The Home Energy Management Systems Market

2nd Edition

The Home Energy Management Systems Market is a comprehensive report from Berg Insight analysing the latest developments and trends on the home energy management systems market in Europe and North America. This strategic research report from Berg Insight provides you with 150 pages of unique business intelligence including 5-year industry forecasts and expert commentary on which to base your business decisions.

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The number of HEMS in Europe and North America reached close to 2.8 million in 2023

The residential sector accounts for about a fourth of the total energy consumption in North America and Europe. The consumption is anticipated to increase substantially during the coming next few years as the adoption of electric cars and heat pumps are expected to grow fast. Solutions that enable homeowners to reduce their overall energy consumption and increase the share of energy coming from renewable sources therefore play a vital role in the transition to carbon neutrality and mitigating climate change. For this reason, governments in Europe and North America have introduced various incentives and subsidies directed specifically towards the residential market to stimulate investments in renewable energy sources and energy optimization solutions. The rising and increasingly volatile electricity prices seen during the past few years combined with more frequent power outages in some regions have also created a strong drive from homeowners to invest in such solutions.

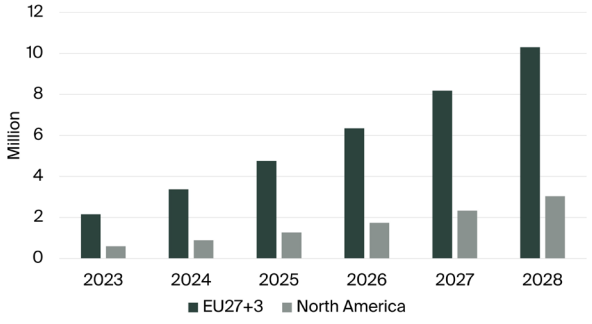
In this report, a home energy management system (HEMS) is defined as a system that at minimum consists of a solar PV system, battery storage system and a web-based management portal or smartphone app that allows for remote monitoring and control of the system. Solutions that only display information and do not provide tools to manage the electricity flow and consumption in the home are therefore excluded. A wider HEMS also integrates backup generators, EV chargers, heat pumps, home appliances and other connected products and systems in the home. HEMS allow households to become active participants in the electricity market, reducing the monthly electricity bill and lessening the strain on the electricity grid during hours of high electricity demand.

In 2023, the solar industry as a whole in Europe and North America was negatively impacted by higher interest rates, causing a lower than anticipated demand for new solar PV systems. However, the adoption of HEMS grew substantially in 2023 due to several reasons, including a number of policy changes in key markets that have made investments in HEMS more attractive for homeowners. At the end of 2023, there were an estimated 2.2 million HEMS installed in European homes. An estimated 1.1 million systems were added to the installed base in 2023. This figure includes both new installations of solar PV + battery storage systems as well as installations of battery storage systems in existing solar PV systems (i.e. retrofits). The penetration rate is still very low in Europe, at around 1.8 percent. Germany is by far the leading market, accounting for more than half of the installed base and shipments in Europe in 2023. Growing at a CAGR of 36.7 percent, the installed base of HEMS in Europe is estimated to reach 10.3 million systems at the end of 2028. This corresponds to a penetration rate of 8.2 percent.

There were an estimated 600,000 HEMS installed in North American homes at the end of 2023. Shipments, including both new installations and retrofits, reached 210,000 systems during the year. The US is estimated to account for about 95 percent of the North American market while Canada accounts for about 5 percent. California, Texas and Hawaii are some of the largest HEMS markets in the US. Growing at a CAGR of 38.3 percent, the installed base of HEMS in North America is estimated to reach 3.0 million systems at the end of 2028. This corresponds to a penetration rate of 2.5 percent.

The HEMS value chain spans various companies from different industry sectors. Some companies are vertically integrated, offering a complete HEMS based on in-house developed hardware and software solutions. Other companies develop and manufacture one part of the HEMS. Some of these companies integrate devices from third-party companies to offer a complete HEMS. There are also several companies that specialise in providing a software platform that enables other companies to offer HEMS. Leading US-based HEMS players include Enphase Energy, Tesla, Generac, Lunar Energy and Savant Systems. Leading Germany-based companies include E3/DC (Hager Group), Sonnen (Shell), Senec (EnBW), Solarwatt, SMA Solar and Viessmann Climate Solutions (Carrier). Significant UK-based companies include GivEnergy and Myenergi. France-based Schneider Electric is also an important player in the industry. Several significant players on the HEMS market in North America and Europe are based outside of the two regions, including China-based Huawei, Growatt and Sungrow; Israel-based SolarEdge; Japan-based Panasonic; and South Korea-based LG Energy Solution.

Installed base of HEMS
(Europe and North America 2023–2028)



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Highlights from the report

Insights from 20 executive interviews with market leading companies.

Comprehensive overview of the HEMS value chain and key applications.

In-depth analysis of market trends and key developments.

Statistical data on residential solar PV system adoption in Europe and North America.

Profiles of 59 companies active in the solar PV, battery storage and HEMS industry.

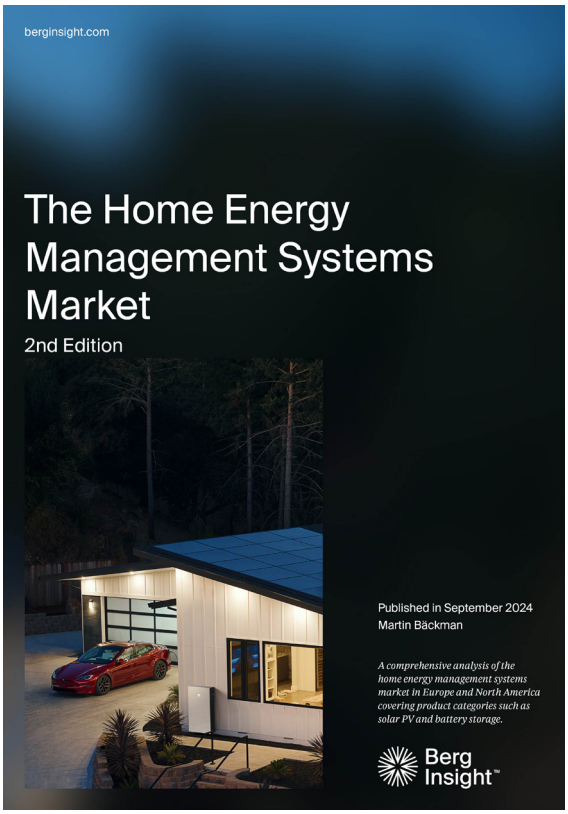
Detailed market sizing and forecasts lasting until 2028.

The report answers the following questions

- Which are the main applications within HEMS?
- How important are government subsidies and tax reductions for adoption?
- What are the business models and channels-to-market for HEMS solutions?
- Which are the leading HEMS providers in Europe and North America?
- Which are the main connectivity technologies and standards?
- What is the potential market size for cellular IoT in the HEMS market?
- How will the HEMS market evolve in the next five years?
- Which are the main trends in the industry?

About Berg Insight's IoT market research

Our market reports offer comprehensive information and analysis on key IoT technologies and markets, addressing important concerns including total addressable market, market penetration, market shares, industry landscape, regulatory environment, market trends and forecasts. Our research portfolio today comprises more than 70 items, where each market report focuses on a specific vertical application area or cover horizontal themes. All market reports come with complementary data sets in Excel format that can be easily analysed and converted into tables and charts. We offer a range of different license options together with bundled packages and subscriptions to suit your specific needs.



SMART BUILDINGS

The Home Energy Management Systems Market

How should the utility and mobile industries address the vast business opportunity in home energy management systems? Berg Insight estimates that the installed base of HEMS in Europe and North America will grow at a compound annual growth rate of 37.1 percent from 2.8 million in 2023 to 13.4 million in 2028. Get a 360-degree perspective on the rapid evolution of the HEMS market in this comprehensive 150-page strategy report.

PUBLISHED DATE	September 2024
EDITION	2nd
PAGES	150
AUTHOR	Martin Bäckman

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Who should read this report?

The Home Energy Management Systems Market is the foremost source of information about the fast-growing HEMS market in Europe and North America. Whether you are a product vendor, service provider, telecom operator, utility, investor, consultant, application developer or government agency, you will gain valuable insights from our in-depth research.

AUTHOR

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Martin is a principal analyst who specialises in IoT applications for the smart homes and buildings, transportation and security markets. He joined Berg Insight in 2018 and is the lead author of numerous research reports. In addition to published research, he has provided bespoke research to clients ranging from IoT solution providers, management consulting firms, private equity firms and others. Prior to joining Berg Insight, Martin worked as a supply chain analyst at Volvo Group. Martin holds a Master's degree in Industrial Engineering and Management from Chalmers University of Technology.

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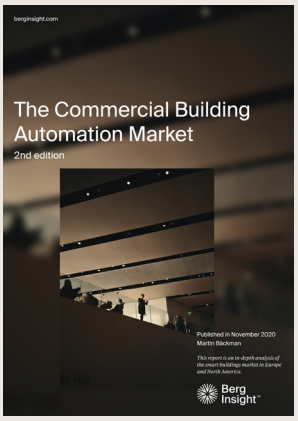

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