

# Data Center Heat Reuse Systems Market Forecasts to 2034 – Global Analysis By Component (Hardware and Software & Services), System Type, Data Center Type, Cooling Infrastructure, Heat Reuse Application, End User and By Geography

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## Abstracts

According to Statistics MRC, the Global Data Center Heat Reuse Systems Market is accounted for \$2.95 billion in 2026 and is expected to reach \$11.56 billion by 2034 growing at a CAGR of 18.6% during the forecast period. Data Center Heat Reuse Systems refer to technologies and infrastructures designed to capture the excess heat generated by data center operations and repurpose it for beneficial use instead of releasing it into the environment. These systems recover thermal energy from servers and cooling equipment and redirect it to applications such as district heating, space heating, water heating, or industrial processes. By transforming waste heat into a usable resource, they improve overall energy efficiency, lower carbon emissions, reduce cooling demands, and support sustainable, circular energy management practices.

### Market Dynamics:

Driver:

Rise of district heating integration

As urban areas expand, municipalities are increasingly seeking sustainable energy solutions to reduce carbon footprints. Data centers, which generate substantial amounts of waste heat, are being integrated into district heating grids to supply residential and commercial buildings. This integration not only enhances energy efficiency but also

supports climate-neutral goals across Europe and other regions. Governments are incentivizing such projects through subsidies and regulatory frameworks that promote circular energy use. The synergy between digital infrastructure and urban heating systems is creating new business models for utilities and data center operators.

#### Restraint:

##### Technical complexity of retrofitting

Legacy facilities often lack the infrastructure needed to capture, transfer, and distribute waste heat effectively. The installation of heat exchangers, pipelines, and integration with district heating networks requires high upfront investment. Compatibility issues with cooling systems and operational disruptions during retrofitting further complicate adoption. Smaller operators may struggle with the engineering expertise and capital required to implement such systems. Regulatory compliance and safety standards add additional layers of complexity, slowing down project timelines. As a result, technical retrofitting challenges remain a key restraint for widespread deployment.

#### Opportunity:

##### Advanced heat pump technology

Modern heat pumps can elevate low-grade waste heat to usable temperatures suitable for district heating and industrial applications. Their improved efficiency reduces energy losses and enhances the economic viability of heat reuse projects. Integration with smart grids and IoT-based monitoring allows for optimized performance and predictive maintenance. Manufacturers are developing scalable, modular heat pump solutions tailored for large data centers as well as smaller edge facilities. The growing focus on renewable energy and decarbonization is accelerating investment in these technologies. Consequently, advanced heat pumps are expected to play a pivotal role in expanding the market.

#### Threat:

##### Competing cooling technologies

Innovations such as liquid immersion cooling and direct-to-chip cooling reduce waste heat output, limiting the recoverable energy. Hyperscale operators are increasingly adopting these methods to improve efficiency and reduce operational costs. As cooling

systems become more self-contained, opportunities for external heat recovery diminish. Furthermore, competition from renewable energy sources like solar and wind may reduce reliance on district heating integration. Market fragmentation could occur as operators choose diverse cooling strategies tailored to their specific needs. Thus, competing cooling technologies pose a significant challenge to the long-term growth of heat reuse systems.

### **Covid-19 Impact:**

The pandemic disrupted construction timelines and delayed several district heating integration projects involving data centers. Supply chain interruptions affected the availability of critical components such as heat exchangers and pumps. However, the crisis also highlighted the importance of resilient and sustainable energy systems. Remote work and increased digital activity drove higher data center energy consumption, indirectly reinforcing the need for efficient heat reuse. Governments introduced stimulus packages emphasizing green recovery, which included support for sustainable infrastructure projects. The pandemic accelerated digitalization, creating momentum for energy-efficient solutions in the IT sector.

The hardware segment is expected to be the largest during the forecast period

The hardware segment is expected to account for the largest market share during the forecast period, due to its critical role in enabling heat recovery. Components such as heat exchangers, pumps, and pipelines form the backbone of data center heat reuse systems. Rising demand for durable, high-performance equipment is driving investment in advanced materials and engineering designs. Hardware solutions are essential for integrating data centers with district heating networks and ensuring reliable energy transfer. Vendors are focusing on modular and scalable hardware to support diverse facility sizes and configurations.

The healthcare segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the healthcare segment is predicted to witness the highest growth rate, due to its increasing reliance on sustainable energy solutions. Hospitals and medical facilities require consistent heating and cooling, making them ideal beneficiaries of data center heat reuse. Rising energy costs and sustainability mandates are pushing healthcare providers to adopt innovative energy recovery systems. Partnerships between data centers and healthcare institutions are emerging to supply

reliable thermal energy. The sector's focus on resilience and uninterrupted operations aligns well with the benefits of heat reuse systems. Growing awareness of carbon reduction in healthcare infrastructure further accelerates adoption.

### **Region with largest share:**

During the forecast period, the Europe region is expected to hold the largest market share, due to its strong regulatory push for sustainability. European countries are actively promoting district heating integration as part of their climate-neutral strategies. Data centers in nations like Sweden, Denmark, and Finland are already supplying waste heat to residential and commercial grids. Government incentives and carbon taxation policies are encouraging operators to invest in heat reuse systems. The region's advanced infrastructure and collaborative ecosystem between utilities and data centers support rapid deployment.

### **Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, owing to rapid data center expansion and urbanization. Countries such as China, India, and Singapore are witnessing exponential growth in digital infrastructure. Rising energy demand and government initiatives for sustainable urban development are driving interest in heat reuse systems. The region's healthcare and commercial sectors are increasingly adopting energy-efficient solutions to manage costs. Investments in smart cities and renewable energy integration create fertile ground for heat recovery technologies. Local and international players are forming partnerships to accelerate deployment in emerging markets.

### **Key players in the market**

Some of the key players in Data Center Heat Reuse Systems Market include Schneider Electric SE, Cloud&Heat Technologies GmbH, Siemens AG, Equinix, Inc., Vertiv Holdings Co, CoolIT Systems Inc., Stulz GmbH, Delta Electronics, Inc., Asetek A/S, Eaton Corporation plc, Johnson Controls International plc, ENGIE SA, Alfa Laval AB, Rittal GmbH & Co. KG, and Danfoss A/S.

### **Key Developments:**

In January 2026, McLaren Racing and Schneider Electric announced that Schneider Electric will become the Official Energy Technology Partner of McLaren Racing,

including the McLaren Mastercard Formula 1 Team, the Arrow McLaren IndyCar Team, McLaren F1 Academy, as well as the McLaren United Autosports WEC Hypercar Team.

In July 2025, Siemens AG announced today that it has completed the acquisition of Dotmatics, a leading provider of Life Sciences R&D software headquartered in Boston and portfolio company of global software investor Insight Partners, for an enterprise value of \$5.1 billion. With the transaction now completed, Dotmatics will form part of Siemens' Digital Industries Software business, marking a significant expansion of Siemens' industry-leading Product Lifecycle Management (PLM) portfolio into the rapidly growing and complementary Life Sciences market.

#### Components Covered:

Hardware

Software & Services

#### System Types Covered:

Liquid Cooling Based Systems

Air Cooling Based Systems

Hybrid Cooling Systems

#### Data Center Types Covered:

Hyperscale Data Centers

Enterprise Data Centers

Colocation Data Centers

Edge Data Centers

#### Cooling Infrastructures Covered:

On-Premise

Prefabricated Systems

Heat Reuse Applications Covered:

District Heating

Industrial Heat Reuse

Building Heating

Aquaculture

Other Applications

End Users Covered:

IT & Telecom

BFSI

Healthcare

Government & Public Sector

Manufacturing

Retail & E-Commerce

Energy & Utilities

Other End Users

Regions Covered:

## North America

US

Canada

Mexico

## Europe

Germany

UK

Italy

France

Spain

Rest of Europe

## Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

## South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

### **What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

### **Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

## Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

## Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

## Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

## Contents

### **1 EXECUTIVE SUMMARY**

### **2 PREFACE**

- 2.1 Abstract
- 2.2 Stake Holders
- 2.3 Research Scope
- 2.4 Research Methodology
  - 2.4.1 Data Mining
  - 2.4.2 Data Analysis
  - 2.4.3 Data Validation
  - 2.4.4 Research Approach
- 2.5 Research Sources
  - 2.5.1 Primary Research Sources
  - 2.5.2 Secondary Research Sources
  - 2.5.3 Assumptions

### **3 MARKET TREND ANALYSIS**

- 3.1 Introduction
- 3.2 Drivers
- 3.3 Restraints
- 3.4 Opportunities
- 3.5 Threats
- 3.6 Application Analysis
- 3.7 End User Analysis
- 3.8 Emerging Markets
- 3.9 Impact of Covid-19

### **4 PORTERS FIVE FORCE ANALYSIS**

- 4.1 Bargaining power of suppliers
- 4.2 Bargaining power of buyers
- 4.3 Threat of substitutes
- 4.4 Threat of new entrants
- 4.5 Competitive rivalry

## **5 GLOBAL DATA CENTER HEAT REUSE SYSTEMS MARKET, BY COMPONENT**

- 5.1 Introduction
- 5.2 Hardware
  - 5.2.1 Heat Exchangers
  - 5.2.2 Thermal Storage Systems
  - 5.2.3 Pumps & Valves
- 5.3 Software & Services
  - 5.3.1 Monitoring/Control Software
  - 5.3.2 Consulting & Deployment Services
  - 5.3.3 Maintenance & Support

## **6 GLOBAL DATA CENTER HEAT REUSE SYSTEMS MARKET, BY SYSTEM TYPE**

- 6.1 Introduction
- 6.2 Liquid Cooling Based Systems
- 6.3 Air Cooling Based Systems
- 6.4 Hybrid Cooling Systems

## **7 GLOBAL DATA CENTER HEAT REUSE SYSTEMS MARKET, BY DATA CENTER TYPE**

- 7.1 Introduction
- 7.2 Hyperscale Data Centers
- 7.3 Enterprise Data Centers
- 7.4 Colocation Data Centers
- 7.5 Edge Data Centers

## **8 GLOBAL DATA CENTER HEAT REUSE SYSTEMS MARKET, BY COOLING INFRASTRUCTURE**

- 8.1 Introduction
- 8.2 On-Premise
- 8.3 Prefabricated Systems

## **9 GLOBAL DATA CENTER HEAT REUSE SYSTEMS MARKET, BY HEAT REUSE APPLICATION**

- 9.1 Introduction

- 9.2 District Heating
- 9.3 Industrial Heat Reuse
- 9.4 Building Heating
- 9.5 Aquaculture
- 9.6 Other Applications

## **10 GLOBAL DATA CENTER HEAT REUSE SYSTEMS MARKET, BY END USER**

- 10.1 Introduction
- 10.2 IT & Telecom
- 10.3 BFSI
- 10.4 Healthcare
- 10.5 Government & Public Sector
- 10.6 Manufacturing
- 10.7 Retail & E-Commerce
- 10.8 Energy & Utilities
- 10.9 Other End Users

## **11 GLOBAL DATA CENTER HEAT REUSE SYSTEMS MARKET, BY GEOGRAPHY**

- 11.1 Introduction
- 11.2 North America
  - 11.2.1 US
  - 11.2.2 Canada
  - 11.2.3 Mexico
- 11.3 Europe
  - 11.3.1 Germany
  - 11.3.2 UK
  - 11.3.3 Italy
  - 11.3.4 France
  - 11.3.5 Spain
  - 11.3.6 Rest of Europe
- 11.4 Asia Pacific
  - 11.4.1 Japan
  - 11.4.2 China
  - 11.4.3 India
  - 11.4.4 Australia
  - 11.4.5 New Zealand
  - 11.4.6 South Korea

- 11.4.7 Rest of Asia Pacific
- 11.5 South America
  - 11.5.1 Argentina
  - 11.5.2 Brazil
  - 11.5.3 Chile
  - 11.5.4 Rest of South America
- 11.6 Middle East & Africa
  - 11.6.1 Saudi Arabia
  - 11.6.2 UAE
  - 11.6.3 Qatar
  - 11.6.4 South Africa
  - 11.6.5 Rest of Middle East & Africa

## **12 KEY DEVELOPMENTS**

- 12.1 Agreements, Partnerships, Collaborations and Joint Ventures
- 12.2 Acquisitions & Mergers
- 12.3 New Product Launch
- 12.4 Expansions
- 12.5 Other Key Strategies

## **13 COMPANY PROFILING**

- 13.1 Schneider Electric SE
- 13.2 Cloud&Heat Technologies GmbH
- 13.3 Siemens AG
- 13.4 Equinix, Inc.
- 13.5 Vertiv Holdings Co
- 13.6 CoolIT Systems Inc.
- 13.7 Stulz GmbH
- 13.8 Delta Electronics, Inc.
- 13.9 Asetek A/S
- 13.10 Eaton Corporation plc
- 13.11 Johnson Controls International plc
- 13.12 ENGIE SA
- 13.13 Alfa Laval AB
- 13.14 Rittal GmbH & Co. KG
- 13.15 Danfoss A/S

## List Of Tables

### LIST OF TABLES

Table 1 Global Data Center Heat Reuse Systems Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global Data Center Heat Reuse Systems Market Outlook, By Component (2023-2034) (\$MN)

Table 3 Global Data Center Heat Reuse Systems Market Outlook, By Hardware (2023-2034) (\$MN)

Table 4 Global Data Center Heat Reuse Systems Market Outlook, By Heat Exchangers (2023-2034) (\$MN)

Table 5 Global Data Center Heat Reuse Systems Market Outlook, By Thermal Storage Systems (2023-2034) (\$MN)

Table 6 Global Data Center Heat Reuse Systems Market Outlook, By Pumps & Valves (2023-2034) (\$MN)

Table 7 Global Data Center Heat Reuse Systems Market Outlook, By Software & Services (2023-2034) (\$MN)

Table 8 Global Data Center Heat Reuse Systems Market Outlook, By Monitoring/Control Software (2023-2034) (\$MN)

Table 9 Global Data Center Heat Reuse Systems Market Outlook, By Consulting & Deployment Services (2023-2034) (\$MN)

Table 10 Global Data Center Heat Reuse Systems Market Outlook, By Maintenance & Support (2023-2034) (\$MN)

Table 11 Global Data Center Heat Reuse Systems Market Outlook, By System Type (2023-2034) (\$MN)

Table 12 Global Data Center Heat Reuse Systems Market Outlook, By Liquid Cooling Based Systems (2023-2034) (\$MN)

Table 13 Global Data Center Heat Reuse Systems Market Outlook, By Air Cooling Based Systems (2023-2034) (\$MN)

Table 14 Global Data Center Heat Reuse Systems Market Outlook, By Hybrid Cooling Systems (2023-2034) (\$MN)

Table 15 Global Data Center Heat Reuse Systems Market Outlook, By Data Center Type (2023-2034) (\$MN)

Table 16 Global Data Center Heat Reuse Systems Market Outlook, By Hyperscale Data Centers (2023-2034) (\$MN)

Table 17 Global Data Center Heat Reuse Systems Market Outlook, By Enterprise Data Centers (2023-2034) (\$MN)

Table 18 Global Data Center Heat Reuse Systems Market Outlook, By Colocation Data

Centers (2023-2034) (\$MN)

Table 19 Global Data Center Heat Reuse Systems Market Outlook, By Edge Data Centers (2023-2034) (\$MN)

Table 20 Global Data Center Heat Reuse Systems Market Outlook, By Cooling Infrastructure (2023-2034) (\$MN)

Table 21 Global Data Center Heat Reuse Systems Market Outlook, By On-Premise (2023-2034) (\$MN)

Table 22 Global Data Center Heat Reuse Systems Market Outlook, By Prefabricated Systems (2023-2034) (\$MN)

Table 23 Global Data Center Heat Reuse Systems Market Outlook, By Heat Reuse Application (2023-2034) (\$MN)

Table 24 Global Data Center Heat Reuse Systems Market Outlook, By District Heating (2023-2034) (\$MN)

Table 25 Global Data Center Heat Reuse Systems Market Outlook, By Industrial Heat Reuse (2023-2034) (\$MN)

Table 26 Global Data Center Heat Reuse Systems Market Outlook, By Building Heating (2023-2034) (\$MN)

Table 27 Global Data Center Heat Reuse Systems Market Outlook, By Aquaculture (2023-2034) (\$MN)

Table 28 Global Data Center Heat Reuse Systems Market Outlook, By Other Applications (2023-2034) (\$MN)

Table 29 Global Data Center Heat Reuse Systems Market Outlook, By End User (2023-2034) (\$MN)

Table 30 Global Data Center Heat Reuse Systems Market Outlook, By IT & Telecom (2023-2034) (\$MN)

Table 31 Global Data Center Heat Reuse Systems Market Outlook, By BFSI (2023-2034) (\$MN)

Table 32 Global Data Center Heat Reuse Systems Market Outlook, By Healthcare (2023-2034) (\$MN)

Table 33 Global Data Center Heat Reuse Systems Market Outlook, By Government & Public Sector (2023-2034) (\$MN)

Table 34 Global Data Center Heat Reuse Systems Market Outlook, By Manufacturing (2023-2034) (\$MN)

Table 35 Global Data Center Heat Reuse Systems Market Outlook, By Retail & E-Commerce (2023-2034) (\$MN)

Table 36 Global Data Center Heat Reuse Systems Market Outlook, By Energy & Utilities (2023-2034) (\$MN)

Table 37 Global Data Center Heat Reuse Systems Market Outlook, By Other End Users (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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