

# DIGITIZING ENERGY EFFICIENCY IN GERMANY

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# Digitizing Energy Efficiency in Germany

## Market Overview and Moderation



Bénédicte Winter | Senior Manager Energy Efficiency

# Digitizing Energy Efficiency in Germany

## Speakers



## Digitizing energy efficiency in buildings

Henning Ellermann | Head of Energy Efficiency in Buildings



## Digitizing energy efficiency in industry

Juergen Ritzek | Business Director

# Digitizing Energy Efficiency in Germany

Q&A session after the presentations...



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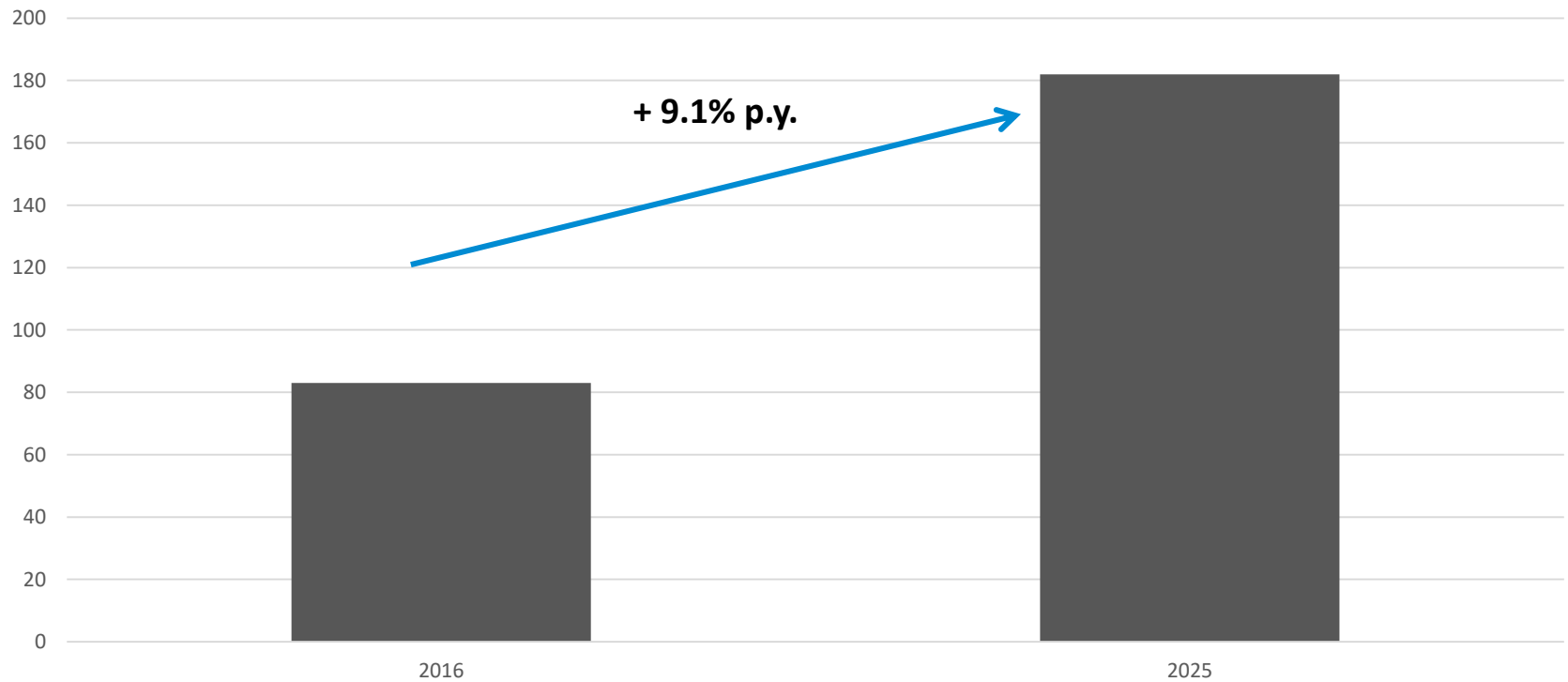
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# Energy Efficiency Market in Germany

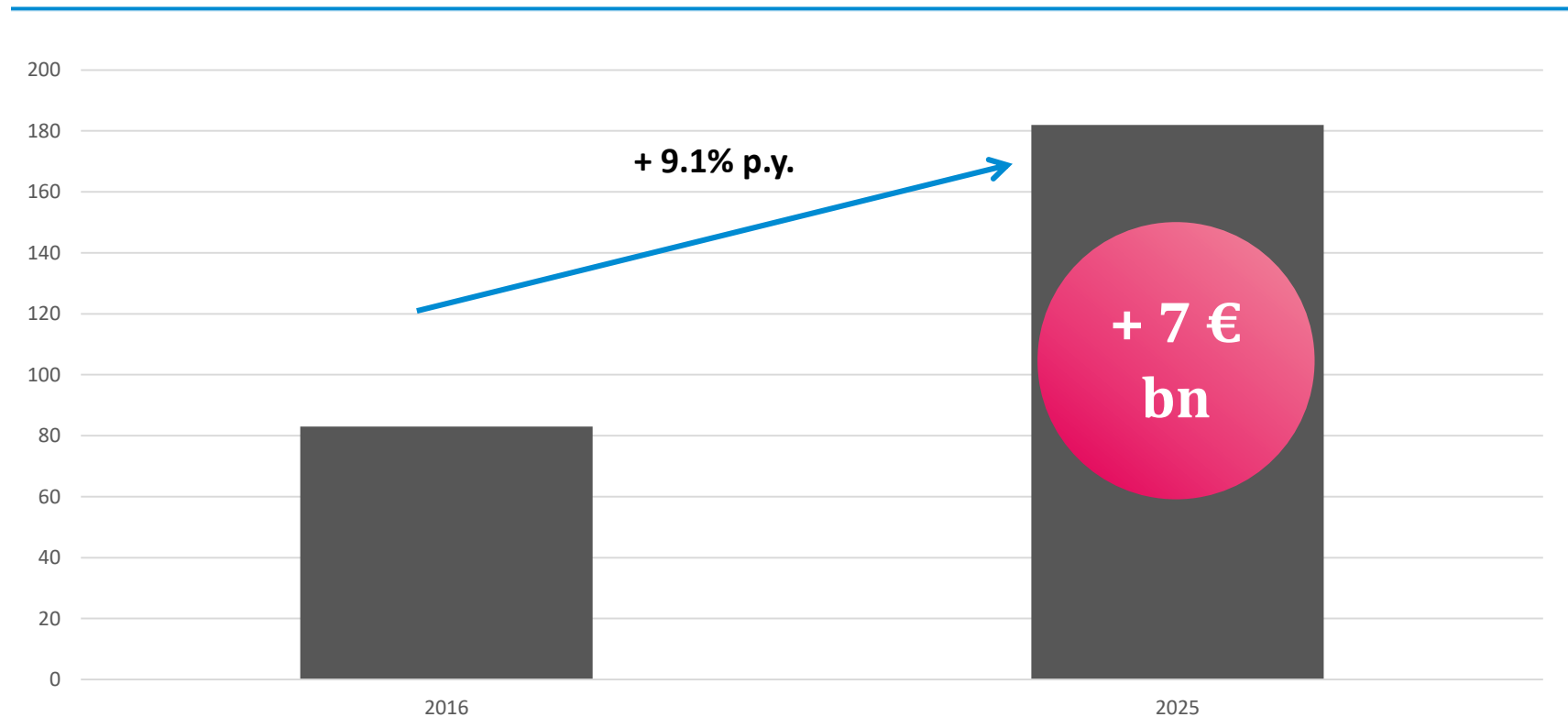
## Current market volume and forecast (€ bn)



Source: *GreenTech made in Germany 2018 / Roland Berger*

# Energy Efficiency Market in Germany

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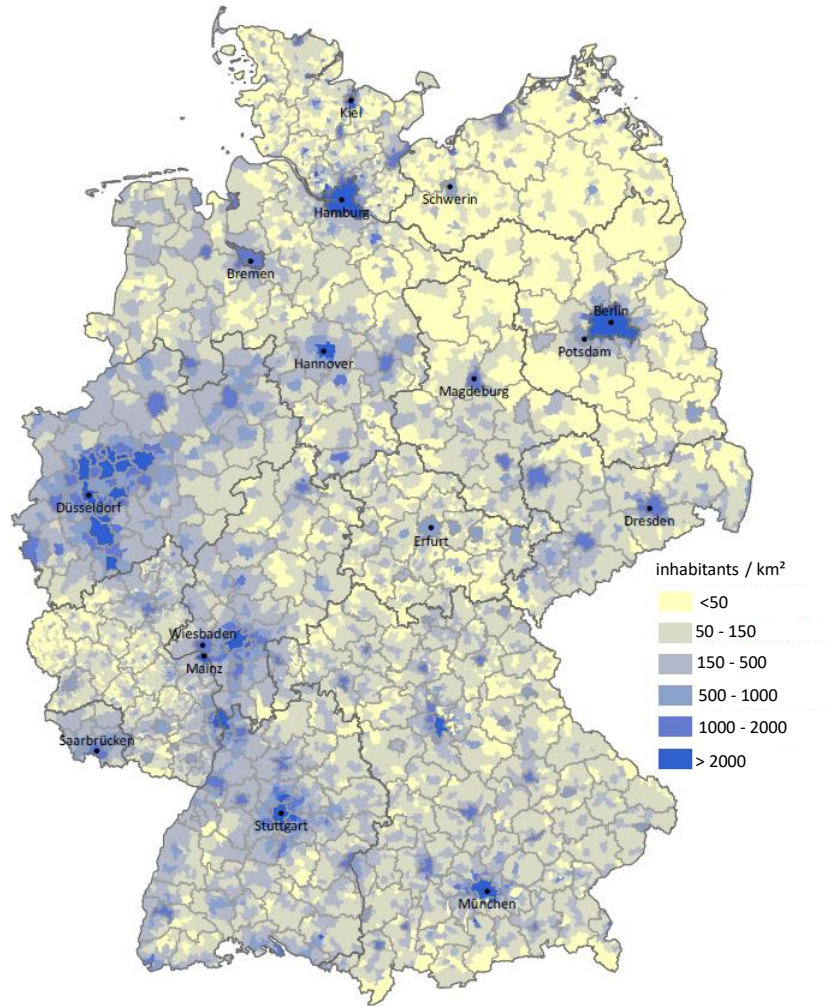


Source: *GreenTech made in Germany 2018 / Roland Berger*

# Overview of the German Building Sector

**83**  
million  
inhabitants

**42**  
million  
dwellings



**19**  
million  
residential  
buildings

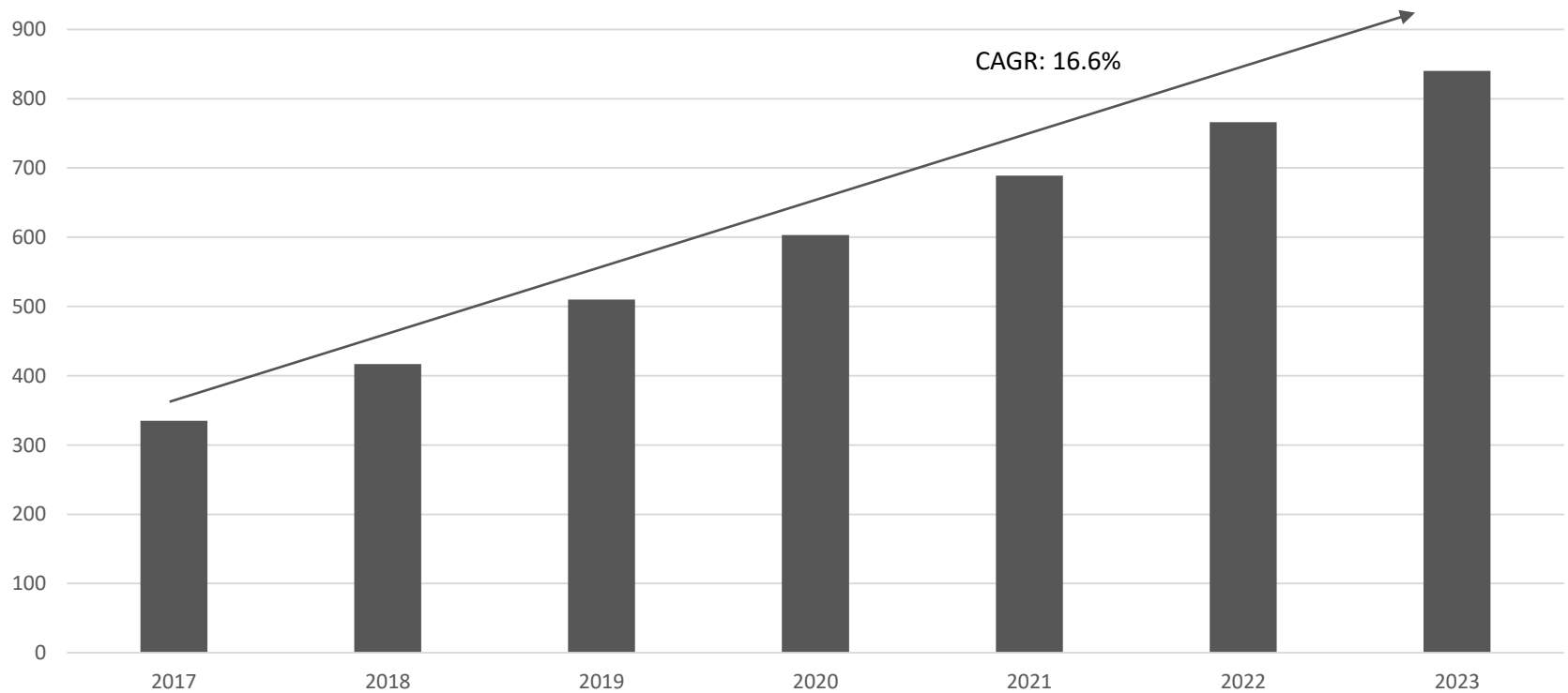
**2.7** million  
non-residential  
buildings

Sources: BiB, Federal Statistical Office, dena



# Growth in the BEMS sector

Market size and forecast for the smart home / energy management sector (in € m)



Source: Statista September 2019

# Relevant Policies for Energy Efficiency in Buildings

## Information

- Information campaign

## Incentive programs

- KfW energy efficient buildings and renovation
  - **smart home / smart meter**
- **Energy saving meter**

## Regulation

- Energy saving act (EnEV)
- Renewable Energies Heat Act (EEWärmeG)
- **New: Buildings Energy Act (GEG)**

## Price & tax instruments

- Tax breaks for energy-efficient renovation
- "replacement bonus"
- CO<sub>2</sub> pricing for the heating sector

# Overview of the German industry

## Number of production sites in manufacturing industry by Federal State



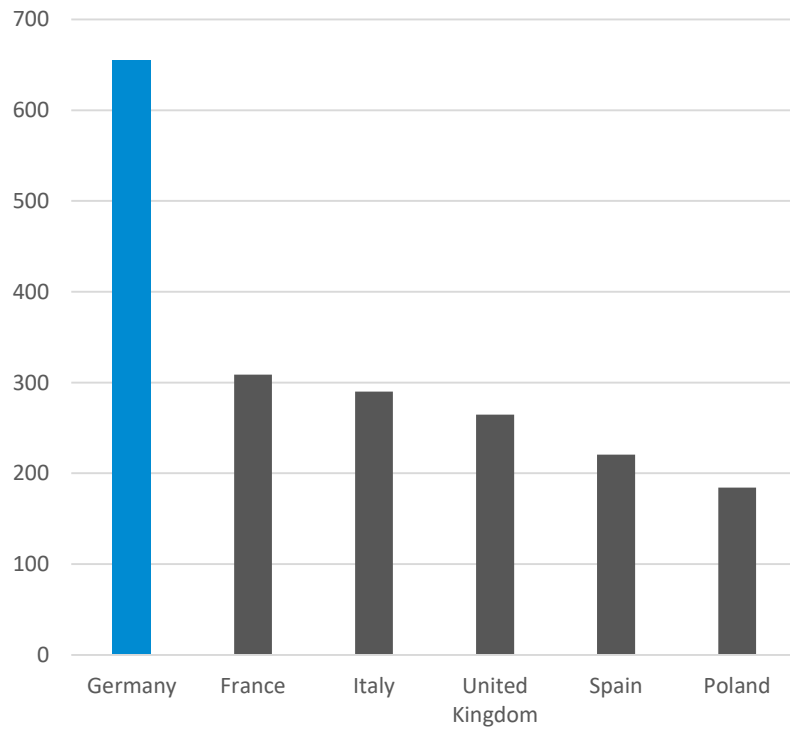
Source: Statistical Office (Destatis) 2018

# Overview of the German industry

Largest industry in Europe invests massively in energy efficiency

## Final energy consumption in industry

2017, in TWh



Source: Eurostat, April 2019

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Source: Federal Statistical Office, August 2019

# Relevant Policies for Energy Efficiency in Industry

## Information

- Information campaign
- Energy efficiency networks

## Incentive programs

- Energy efficiency in business
  - **Module 3**
- **Energy saving meter**
- **Energy efficiency competition**

## Regulation

- EDL-Act: compulsory energy audits for non-SMEs

## Price & tax instruments

- Special equalization scheme
- Electricity tax cap

# Get in touch!

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### Construction and Green Building in Germany

ISSUE 2018/2019



**Germany is Europe's leading construction market and home to the continent's largest building stock. A number of drivers have created impressive growth in the construction and heating, ventilation, and air conditioning (HVAC) sectors that is expected to continue in the coming years. Germany offers a fantastic investment landscape and a buoyant sales market for international companies with innovative energy- and resource-efficient solutions.**

**Growing Construction Market**  
The German construction market has experienced substantial growth in recent years with investments expected to increase further still. Federal Statistical Office figures show the sector's revenues increased by 7.5 percent in 2016. Although the German construction market is highly consolidated, strong growth presents international companies with an opportunity to enter the market with innovative products and services. Residential buildings are responsible for the lion's share of market activity. The enduring attractiveness of the new-build sector is reflected in the high number of building permits being issued. Estimates suggest that between 350,000 and 400,000 new dwellings need to be built every year to meet demand, with Germany's six largest cities (Berlin, Munich, Hamburg, Cologne, Frankfurt, Stuttgart, and Düsseldorf) under particular pressure to build. Despite the bright outlook for new construction, DfW Berlin (German Institute for Economic Research) expects new growth to shift gradually towards work on existing building stock, where growth of six percent and more than seven percent is expected in 2018 and 2019 respectively.

**Robust HVAC Market**  
2017 was a strong year for Germany's HVAC sector. According to BSH German Heating Industry association figures, more than 700,000 heating systems were sold in the German market – a plus of three percent on 2016. Gas-fired condensing boilers remained the most commonly installed heating technology, with almost half a million units sold in 2017 (four percent year-on-year increase). Some 78,000 heat pumps were sold during the same period (17 percent increase). More than 1,500 fuel cell units were installed in German basements in 2017; the majority co-funded under the government's market introduction program. Solar-thermal installations were down in 2017 with 625,500 square meters installed over the year.


**Market Growth Drivers**  
Demographic change, economic confidence, and attractive government incentives are just some of the local factors driving construction market activity in Germany. Global factors such as climate change, increasing urbanization, and digitalization (e.g. BIM and BEMS) are also moving the German building industry. Furthermore, the circular economy and resource efficiency are playing an increasingly important role in Germany's construction sector.


**Investment in Construction 2007 and 2015**  
In EUR billion (rounded values)

Country	Year	Residential construction	Non-residential
Germany	2007	239	107
	2015	261	157
France	2007	277	140
	2015	239	118
UK	2007	104	74
	2015	78	69

Source: BSH/Germania 2017

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**THE LATEST DEVELOPMENTS IN GERMANY'S ENERGY EFFICIENCY MARKET**

**FRANCO-GERMAN WASTE HEAT RECOVERY PROJECT TECHNICALLY FEASIBLE**

A [feasibility study](#) commissioned by the Ministry of the Environment, Climate Protection and the Energy Sector of the state of Baden-Württemberg has shown it would be possible to use waste heat from a steel mill in the city of Kehl (Germany) to supply 4500 households in the city of Strasbourg (France).

**NEW COMPETITIVE ENERGY EFFICIENCY FUNDING PROGRAM**

Germany's Federal Ministry for Economic Affairs and Energy (BMWi) has [launched a new competitive energy efficiency funding program for businesses](#).

**RETROFITTING AND SMART HEATING SOLUTIONS RECEIVE ENERGY EFFICIENCY AWARD**

The 2019 Perpetuum Energy Efficiency Prize of the German industry association for energy efficiency [DENEFF was awarded](#) to the companies ecoworks GmbH (jury prize) and vilisto GmbH (audience prize).



## Digitizing energy efficiency in buildings

Henning Ellermann | Head of Energy Efficiency in Buildings



## Digitizing energy efficiency in industry

Juergen Ritzek | Business Director