Building Energy Management System (BEMS) - Global Market Size, Market Share and Competitive Landscape Analysis to 2020

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Building Energy Management Systems Market to Continue to Grow Despite Signs of Maturing in Europe and North America

The global market for Building Energy Management Systems (BEMS) will grow at a gradual pace over the forecast period, though it will see signs of slowing down of market growth in North America and Europe during the latter half of 2011-2020. The global BEMS market will grow at a CAGR of XX% during the 2011-2020 period, driven mostly by the emergence of the markets of Asia-Pacific and Eastern Europe. The markets in Europe and North America will be driven mostly by regional targets for energy-efficiency and reductions in the cost of energy consumption. In Asia-Pacific, it will be quite some time before the level of awareness about energy-efficiency among building operators and owners in this region matches that of operators in the Western nations.

Service Accounts for the Largest Share of the Global BEMS Market

Services for the installation, design and engineering of BEMS account for the largest share of the global market. This is largely attributed to the dominance of the large building sector in the BEMS market, which requires services to install energy management systems. The service market for BEMS accounted for XX% of global revenues in 2011 and is not expected to undergo any major changes during 2012-2020. The service market has seen the emergence of system integrators who play a key role in helping building owners and managers decide the selection of BEMS equipment to meet their requirements.

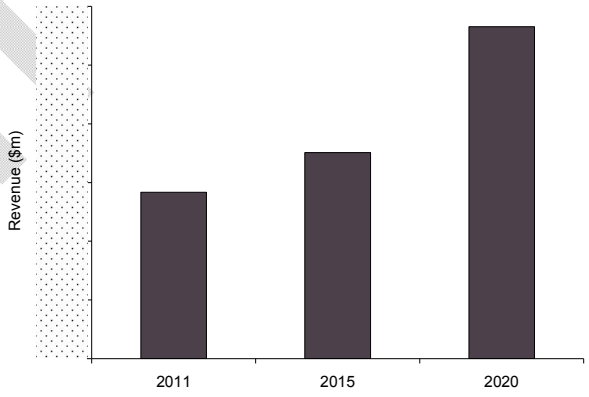
Johnson Controls Emerges as the Leading Vendor in the Global BEMS Market in 2011

Johnson Controls was the leading vendor in the global BEMS market during 2011, with a share of more than XX%. The vendor was able to penetrate the key markets across a number of regions and has established its presence in emerging markets in APAC. The dominance of Johnson Controls can be attributed to its extensive portfolio of products that cater to all consumer segments in the BEMS market.

Cloud-based BEMS to Re-define the Market for BEMS

Cloud-based solutions for building energy management will incorporate a new dimension to making buildings more energy-efficient. Cloud-based solutions are slowly finding acceptance among different global markets for BEMS by offering an economically viable solution to small and medium-sized consumers who are unwilling to install high-cost software. The cloud BEMS market has significant future prospects, but will see its penetration restricted to only a few segments of the market, notably the commercial and industrial sectors. The cloud BEMS market and the Software-as-a-Service (SaaS) market will be helpful for commercial establishments that need to monitor the energy consumption of multiple outlets and compare their performance.

Cloud-based Building Energy Management Systems Market, Global, Annual Revenues ($m), 2011, 2015 and 2020



Source: GlobalData; Primary interviews with vice presidents and regional managers of building energy management systems industry

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2 Introduction

2.1 Overview

Building Energy Management System (BEMS) is emerging as an important tool to minimize energy consumed by buildings. The BEMS is a system that can help building operators to monitor and control building systems. It is a combination of hardware, software and services and is utilized to achieve improved energy efficiency within the building by controlling building systems such as heating, ventilation, air conditioning and lighting. The rising fuel prices and climate change are two major factors that are driving the market for BEMS.

According to the US Department of Energy (DoE), buildings account for around XX% of total energy consumption in 2011. This contributes significantly to the overall carbon emissions in the country. In smart grid infrastructure, that enables two-way communication between the utilities and consumers, BEMS can become an active facilitator in managing the demand and supply of energy. BEMS not only helps in monitoring and controlling building energy systems, but also facilitates the consumer learning their own energy consumption patterns. This will enable the customer to control their energy consumption and opt for different tariff plans in demand response systems. Employees in commercial buildings can be encouraged to save energy by providing energy consumption information through dashboards and energy benchmarks created for internal competition. This will enable the building manager to cut down the cost of building energy consumption.

Cloud services for BEMS and wireless BEMS are some of the emerging trends being observed in the global market and are currently at an early adoption stage. However, despite advancement in the technology, there are some challenges in the adoption of BEMS on a large scale. Some of the challenges include system disparity resulting in issues related to connectivity and integration of the system, technology awareness and budget challenges. Currently, BEMS installations are mainly being undertaken as retrofits in buildings rather than new constructions.

Some of the key countries in the BEMS market are the US, Canada, the UK and Germany. The BEMS market in North America and Europe are at late growth stage. The slow growth in the European BEMS market is due to the weak economic conditions faced by Western European nations. Currently, North America is the largest contributor to the global BEMS market and is expected to remain the leading market during the 2012-2020 period.

Some of the major players in the global BEMS market are Johnson Controls, Schneider Electric, Siemens and Honeywell. Various small players are also involved in providing different products and services in the market. However, the small players are more restricted to local markets and can only rarely be found in overseas markets. It is easier for big players to enter a new market than a small player as they have product offerings in all or more segments of the BEMS market.

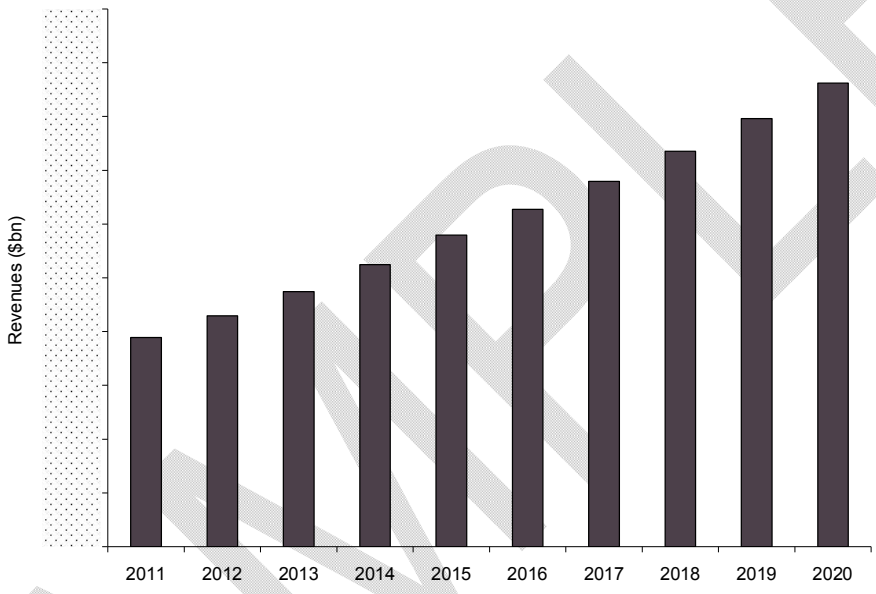
2.2 GlobalData Report Guidance

- The report discusses the global BEMS market, as well as the markets in key countries such as the US, the UK, Canada, Germany, Japan, China and Singapore. It explains the smart grid BMS industry dynamics and identifies key market drivers, policies, price trends and technology trends. The layout of the report is as follows:
- The report begins with an executive summary that details the key findings of the report.
- Chapter three provides an analysis of the global market for BEMS, which includes a market outlook for global BEMS as well as cloud-based BEMS until 2020, regional segmentation of the market, and analysis of key drivers and restraints.
- Chapter four provides analysis of the North American market for BEMS, comprising the US and Canada. The key elements covered for each country include annual revenue forecast until 2020 and segmentation of market between software, hardware and services.
- Chapter five provides analysis of the European market for BEMS, comprising the UK and Germany. The key elements covered for each country include annual revenue forecasts until 2020 and segmentation of the market between software, hardware and services.
- Chapter six provides analysis of the Asia-Pacific market for BEMS, comprising Japan, Singapore and China. The key elements covered for each country include annual revenue forecasts until 2020 and segmentation of market between software, hardware and services.
- Chapter seven provides analysis and forecast of the BEMS market in the Rest of the World (ROW) region.
- Chapter eight provides analysis of the cost of implementation of the BEMS market.
- Chapter nine provides analysis of BEMS technology and identifies the key technology trends in the global market.
- Chapter ten provides analysis of the cost and benefits derived from implementation of BEMS in select regions.
- Chapter eleven provides an analysis of the vendor landscape and a comparison of the products offerings of key vendors.
- Chapter twelve provides an overview of the various standards and labeling programs on energy-efficiency that are driving the global BEMS market.

4 Building Energy Management System Market, North America, Forecast to 2020

The BEMS market in North America is at an advanced stage, with significant installations taking place in the region. The installations not only involve traditional BEMS technologies such as sensors, thermostats and controllers, but also new technologies such as cloud services for building energy management. The US is the key market in this region, accounting for XX% of the market. The market in Canada is comparatively smaller and will experience less growth in comparison to the US. North America was the largest market for BEMS globally during 2011, and is expected to remain so during the 2012-2020 period. The market will largely be driven by the retrofitting of BEMS, as the region is unlikely to witness a large number of new constructions. The market for BEMS in North America was valued at around $XX billion in 2011 and is expected to be $XX billion by 2020.

Figure 7: Building Energy Management Systems Market, North America, Annual Revenues ($bn), 2011-2020



Source: GlobalData

Table 7: Building Energy Management Systems Market, North America, Annual Revenues ($bn), 2011-2020

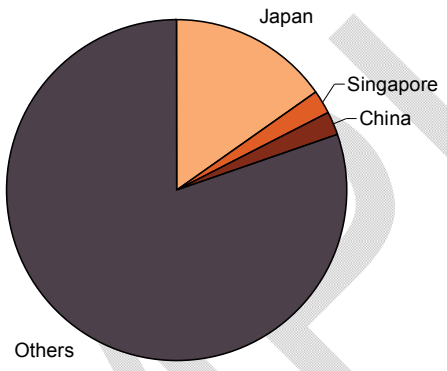
Year	Revenues ($bn)
2011	
2012	
2013	
2014	
2015	
2016	
2017	
2018	
2019	
2020	

Source: GlobalData

6 Building Energy Management System Market, Asia-Pacific, Forecast to 2020

The BEMS market in the Asia-Pacific region is concentrated in a few nations and is small compared to the European and North American BEMS markets. The major markets in this region are Japan, Singapore and Australia, while the primary emerging markets are China and India. The BEMS markets in Asia-Pacific can be categorized into two segments: low-labor cost markets and high-labor cost markets. The low-labor cost markets in the region include countries such as China and India, where the service costs are significantly lower - by around XX% - compared to the European and North American markets. The high-labor cost markets include countries such as Singapore and Australia, where labor costs are comparable to those in the European and North American markets. Japan is the largest market in this region, and accounted for around XX% of the regional revenues in 2011. The fragmented nature of this market has led to a small share for other minor countries in the region such as Singapore and China.

Figure 19: Building Energy Management Systems Market, Asia-Pacific, Revenue Share of Key Nations (%), 2011



Source: GlobalData; Primary interviews conducted with regional managers of key vendors of the BEMS industry

Table 14: Building Energy Management Systems Market, Asia-Pacific, Revenue Share of Key Nations ($m), 2011

Country	Revenue ($m)
Japan	
Singapore	
China	
Others	

Source: GlobalData; Primary interviews conducted with regional managers of key vendors of the BEMS industry

13 Appendix

13.1 Market Definition

13.1.1 Building Energy Management Systems

A building energy management system is a monitoring and control system that helps in avoiding energy wastage by controlling different building functions through a network of sensors, controllers and actuators

13.1.2 Building Energy Management Systems Service

BEMS services consist of services for designing, installing and engineering a system.

13.1.3 Building Energy Management Systems Hardware

BEMS hardware consists of sensors, controllers and actuators that are used to monitor and control the functioning of different building systems.

13.1.4 Building Energy Management Systems Software

BEMS software is a central software system that controls the functioning of building systems such as HVAC and lighting according to requirements.

13.2 Abbreviations

Table 27: List of Abbreviations	
Abbreviation	**Full Name**
BCTEP	Building Construction Technology Extension Program
BEMS	Building Energy Management System
CAGR	Compound Annual Growth Rate
DoE	Department of Energy
EBPD	European Building Performance Directive
EC	European Commission
EEG	Energy Sources Act
EENP	Energy Efficiency National Partnership
EIB	European Investment Bank
EISA	Energy Independence and Security Act
EPC	Energy Performance Contracts
ESCO	energy service companies
GBP	Green Building Program
GDP	Gross Domestic Product
GHG	Greenhouse Gas
HVAC	Heating, Ventilating and Air Conditioning
IT	Information Technology
LEED	Leadership in Energy and Environmental Design
MOHURD	Ministry of Housing and Urban-Rural Development
NEA	National Environment Agency
NIST MEP	National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership
OEM	Original Equipment Manufacturers
ROW	Rest of the World
SaaS	Software-as-a-Service
UAE	United Arab Emirates
USGBC	US Green Building Council
Source: GlobalData	

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13.4 Methodology

GlobalData's dedicated research and analysis teams consist of qualified professionals with experience in marketing, market research and consultancy, with a background in the energy industry and advanced statistical expertise.

GlobalData adheres to the codes of practice of the Market Research Society (www.mrs.org.uk) and the Strategic and Competitive Intelligence Professionals (www.scip.org) .

All GlobalData databases are continuously updated and revised. The following research methodology is followed for all databases and reports.

13.4.1 Coverage

The objective of updating GlobalData's coverage is to ensure that it represents the most up to date vision of the industry. We track hundreds of smart grid news sources on a daily basis. Using this news flow and regular interaction with the industry experts, we identify the key trends being witnessed by the industry. These can be market opportunities, industry consolidation, technological breakthroughs and policy updates. Our articles and reports investigate these trends in detail and evaluate their market implication.

13.4.2 Secondary Research

The research process begins with exhaustive secondary research of internal and external sources to provide qualitative and quantitative information relating to each market. The secondary research sources that are typically referred to include, but are not limited to:

- Company websites, annual reports, financial reports, broker reports, investor presentations and US Securities and Exchanges Commission (SEC) filings
- Industry trade journals and other literature
- Internal and external proprietary databases
- National government documents, statistical databases and market reports
- News articles, press releases and web-casts specific to the companies operating in the market

13.4.3 Primary Research

A primary research effort further substantiates findings and information captured through desk research. This aspect of the research program serves both as a means of obtaining updates regarding issues such as changes in policy frameworks, power sector development, and as a quality control mechanism.

GlobalData conducts hundreds of primary interviews a year with industry participants and commentators in order to validate its data and analysis. A typical research interview fulfills the following functions:

- Provides first-hand information on the market size, market trends, growth trends, competitive landscape and future outlook.
- Helps in validating and strengthening the secondary research findings.
- Further develops the analysis team's expertise and market understanding.
- Primary research involves telephone and email interviews as well as face-to-face interviews for each market, category, segment and sub-segment across geographies.
- The participants who typically take part in the process include, but are not limited to:
- Industry participants: CEOs, VPs, marketing/product managers, market intelligence managers and national sales managers.
- Outside experts: investment bankers, valuation experts, research analysts and key opinion leaders specializing in the alternative energy industry.

13.4.4 Modeling and Forecasting

In case of data gaps and especially while forecasting the market, we use in-house models to forecast the data. Historic data and the analysis of trends within it form the basis of all forecasting methodology. Various qualitative and quantitative factors are usually taken into account for estimating future growth. The forecast data is validated through various industry experts and a back-of-envelope test.

13.6 Disclaimer