

Thermal Storage Market: Segmented By Technology (Sensible, Latent, Thermochemical), By Application (Power Generation, District Heating & Cooling, Solar Energy, Process Heating & Cooling and Others), And Region – Global Analysis Of Market Size, Share & Trends For 2019–2020 And Forecasts To 2031

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Abstracts

[173 + Pages Research Report] Global Thermal Storage Market to surpass USD 3.88 billion by 2031 from USD 2.12 billion in 2021 at a CAGR of 6.24% in the coming years, i.e., 2021-31.

Product Overview

Thermal energy storage, in the form of sensible heat, is based on the specific heat of a storage medium, which is reserved in storage tanks with high thermal insulation. The most extensively used and commercial heat storage medium is molten salt, which has a various commercial and industrial uses.

Market Highlights

Global Thermal Storage market is expected to project a notable CAGR of 6.24% in 2031.

The development of the global thermal energy storage market is backed by growing demand for electricity during peak hours, rising commercialization of CSP plants and demand for heating & cooling uses for smart infrastructure.

Global Mint Essential Oil: Segments

Thermochemical segment to grow with the highest CAGR during 2021-31

Global Thermal Storage market is classified on the basis of Type into Sensible, Latent, Thermochemical, and Others. Thermal energy storage, in the form of sensible heat, is built on the specific heat of a storage medium, which is kept in storage tanks with high thermal insulation. The most extensively used and commercial heat storage medium is molten salt, which has a number of commercial and industrial applications. Molten salt shows excellent thermal properties and have been used in more than 50% of the operational thermal energy schemes to date.

Solar Energy segment to grow with the highest CAGR during 2021-31

Based on Application, global Thermal Storage Market fragmented into Power Generation, District Heating & Cooling, Process Heating & Cooling, and Other. Thermal energy storage in focused solar power (CSP) plants can help in overcoming the intermittency of the solar resource and also decrease the Levelized cost of energy (LCOE) by utilizing power for extended periods of time. TES systems can gather energy during sunshine hours and store it in order to change its delivery to a later time or to facilitate plant output during cloudy weather conditions. Hence, the operation of a solar thermal power plant can be stretched beyond periods of no solar radiation without the need to burn fossil fuels. Energy storage not only decreases the mismatch between supply and demand but also enhances the performance and reliability of energy systems and plays a vital role in conserving energy.

Market Dynamics

Drivers

Rising demand of energy storage

Decarbonization of the energy segment and decreasing carbon emissions in order to cap the global climate change are some of the most hegemonic goals for governments, energy authorities, and utilities across the globe. The benefits of thermal energy storage in CSP plants include improved reliability, surge in overall efficiency, reductions in investment and running costs, and economical operations. It also reduces the emission of carbon dioxide. Thus, incorporation of thermal energy storage in CSP plants is expected to drive the market growth.

Decentralization of renewable energy sector

The distribution of decentralized renewable energy is driving a disrupting transformation

of the energy sector. The swift growth of decentralized renewable energy technologies is expected to change the structure of the energy sector towards a multi-operator set-up in which large utilities interact with captive consumers and mini-utilities. For over 60% of those who gain access in rural areas, decentralized systems based on renewable energy will be the most cost-effective solution.

Restraint

Competition from battery storage and pumped-storage

Selecting an appropriate technology ensures that the installation helps a commercial facility to consume electricity in as cost-effective way as possible. Batteries are great for offering backup power for lighting, elevators, and computers whereas thermal energy storage is a building's easiest way of decreasing peak electric demand. Air conditioning makes up a third of energy prices in summer months and it would be highly inefficient and expensive to store energy in a battery only to have it changed yet again to create instantaneous cooling. In contrast, the entire building load cannot be backed up with just thermal storage. Although, Thermal energy storage demands for lower project costs but it is less preferred over battery storage and pumped-hydro storage owing to their lower efficiency at economies of scale. Therefore, these substitutes hamper the growth of the thermal energy storage market.

Global Mint Essential Oil: Key Players

Abengoa

Company Overview, Business Strategy, Key Product Offerings, Financial Performance, Key Performance Indicators, Risk Analysis, Recent Development, Regional Presence, SWOT Analysis

Abengoa Solar

Burns & McDonnell

SolarReserve

BrightSource Energy

Calmac, MAN Energy Solutions

Baltimore Air Coil Technology

Cristopia Energy

Cryogel

Caldwell Energy

Dunham Bush

Goss Engineering

Steffes Corporation

DN Tanks

Other Prominent Players

Global Mint Essential Oil: Regions

Global Thermal Storage market is segmented based on regional analysis into five major regions: North America, Latin America, Europe, Asia Pacific, and the Middle East and Africa. North America dominates the Thermal Storage market. North America witnessed the largest demand for thermal energy storage, due to the high energy storage capacity and rise in penetration of thermal storage specifically in U.S. Additionally, rapid diffusion of renewable energy has changed the energy landscape thus enlarge thermal energy storage in this area.

Global Thermal Storage is further segmented by region into:

North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil, and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey, and Rest of Europe

Asia Pacific Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia, and Rest of APAC

Middle East and Africa Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa, and Rest of MENA

Global Thermal Storage report also contains analysis on:

Thermal Storage Segments:

By Technology

Sensible

Latent

Thermochemical

By Application

Power Generation

District Heating & Cooling

Solar Energy

Process Heating & Cooling

Others

Thermal Storage Dynamics
Thermal Storage Size
Supply & Demand
Current Trends/Issues/Challenges
Competition & Companies Involved in the Market
Value Chain of the Market
Market Drivers and Restraints
Thermal Storage Market Report Scope and Segmentation
Report Attribute Details
Market size value in 2021 USD 2.12 billion
Revenue forecast in 2031 USD 3.88 billion
Growth Rate CAGR of 6.24% from 2021 to 2031
Base year for estimation 2020
Quantitative units Revenue in USD million and CAGR from 2021 to 2030
Report coverage Revenue forecast, company ranking, competitive landscape, growth factors, and trends
Segments covered Type, Application, and Region
Regional scope North America, Europe, Asia Pacific, Latin America, Middle East & Africa (MEA)
Key companies profiled Abengoa Solar, Burns & McDonnell, SolarReserve, BrightSource Energy, Calmac, MAN Energy Solutions, Baltimore Air Coil Technology, Cristopia Energy, Cryogel, Caldwell Energy, Dunham Bush, Goss Engineering, Steffes Corporation, DN Tanks, and Other Prominent Players

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8. CRISTOPIA ENERGY

9. CRYOGEL

10. CALDWELL ENERGY

11. DUNHAM BUSH

12. GOSS ENGINEERING

13. STEFFES CORPORATION

14. DN TANKS

15. OTHER PROMINENT PLAYERS

Consultant Recommendation

**The above-given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

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