis, and technological advancements.

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## Market Definition

Organic rankine cycle (ORC) systems are used for power production from low to mediumtemperature heat sources at 80 to 350 °C and for small-medium applications at any temperature. This technology allows for the exploitation of low-grade heat that otherwise would be wasted. The working principle of an organic rankine cycle power plant is similar to the most widely used process for power generation, the clausius-rankine cycle.

The main difference is using organic substances instead of water (steam) as a working fluid. The organic working fluid has a lower boiling point and a higher vapor pressure than water and is, therefore, able to use low-temperature heat sources to produce electricity. The organic fluid is chosen to best fit the heat source according to their differing thermodynamic properties, thus obtaining higher efficiencies of both cycle and expander.

#### **Recent Development**

In September 2020, BorgWarner Inc. entered into a partnership with Plug and Play. The main objective behind this strategic partnership was to enhance inventive ideas in the automotive and tech sector to boost the sector's capabilities to new heights. Through this company expanded its automotive and tech sector market.

In December 2018, Corycos Group partnered with Clean Energy Technologies, Inc. The partnership aimed to develop an innovative organic rankine cycle (ORC) heat recovery generator for the biogas industry. Through this partnership, both companies strengthen their market and regional presence.

Global Organic Rankine Cycle (ORC) Waste Heat to Power Market Share Analysis/ Key Players

Global organic rankine cycle (ORC) waste heat to power market competitive landscape provides details by the competitor. Details included are company overview, company financials, revenue generated, market potential, investment in research and development, new market initiatives, global presence, production sites and facilities, production capacities, company strengths and weaknesses, product launch, product width and breadth, application dominance. The above data points provided are only related to the companies' focus related to the organic rankine cycle (ORC) waste heat to the power market.

Some of the major players operating in the global organic rankine cycle (ORC) waste heat to power market are MITSUBISHI HEAVY INDUSTRIES, LTD., Kaishan USA, Strebl Energy Pte Ltd, ORCAN ENERGY AG, ALFA LAVAL, Fujian Snowman Co., Ltd., Ormat, Rank, TMEIC, Triogen, ABB, Siemens Energy (Siemens AG), Dürr Group, ElectraTherm Inc. (BITZER Group), Enerbasque, Enertime, Enogia, EXERGY, CLIMEON, INTEC Engineering GmbH, Zuccato Energia srl., Opel Energy Systems Pvt. Ltd., Corycos Group, CTMI - Steam Turbines, BorgWarner Inc. View Detailed Summary of the the Organic Rankine Cycle (ORC) Waste Heat to Power Market Report@

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Organic Rankine Cycle (ORC) Waste Heat to Power Market Dynamics

Drivers

Upsurge in the reduction of usage of primary energy in industrial operations

Waste heat to power is one of the adoptable renewable sources to generate electricity. This technique is found to be the most efficient resource to generate power as it helps to reduce the usage of energy or fuels for industrial processes, and the waste heat generated is used to generate emission-free electricity, which is further used in the normal industrial process or sold to the grid for distribution.

The waste heat generated is considered a by-product in most industries, such as steel paper manufacturing, refineries, chemical, and general manufacturing, as the waste heat is produced in industrial operations. Thus, the energy or the cost involved in running the main industrial operation will also generate waste heat that can be dumped into the environment.

Increased focus on improving the power plant efficiency

The world's electricity generation is majorly dependent on the fossil fuel resources such as coal, natural gas, and oil. The number of installed fossil-fired power generation plants has increased globally, and the development of such power plants is trending across the globe. However, waste heat is discharged in a power plant and can be dumped in the environment. How recovering the waste heat is the main approach to improve thermal efficiencies further and reduce greenhouse gas emissions for fossil-fired power plants.

Moreover, it is found that adopting technologies to recover waste heat is gaining importance to improve power plant efficiency. Thus, a waste heat ORC system is applied, based on a closed loop thermodynamic cycle for generating electricity and thermal power, which is suitable for plant operations. This system has been found to support various power plant functions such as economizer, heat pump, rotary heat exchanger, regenerator, and many others. This will support the functioning of the power plant and improves its efficiency.

Global Organic Rankine Cycle (ORC) Waste Heat to Power Market Scope

Global organic rankine cycle (ORC) waste heat to power market is segmented on the basis of

size, capacity, model, and application. The growth amongst these segments will help you analyze meagre growth segments in the industries and provide the users with a valuable market overview and market insights to help them make strategic decisions for identifying core market applications.

Size

Small Medium Large

On the basis of size, the global organic rankine cycle (ORC) waste heat to power market is segmented into small, medium, and large.

Capacity

Less Than 1000 kW 1001-4000 kW 4001-7000 kW More than 7000 kW

On the basis of capacity, the global organic rankine cycle (ORC) waste heat to power market has been segmented into less than 1000 kW, 1001-4000 kW, 4001-7000 kW, and more than 7000 kW.

Model

Steady-State Dynamic

On the basis of the model, the global organic rankine cycle (ORC) waste heat to power market has been segmented into steady-state and dynamic.

Application

ICE or Gas Turbine Waste to Energy Metal Production Cement and Lime Industry Glass Industry Petroleum Refining Chemical Industry Landfill ICE

## Others

## **Opportunities For Key Players**

Rapid industrialization and climate change concerns

Industrialization is a process of adopting an economy based on manufacturing. This step involves many changes that help the society's economy grow and prosper. Industrialization does not seem to have a sudden change, but it takes a gradual change that happens over a period. Thus, indirectly there will be a large number of fossil fuels, which in turn generate the climate.

The cause of climate change has been a serious issue that has been changing with the rapid increase in industrialization. However, industrialization is the route to economic development, but climate change is one of the major concerns that must be controlled. This will lead to adopting sustainable and efficient technologies in the industrial process, including the WHP system. The adoption of such technologies with the increase in industrialization along with the climate change concerns will help to protect the environment.

Global Organic Rankine Cycle (ORC) Waste Heat to Power Market Regional Analysis/Insights

Global organic rankine cycle (ORC) waste heat to power market is analyzed, and market size insights and trends are provided by country, size, capacity, model, and application as referenced above.

The countries covered in the organic rankine cycle (ORC) waste heat to power market report are the U.S., Canada, and Mexico in North America, Germany, France, U.K., Netherlands, Switzerland, Belgium, Russia, Italy, Spain, Turkey, Poland, Denmark, Finland, Sweden, Norway, Rest of Europe in Europe, China, Japan, India, South Korea, Singapore, Malaysia, Australia, Thailand, Indonesia, Philippines, Taiwan, New Zealand, Vietnam, Rest of Asia-Pacific (APAC) in the Asia-Pacific (APAC), Saudi Arabia, South Africa, Egypt, Israel, Qatar, Kuwait, Bahrain, Oman, Rest of Middle East and Africa (MEA) as a part of Middle East and Africa (MEA), Brazil, Argentina and Rest of South America as part of South America.

North America dominates the organic rankine cycle (ORC) waste heat to power market owing to the rise in the importance of generating power from waste heat recovery. The U.S. is a dominating country as it is home to many giant market players in the organic rankine cycle (ORC) waste heat to the power market. Germany dominates in the Europe region owing to an upsurge in the reduction of usage of primary energy in industrial operations. China dominates in Asia-Pacific due to government incentives to promote green energy changes.

Restraints/Challenges In Organic Rankine Cycle (ORC) Waste Heat to Power Industry

High cost of installation and maintenance

Although waste heat recovery systems have significant advantages, installation costs limit the market growth. The waste heat recovery can be done through various techniques such as steam rankine cycle (SRC), organic rankine cycle (ORC), or kalina cycle. These technologies will cost differently based on the production and industrial sector scale.

Moreover, the total cost to install or adopt the waste heat to power (WHP) systems in any industry includes various factors and equipment such as waste heat recovery equipment, power generation equipment, and power conditioning and interconnection equipment. The total cost would also include the soft costs associated with designing, permitting, and constructing the system. However, the maintenance requirements of the heat recovery boilers and balancing the plant are also included, which can vary according to technology and site conditions.

Qualitative and quantitative analysis of the market based on segmentation involving both economic as well as non-economic factors

Provision of market value (USD) data for each segment and sub-segment

Indicates the region and segment that is expected to witness the fastest growth as well as to dominate the market

Analysis by geography highlighting the consumption of the product/service in the region as well as indicating the factors that are affecting the market within each region

Competitive landscape which incorporates the market ranking of the major players, along with new service/product launches, partnerships, business expansions and acquisitions in the past five years of companies profiled

Extensive company profiles comprising of company overview, company insights, product benchmarking and SWOT analysis for the major market players

The current as well as the future market outlook of the industry with respect to recent developments (which involve growth opportunities and drivers as well as challenges and restraints of both emerging as well as developed regions

Includes an in-depth analysis of the market of various perspectives through Porter's five forces analysis

Provides insight into the market through Value Chain

Market dynamics scenario, along with growth opportunities of Organic Rankine Cycle (ORC) Waste Heat to Power Market in the years to come.

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This Market Intelligence Report Analyses Some of the Most Crucial Concerns:

How will the major segments of this international market develop over the next few years? Who are the major players that will dominate the market in the future? When it comes to this industry, who are the top suppliers and producers? How have the most successful companies in the industry planned for future growth and expansion?

In what sectors might we expect to see the greatest increase in demand over the coming years? How many distinct subsets of buyers make up this market?

Which regional powerhouse do you foresee as becoming the largest player in the international market?

Does a new coronavirus pandemic have any consequences?

In what ways are established actors stymied by the entry of newcomers, and how may they be overcome?

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Europe Organic Rankine Cycle (ORC) Waste Heat to Power Market, By Size (Small, Medium, Large), Capacity (Less Than 1000 kW, 1001-4000 kW, 4001-7000 kW, More than 7000 kW), Model

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Asia-Pacific Organic Rankine Cycle (ORC) Waste Heat to Power Market, By Size (Small, Medium, Large), Capacity (Less Than 1000 kW, 1001-4000 kW, 4001-7000 kW, More than 7000 kW), Model (Steady-State, Dynamic), Application (ICE or Gas Turbine, Waste to Energy, Metal Production, Cement and Lime Industry, Glass Industry, Petroleum Refining, Chemical Industry, Landfill ICE, Others), – Industry Trends and Forecast to 2029.

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Sopan Gedam Data Bridge Market Research +1 888-387-2818 email us here

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