



Podnebne spremembe:
priložnost za trajnostno rast
Climate Change:
An Opportunity for Sustainable Growth



Decarbonising Germany Benefits of Climate Policies

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Decarbonising Germany

Benefits of Climate Policies

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European Council, March 2007

European Council 8 March 2007 sets the parameters for an integrated European climate and energy policy:

- “Developed countries should ... do so also with a view to collectively **reducing their emissions by 60% to 80% by 2050 compared to 1990.**”
- “**30 % reduction in GHG by 2020 compared to 1990** [...] provided that other developed countries commit themselves to comparable emission reductions and economically more advanced developing countries to contributing adequately according to their responsibilities and respective capabilities”.
- “until a global and comprehensive post-2012 agreement is concluded [...] **at least a 20 % reduction of GHG by 2020**”
- “In that light, the European Council stresses [among other measures] the need to **increase energy efficiency** in the EU so as **to achieve the objective of saving 20 %** of the EU's energy consumption compared to projections for 2020”
- “endorses [...] a **binding target of a 20% share of renewable energies** in overall EU energy consumption by 2020;”



German Targets

- **2012 (Kyoto): - 21 % by 2012 (base year 1990)**
- **2020: EU: - 20 / -30 % (compared to 1990)**
 - ca. – 40% Germany
 - Absolute reductions: ca. 270 Mio. t compared to present (2006) level
- **Radical change of industrial society**
 - Change of production and consumption patterns
 - Technology innovations



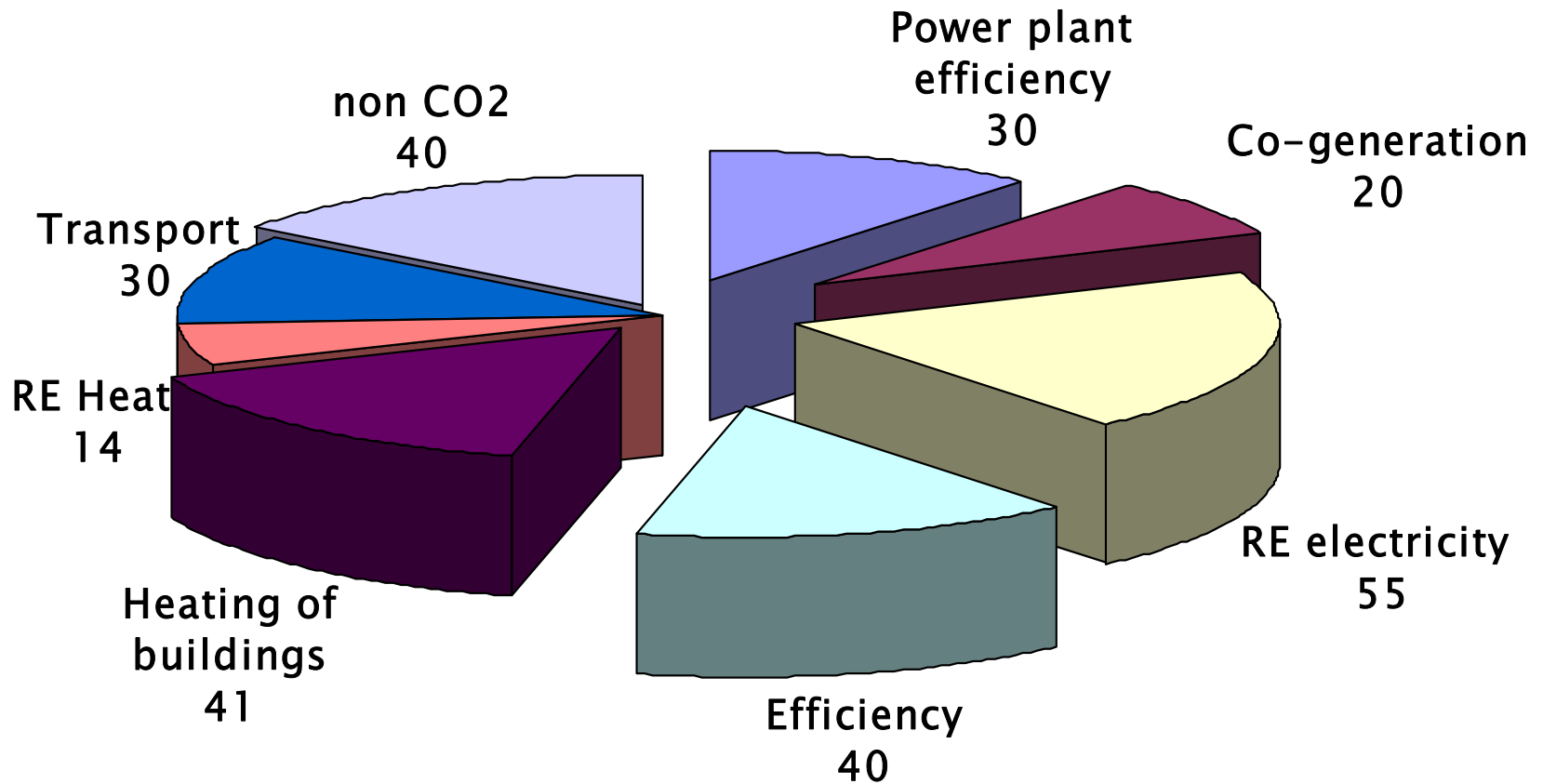
Integrated Energy and Climate Program

On August 23rd, 2007 the German government agreed on key elements of an integrated energy and climate program with 29 concrete measures

On Dec. 5th the German government will decide on draft new ordinances and laws of most measures which will then be sent to the German Parliament for final deliberation. It was felt important to do this in time to send a signal of what can be done to the Bali conference



8 Core Sectors: Reduction Contributions by 2020



RE= Renewable Energy



Integrated Energy and Climate Program

- 1 **Combined heat-and-power generation**
- 2 **Expansion of electricity from renewable energies**
- 3 CCS technologies
- 4 Smart metering
- 5 Clean power-station technologies
- 6 Energy management systems for enterprises
- 7 Programmes for energy efficiency (apart from buildings)
- 8 Energy-efficient products
- 9 Feed-in of biogas to natural gas grids
- 10 **Energy Saving Ordinance**
- 11 Operating costs of rental accommodation
- 12 **Modernisation of buildings**
- 13 Modernisation of social infrastructure
- 14 **Renewable Energies Heat Act**
- 15 Modernisation of federal buildings
- 16 CO2 reduction strategy for passenger cars
- 17 Expansion of the biofuels market
- 18 CO2 based vehicle tax
- 19 Energy labelling of passenger cars
- 20 Reinforcing of HGV toll
- 21 Aviation
- 22 Shipping
- 23 Reduction of fluorinated GHG
- 24 Procurement of energy-efficient products and services
- 25 Energy research and innovation
- 26 Electric mobility
- 27-28 International projects



Efficient Power Generation

- **More co-generation:** 25% of power generation from co-generation by 2020

→ **Law on Cogeneration**

- **More efficient power plants:** Replacing old ones

→ incentive: **Emission Trading**



Efficient Power Consumption (1)

- **Energy consulting** subsidized for SME
- **Energy management systems** will be made obligatory (as part of a voluntary agreement with industry)
 - industry finds out inefficiencies, and invests where economically viable



Efficient Power Consumption (2)

Efficiency standards to be set at EU level (Eco-Design Directive)

- many types of industrial and household equipment, (e.g. motors, fridges, street lighting ...)
- Germany advocates **“Top-Runner” approach**:
 - dynamic standards, regularly revised
 - after a certain time span all producers must be as efficient as the best ones were some years before



Efficient Buildings

→ Improving buildings (existing and new) most economic way of saving energy:

Standards for new buildings (**Energy Saving Ordinance** “EnEV”) being amended

Subsidies (some billion € over the next years) for refurbishing and renovating buildings with better insulation and more efficient heating (**CO₂-Buildings-Renovating-Program**)

Information

Model projects

Renovation of public sector buildings



Transport (1)

Efficient cars

- **Standards** on EU-level (being discussed)
- **Taxes:**
 - o Tax on fuel (existing)
 - o CO₂ based vehicle (in preparation)
- **HDV Toll charge:**
 - o currently: for heavy transport vehicles on motorway (Autobahn) to be extended on rural roads
- **CO₂-Labeling of cars:**
 - o Improved labeling of CO₂-Emissions



Transport (2)

Transport systems

- **Subsidies for public Transport** (some exist)
- **Emissions trading for aviation** (EU directive being negotiated)
- **Improved cycling infrastructure** (Bundesradwegeplan)

Fuel

- **Binding targets for share of biofuels**
Certification necessary to prevent negative effects in particular on biodiversity (e.g. rainforest)



Renewables

Renewables

Electricity:

- **Feed-in tariffs**, technology differentiated, based on need (difference between production costs and market price)
Law: (**EEG - Renewable Energy Sources Act**)
- **Investment Programs**
- **Research funding**

Heat:

- **New law in preparation** will make certain percentage of renewables in heating compulsory for new and substantially refurbished buildings



Costs and Benefits of the Energy and Climate Program

Climate protection pays off:

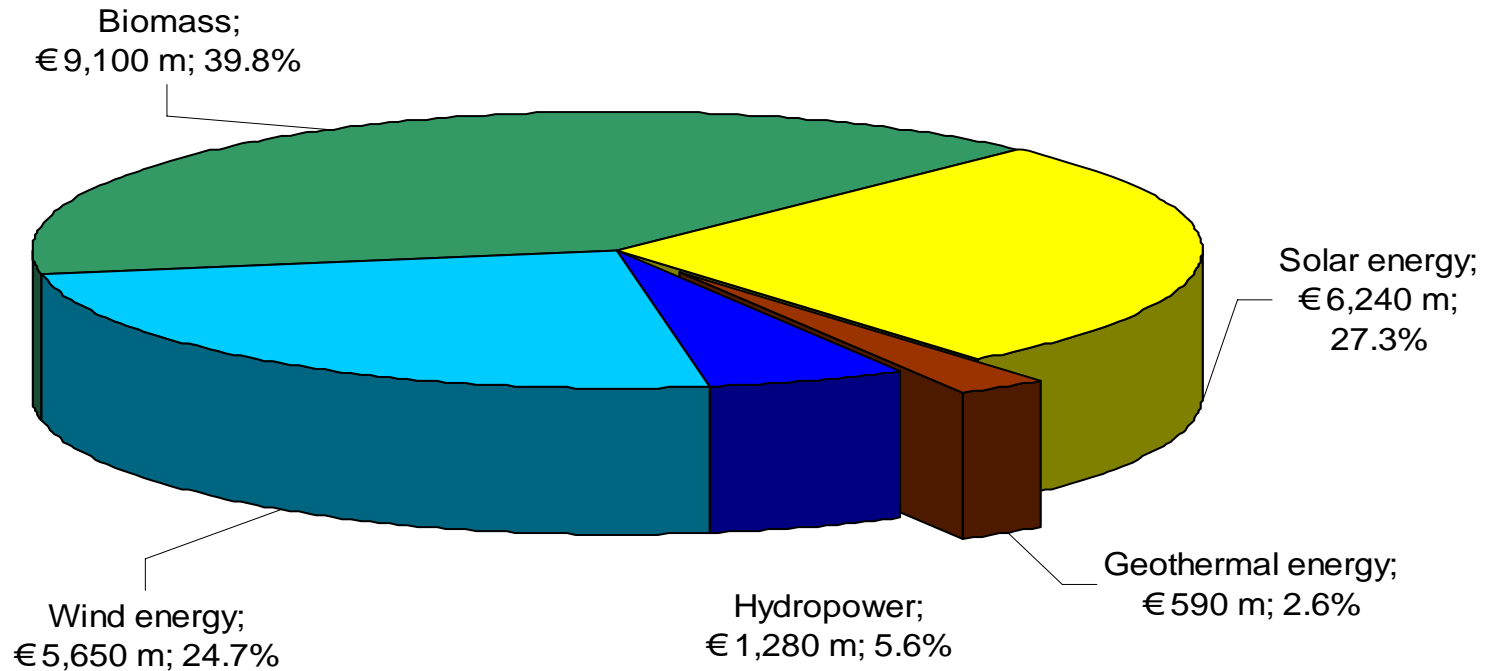
- 2020: **5 bill. € net savings** in private households and industry (36 bill. savings vs. 31 bill. Capital costs of investments).
- On average, **every ton of CO₂ saved has a saving effect of 26 euro** ("negative avoidance costs"):
- **All measures in the field of energy efficiency lead to net savings.**
- **Co-generation** and increased use of renewables in the electricity sector generate **very moderate avoidance costs.**
- Costs in the renewable heat and biofuel sector are higher (this is investment in the future: technology innovation needed).



Economic impact: German Renewables Industry

Total turnover with renewable energy sources in Germany in 2006

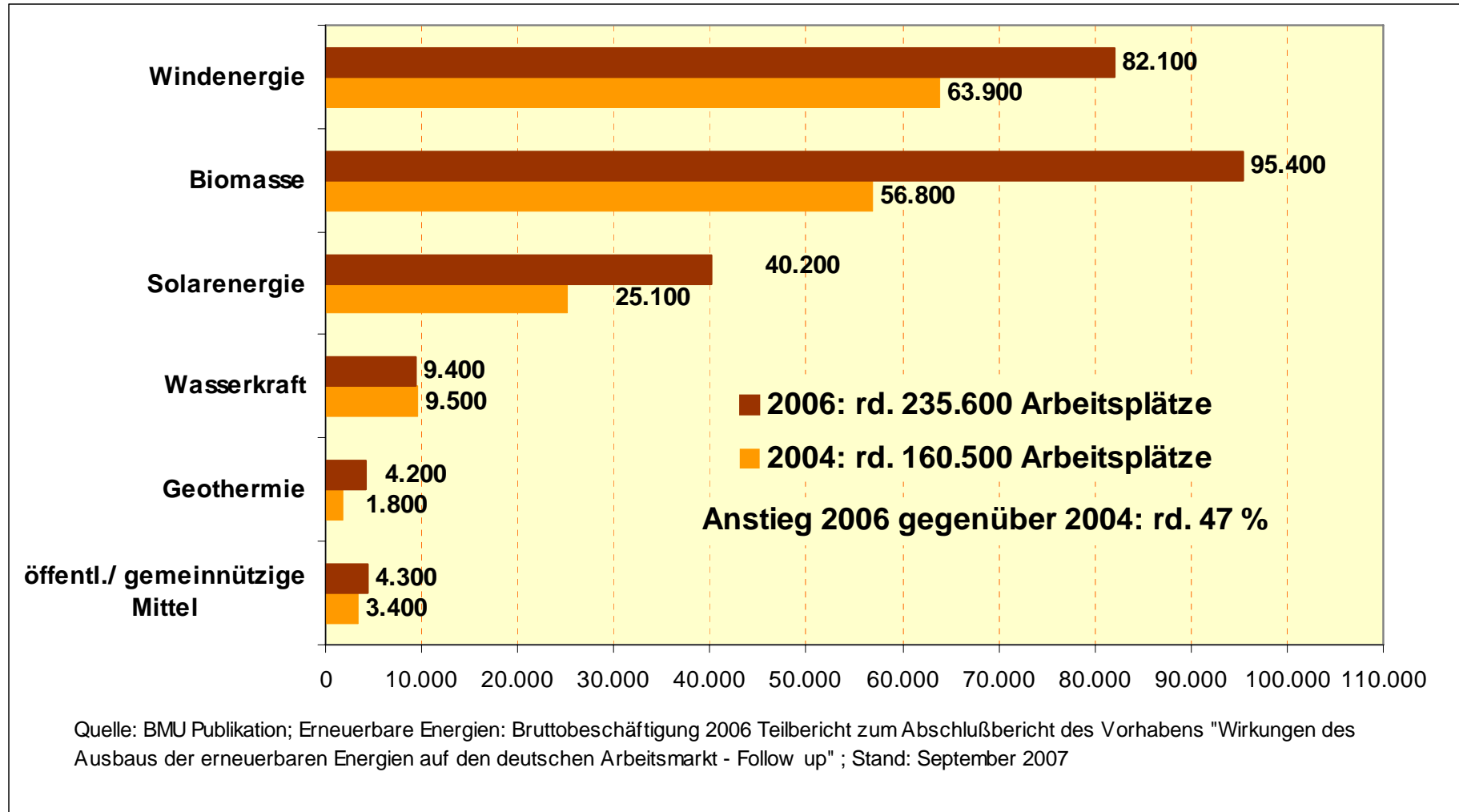
Total: approx. €22.9 billion



Sources: BMU-Brochure "Renewable energy sources in figures – national and international development-" Version: June 2007
provisional figures



Employment Effect: German Renewables Industry





Benefits of Climate Policy

- Reduced dependence on fossil fuel imports (gas, oil)
- Reduced energy costs in industry → increase competitiveness!
- New jobs created
- Innovations in efficiency and renewables promoted → head start on markets of the future!
- Reduced damage costs caused by climate change (storms, floods, health problems, etc.)

→ Investment in Climate Protection pays twofold:
For the environment and for the economy!



Conclusions

- Bali needs to decide on a negotiating mandate for a comprehensive post-2012 climate agreement
- EU leadership:
 - Setting targets (Spring Council)
 - Consequent implementation (doing first steps): Commission proposals to come in January 2007 on effort sharing, renewed ETS, renewables
 - Creating confidence in particular with respect to developing countries,
- Germany will contribute its part
 - integrated energy and climate program
- Win-win: EU has the chance to both protect the climate and become a global economic frontrunner



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