



Exportinitiative Energieeffizienz

Political framework conditions for energy efficiency in Germany

The building sector

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Presentation content

- ▶ **Introduction: energy efficiency in Germany**
- ▶ **Energy efficiency targets and related policies in EU and Germany**
- ▶ **Outlook on further energy efficiency stimulating policy instruments in EU and Germany**



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Introduction: energy efficiency in Germany (historically)

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Introduction: energy efficiency in Germany

- ▶ **Energy consumption in Germany is structurally high, as**
 - ▶ **It has been highly industrialised for decades**
 - ▶ **It is a densely populated country**
- ▶ **Availability of fossil energy resources is limited / expensive (deep coal mining)**
- ▶ **=> Energy has always been comparatively scarce / expensive**
- ▶ **=> High vulnerability from oil price shocks of the 1970s**
- ▶ **Since mid 1970s: Regulatory measures defining efficiency standards were implemented**
- ▶ **not one major legal framework but a multitude of energy savings approaches, mainly in building and industrial sectors**



Introduction: energy efficiency in Germany

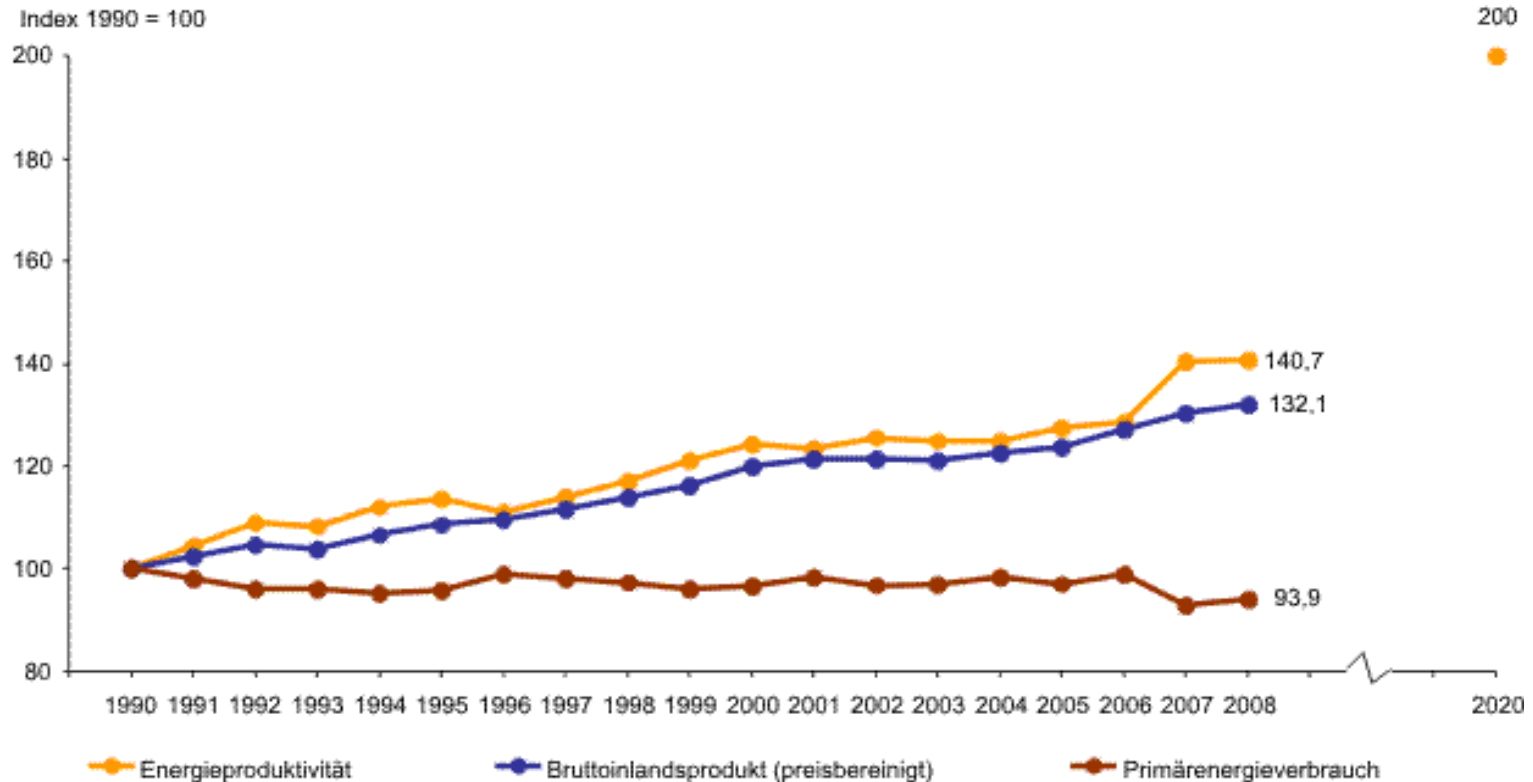
- ▶ **German industrial sectors and suppliers, a.o. mechanical engineering, are highly specialized**
- ▶ **High engineering standards + need for rational use of energy = high level of energy efficiency**
- ▶ **In early 1990s decoupling of GDP growth and energy consumption: energy productivity 1990-2008 raises by 40.7%**
- ▶ **Primary energy consumption of less than 7 GJ per €1000 of GDP makes Germany one of the most energy efficient industrialised countries**
- ▶ **1990-2006: average improvement in specific energy consumption (energy intensity) of 1.7% p. a. based on national values**
- ▶ **Today, German industrial sectors provide a large number of high efficiency products and innovative approaches**

Energy Productivity in Germany 1990 - 2008

Energieproduktivität

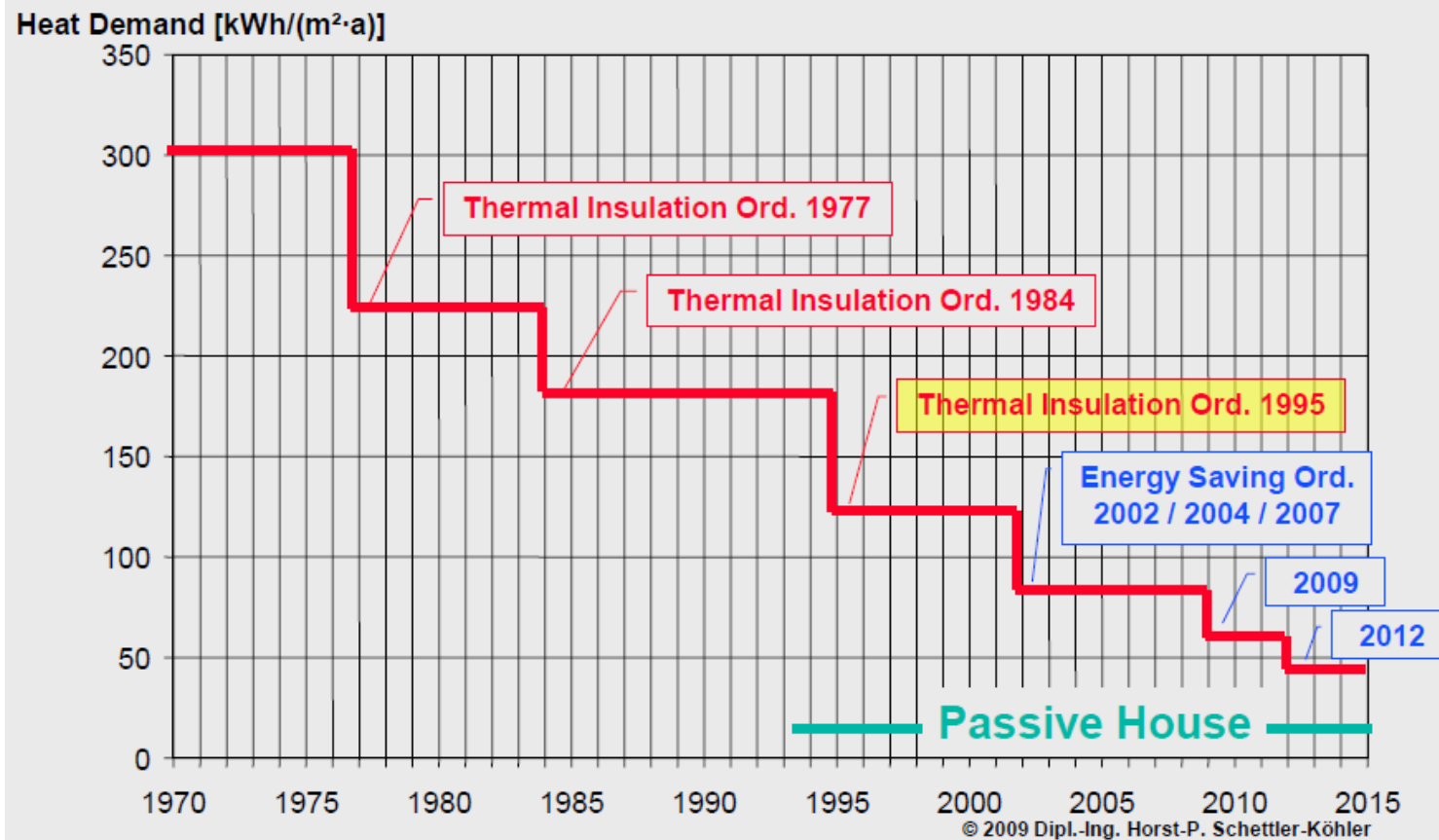
Ziel

200



Quelle: Bruttoinlandsprodukt - Statistisches Bundesamt (Mitteilung vom 06.07.2009); Primärenergieverbrauch - AG Energiebilanzen 04/2009

Development of German Building Code





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Energy efficiency targets and related policies in EU and Germany

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The role of EU legislation

- ▶ Since mid 1990s, EU legislation regarding energy efficiency has become binding for member states
- ▶ Defining energy efficiency targets
- ▶ National legislation has to be in line with / must implement EU policy standards (EPBD, EcoDesign Directive, Ban of inefficient lighting etc.)

EU: energy efficiency targets

- ▶ **In 2007 European governments agreed on 2020 targets:**
 - ▶ 20% reduction of CO₂ emissions in comparison with 1990 CO₂ levels
 - ▶ 20% of EU energy consumption from renewable sources
 - ▶ 20% reduction of primary energy use compared to projected levels (reduction by means of improving energy efficiency)

- ▶ **Energy Efficiency Action plan**
 - ▶ Reduce primary energy use in Europe by means of improving energy efficiency

(Source: ec.europa.eu)

EU: policy used for stimulation energy efficiency

- ▶ **European Performance Building Directive (EPBD)**
 - ▶ EU had a Directive for EE in buildings since 2002, the new Directive is a recast
 - ▶ All new build “nearly zero energy buildings” as of end of 2020 (public sector: end of 2018). Remaining energy need mainly covered by RES
 - ▶ Directive covers now all existing buildings irrespective of their size both residential and non residential sector (previously only >1000 m²)
 - ▶ Publication in EU Official Journal in June 2010, has to be transposed by July 2012 in EU MS

EU: policy used for stimulation energy efficiency

▶ **EcoDesign Directive**

- ▶ Establishing a framework for the setting of ecodesign requirements for energy-using products (EuP) including energy efficiency requirements
- ▶ Entered into force on 11 August 2005
- ▶ Energy use targeted
- ▶ All energy using products (except vehicles for transport) and covering all energy sources

EU: policy used for stimulation energy efficiency

▶ Ban of inefficient light bulbs (2009)



S. European Commission

Germany: energy efficiency targets

- ▶ **German environmental protection policy (in 2020)**
 - ▶ 40% reduction of GHG in comparison to 1990 (end of 2007 goal: -21.3%)
 - ▶ 30% increase in renewable energy sources
 - ▶ Doubling of energy productivity 1990 – 2020



Germany: policy instruments used to support energy efficiency

- ▶ German policy for energy efficiency:
- ▶ A mix of regulation, financial incentives and information
- ▶ For example: building codes, low interest loans, advice campaigns and research



Germany: policy instruments used to support energy efficiency

▶ Conclusion

- ▶ Paradigm shift
- ▶ Not cheap energy leads to competitiveness.
- ▶ Technology development for energy efficiency ensures future competitiveness!

Companies present at the event:

- ▶ ECA-Software GmbH
- ▶ Bära GmbH & Co. KG
- ▶ Wacker Chemie AG
- ▶ ratiotherm Heizung + Solartechnik GmbH & Co. KG
- ▶ LTM GmbH/ MCSC-Marcus Schmid Consulting
- ▶ TRILUX GmbH & Co. KG
- ▶ Vossloh-Schwabe Deutschland GmbH



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Thank you for your attention!

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