



Federal Ministry
for Economic Affairs
and Energy

Energy Research in Germany and Global Perspectives

IEA EBC Technical Day

Warnemünde, 10 June 2014

Dr. Arne Höll

Federal Ministry for Economic Affairs and Energy

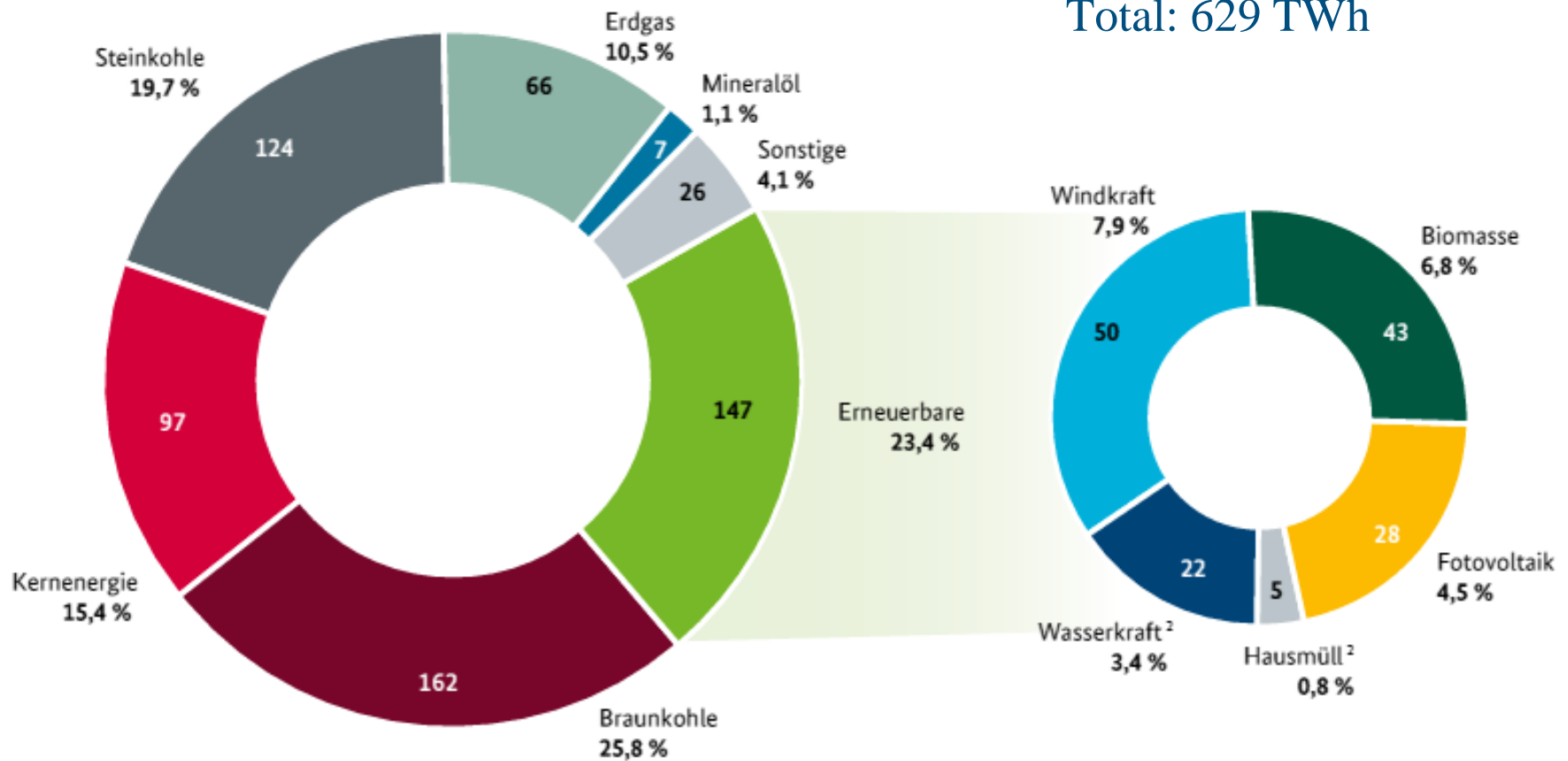
Energiewende in short

- Broad consensus on a fundamental change of the energy system in Germany:
 - Phasing out nuclear energy by 2022
 - Shifting the current energy mix towards high RES
 - Decoupling energy consumption from economic growth by significant efficiency improvements
- Decisive policy decisions based on
 - Long-term strategic planning
 - Monitoring and readjustment of policy measures

Energiewende – Long-term Strategic Planning

	2012	2020	2030	2040	2050
GHG emissions (cp. 1990)	-24.7%	-40%	-55%	-70%	-80% ...-95%
RES share in gross electricity consumption	23.6%	35%	50%	65%	80%
RES share in gross final energy consumption	12.4%	18%	30%	45%	60%
Primary energy consumption (cp. 2008)	-4.3%	-20%			-50%
Gross electricity consumption (cp. 2008)	-1.9%	-10%			-25%

Gross Electricity Production in Germany 2013



Energiewende – Challenges Ahead

Renewable energies

- Cost and quantity control
- Market integration

Energy security

- Thorough assessment
- National and European issues

Grid infrastructure

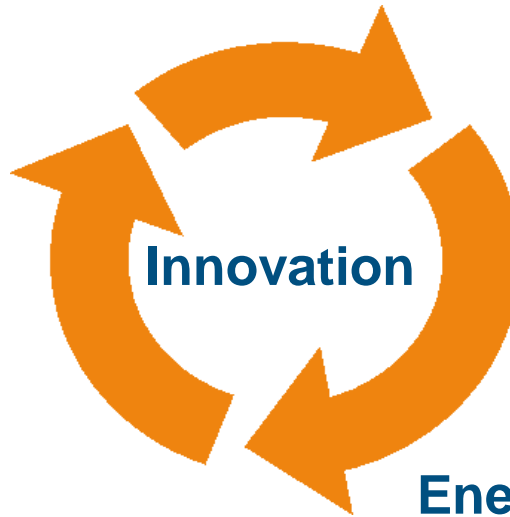
- New planning process (participation)
- Smart grids

Flexibilisation of the Whole system

- Flexibilisation of generation as well as demand is key

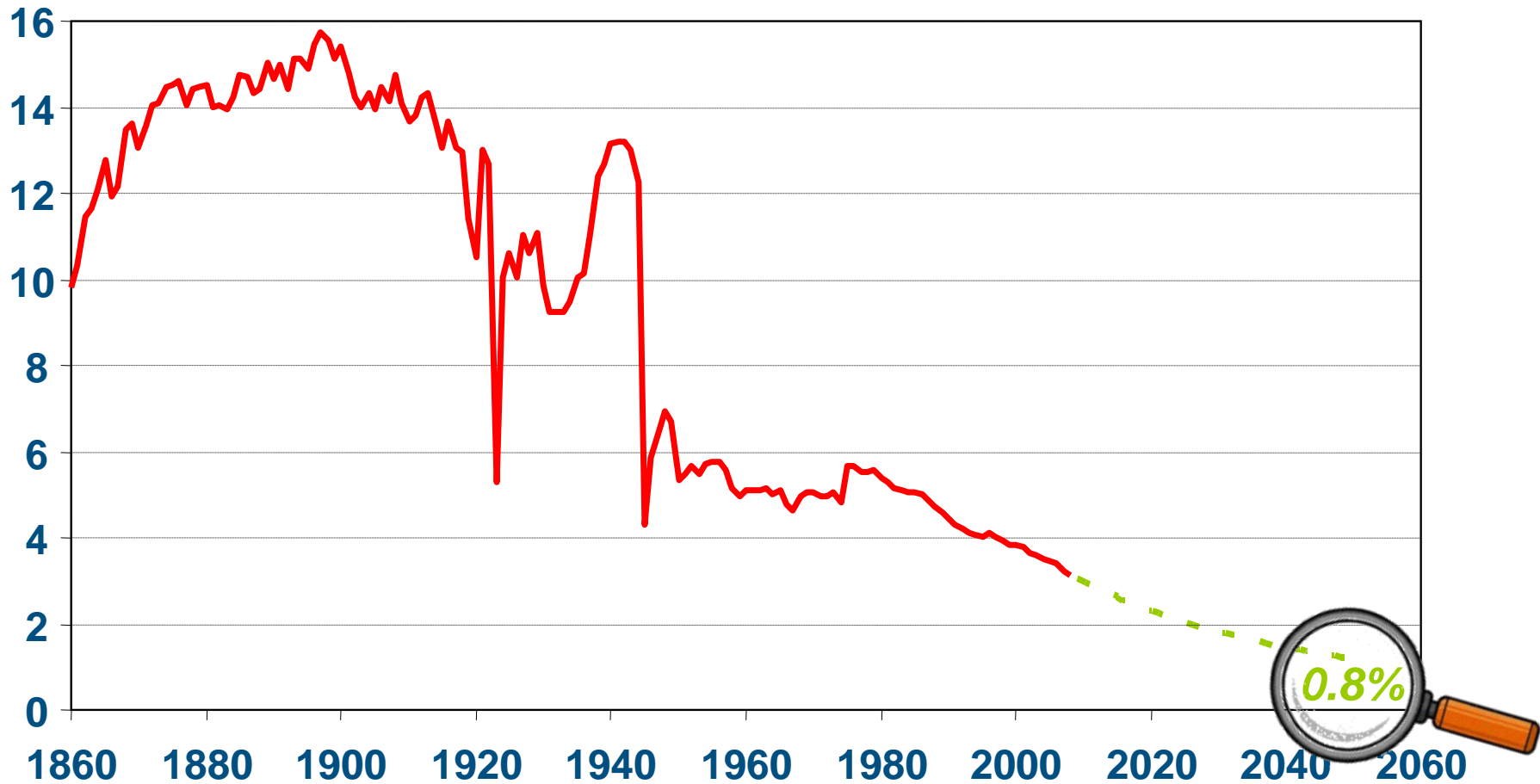
Energy efficiency

- Lacking behind
- Implementation of EU EED
- Energy Efficiency Action Plan



Germany's Role in the World

German Share on the
Global Primary Energy Consumption [%]

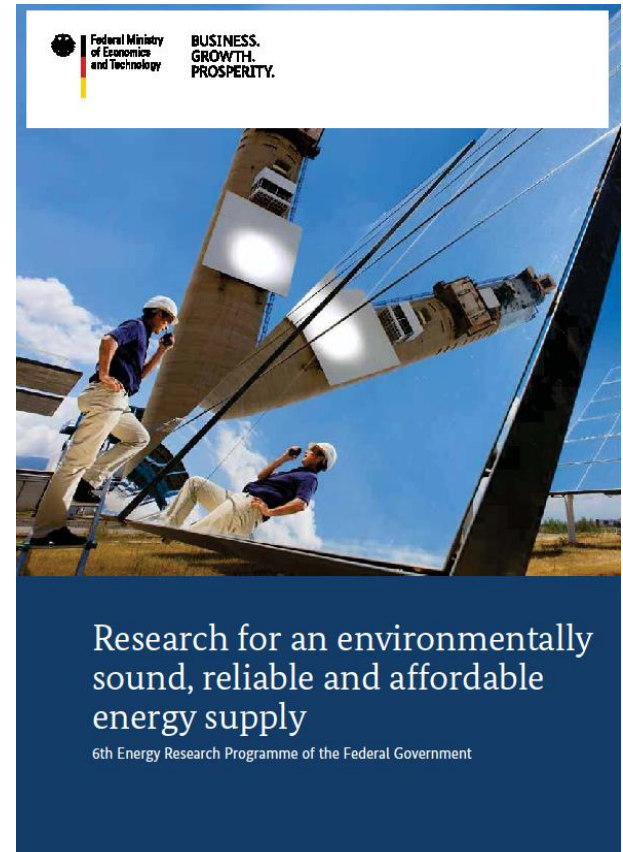


Energy Research Programme

Energy Research Policy is an important Instrument of the Energy Policy

Main Objectives:

1. Contribute to achieving the targets of energy and climate policy
2. Enhance the leading position of companies in the field of modern energy technologies
3. Secure and enhance technological options



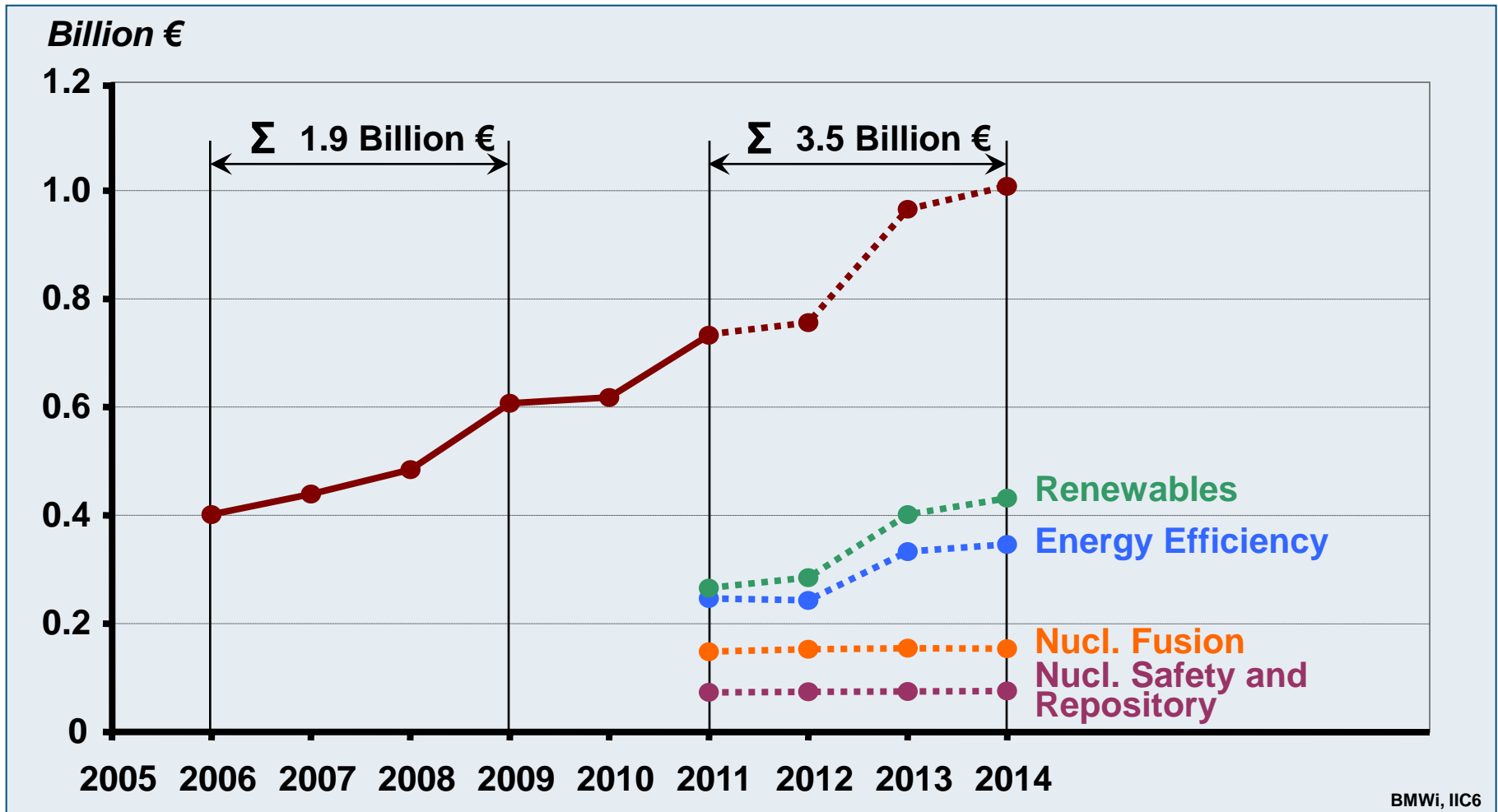
Federal Ministry
of Economic
and Technology

BUSINESS.
GROWTH.
PROSPERITY.

Research for an environmentally
sound, reliable and affordable
energy supply

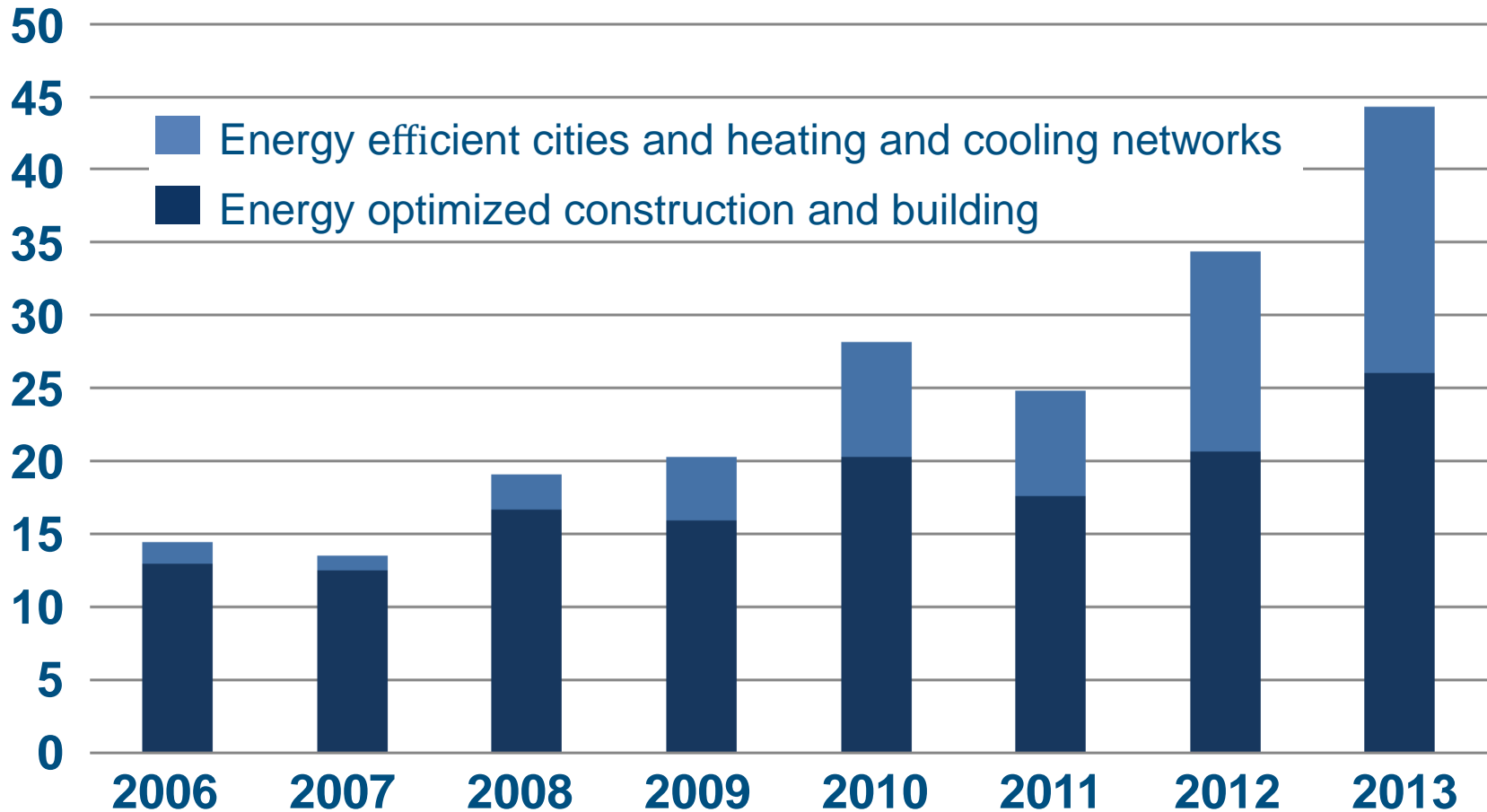
6th Energy Research Programme of the Federal Government

Funding Energy Research



Example: Buildings and Cities

Funding in million Euros



International RD&D-Cooperation

- European Framework Program “Horizon 2020” under the strategic energy technology plan (SET-Plan)
- Taking an active part in the IEA energy technology network
 - Participation in 26 Implementing Agreements and 4 Working Parties
 - Contributing technology roadmaps as well as to flagship publications such as “Energy Technology Perspectives”
- Bilateral cooperation
- Participation in multilateral organisations

Summary

- RD&D is key to implementing the *Energiewende*
- Innovative energy technologies can serve as a motor for economic growth and job creation
- Strengthen innovative power at international level
- Buildings and cities are important components of a sustainable energy transformation