



The Federal Ministry
for the Environment,
Nature Conservation
and Nuclear Safety

Wind Energy and Development Dialogue 2007

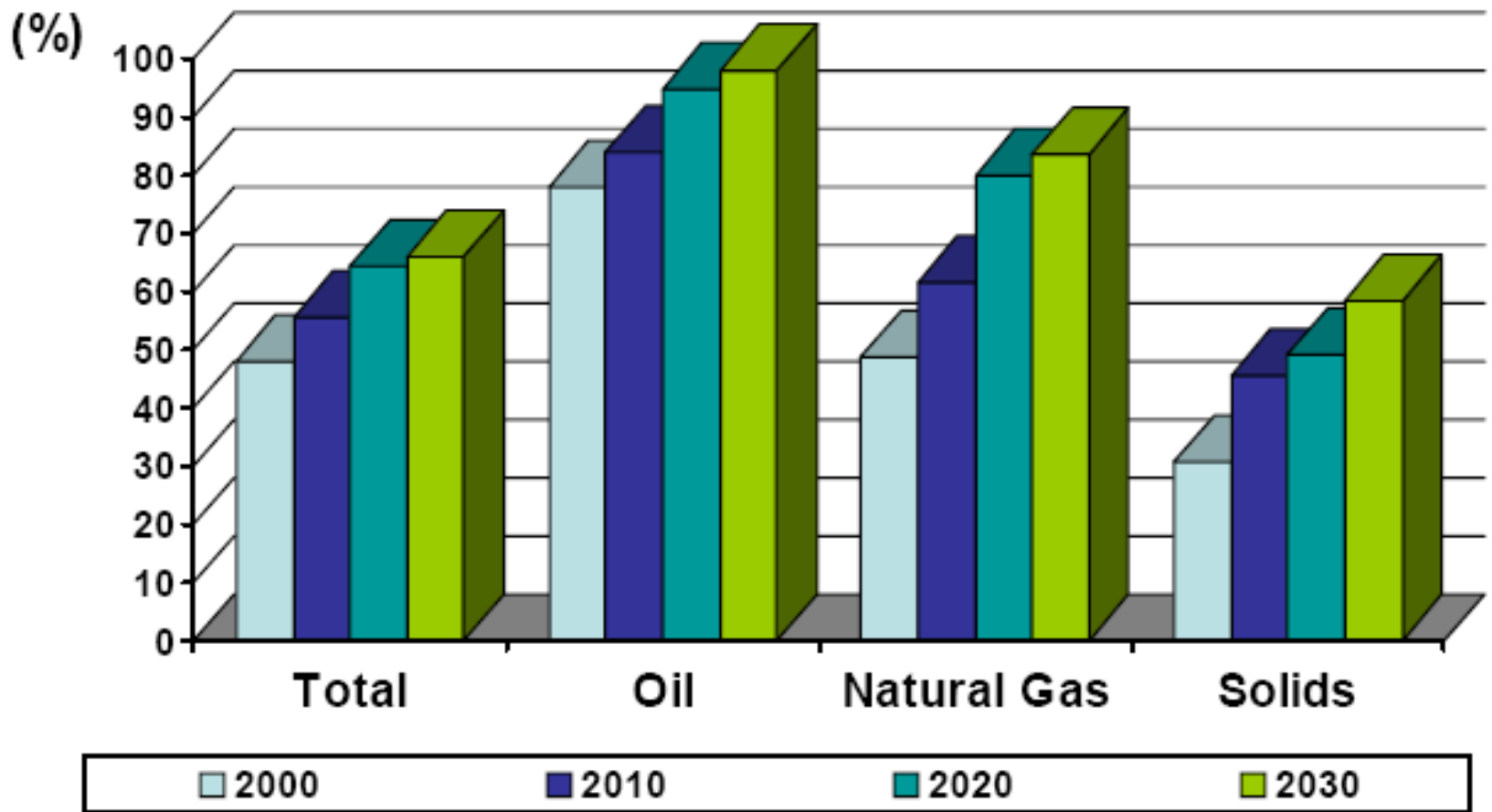
International Activities of BMU

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Federal Ministry for the Environment,
Nature Conservation and Nuclear Safety

Berlin, 10 October 2007

2.10. EU-27 Development of Import Dependence up to 2030 (Baseline Scenario)



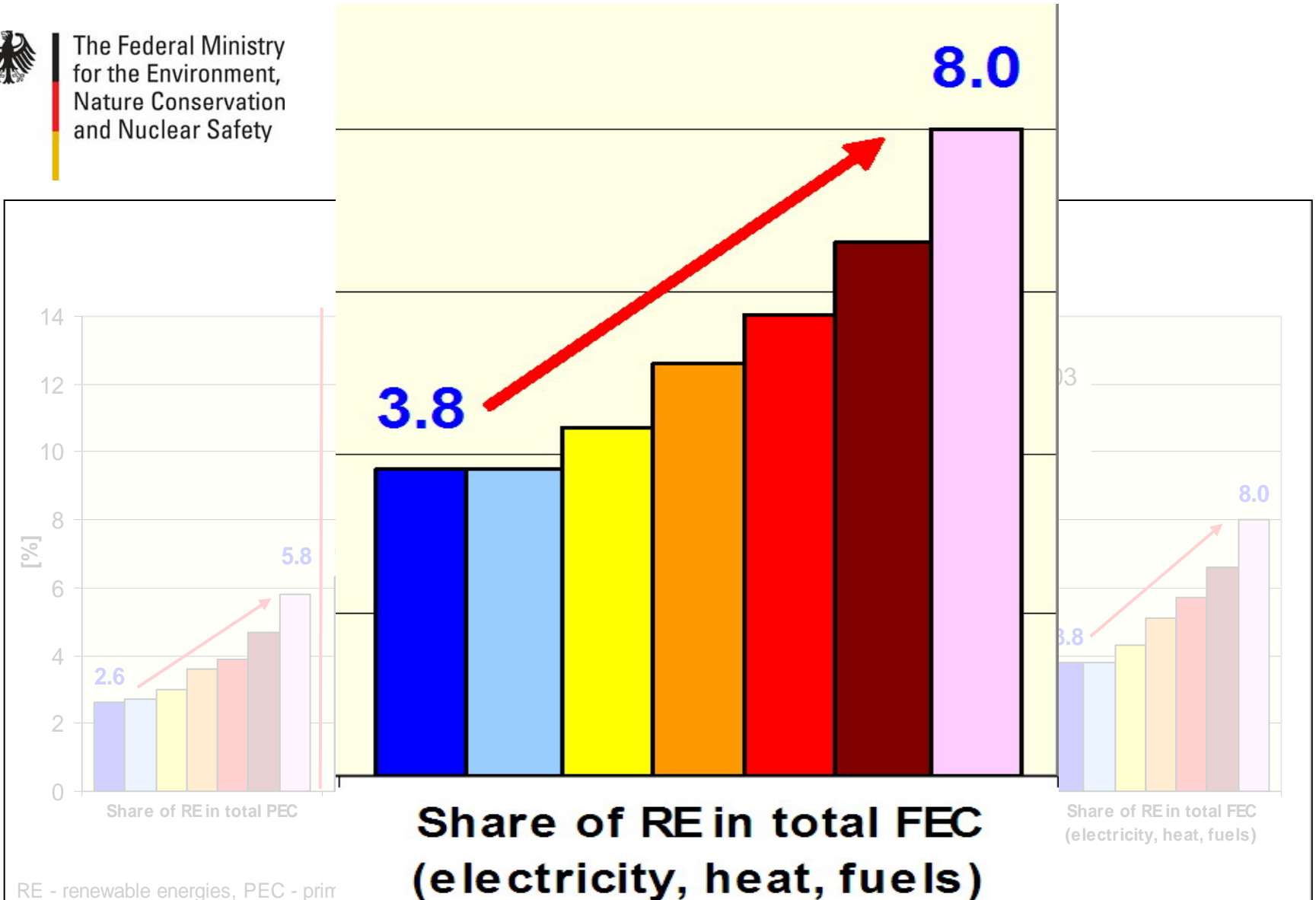
Source: European Commission DG TREN, PRIMES



- RE development in Germany
- RE future targets and perspectives in Germany
- Some elements for the new EU Directive for RE



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RE - renewable energies, PEC - prior

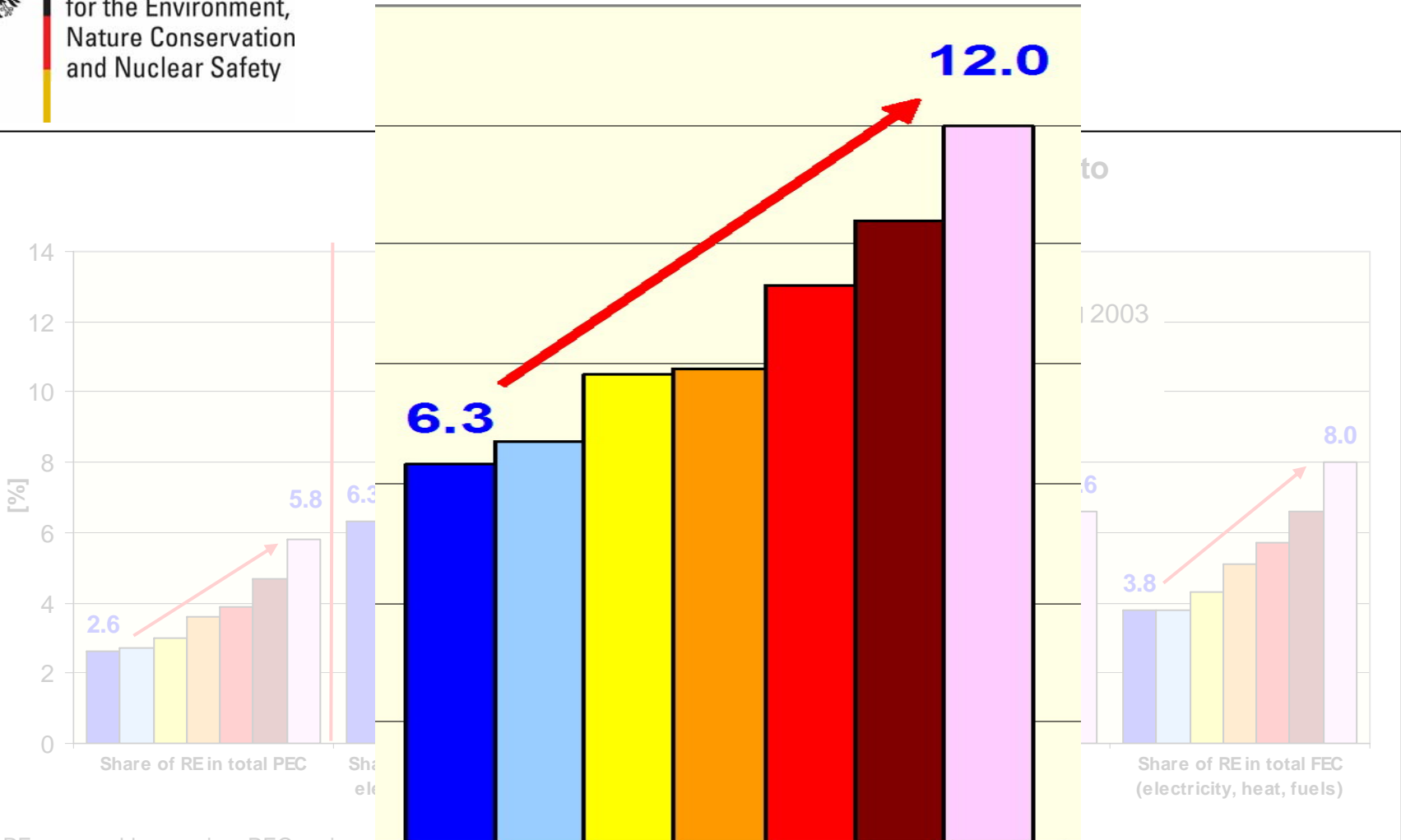
* All figures provisional

** From 2003, new data from the EnE

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



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RE - renewable energies, PEC - primary energy consumption

* All figures provisional

** From 2003, new data from the Energy Agency

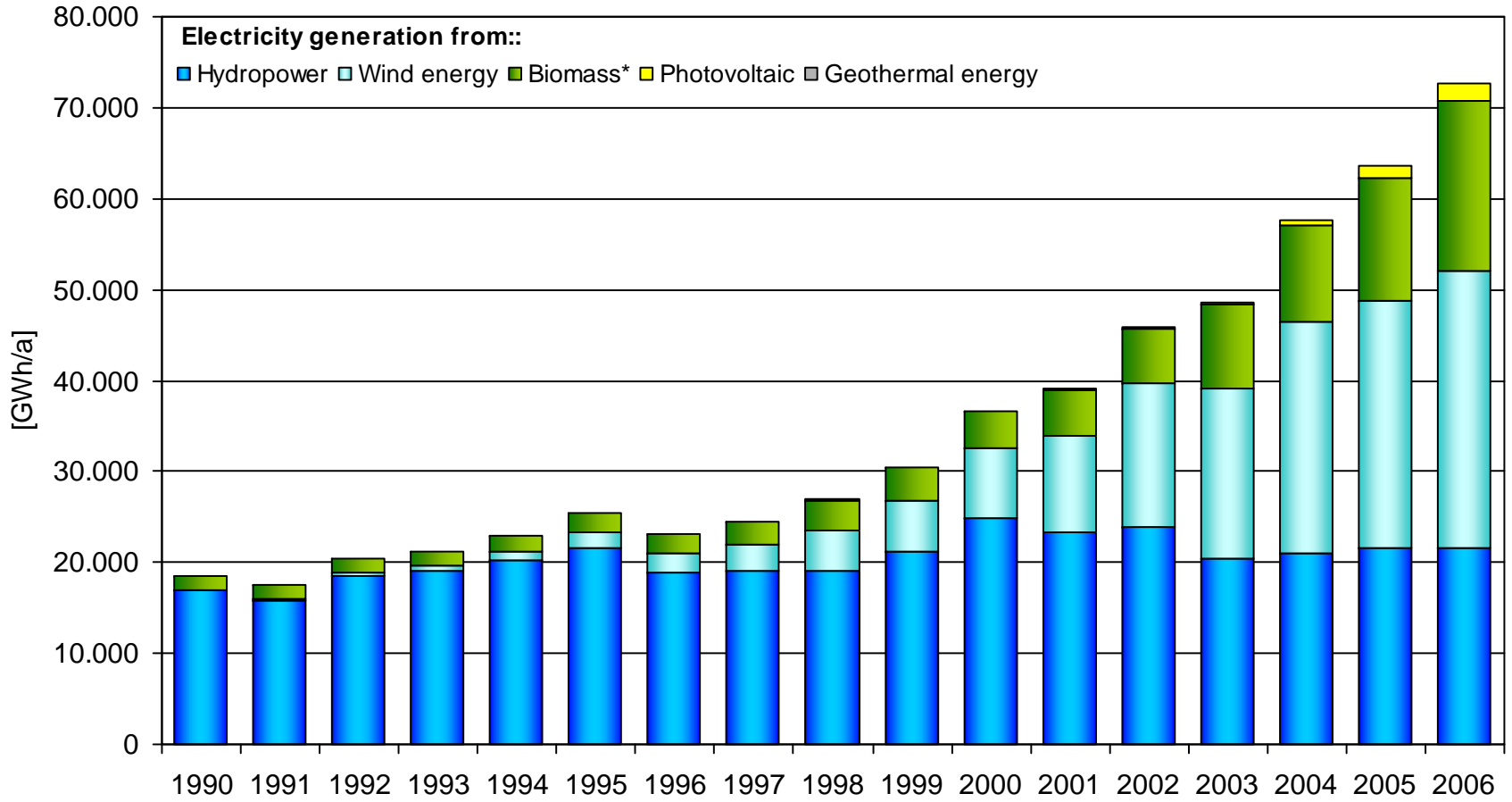
Source: BMU-Brochure "Renewable energy in Germany"

Share of RE in total gross electricity consumption

June 2007



Electricity Generation from RE





Offshore wind parks (OWP) in Germany

- 12 OWPs approved by German Federal Maritime and Hydrographic Agency (BSH)
- First OWP expected to operate from autumn 2008
 - Especially testing field in North Sea (12 x 5 MW)
- Challenges
 - Missing real-life experiences in deep-water (up to 40 m) and long distance to shore (150 km) due to Wattenmeer/nature conservation area and shipping lines
 - High costs of grid connection
 - Strong onshore market with rising turbine prices



The Instrument: Feed in Tariff System: EEG (I)

- Priority access for RE to the power grid
- Priority transmission and distribution
- Obligation of grid operators to purchase the electricity produced from RE
- Fixed price ("tariff") for every kilowatt hour produced from RE for 20 years



EEG (II)

- Equalisation of additional costs for electricity from RE between all grid operators and electricity suppliers
- All different types of RE are considered and tariffs are differentiated by source and size of the plant
- Annual decrease (-1,5% - -6,5%) due to technical development (degression)

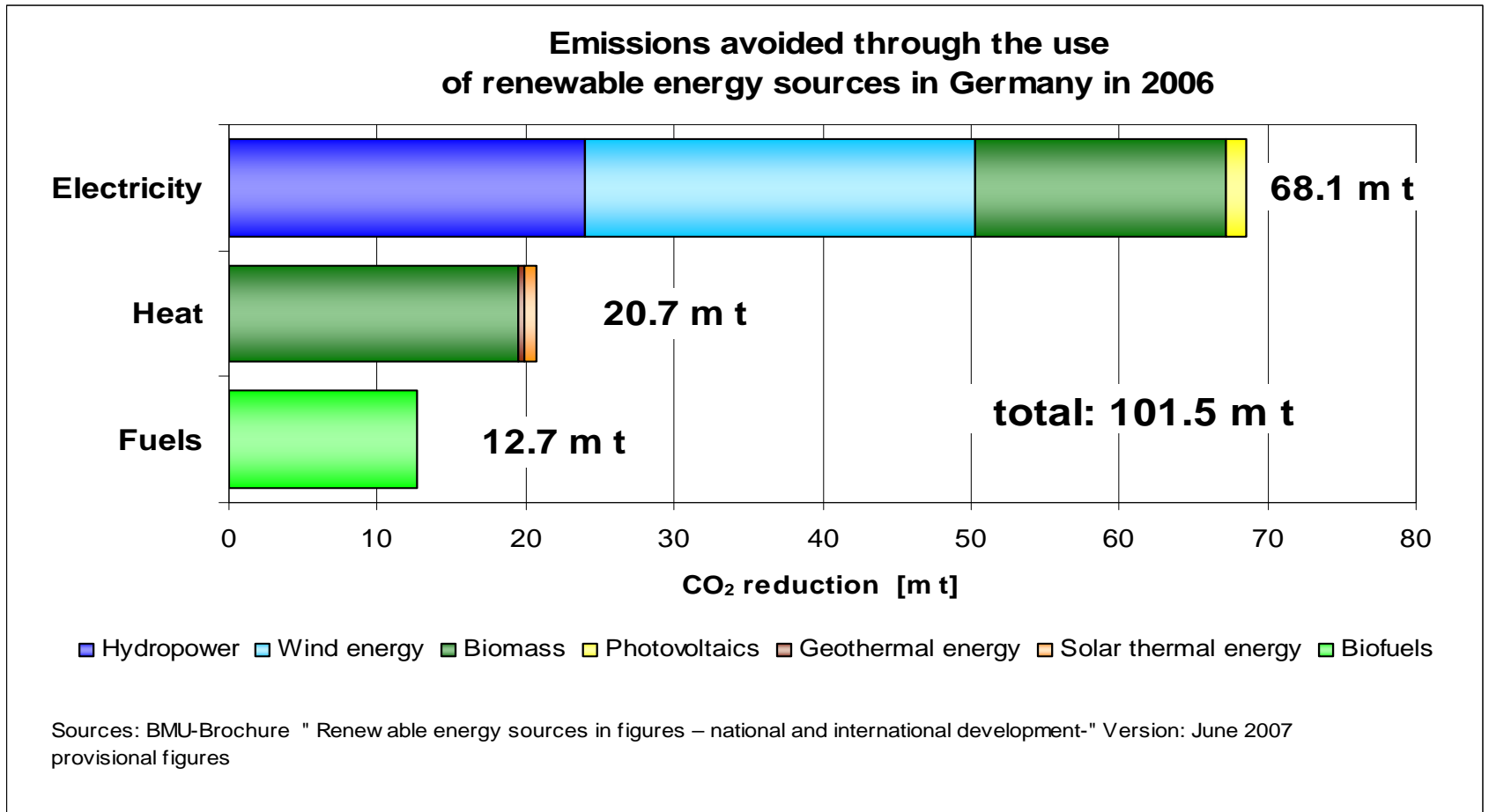


Achievements of the EEG

- RES-E target achieved in 2007
about 12.0 % in 2006 [1998: 4.7%]
- 214,000 jobs in RE industries (2006)
- 22.9 Billion Euro turnover (2006)
- 101 Mio. tons of CO₂-reduction (2006)
- 1.6 € per month/household (2006)



Results of RE (I): Saved CO₂ emissions

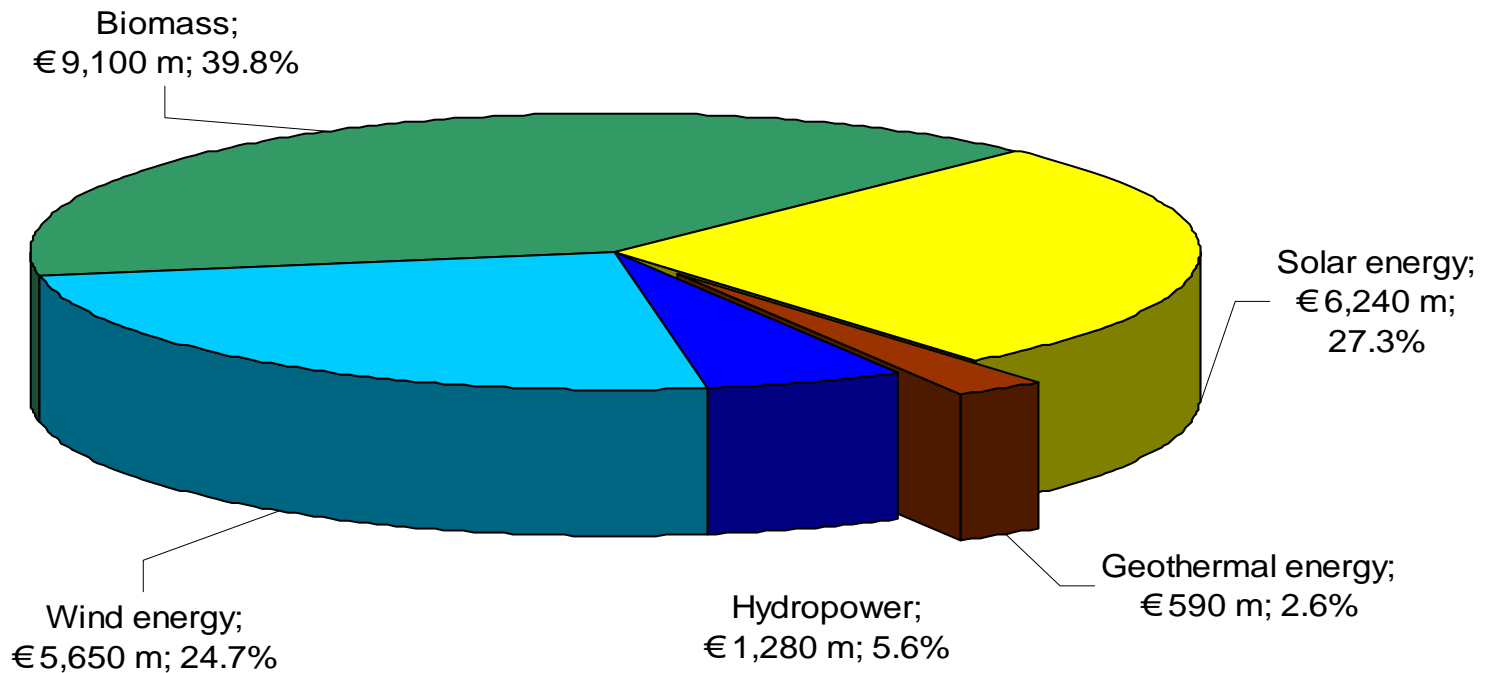




Results of RE (II): New industry

Total turnover with renewable energy sources in Germany in 2006

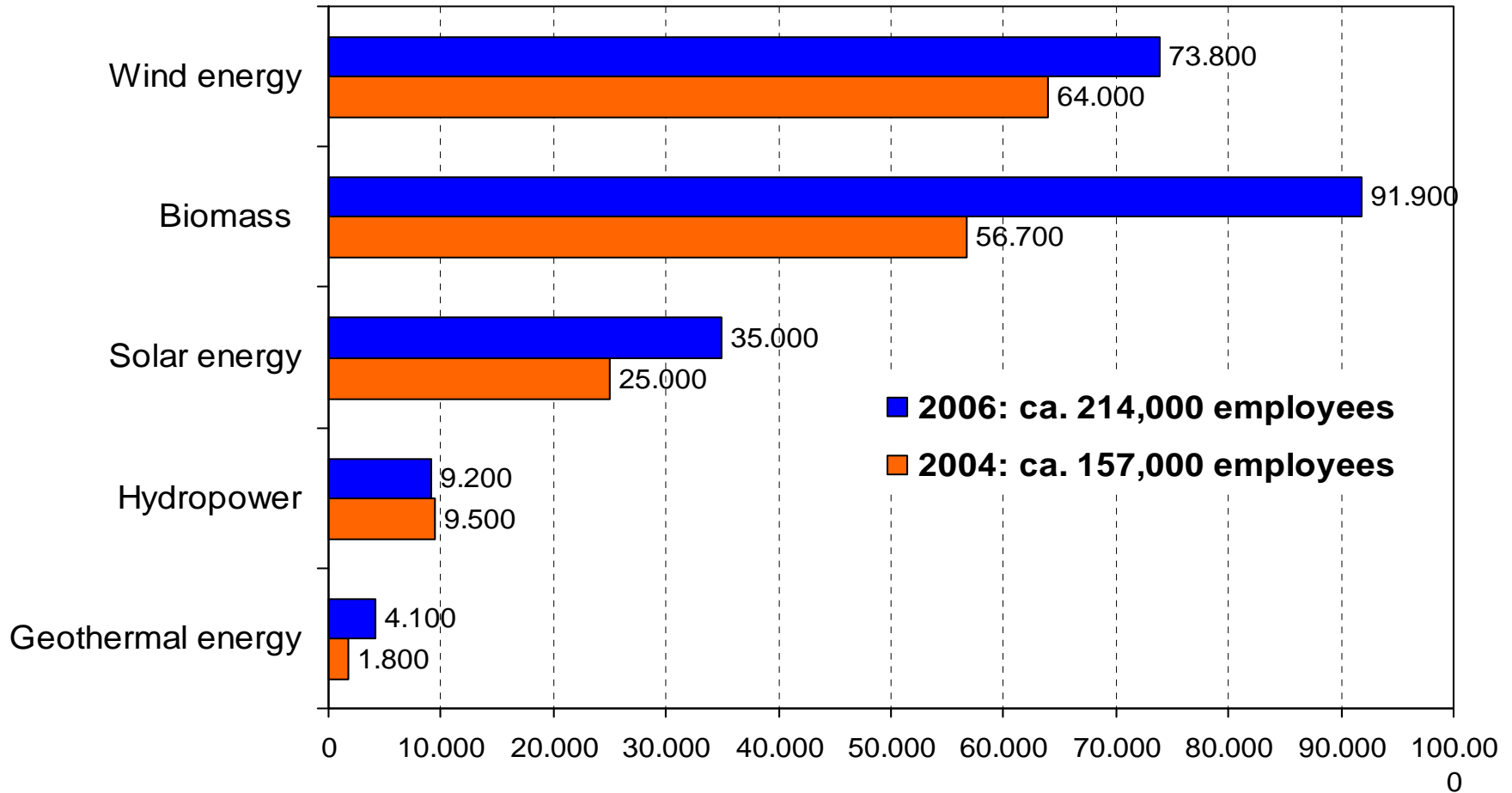
Total: approx. €22.9 billion



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



Results of RE (III): Employment





RE future targets and perspectives

Comprehensive energy and climate change programme

(Meseberg, August 2007)

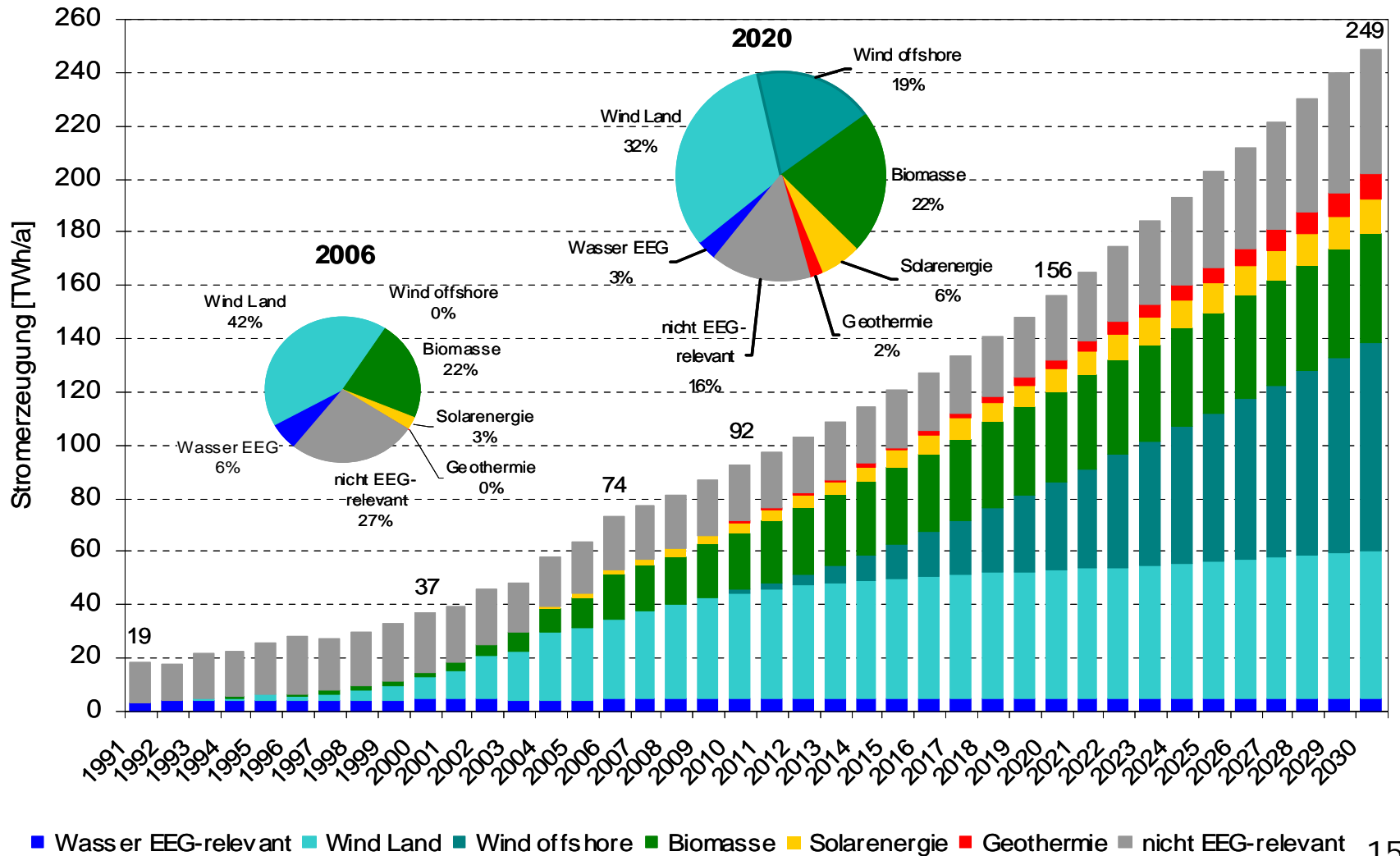
Objectives for RE for 2020

- Electricity generation: 25-30% EEG continues
- Heating: 14% Incentives + obligation
- Biofuels: 17% Quota / Blending

→ **RE Target 2020: 18-19% (FEC)**

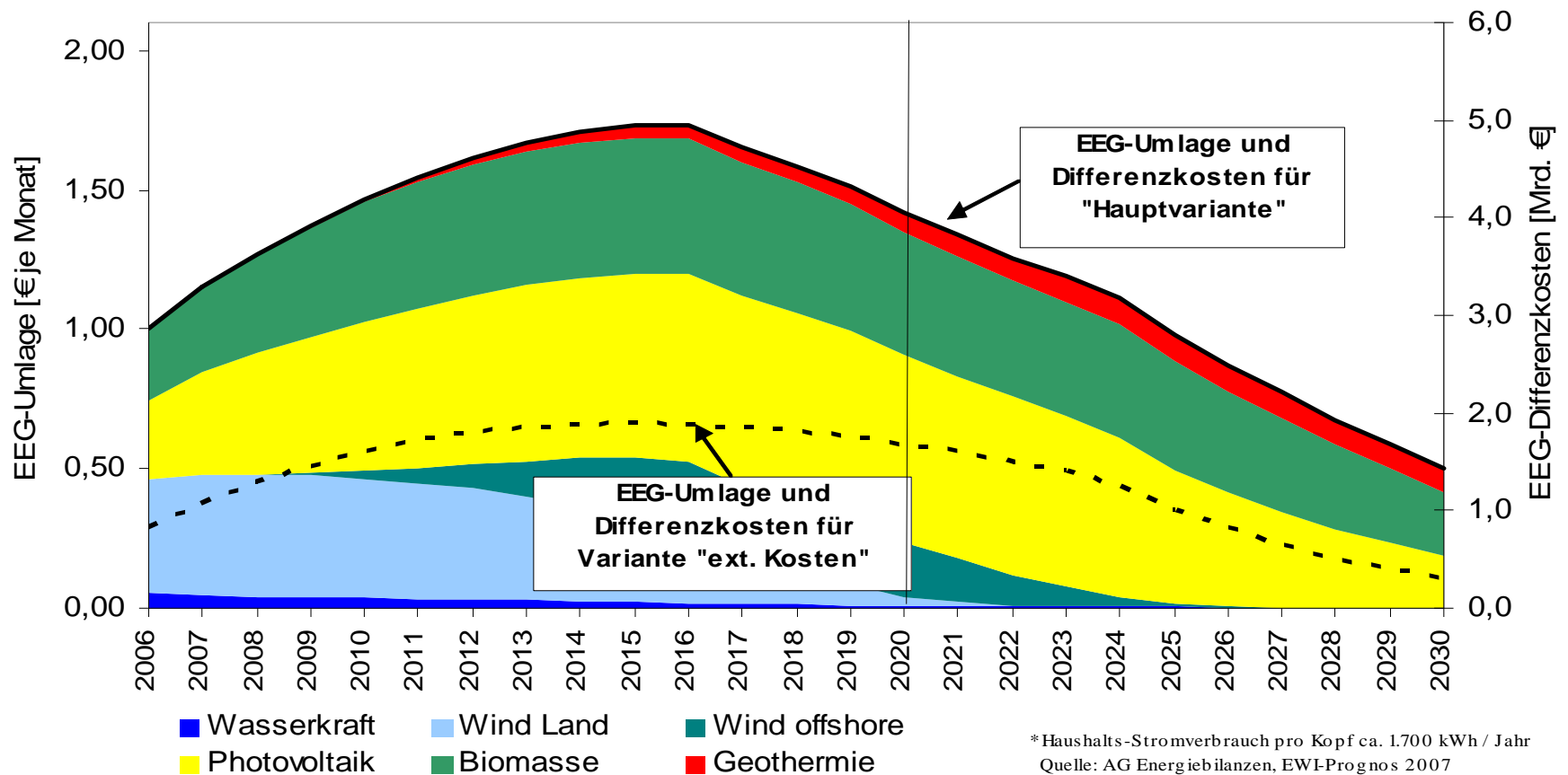


German RE-Electricity Production 1990-2030



Additional EEG-Costs 1990-2030

Development of the estimated differential costs and the additional EEG-Costs for households (per person and month, basis 2007)



* Haushalts-Stromverbrauch pro Kopf ca. 1.700 kWh / Jahr
 Quelle: AG Energiebilanzen, EWI-Prognos 2007



Benefits of RE

Exemple of Germany, 2006:

- Lower Wholesale price for electricity: savings of 5 bn. EURO
- Savings of Fuel imports: 0.9 bn EURO
- Avoided damage from climate change and air pollution: 3.4 bn EURO

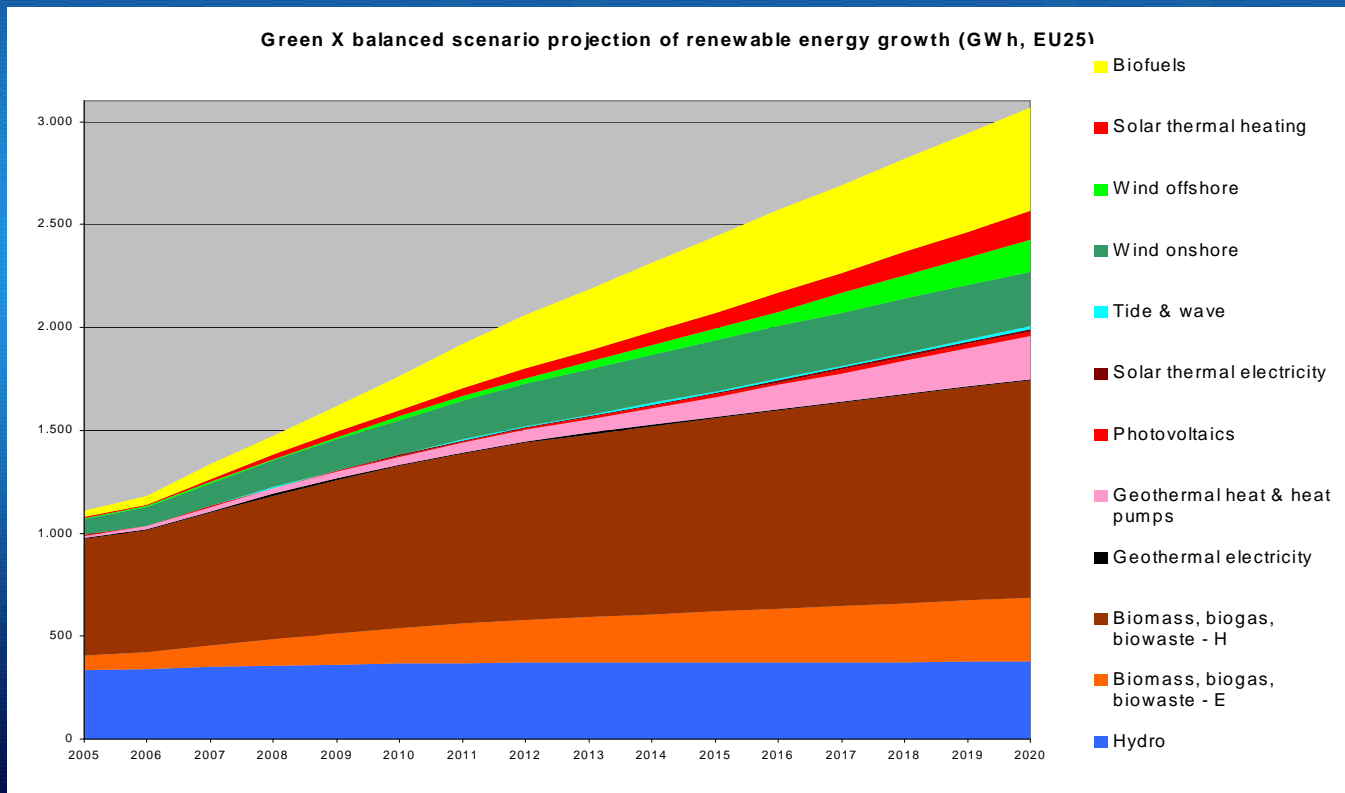


Starting points for EU-Policy

1. RE-Share 2020: 20%!
2. Potentials: in all Member States
3. Innovation: all technologies are required
4. New Directive has to be compatible with successful MS policies and instruments
5. No disruption of markets
6. Achievement of targets through “investments/trade” in other Member States



How do we get there?

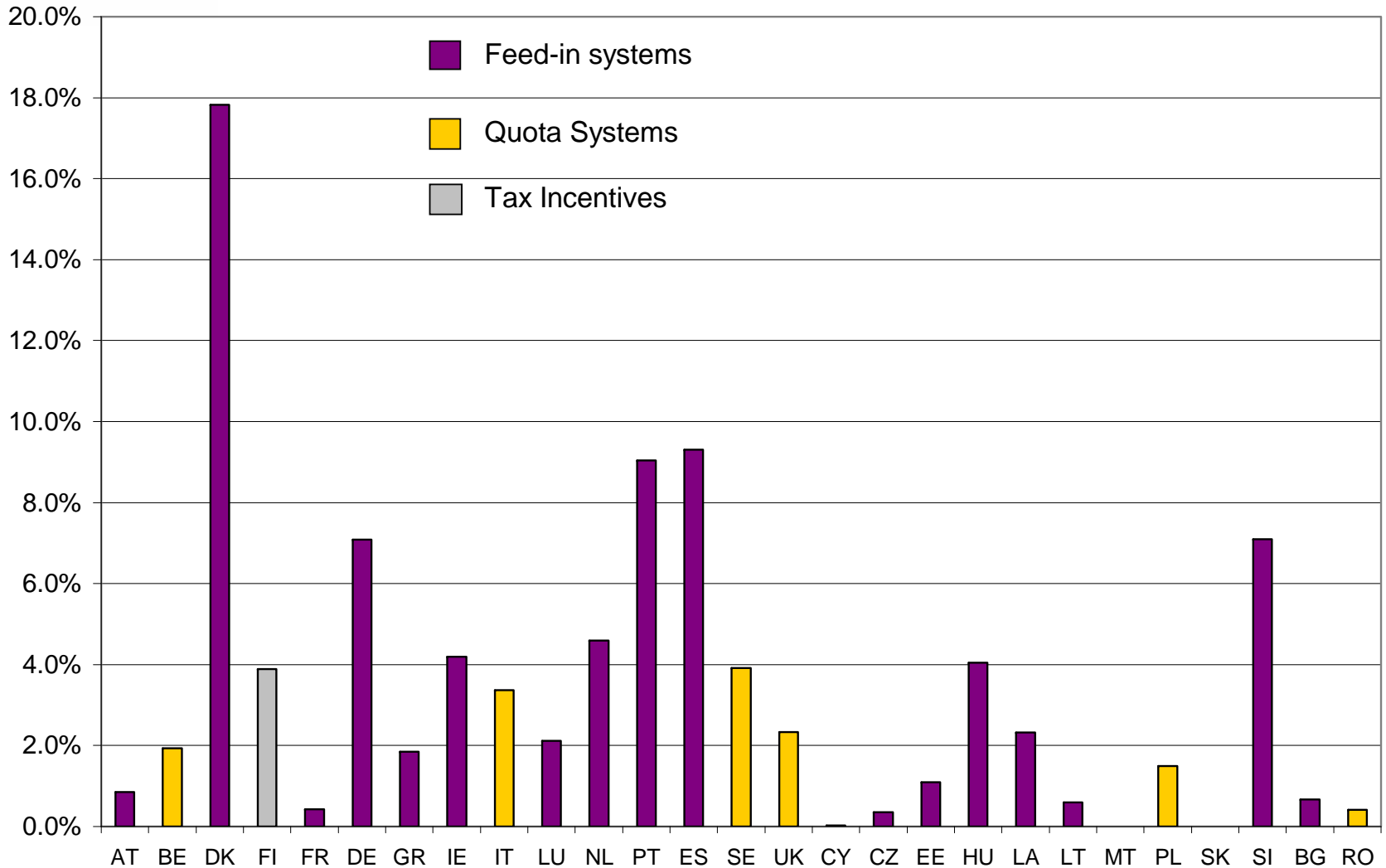




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Additional RES-E penetration 1997 - 2005

Additional RES-E generation 1997-2005 as share
of gross electricity demand in 2005 [%]



Source: Fraunhofer ISI



Essential elements for the new EU RE directive

Make the instruments strong!

- Sector targets, interim targets
- Priority connection for RE - electricity
- Sufficient level of support
- Streamlining planning procedures
- Sustainability criteria for bio energy
- Sanctions for non-compliance



CDM/JI Initiative

- Increase of CER/ERU for German companies
- Enhanced cooperation with developing countries
- Actors: ETS submitted companies, Financial services, developers, technology provider
- Links to Technology export support
- Concept being prepared, operational as of 2008



Deutsch-Französische Koordinierungsstelle Windenergie (I)

- 2005: Gründung eines Arbeitskreises
 - Teilnehmer: Ministerien, Verbände, Energieagenturen, Unternehmen
 - Forderung: Gründung einer deutsch-französische Koordinierungsstelle Windenergie
- 01.11.2006: Offizielle Arbeitsaufnahme



Deutsch-Französische Koordinierungsstelle Windenergie (II)

- Aufgaben
 - Bündelung von Interessen
 - Vernetzung der Akteure
 - Initiierung von Kooperationen
 - Informations- und Erfahrungsaustausch
 - Übersetzung von Dokumenten
 - Aufbau einer Internetseite (www.wind-eole.com)
 - Workshops
- Umsetzung
 - Aktuell drei Teilzeitbeschäftigte
 - Finanzierung durch BMU und beteiligte Unternehmen
 - Ministerien stellen Räumlichkeiten zur Verfügung



German-Chinese Cooperation on Wind Energy (I)

- Agreement to build up a cooperation between German MoE and Chinese NDRC in mid 2006
- Focus on:
 - Certification of wind energy plants
 - Grid integration of wind energy plants
 - Technical education and information campaigns
 - Facilitation of joint ventures
 - Exchange of experiences on framework conditions



German-Chinese Cooperation on Wind Energy (II)

- Detailed concept is now developed with corner stones
- Formally within a Memorandum of Understanding (MoU)
- This should be signed by the Ministers early 2008



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Thank you very much!