

# ENERGY EFFICIENCY IN GERMANY

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# Agenda

1. Market Overview & Key Figures
2. Energy Efficiency Policy
3. Business Opportunities

# Germany Trade & Invest



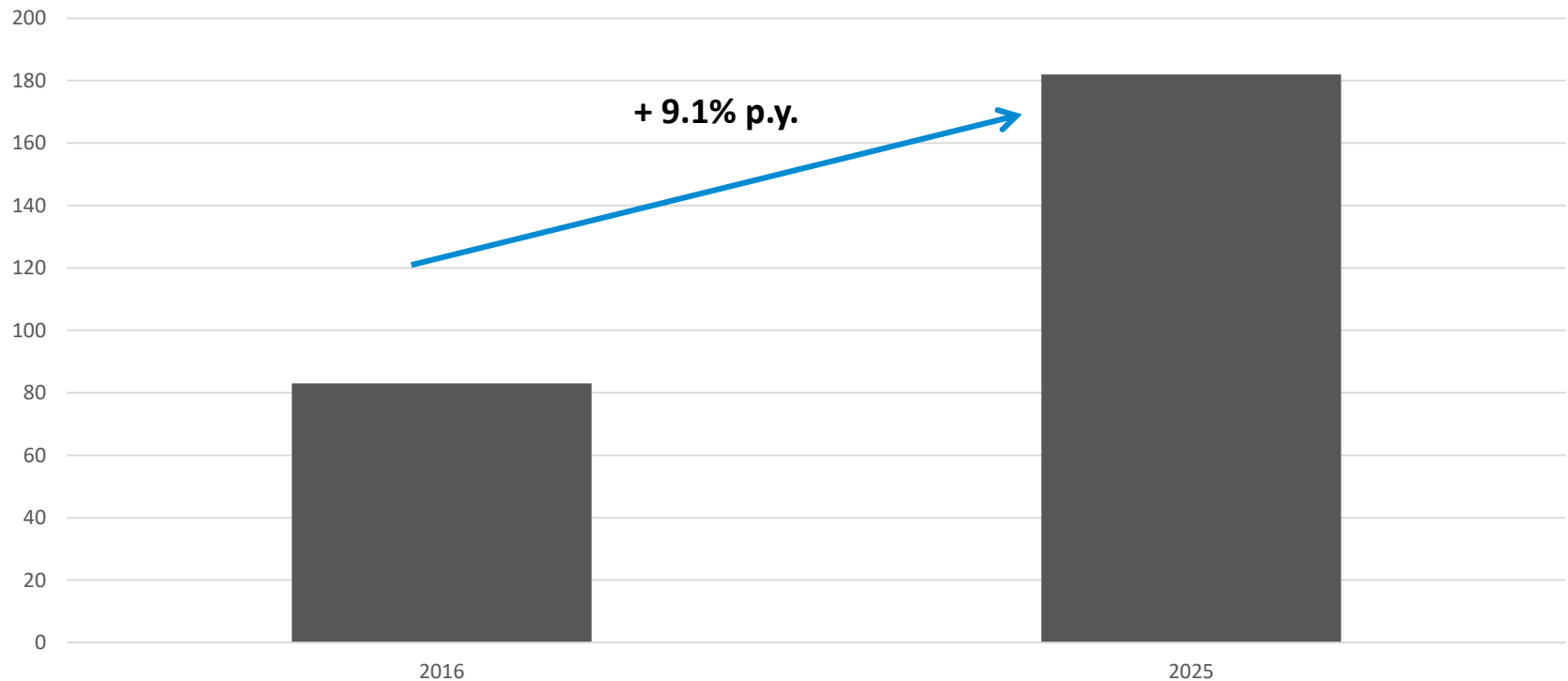
Germany Trade & Invest is the economic development agency  
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# MARKET OVERVIEW AND KEY FIGURES

# Energy Efficiency Market in Germany

## Current market volume and forecast (€ bn)



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

# Energy Efficiency Objectives

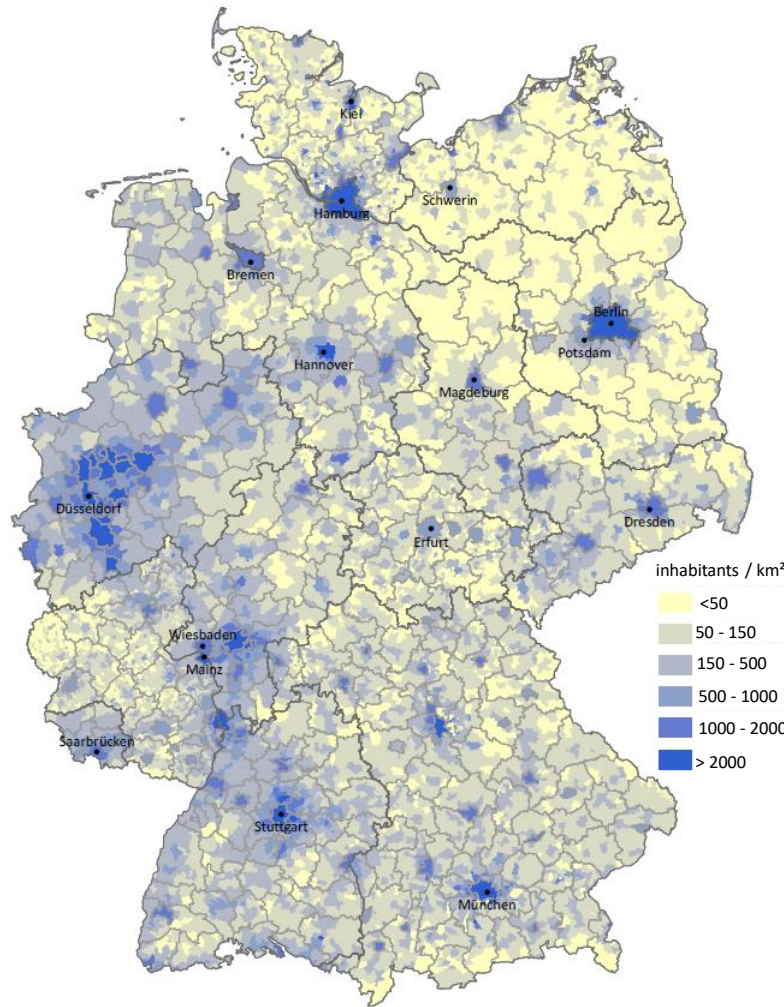
	2017	2020	2050
<b>Primary energy consumption</b> (compared to 2008)	- 5.5%	- 20%	- 50%
<b>Final energy productivity</b> (2008-2050)	1% p.a. (2008-2017)	2.1 % p.y. (2008 – 2050)	
<b>Heat demand of buildings</b> (compared to 2008)	- 6.9 %	- 20%	
<b>Share of renewable energy in heating</b>	13.4 %	14 %	

Source: BMWi, Second Progress Report on the Energy Transition, November 2019

# 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



Huge potential efficiency savings to be made through **renovation** of existing stock.





**Replacing** old, inefficient HVAC systems will be key to meeting efficiency targets.



# Overview of the German Industrial Sector

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

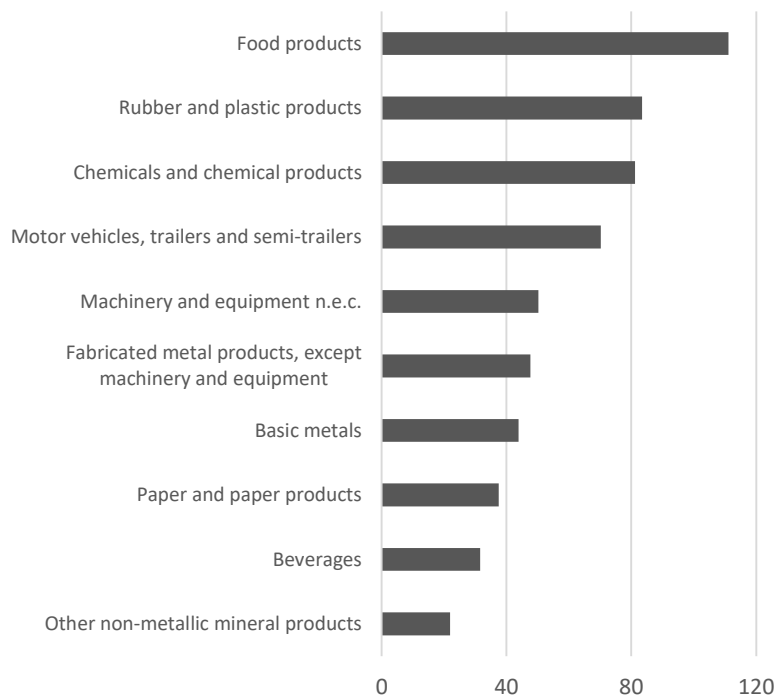


Source: Statistical Office (Destatis) 2018

# Overview of the German industry

## Largest industry in Europe invests massively in energy efficiency

Investments in energy efficiency increase and energy savings in the manufacturing industry 2017, in € million



Source: Federal Statistical Office, August 2019

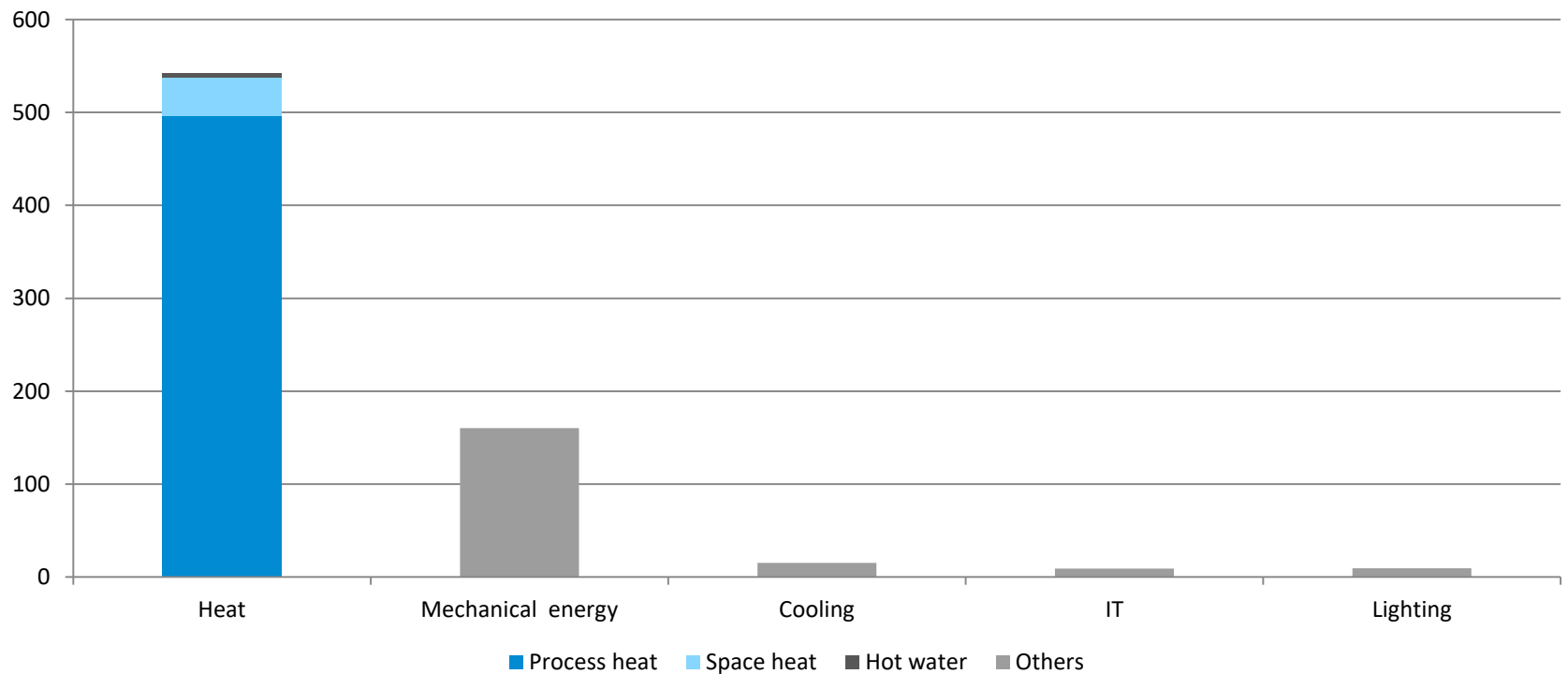
Source: Federal Statistical Office, August 2019

# Key Market Data

74% of energy used in industry is for heating purposes

## Final energy consumption in industry by application

2018, in TWh



Source: AGEB / Fraunhofer ISI 2020

# ENERGY EFFICIENCY POLICY

# Relevant Policies for Energy Efficiency in Buildings

## Information

- Information campaign

## Incentive programs

- KfW energy efficient buildings and renovation
- Energy saving meter
- Renewable heat incentive

## 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



# Relevant Policies for Energy Efficiency in Industry

## Information

- Information campaign
- Energy efficiency networks

## Incentive programs

- Energy efficiency in business
- Energy saving meter
- Energy efficiency competition
- ***Coming: decarbonization***

## Regulation

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

## Price & tax instruments

- Special equalization scheme
- Electricity tax cap



# BUSINESS OPPORTUNITIES

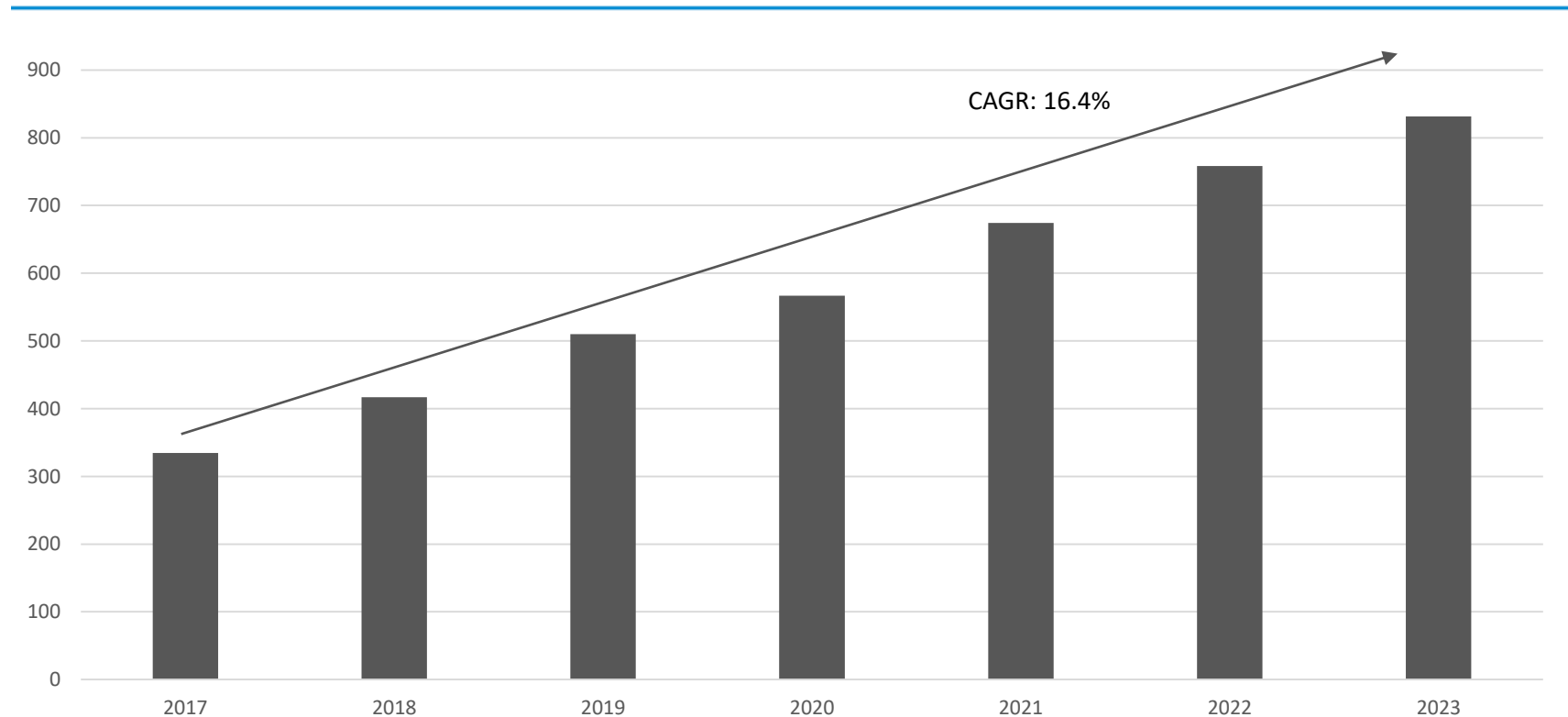
# Market Opportunities

Potential for companies in the German energy efficiency sector



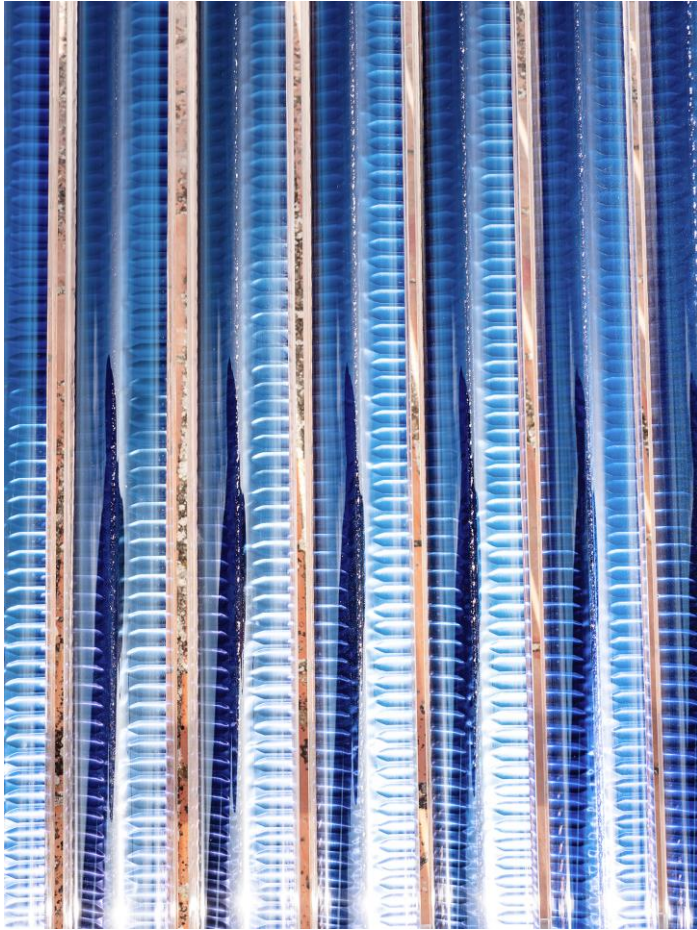
# Strong Growth in Energy Management Technologies

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



Source: Statista (forecast was adapted in sight of COVID-19 expected impact), may 2020, exchange rate: 0,88562 EUR/USD

# Increased Use of Renewable and Waste Heat





# Standardized Retrofit and Energy Services





# More information

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FACT SHEET

### Construction and Green Building in Germany

ISSUE 2018/2019



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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 seven largest cities (Berlin, Munich, Hamburg, Cologne, Frankfurt, Stuttgart, and Düsseldorf) under particular pressure to build. Despite the bright outlook for new construction, DWI 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	180
	2015	261	157
France	2007	277	197
	2015	239	140
UK	2007	194	121
	2015	178	69

Source: BSH/Gartenbau 2017


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INFORMATION

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

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**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).

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