



Strong brands under a shared umbrella

Presentation of Bosch Thermotechnology

Thermotechnology



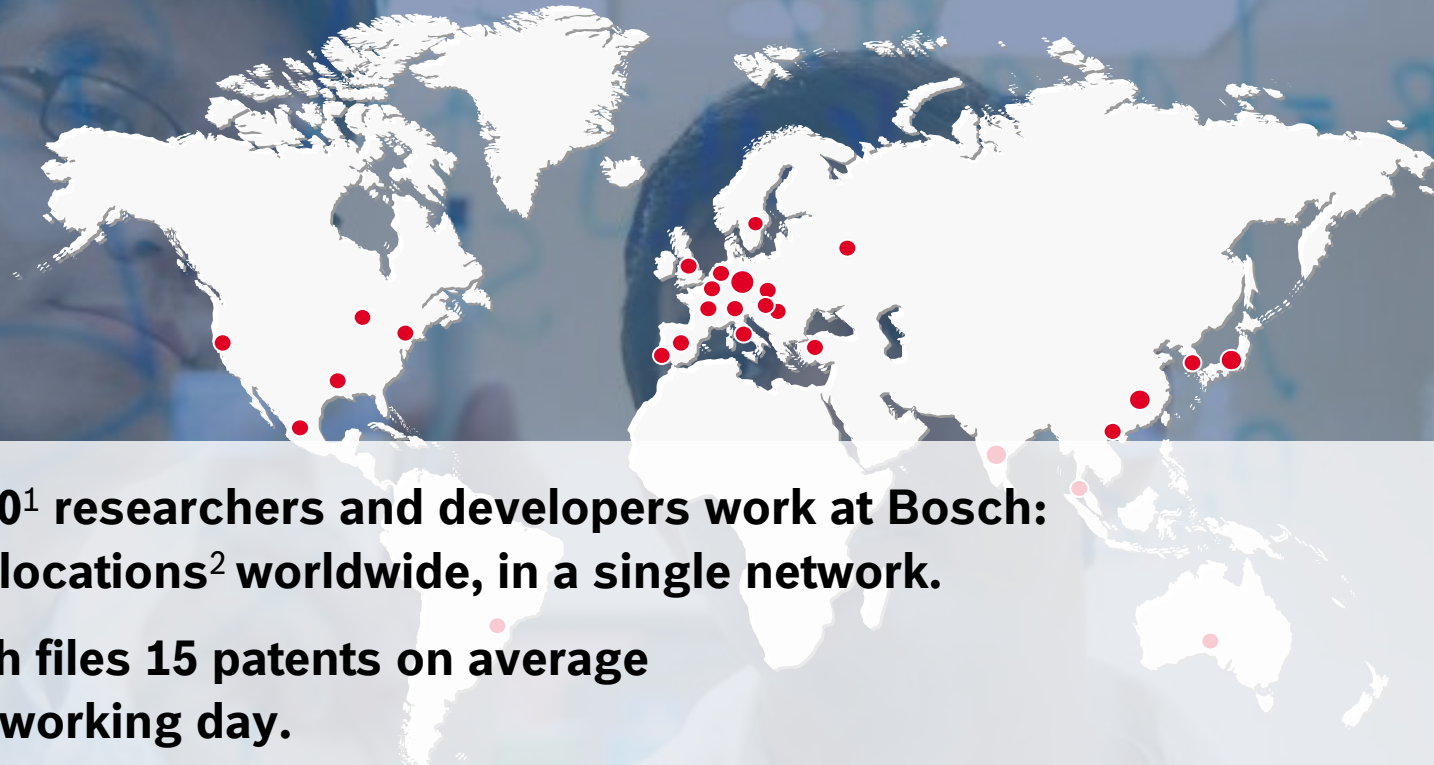
BOSCH

Agenda

1. Bosch Group
2. Current market situation
3. Bosch Thermotechnology
4. Renewable energies



1. Bosch Group

- 
- **34,200¹ researchers and developers work at Bosch: at 86 locations² worldwide, in a single network.**
 - **Bosch files 15 patents on average each working day.**
 - **This makes Bosch a global leader in patent applications, and puts it in first place in Germany.**

¹As of January 1, 2011 ²R&D locations with ≥ 50 associates, as of January 1, 2011

Thermotechnology



BOSCH

1. Bosch Group

- 
- A world map with red dots indicating Bosch locations. The dots are concentrated in North America, Europe, and Asia, with a significant cluster in Europe. The map is overlaid on a background image of a person wearing glasses.
- **Bosch is one of the world's most innovative technology companies.**
 - **Bosch has invested more than 30 billion euros in research and development over the past ten years.**
 - **For innovations that make life safer, more comfortable, and more environmentally friendly**

Independence and financial strength



Bosch is not listed on the stock exchange. Instead, **92 percent** of the company is owned by the charitable foundation **Robert Bosch Stiftung**, 7 percent by the Bosch family, and 1 percent by Robert Bosch GmbH. The majority of the voting rights are held by Robert Bosch Industrietreuhand KG, which carries out the entrepreneurial ownership functions.

- This structure, which is specified in the corporate constitution, ensures the Bosch Group's **entrepreneurial independence**.
- In 2010, the **equity ratio** was roughly **50 percent**.
- Capital expenditure was financed solely by cashflow, which totaled 5.5 billion euros in 2010. At the end of 2010, liquidity was some 3.8 billion euros.

1. Bosch Group

2010 key figures

Bosch Group total

- 47.3 billion euros in sales
- 283,500 associates including 34,200 in research and development



Automotive Technology

- 59% share of sales
- World's largest supplier of cutting-edge automotive technology



Industrial Technology

- 14% share of sales
- World's leading manufacturer of large gearboxes and of powertrain, packaging, and process technology



Consumer Goods and Building Technology

- 27% share of sales¹
- World's largest power tool manufacturer, leading the field in household appliances, heating and cooling, and security systems



¹ Including other segments

1. Bosch Group

Markets and figures for 2010

Bosch Group total

- 47.3 billion euros in sales
- 283,500 associates including 34,200 in research and development
- 285 manufacturing sites



Europe

- 59% share of sales
- 187,000 associates
- 171 manufacturing sites



Americas

- 18% share of sales
- 33,500 associates
- 49 manufacturing sites



Asia Pacific¹

- 23% share of sales
- 63,000 associates
- 65 manufacturing sites



¹ Including other regions

Organizational structure

Robert Bosch GmbH

Business sector
Consumer Goods and
Building Technology

Business sector
Industrial
Technology

Business sector
Automotive
Technology

Thermotechnology division
Bosch Thermotechnik GmbH

overall 17
business sectors at Bosch

Regional companies of
Bosch Thermotechnik GmbH

6 Business units
6 Sales regions

2. Current market situation

Expected developments until 2020

Business environment

Technology

- Highly efficient systems + electrical
- Convergence of heating & VAC
- Changes in the building structure

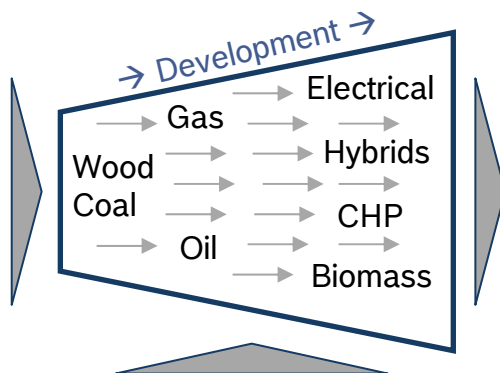
Market and customer requirements

- Energy price trend
- Trend towards renewable energies
- Growing demand for cooling

Political environment

- Reduction of CO₂ emissions
- Subsidies for renewable energies
- Primary energy mix
- Energy Plus Home

HVAC



New market structure

Manufacturers of AC systems

Utilities

Contracting providers

Consequences for HVAC industry

New technologies

- Reversible heat pumps (+ cooling)
- CHP
- Increasing systems complexity and control

Value added

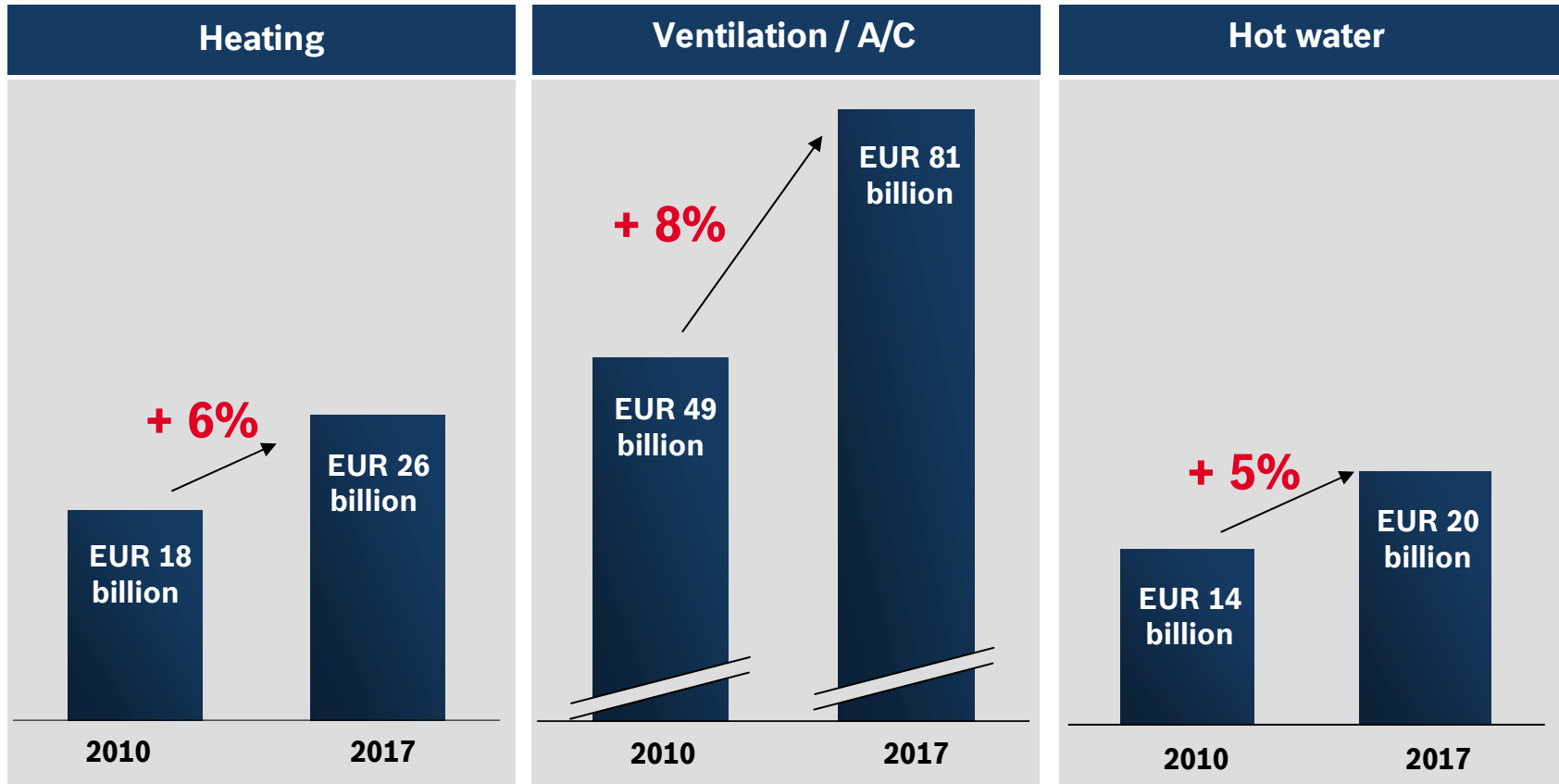
- Worldwide competition
- Increasing local value added

Sales organisation and customers

- New business models
- Increasing demand for advice and service

2. Current market situation

HVAC core markets



Ventilation and A/C offer strongest long-term growth

Vision

World-leading supplier of energy-efficient, environmentally friendly and innovative solutions for heating, hot water comfort and decentralised energy management

- ➔ Profitable growth – internal and external
- ➔ Strong brands with excellent products and services for residential and non-residential buildings



Portfolio expansion



Renewable systems




Internationalisation



Energy Plus Home

3. Bosch Thermotechnology

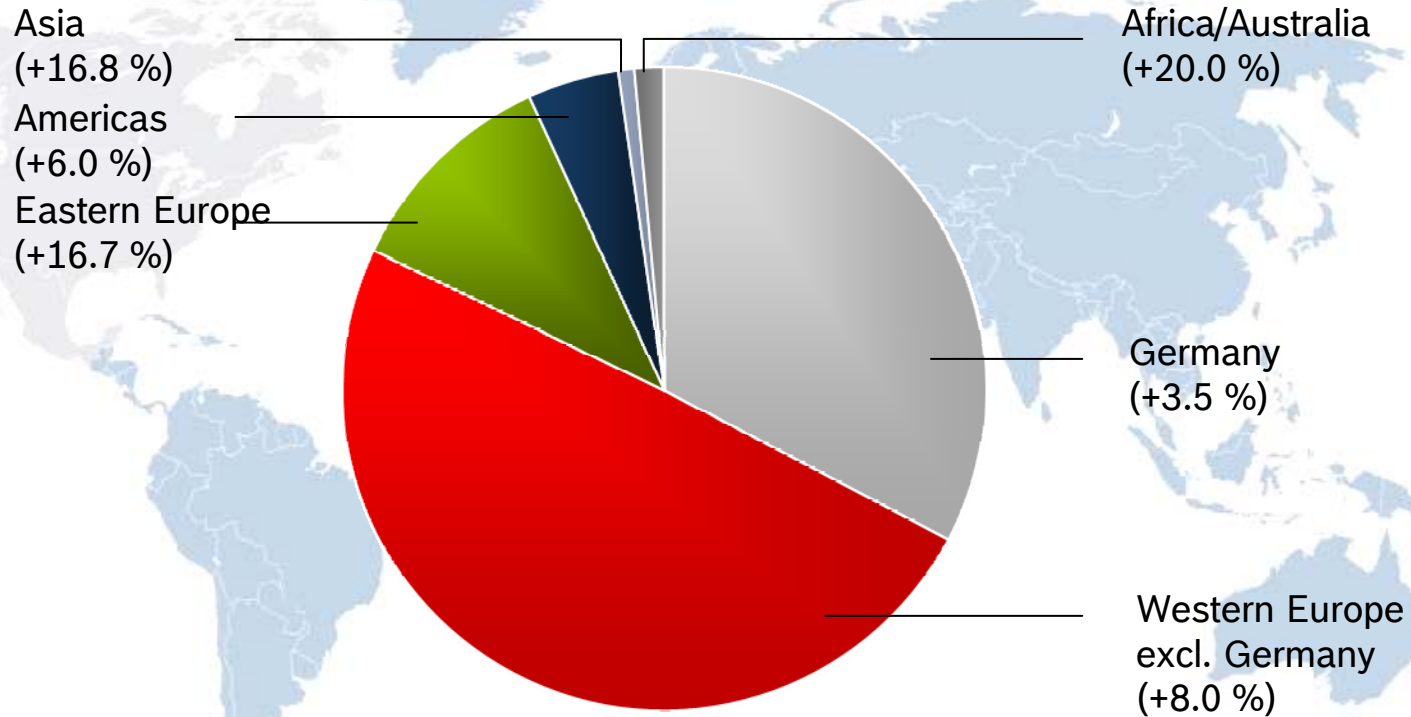
Business performance in 2010



	2010
Sales	EUR 3.1 billion
Sales share of renewables systems	15 %
Research and development	EUR 115 million
Capital expenditure	EUR 40 million
Associates	13,449
thereof in Germany	5,906
thereof outside Germany	7,543

3. Bosch Thermotechnology

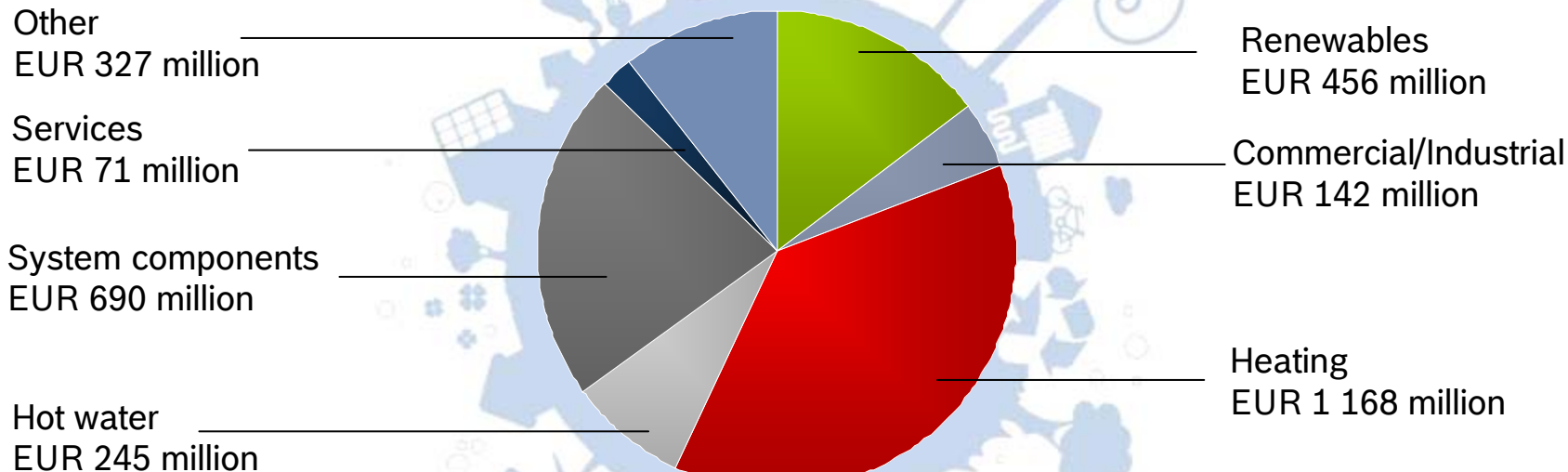
2010 sales by regions



Strong growth in Latin America, Eastern Europe and Asia

3. Bosch Thermotechnology

2010 sales by segments



Focus on growth fields

3. Bosch Thermotechnology

Management Bosch Thermotechnik GmbH

Chairman of the supervisory board



Rudolf Colm

Member of the management of the Robert Bosch GmbH

Management board



Uwe Glock
Chairman



Thomas Bauer
Sales



Jörg Fischer
Finance



Ulrich Schmidt
Manufacturing

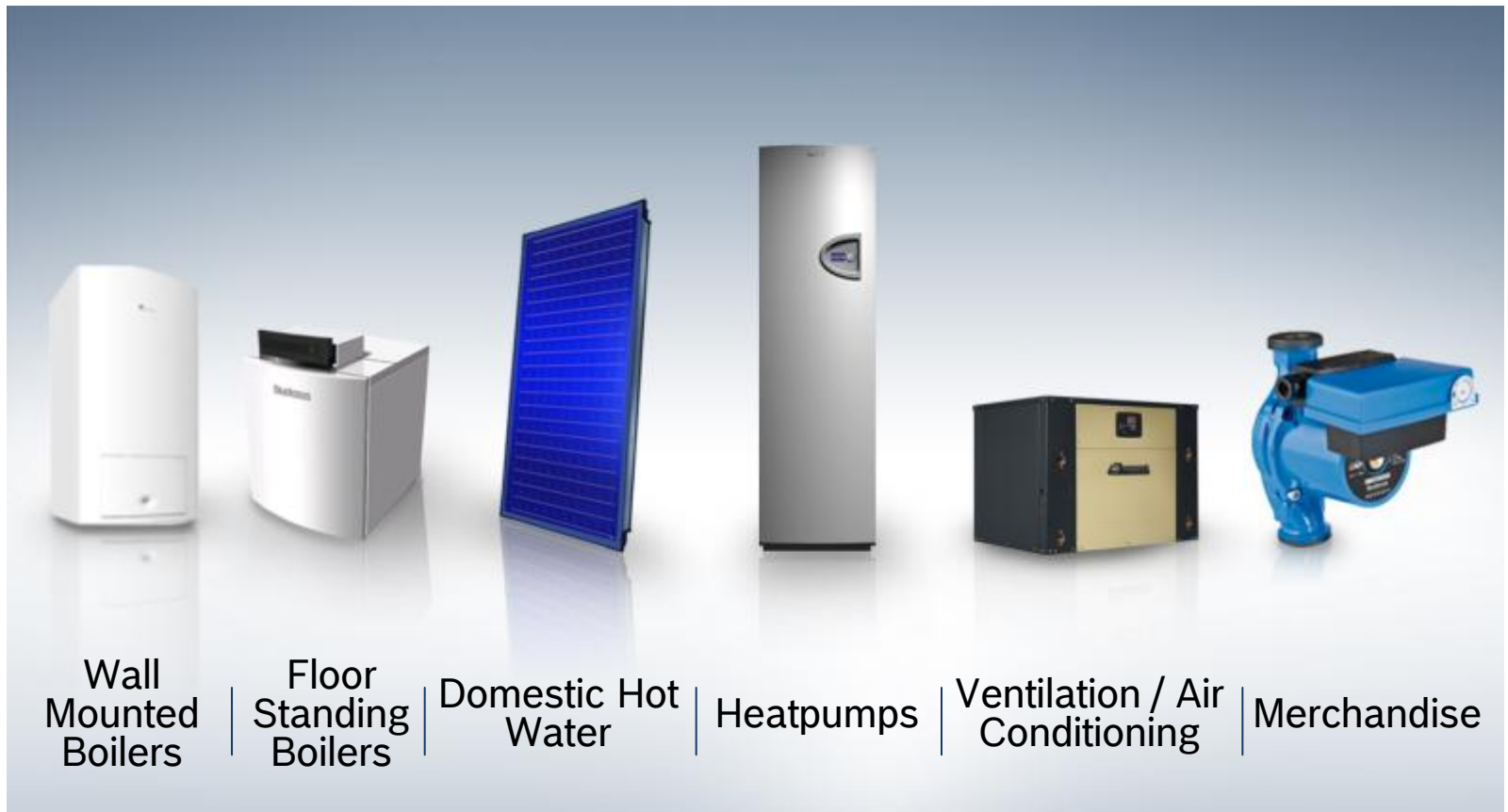


Jürgen Sterlepper
Development

3. Bosch Thermotechnology

6 global Business Units

Business Units have global responsibility for their products and associated production sites



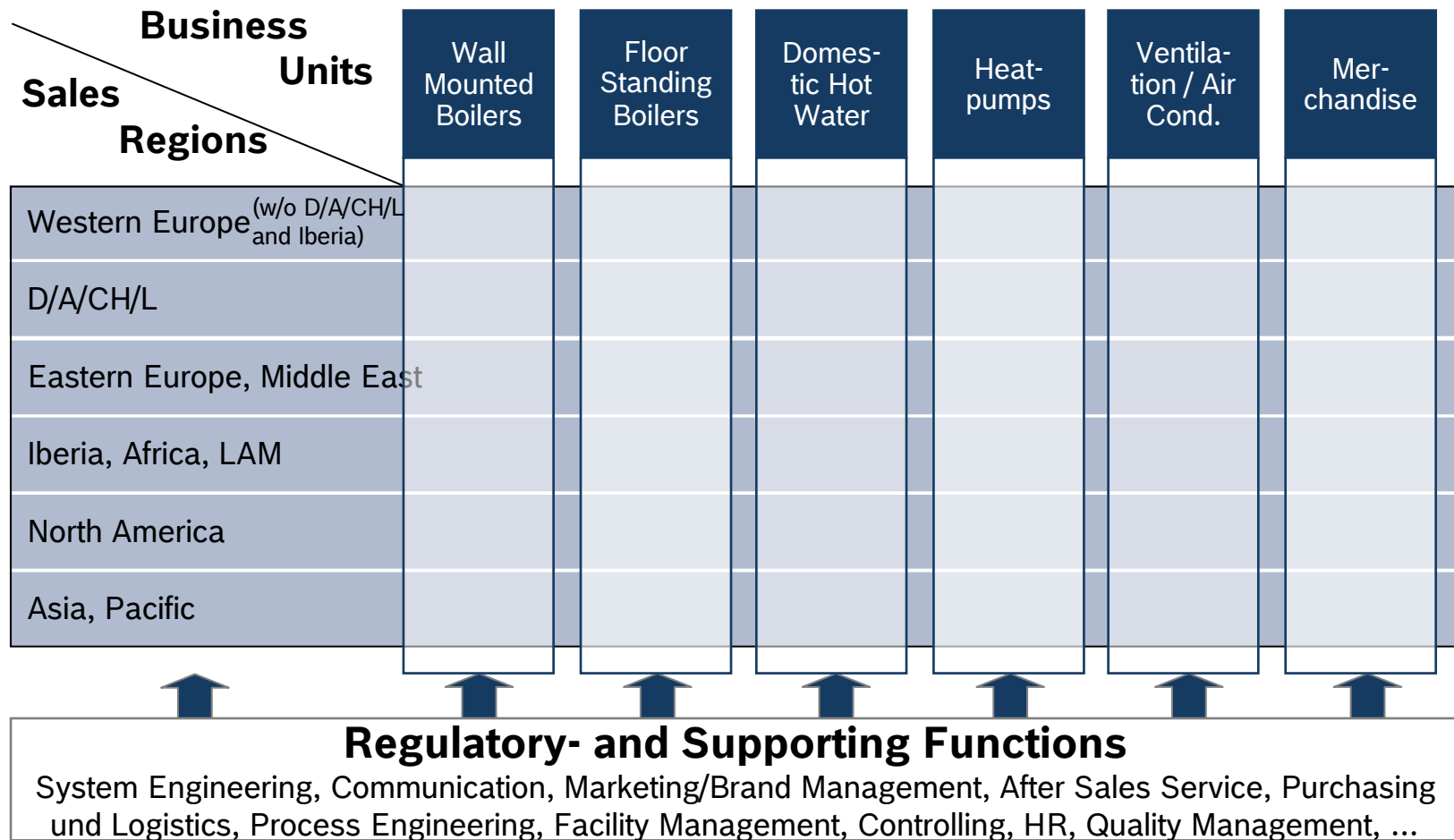
Thermotechnology



BOSCH

3. Bosch Thermotechnology

New organizational structure



3. Bosch Thermotechnology

The Business Units

Wall Mounted Boilers



- Headquarter: Wernau
- Products:
 - Condensing gas boilers
 - Conventional gas boilers
 - Controller

Floorstanding Boilers



- Headquarter: Lollar
- Products:
 - Gas/Oil boilers
 - Industrial boilers
 - Solid fuel boilers
 - Radiators

Domestic Hot Water



- Headquarter: Aveiro/Portugal
- Products:
 - WW heater
 - Solar systems
 - WW storage tanks

3. Bosch Thermotechnology

The Business Units

Heatpumps



- Headquarter: Trans/Sweden
- Products:
 - Heatpumps for heating
 - Accessories

Ventilation / Air Conditioning



- Headquarter: Ft. Lauderdale/USA
- Products:
 - Reversible Heatpumps
 - For heating and cooling

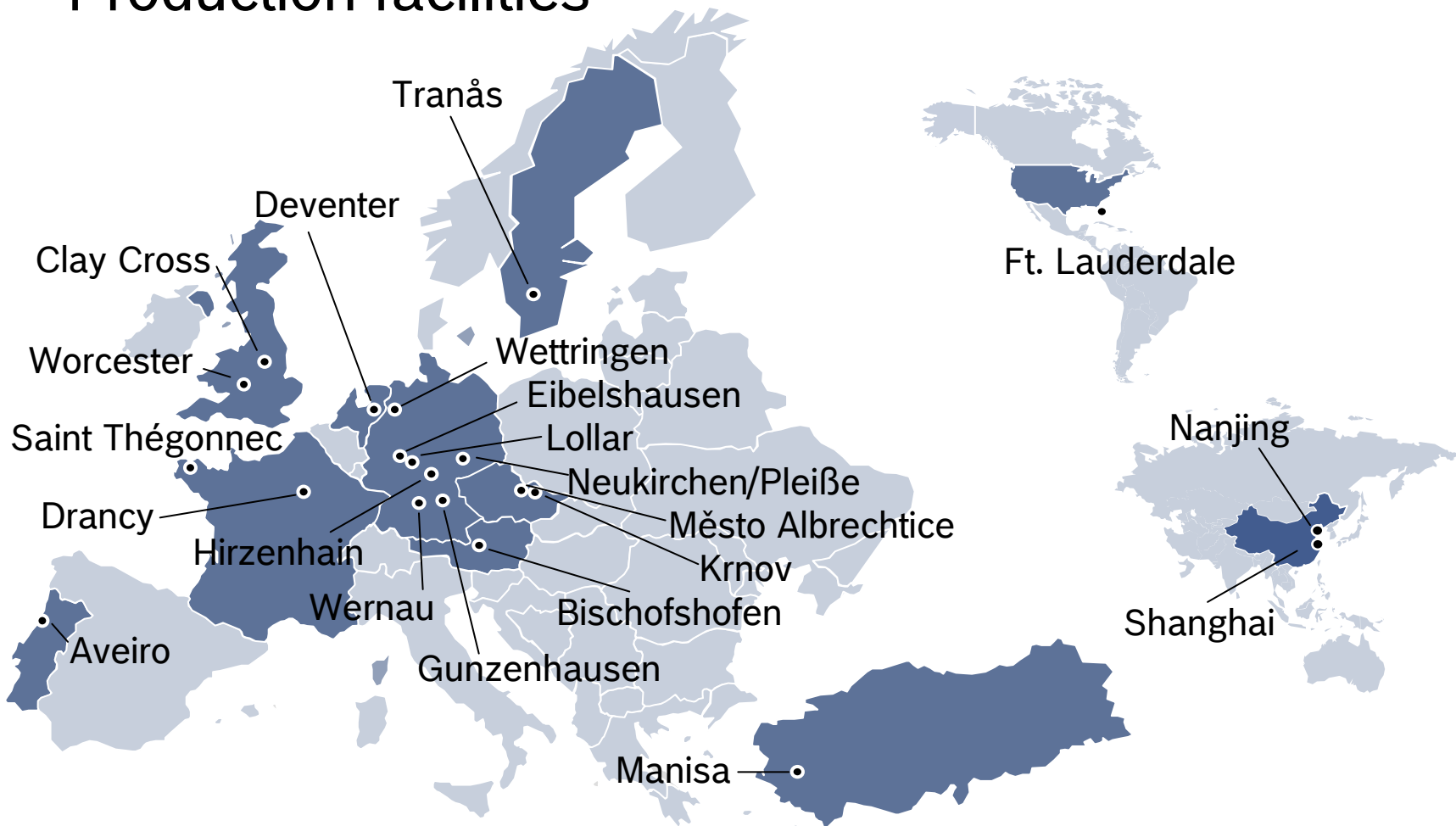
Merchandise



- Headquarter: Wetzlar
- Products:
 - Merchandise
 - OEM merchandise

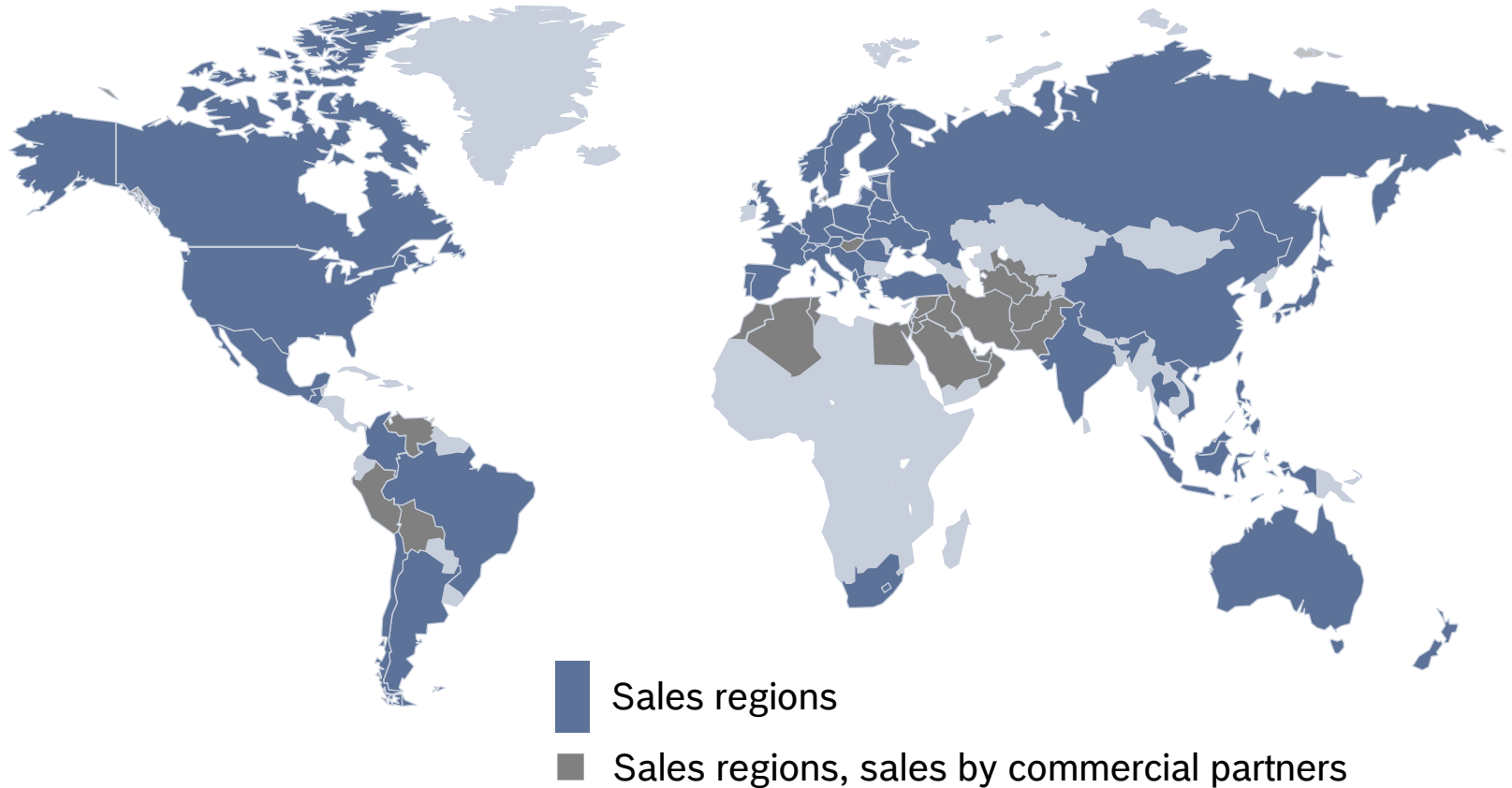
3. Bosch Thermotechnology

Production facilities



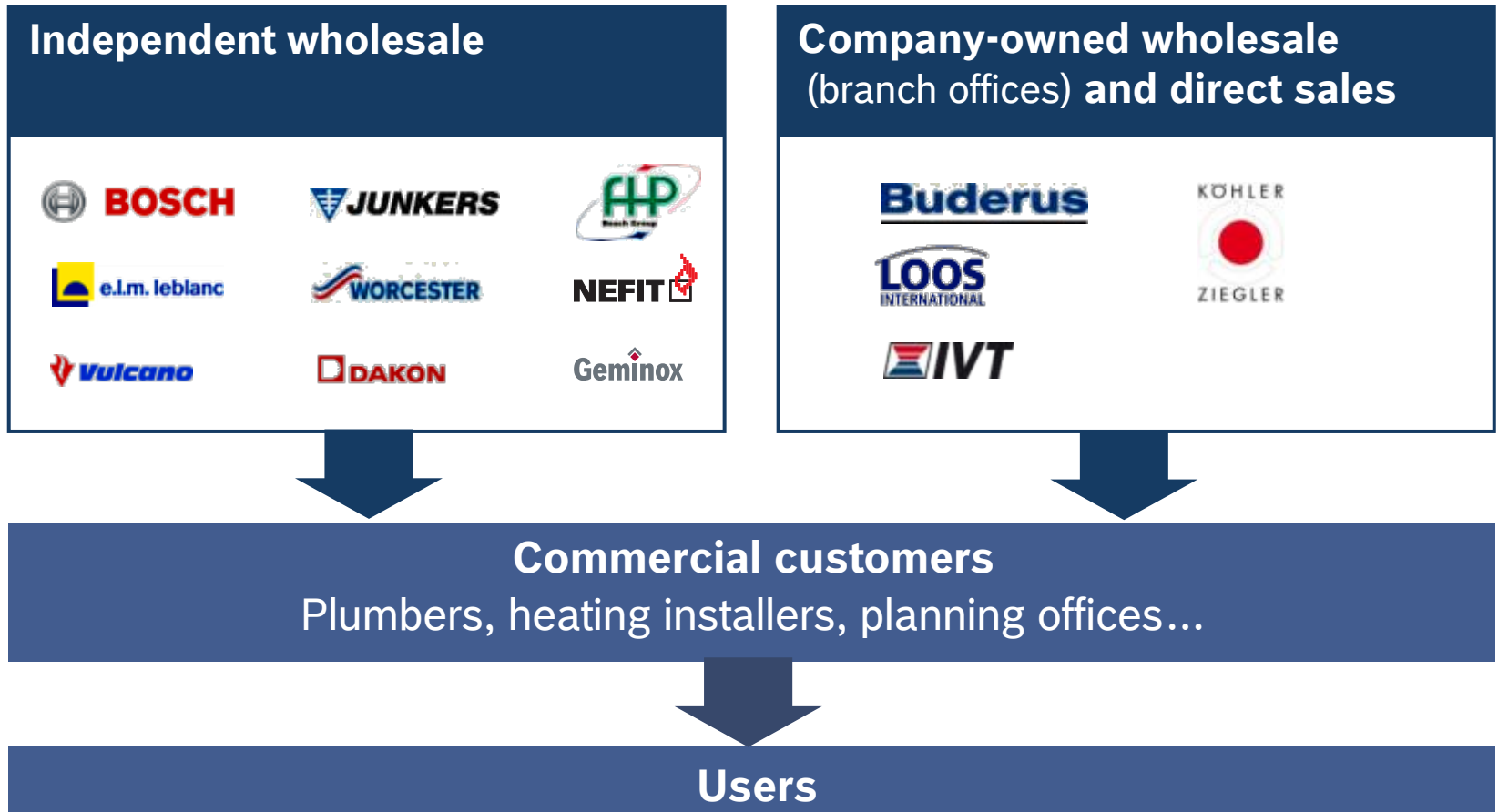
3. Bosch Thermotechnology

Global distribution network



3. Bosch Thermotechnology

Brands and sales channels



4. Renewable energies

Thermotechnology has the major key to reach climate targets

- Energy consumption in buildings accounts for about 40% of the CO₂ emissions worldwide.
- By 2050, energy consumption and CO₂ emissions would have to be reduced by 60% in order to limit global warming to 2 K.
- This means that about as much CO₂ would be saved in buildings as is currently being generated in the global transport sector.

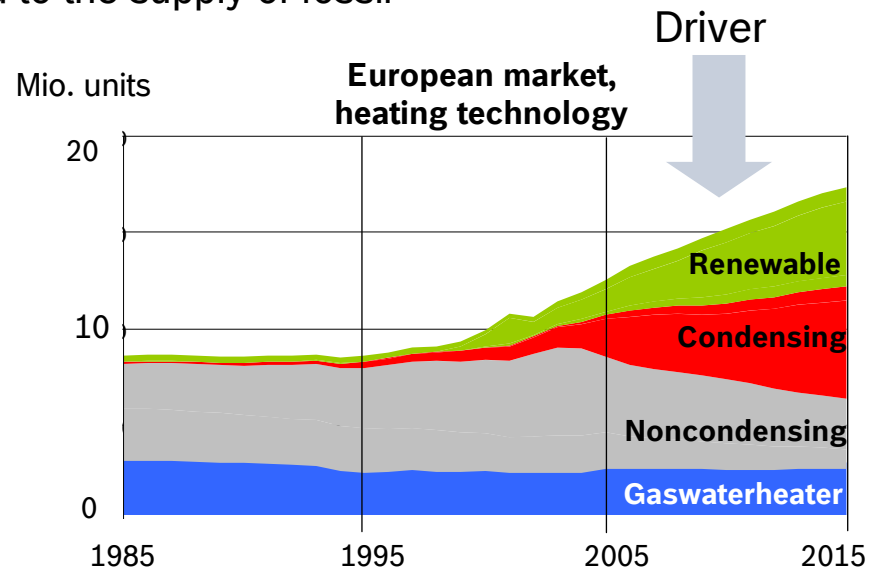


Source: Study "Energy Efficiency in Buildings", World Business Council for Sustainable Development, 2009

4. Renewable energies

Climate change leads to structural change

- Limited availability of fossil fuels
- Price increase and insecurity with regard to the supply of fossil energies
- CO₂ emissions and climate change
- Increasing pressure for CO₂ reduction and energy efficiency
- High demand for renewable energies
- Guidelines and subsidies are important drivers
- Increasing demand for comfort
- Future building standards



Condensing technology and systems that use renewable energy are gaining importance

4. Renewable energies

Energy Plus House - the standard of the future

An Energy Plus Home
is a house ...



... that generates more
energy than it consumes
over the year.

- The Energy Plus House is the right solution for achieving the climate targets. It can be realised using the technology that is available today – for new buildings and most existing ones.
- This is certainly a very ambitious goal which can be reached only step by step.
- What is more important than a fixed timeframe is that all parties involved work consistently towards this goal.

The Energy Plus House should become the standard for new and existing buildings

Thermotechnology

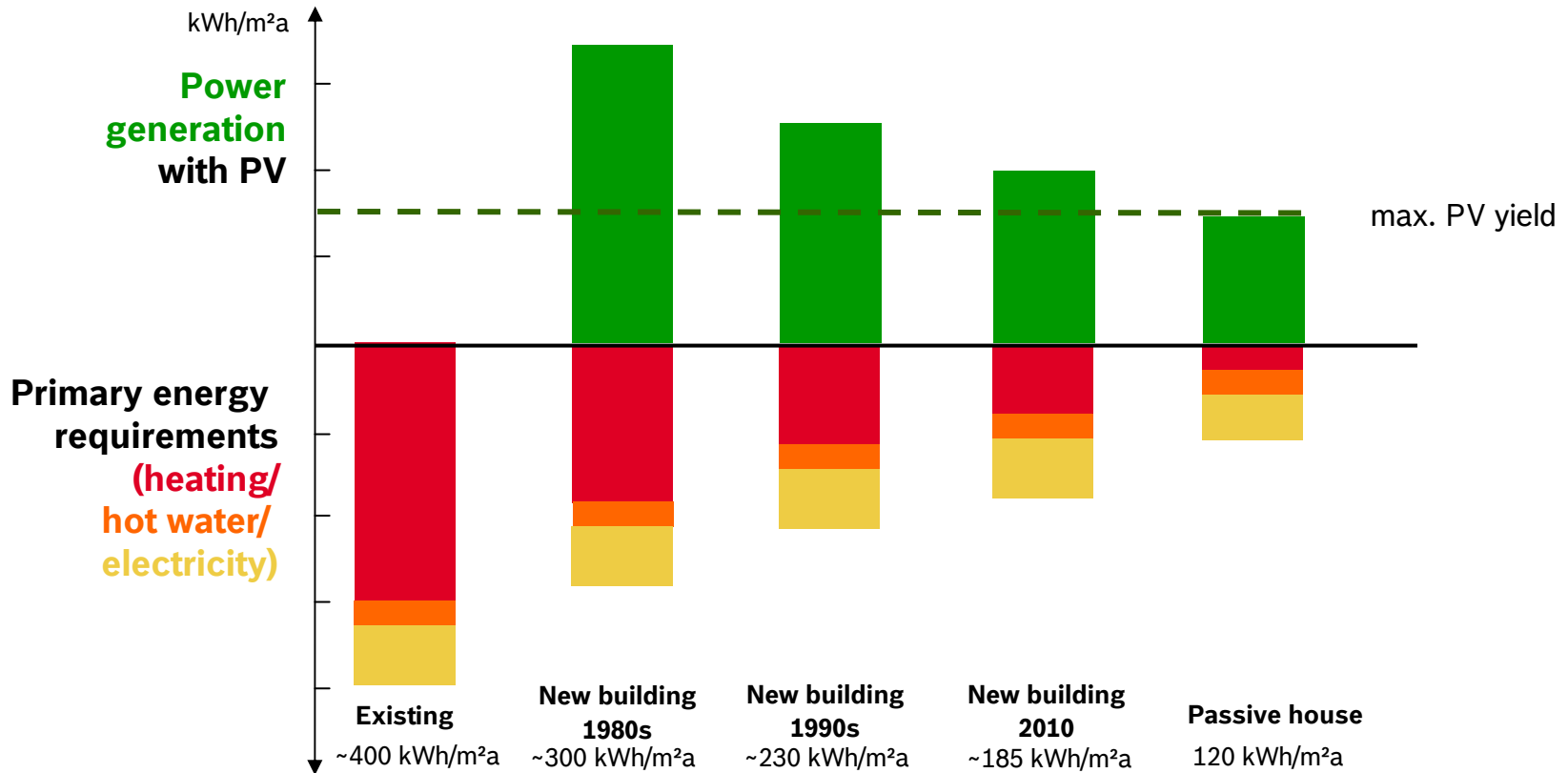
TT/COM | 13/01/2012 | © Bosch Thermotechnik GmbH 2012. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.



BOSCH

4. Renewable energies

How is the additional energy generated?



Maximisation of energy efficiency / Generation of renewable electricity

4. Renewable energies

Energy Plus House: Decentralised energy transformation

- Three steps to convert energy-consuming buildings into producers of heat and electricity:
- Reduce the energy demand of the building
- Meet its residual energy demand as efficiently as possible
- Generate as much electricity as possible
- Homes can be small “power stations” with good efficiency ratings



Bosch Thermotechnology systems allow to build Energy Plus Houses already today.

Thermotechnology

TT/COM | 13/01/2012 | © Bosch Thermotechnik GmbH 2012. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.



BOSCH



Thank you very much!