On the Importance of Energy Efficiency from a German Perspective

October 23rd, 2013 in Aarhus, Denmark

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eclareon GmbH Management Consultants
on behalf of the Federal Ministry of Economics and Technology

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“Energy Efficiency Made in Germany“ You are invited to start Business!

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Energy Efficiency Export Initiative

Activities and services:

Foreign Trade Fairs

Information Events

Trade Missions

Fact-Finding Missions

Know-how Transfer

Training/ Education

Energy Efficiency Export Initiative

Goals of the Energy Efficiency Export Initiative

- Show solutions in the field of energy efficiency
- Implement and expand energy efficiency measures as a way to underpin competitiveness
- Transfer know-how into the hands of political decision-makers, key opinion leaders, and market participants
- Make a tangible contribution to international climate protection

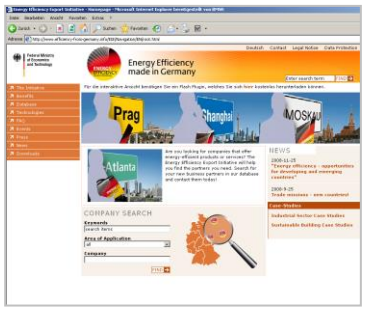
Energy Efficiency Export Initiative

- **Umbrella Brand**

"Energieeffizienz - made in Germany"

- **Information on the Website**

www.efficiency-from-germany.info



- **Network**

Decision Makers and "Advocates",
Private Companies

Energy Demand and Prices in Germany

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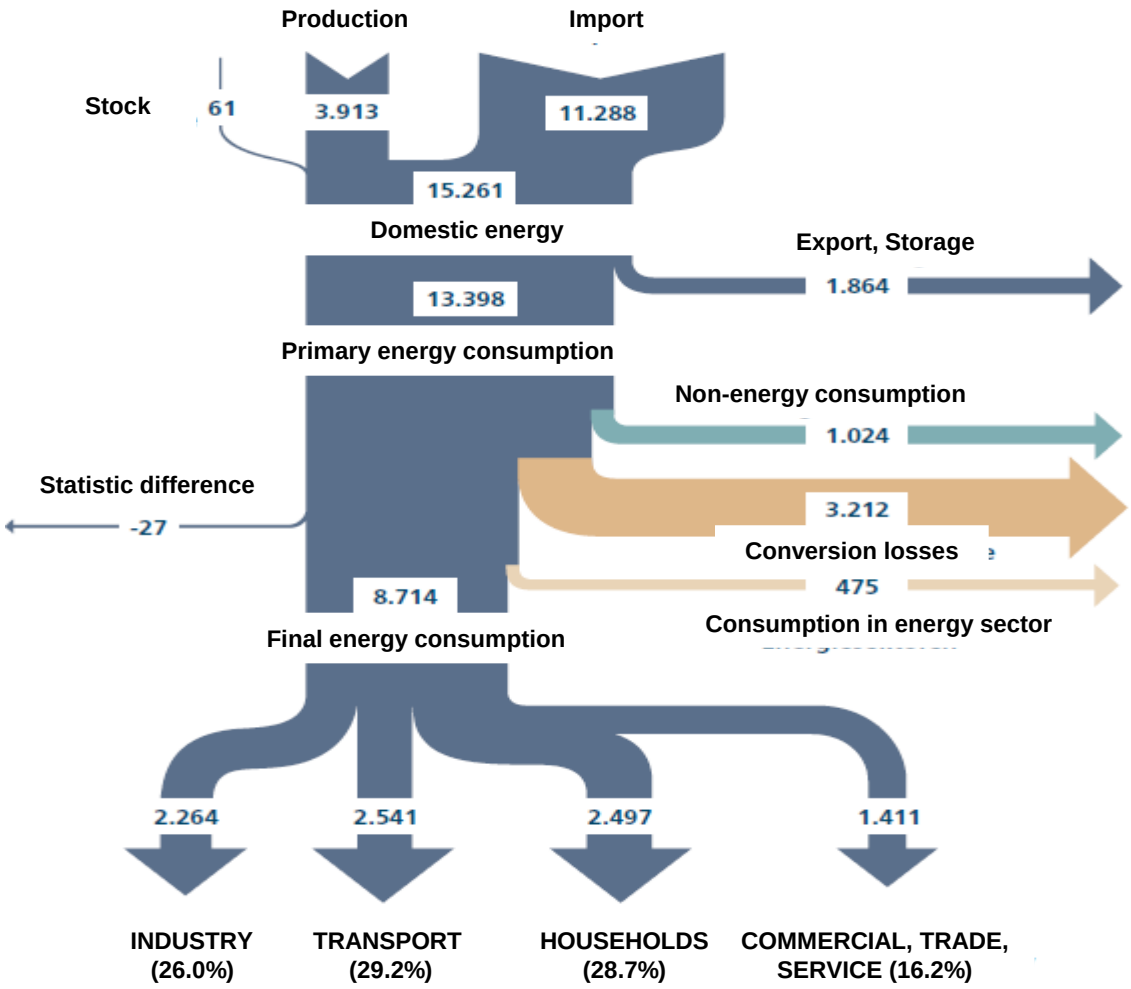
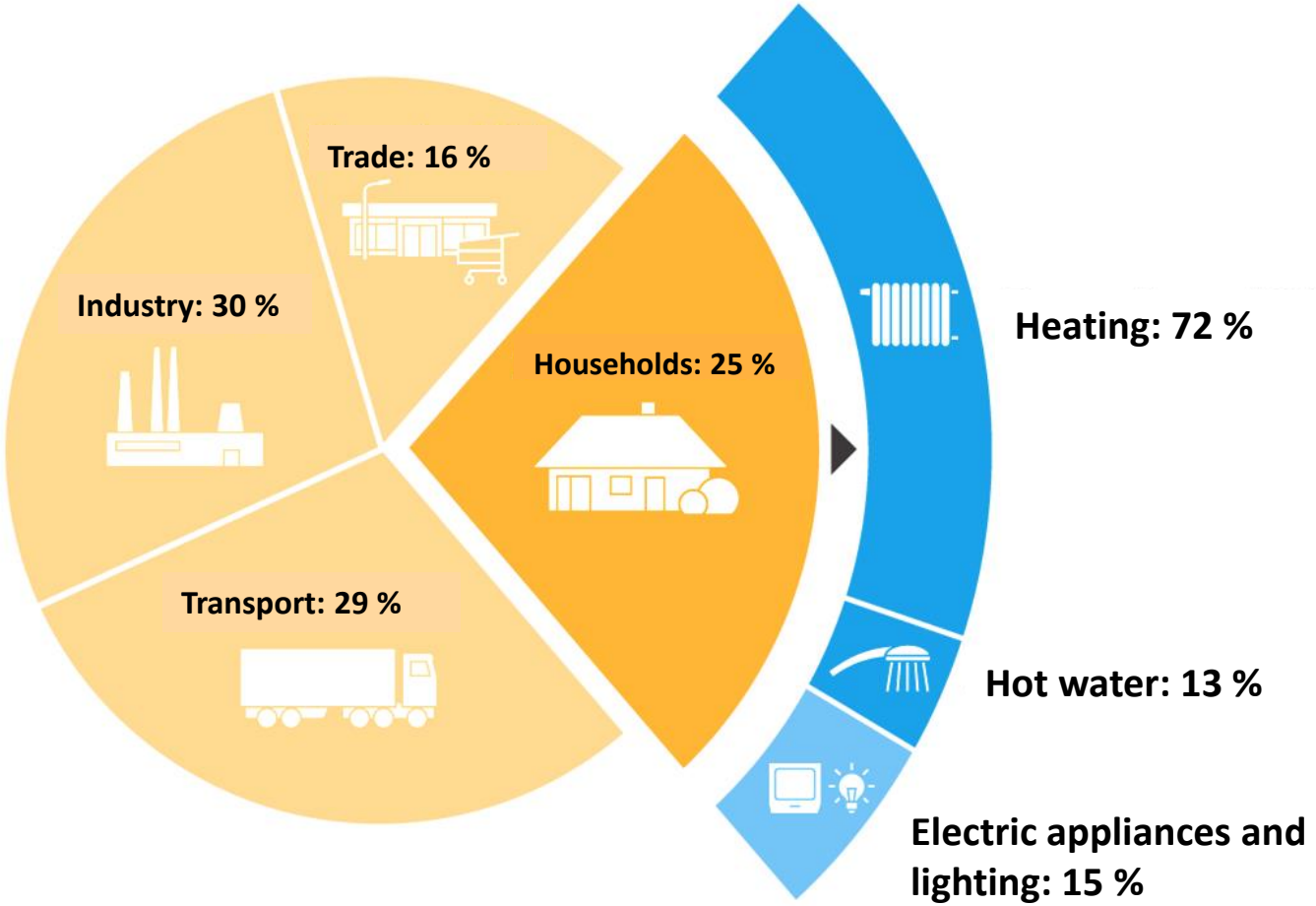
Energy Consumption in Germany (PJ)



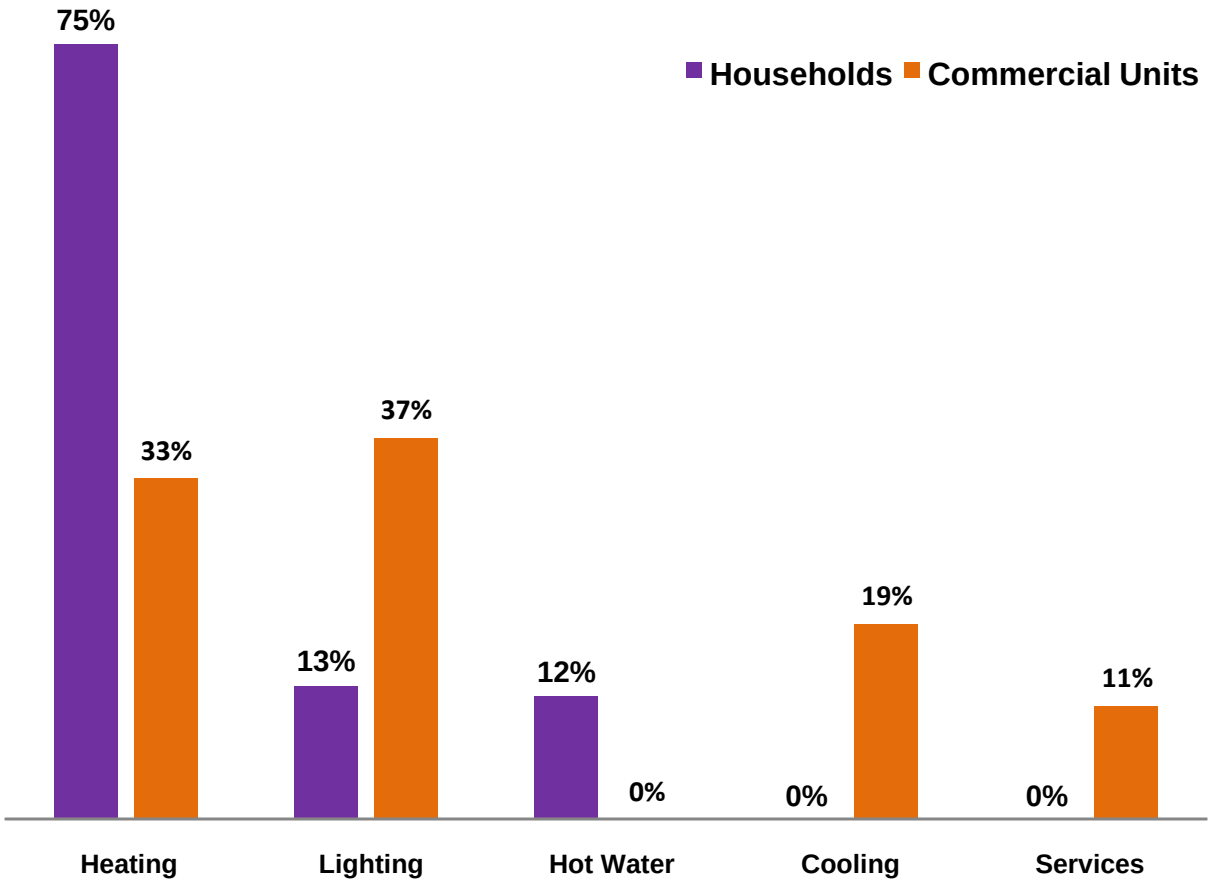
Source: AG Energiebilanzen

Final energy consumption in Germany 2012



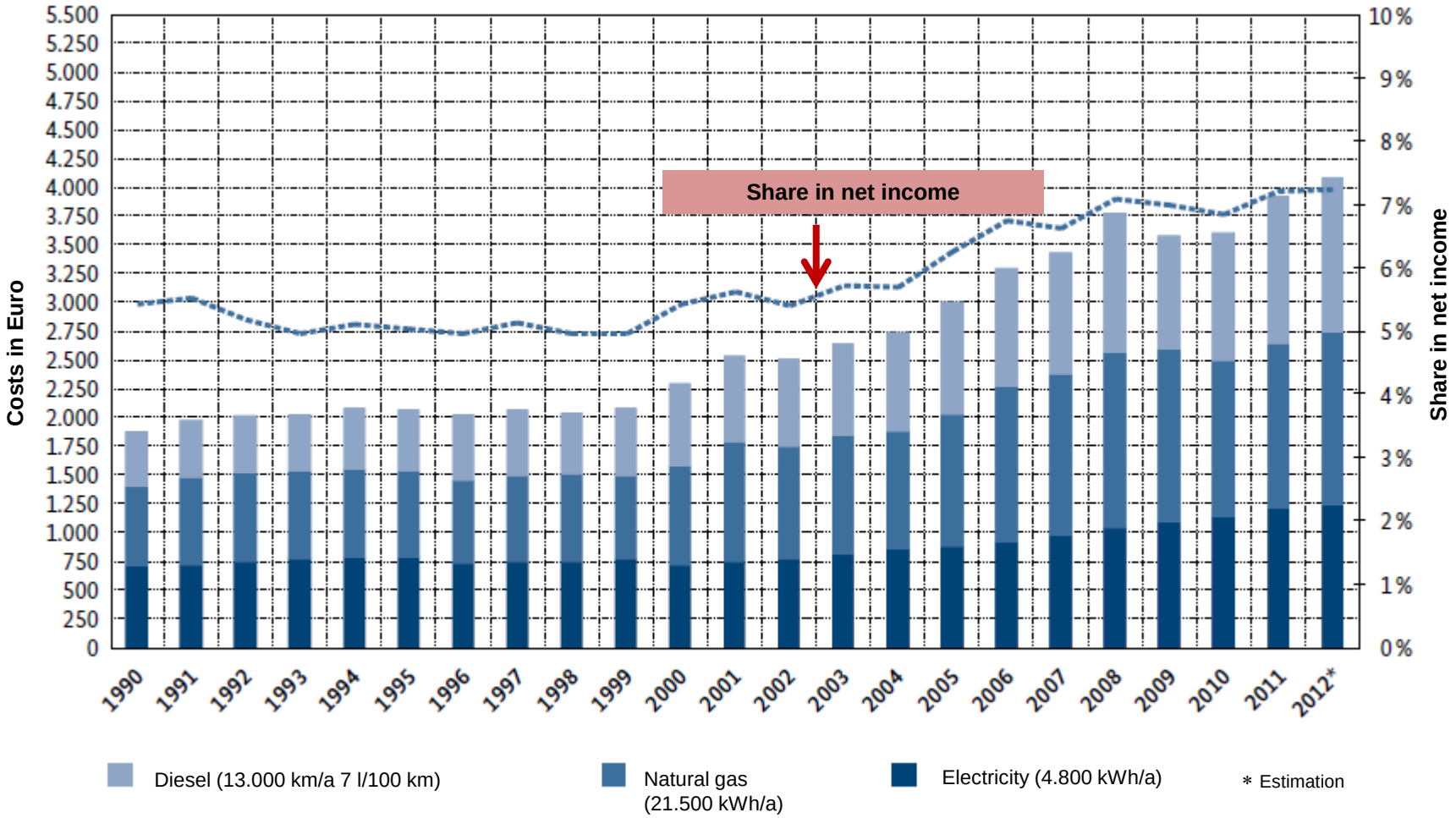
Source: dena, 2012

Share of energy consumption in households and commercial buildings in Germany



Source: BDEW

Energy costs of a four-person household (gas heating)



Source: StBa, BMWi, MWV

Energiewende and Energy Efficiency

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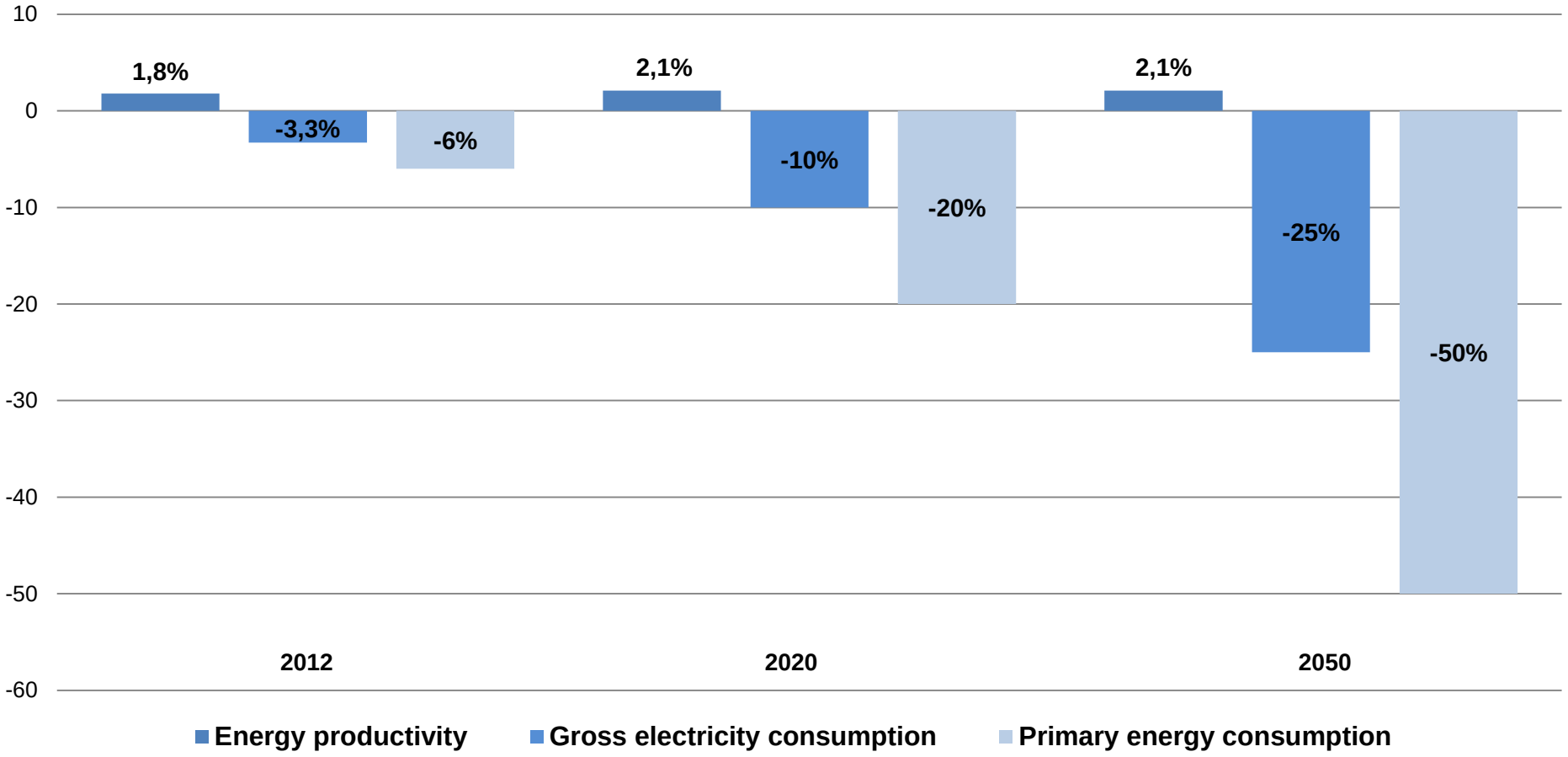
Transformation of the energy system in Germany - “Energiewende”

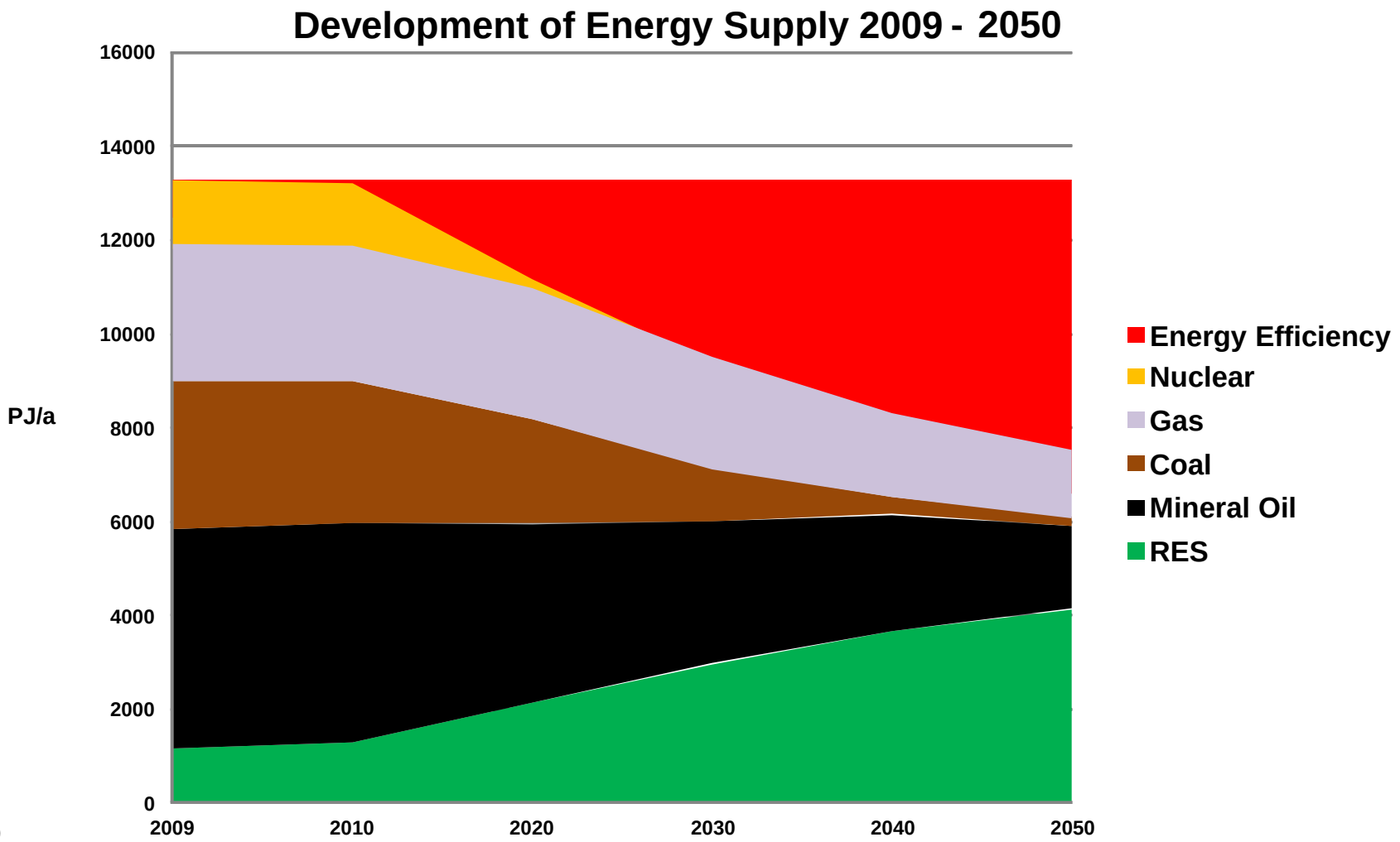
- **Nuclear power phase-out until 2022**
- **Reduction of greenhouse gas emissions:**
  - by 40% until 2020 and by 80-95% until 2050 (compared to 1990)
- **Renewable Energies as main source of energy:**
  - increase of share (FEC) to 35% until 2020 and to 60% by 2050
- **Faster expansion of the electricity grids**
- **Development of smart grids and storage facilities**

Development of primary energy consumption in Germany



Source: Ministry of Economics

Development of primary energy consumption in Germany



Source: BMU 2010

Transformation of the energy system in Germany - Energy Efficiency

- Goal regarding buildings: (nearly) **climate-neutral building stock by 2050**, i.e. reduction of thermal energy consumption by 20% until 2020 and primary energy consumption by 80% in 2050 (compared to 2008)
- Remaining energy demand covered by renewable energy sources
- Increase of annual refurbishment rate by 100% necessary (from 1 to 2%)
- Amendment of **Energy Saving Act 2012**: introduction of “climate-neutral” standard for new buildings until 2020
- Further development of **market incentive program** to integrate RES in the heat market, i.e. building integrated heat generation
- Support programs of the KfW-Bank, e.g. “**Energetic Refurbishment of Municipalities**” to stimulate comprehensive and local investments in EE and RES
- Initiating a common legal framework for energy contracting projects
- confirmation and expansion of leading role of public buildings in EE

Governmental approaches for increase of energy efficiency in buildings

Regulatory policy	• Legal requirements for buildings • Obligation of replacement • Key instrument: **Energy Saving Ordinance**
Financial support	• Loans and subsidies • Tax incentives • Key instrument: **Building Refurbishment Program**
Promotion	• Creation of market transparency • Pilot projects • Information campaigns • Qualification of experts

Energy Saving Ordinance (EnEV)

- **Introduced February 1st, 2002**
- **EnEV poses requirements to the primary energy demand of new buildings**
  - structural heat insulation of building envelope
  - energy efficiency of systems (heating, ventilation, cooling, lights)
- **Amendments 2007 to meet directive 2002/91/EC (EPBD)**
  - among others: introduction of energy certificate
- **Amendments 2009 as part of „Integriertes Energie- und Klimaprogramm“ (***integrated energy and climate program***)**
  - tightening of requirements by about 30% towards 2007
- **New amendments as of February 6th, 2013**
  - tightening of requirements by 12.5% and 25% from 2016 onwards
  - introduction of control system for energy certificates
- **To be introduced in 2014**

KfW Energy Efficient Refurbishment

- Various support programs for energy efficient refurbishment of buildings
- Amount of support depends on energy saving level of measures taken:

Level	Maximum grant of investment	Maximum total grant/ housing unit
KfW-Effizienzhaus 55	25.0 %	18,750 €
KfW-Effizienzhaus 70	20.0 %	15,000 €
KfW-Effizienzhaus 85	15.0 %	11,250 €
KfW-Effizienzhaus 100 (standard)	12.5 %	9,350 €
KfW-Effizienzhaus 115	10.0 %	7,500 €
KfW-Effizienzhaus (historical building)	10.0 %	7,500 €
Individual measurements	10.0 %	5,000 €

Promotion of Energy Efficiency - Examples

- **Information and awareness raising**
  - Internet campaigns (e.g. www.energieeffizienz-online.info; www.stromeffizienz.de)
  - Poster campaigns
  - SME program “Energiewende”

- **Demonstration projects: e.g. Effizienzhaus Plus**
  - Definition: all requirements of EnEV 2009 are fulfilled
  - Integration of energy efficient domestic appliances, renewable energy technology and an e-mobility concept
  - Opening in December 2011 and tested under real conditions for 15 months by a family of four

Energy efficiency aspects in buildings – Developments

Non-insulated building

Passive House

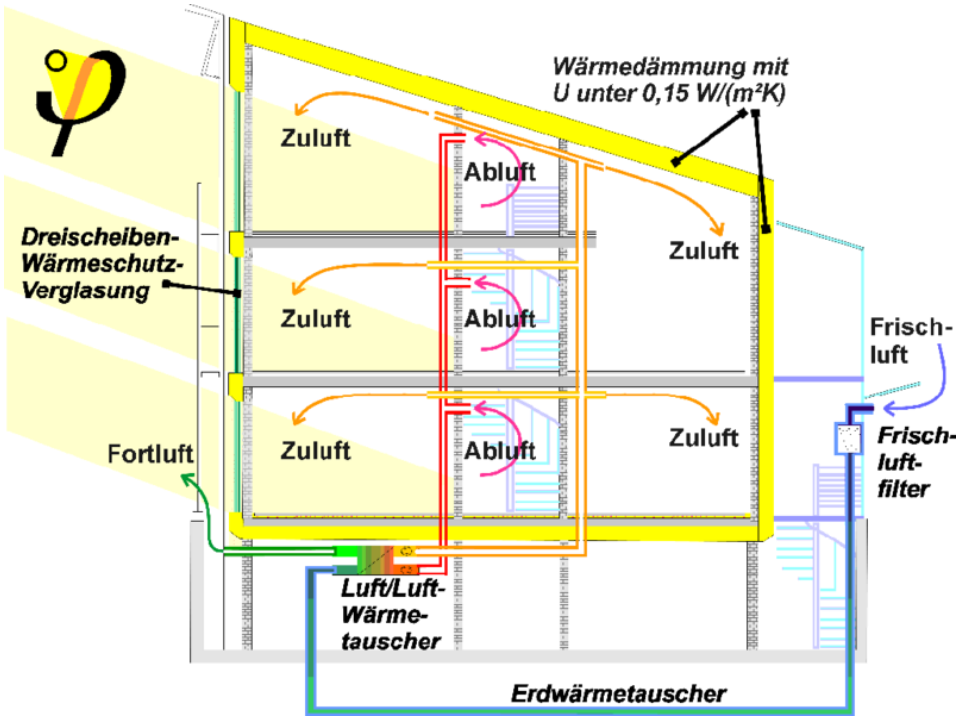


Photo: Lippe Blatt

Photo: WIKIPEDIA

Energy efficiency aspects in buildings – Developments

Zero Energy House → **Plus Energy House**

Photos: www.innova-energie.de, www.das-energieportal.de

The German Companies

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Participating German Companies

Company	Representative
Koch Architects	Charlotte Juhl Koch
Parabel Energiesysteme GmbH	Bernhard Jurisch
GeoClimaDesign	Antje Vargas
Fieger Lamellenfenster GmbH	Rolf Bernt
Kampmann GmbH	Friedhelm Koch
Pural GmbH & Co. KG	Ingo Riewenherm
Linzmeier Bauelemente GmbH	Andreas Lutscher

Thank you for your attention!

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