

# **The Way Forward: Initiating Concrete Energy Efficiency Projects**

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# Characteristics of the German Climate Change Programm (GCCP)

- Differentiated and mandatory **targets and timetables**
- A broad package of **policies and measures** covering all sectors (energy supply, industry, transport, private households, small consumers)
- Clear **institutional structures (IMA „CO<sub>2</sub>-Reduction“)**
- A transparent **process** to development and improve the National Climate Change Programme

# Targets and Timetables

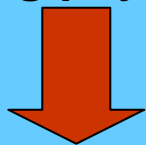
<b>Climate Change related Targets</b>		<b>Status</b>
<b>burden sharing</b>	<b>Reduction of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub>) by 21 % in the period 2008 – 2012 compared to 1990 and 1995</b>	<b>Ratification of the KP by national law</b>
<b>2020 target</b>	<b>Reduction of greenhouse gas emissions by more than 30 % by 2020 on the condition that the EU agrees to a GHG reduction of 30 % by 2020 (base year 1990).</b>	<b>Contract of the black-red Coalition (2005)</b>
<b>Renewables</b>	<b>Doubling the share of renewables by 2010 to primary energy consumption from 2.4 to 5 % and to electricity generation from 5 % to 12,5 % and by 2020 to 20 %</b>	<b>Renewable Energy Act (2004)</b>
<b>CHP</b>	<b>Maintaining, modernising and expanding CHP with the aim of reducing CO<sub>2</sub> by an additional 10 mill. t and 23 mill. t by 2010 (base year 1998)</b>	<b>CHP – Act (2001) + CHP commitment by German Industries (2001/2004)</b>
<b>Energy Efficiency</b>	<b>Doubling the energy productivity of the society by 2020 compared to 1990</b>	<b>National Strategy on Sustainable Development</b>

## The process cycle

**Inventory, review of status quo**



**Determining physical, technical and economic potentials and options**



- **Identifying obstacles**



- **Defining alternative policies and measures to remove the identified obstacles**



- **Selecting policies and measures – decision by the Federal Cabinet**



- **Step-by-step implementation of measures adopted**



- **Review and start of a new process cycle**

# **The role of Energy Efficiency**

# Barriers

- **economic barriers**
- **lack of information**
- **institutional barriers**
- **legal hurdles**
- **technical obstacles**

## Policies and measures

1. **No single solution– rather a package of measures carefully designed for each situation – but EU ETS now is the key instrument - 58 % of CO<sub>2</sub>-emissions are covered**
  - **Regulatory requirements – command and control, economic instruments (Eco-Tax, economic incentives, soft loans etc.)**
3. **Supporting measures (information, education)**
4. **Cross-cutting instruments as well as specific e.g. sectoral approaches**
5. **National as well as transboundary measures**

# Climate Change Policy and Energy Efficiency in Germany I

- ▶ Act on the Sale of Electricity to the Grid to promote regenerative energy generation (amended by the Renewable Energy Act <EEG> in 2000 and 2004)
- ▶ Expansion of **economic incentives for research and development** (new R+D Programme on the federal level under discussion) into renewable energy sources and **higher energy efficiency**
- ▶ **Expansion of cogeneration**
- ▶ **Building Codes based on the Energy Saving Act and the Energy Saving Ordinance (EnEV)**
- ▶ **Programmes to promote CO<sub>2</sub> reduction in buildings**
- ▶ **Agreement between Federal Government and German Industries on Climate Change Prevention**

# Climate Change Policy and Energy Efficiency in Germany II

- ▶ Introduction of the ecological tax reform to encourage the more efficient handling of resources
- ▶ Increasing the economic incentives to promote public transport and improve the rail infrastructure; tolls on highways
- ▶ Promotion of renewable energy sources (including photovoltaics, wind power, hydropower, fuel cell)
- ▶ Launching of an European emissions trading system (Start in Germany: 1. January 2005)
- ▶ Conversion of motor vehicle tax to a CO<sub>2</sub>-based schedule
- ▶ Tax relief for natural gas as a fuel in the transport sector

# Climate Change Policy and Energy Efficiency in Germany III

- ▶ Labelling of household appliances and computers (Information on energy consumption)
- ▶ Continuation of the ecological tax reform <ÖSR>
- ▶ Introduction of a CO<sub>2</sub> tax or emissions-based tax to substitute the actual vehicle tax
- ▶ Efficiency orientation in energy transformation technology by means of:
  - ▶ Rational energy use
  - ▶ Expansion of combined heat and power generation
  - ▶ Expansion of renewable energy sources

# Climate Change Policy and Energy Efficiency in Germany IV

- Climate Change Campaign focussed on private households and transport by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)
- Establishing the German Energy Agency (dena), Berlin – Responsibilities: Energy Efficiency
- Coordination between the federal, regional and local level (Agenda 2010, Climate Change Programmes)

# **The Energy Summit**

# The Energy Summit

Energy Summit  
chaired by Chancellor  
Angela Merkel  
3 april 2006  
9 october 2006  
Spring 2007

WG I „International  
Aspects“  
BM Michael Glos  
BM Walter Steinmeier

WG II „National  
Energypolicy“  
BM Michael Glos  
BM Sigmar Gabriel

WG III „Energy Effizienz,  
Innovation, R&D“  
BM Sigmar Gabriel  
BM'n Annette Schavan

# Potentials and targets

## The Energy Summit in Germany

- High potential in all sectors
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- Target: Doubling the energy productivity by 2020
- German Energy Agency (dena): Potential up to 2020:
  - Reduction of power consumption 10 %
  - Reduction of heat consumption in buildings 20 %
  - Reduction of fuel consumption in transport 5 %without reducing economic growth

## **WG 3 – Energy Summit**

- **Actionplan Energy Efficiency**
- **Establishment of a Energy Efficiency Fund especially for small and medium sized enterprises**
- **Tax incentives for companies establishing energy management**
- **5,6 billion € soft loans for the renovation of buildings**
- **Very ambitious new building codes**
- **Establishment of an energy passport for new and existing buildings**
- **Modernisation and replacement of power plants**
- **new CHP law and implementation of the CHP commitment by german industries**
- **labelling**
- **Minimum standards for energy intensive products**
- **Establishment of an CO2-related vehicle tax**
- **Improvement of the voluntary commitment by the car producers and car importers**
- **Information campaigns on Climate Protection and Energy efficiency**

# The present situation in Germany

- **Improved insulation could reduce 60 % of heat consumption of buildings**
- **Zero Energy Houses technically feasible**
- **50 % of the existing buildings (20 Mio. flats) have to be renovated**

# The present situation in Germany

- **Reduction of power consumption of industry by 15 %**
  - that means 30 billion kWh/a
  - cost reduction between 150 und 300 Mio. €/a
  - CO<sub>2</sub>- reduction: 19,5 Mio. t/a
- **Lighting could save**
  - 10 billion kWh/a
  - costs between 50 and 100 Mio. €
  - CO<sub>2</sub>- emissions by 6,5 Mio. t/a
- **Replacement of inefficient household appliances could reduce**
  - the power consumption up to 2010 by 1 billion kWh/a
  - costs between 10 and 15 mio. €/a
  - CO<sub>2</sub>- emissions by 0,7 Mio. t/a

# **The present situation in Germany**

- **reduction of transport losses in power grids by 30 % technically feasible**
- **Contracting could contribute 20 % energy saving**

# Drivers for Energy Efficiency

- **price increases**
- **decreasing incomes**
- **legal requirements**
- **Climate Change Policy**
- **Research and Development**
- **energy security, reduction of energy imports, resource saving**
- **jobs and economic growth in Germany**
- **information, advice and education**

## **Next steps in Brussels**

- **Communication „Strategic Energy Review“ – January 2007**
- **Actionsplan „Energy Efficiency“ – October 2007**
- **Road Map „Renewables“ including a number of regulatory proposals**
  - **targets on green power up to 2020**
  - **Biofuel directive: targets up to 2020**
- **Clean Coal Policy**
- **Internal power market**
- **Green Paper on Climate Change**
- **Review of the Emissions Trading Scheme**
- **Emissions Trading in Aviation ( Draft Directive end of December 2006)**

# **The EU Energy Efficient Action Plan**

- **Target: 20 % Reduction of primary energy consumption by 2020 (base year 2005) beyond „business as usual“**
- **Cost reduction: 100 billion €/a in 2020**
- **CO<sub>2</sub> reduction: 780 Mio. t/a**
- **Fields of action**
  - **Dynamic efficiency requirements for products, buildings and energy services**
  - **Energy efficient power generation and transmission (improvement of efficiency rates and reduction of transport losses)**
  - **Transport**
  - **Economic incentives, energy prices, financing**
  - **Changing the Behavior – production and consumption patterns**
  - **International networking**

# **German G 8 - Presidency**

- **Masterplan Climate Change**
- **Masterplan Energy Efficiency**

**The empirical evidence shows – climate protection stimulates growth**

**Average growth for the manufacturing of products for rational energy use**

**4.6 % p.a.**

**Average growth for the manufacturing industry as a whole**

**2.6 % p.a.**

**The empirical evidence shows – climate protection  
is a motor for export**

**Average growth of products for rational and  
economical energy use**

**9.0 % p.a.**

**Average growth of all exports**

**3.9 % p.a.**

## Climate protection also creates jobs

**Premise: 40 % reduction in CO<sub>2</sub> emissions by 2020 (baseline 1990)**

**Phasing out of nuclear power agreed in June 2001**

<b>Effects (on balance):</b>	<b>2005</b>	<b>55,300 additional jobs</b>
	<b>2010</b>	<b>132,860 additional jobs</b>
	<b>2020</b>	<b>194,030 additional jobs</b>

**Source: PROGNOSE AG; Basel, Klimaschutz und Arbeitsplätze, Frankfurt am Main 2001**

# **Conclusions**

# **Conclusion 1**

**A consistent, internationally integrated and sensibly designed climate protection policy (showing national responsibility while making use of international opportunities)**

- **gives incentives for developing know-how and innovation**
- **promotes growth and employment,**
- **improves the international competitiveness of German industry,**
- **lowers import dependency on oil and gas producers and thus improves Germany's balance of payments,**
- **removes environmental pressures and contributes to resource conservation,**
- **steers an economically efficient path towards climate policy targets and thus helps to relieve cost burdens (the use of emissions trading being an excellent example).**

**Thank you for giving me your attention**