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- Germany's Climate and Energy Policy - Challenges and Opportunities for Cooperation with Poland

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- **Germany's Climate and Energy Policy**
- **EU Context**
- **Polish-German cooperation**

Some notes upfront ...

- In many ways, Poland and Germany face similar challenges, e.g. with regard to
 - meeting our global responsibility for climate protection
 - maintaining global competitiveness

- Due to different starting points: different approaches on how to deal with these challenges.

- Yet our energy systems are technically and economically interlinked
→ need for common steps, cooperation and coordination

Introduction: Rationale of the German Energy Concept



- **IPCC:** Emissions reduction requirement for industrialized countries until 2050 - 80 – 95%, decarbonisation of energy sector is key
- **Energy Concept** of 28 September 2010: Defining our Climate and Energy policy for beyond 2020
- **After Fukushima** – Germany no longer views nuclear power as a **bridging technology**
 - high risk
 - unforeseeable costs
- **Decisions of 6 June 2011:**
 - **Phasing-out** of nuclear energy by 2022
 - **Accelerating** transformation of energy system, comprehensive legislative package

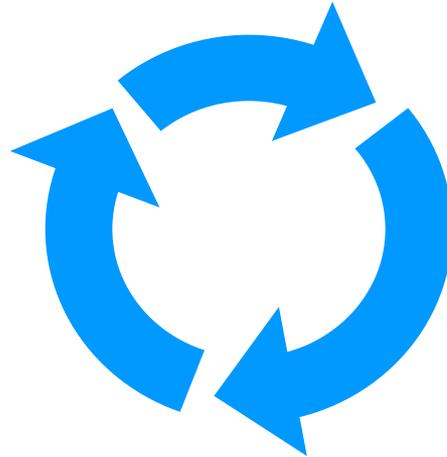
The economic rationale of the German Energy Concept



- Increasing energy efficiency improves the competitiveness of the economy.
- Developing new energy technologies and systems drives innovation and employment in the field of high-technology.
- RES and energy efficiency are lead markets of the future; pioneering in this field can contribute to maintaining technology leadership.
- Energy efficiency and RES reduce vulnerability to volatile energy prices and dependency on energy imports.
- Long term: cost efficient energy system.

Main tasks of energy and climate policy

1. Improving energy efficiency



**2. Expanding the
use of renewable
energies**

**3. Expanding grid
infrastructure and back-up
capacity**

Goals of energy and climate policy

		2020	2030	2040	2050
Climate	Greenhouse gases (vs. 1990)	- 40%	- 55%	- 70%	- 80 to - 95%
	Share of electricity	35%	50%	65%	80%
Renewable energies	Overall share (Gross final energy consumption)	18%	30%	45%	60%
	Primary energy consumption	- 20%			- 50%
Efficiency	Electricity consumption	- 10%			- 25%
	Energy consumption in buildings	20% heat demand			80% primary energy

Energy efficiency: Action is needed on the supply and demand side



- **Huge potential: electricity up to 2020:**
Target 2020: 10% - cost efficient potential 20 %

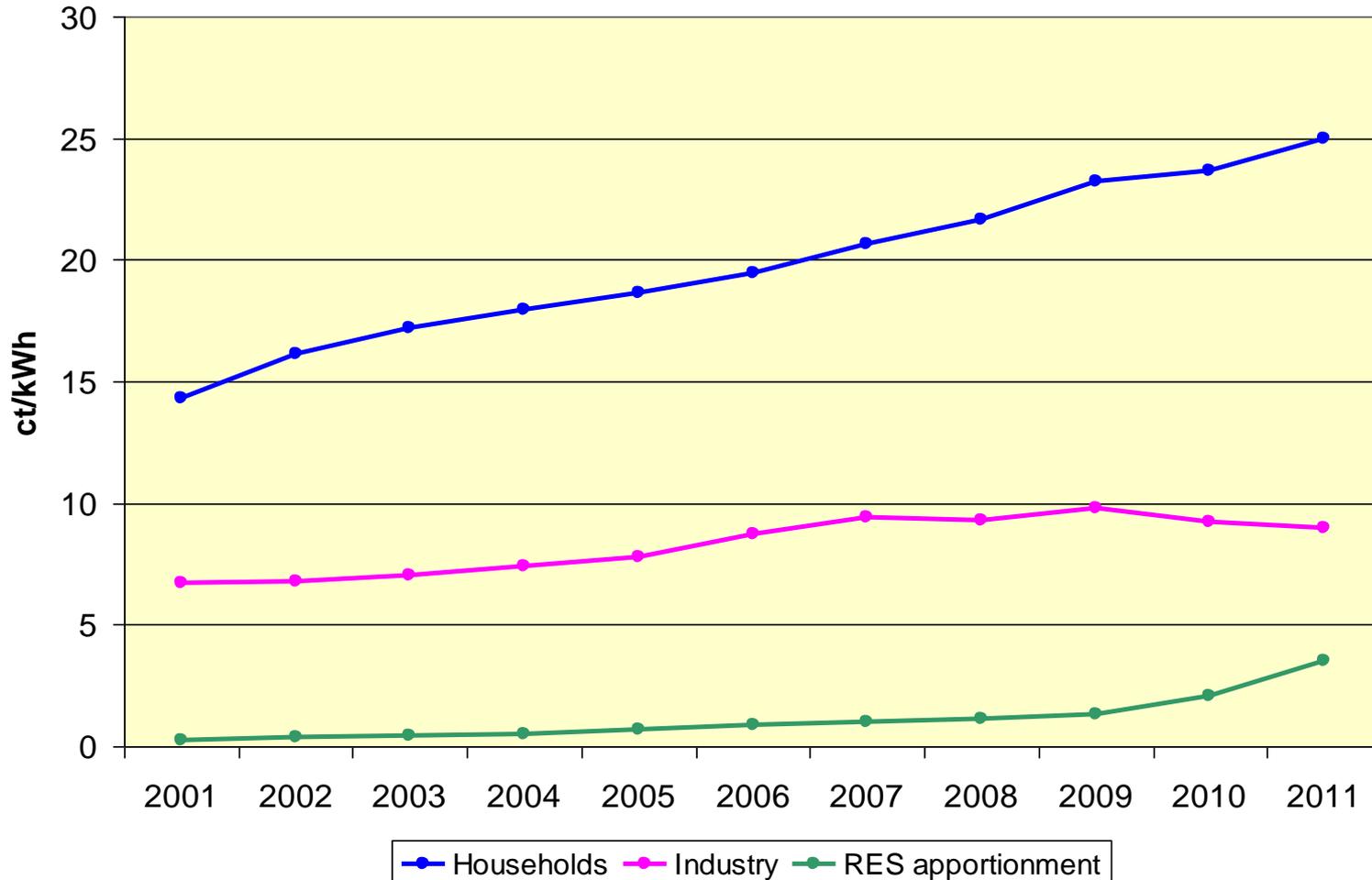
- **Supply side:** Increase the share of CHP electricity up to 25 % in 2020, measures:
 - CHP Act, substantially upgraded in July 2012
 - New Mini-CHP-Impulse Incentive Program, started 01.04.2012

- **Demand side**
 - Energy Efficiency Standards for buildings
 - Financial support for building renovation: 1.5 billion EUR annually
 - Incentives for highly efficient products (for example refrigerators)
 - Improving energy efficiency in low-income households (20%)
 - Incentivising cross-sectoral key technologies (50%)

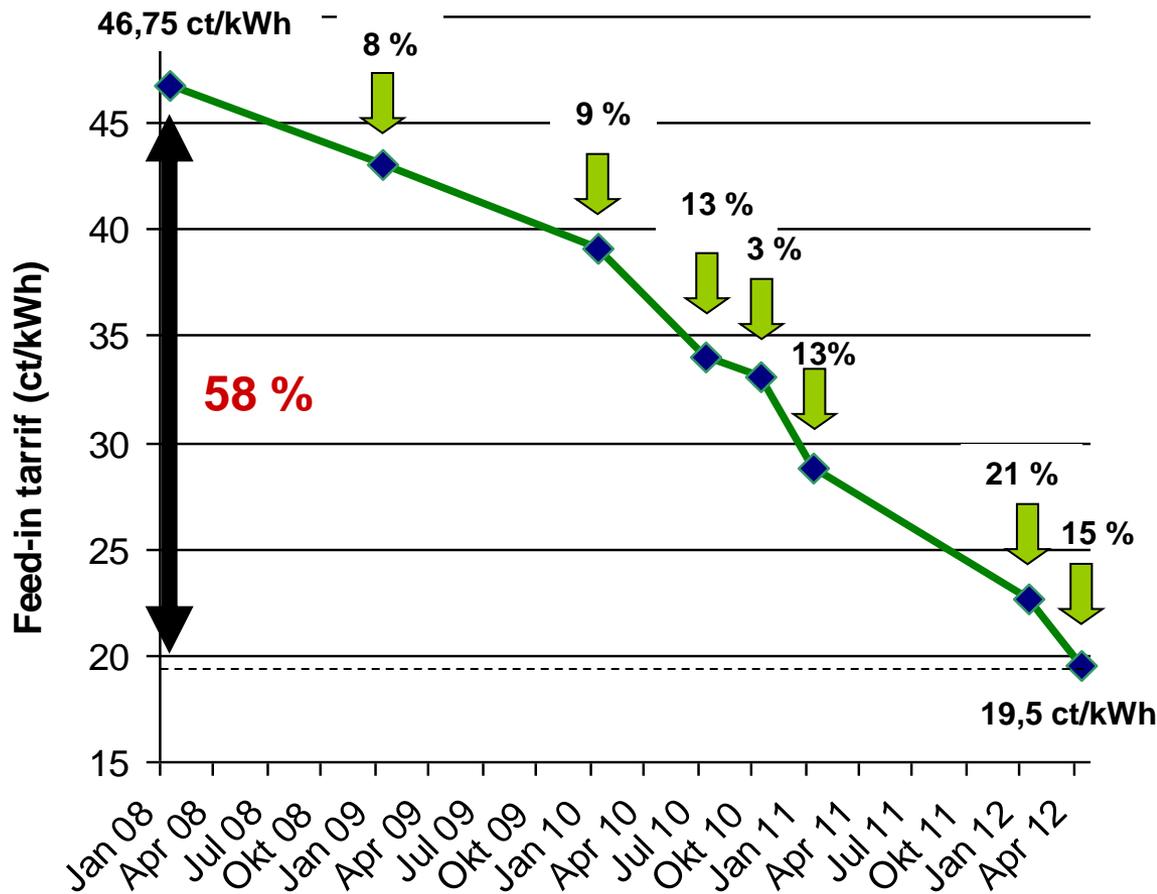
Where are we today?

- **Share of renewable energies in electricity supply:** increase from around 6 to 20% in 12 years
- **Newly installed capacity**
 - onshore wind power: more than 2,000 MW in 2011 (total: 29 GW)
 - PV: 7.500 MW in 2011 (total: 25 GW)
- **Renewable sources have become** second-largest source for electricity generation in Germany (surpassing gas, hard coal and nuclear power)
- **Greenhouse gas emissions** are 25% below 1990 levels, outperforming national Kyoto Target

Development of German Electricity Prices and the RES apportionment



Cost curve: Photovoltaic Energy



- Levy decreased from 46 Ct/kWh in 2008 to 19.5 Ct/kWh in April 2012
- Price for on-roof installation decreased by 60% since 2008
- Free-standing plants: 13,5 ct/kWh

Transforming Germany's energy system has just begun

- Enhance energy efficiency (cheapest option)
- Keep RES costs to an acceptable level
- Market integration of renewable energies (new Market Premium)
- Expansion of electricity grid
- Demand side management - Smart meter
- Storage
- **Key: system integration and costs**

Implications for cross-border cooperation



Transforming Germany's energy system calls for intensified cooperation and coordination

- Renewables generation in Germany is being balanced in the European grid
- Flows lead to challenges for grid stability – need for action
 - within Germany (new north/south lines)
 - across borders (developing an efficient and modern European grid with an increased capacity)
- On the other hand, RES generation in Germany
 - contributes to energy security across Europe
 - supports innovation and reduces technology costs
- Enormous economic opportunities for cooperation

Challenges at the EU level

- German/Polish energy transformation needs to be embedded in an EU framework:
 - setting reliable long-term framework conditions for reducing emissions by 80-95% by 2050
 - enhancing coordination and convergence of energy policies
 - identifying overlaps and possible common steps needed for all MS
- Importance of EU Climate and Energy Roadmaps
 - Long-term guidance and planning reliability
- Further development of EU climate and energy policy
 - The future of the ETS
 - EU framework for RES support scheme
 - Energy Efficiency

Opportunities for Polish/German Cooperation

Close bilateral cooperation

- Modernizing energy system
- Support for RES
- Increasing energy efficiency
- Expansion of cross-border grid
- Innovation and technology (system integration, storage)

More information available at:

www.bmu.de

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