KAS -Young Parliamentarians' Meeting

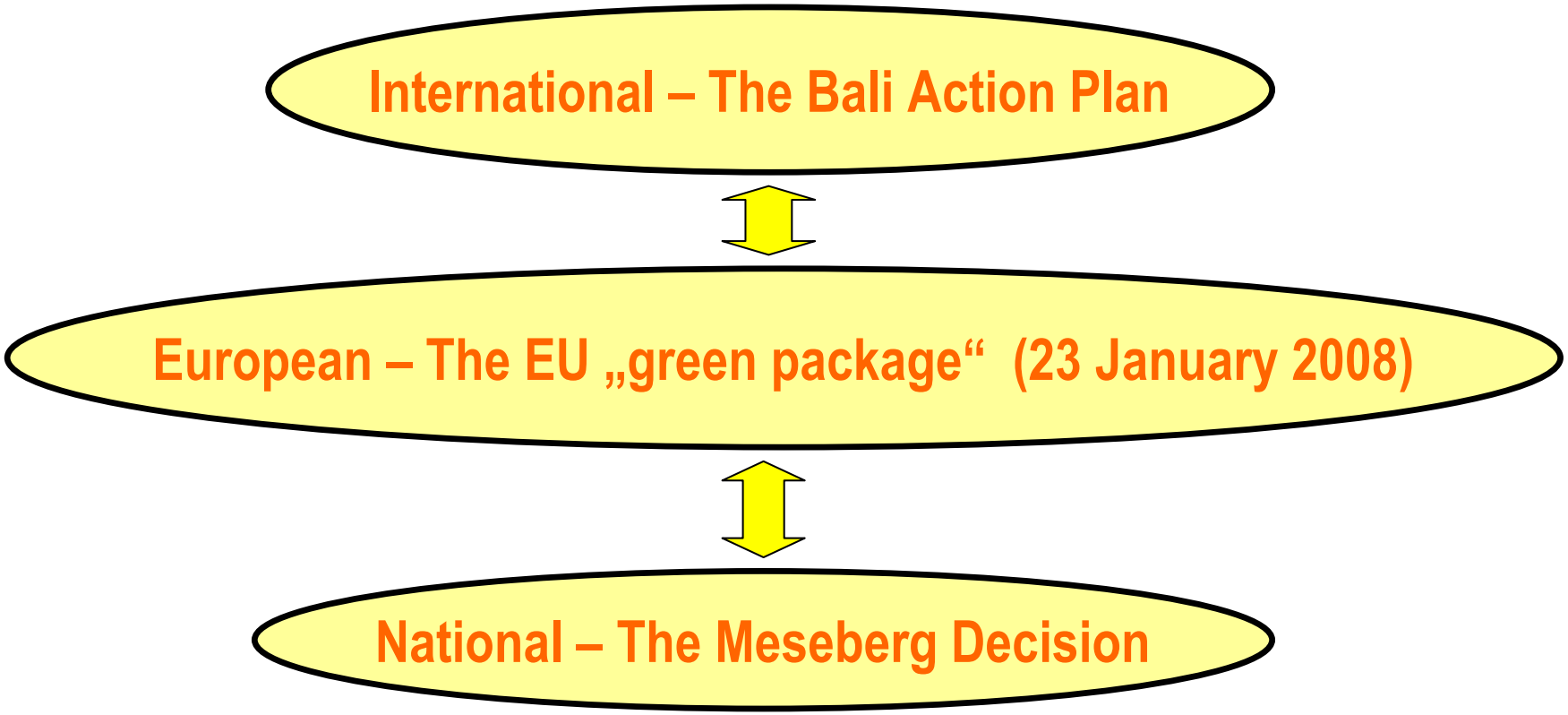
"Current energy- and climate-policy agenda of Germany – Response to the energy challenges"

04/20/2008

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

CDU

The levels of action



Targets

EU Council, 9 March 2007:

- **Binding Target:** 20 % reduction in GHGs by 2020 versus 1990
- **Conditional:** 30 % reduction in GHGs by 2020 versus 1990, provided other industrialised countries are willing to make comparable reductions
- For Germany, a 30 % reduction in GHGs by 2020 translates into minus 40 %
- Compared with the present day, this requires a reduction in GHGs of 270 million t/a compared with the emissions volume in 2006!

National targets

Climate change targets	Sector	Status
burden sharing	Reduction of GHG's (CO_2, CH_4, N_2O, HFCs, PFCs and SF_6) by 21 % 2008 – 2012 (base years 1990/1995)	National Act on the ratification of the Kyoto Protocol
2020 target	40 % reduction of GHG-emissions by 2020 against 1990	Cabinet Decision on 5. Dezember 2007
2020 target	Share of renewables • power 25 – 30 % •heat 14 % •fuels 17 %	Cabinet Decision at Schloss Meseberg on 24. August 2007
CHP	Share of power production by CHP of 25 % by 2020	Cabinet Decision at Schloss Meseberg on 24. August 2007
Energy Efficiency – Energy Productivity	Doubling of the Energy Productivity of the whole society by 2005 (base year: 1990)	Declaration by the government on 26. April 2007

How do GHG emissions and economic growth relate

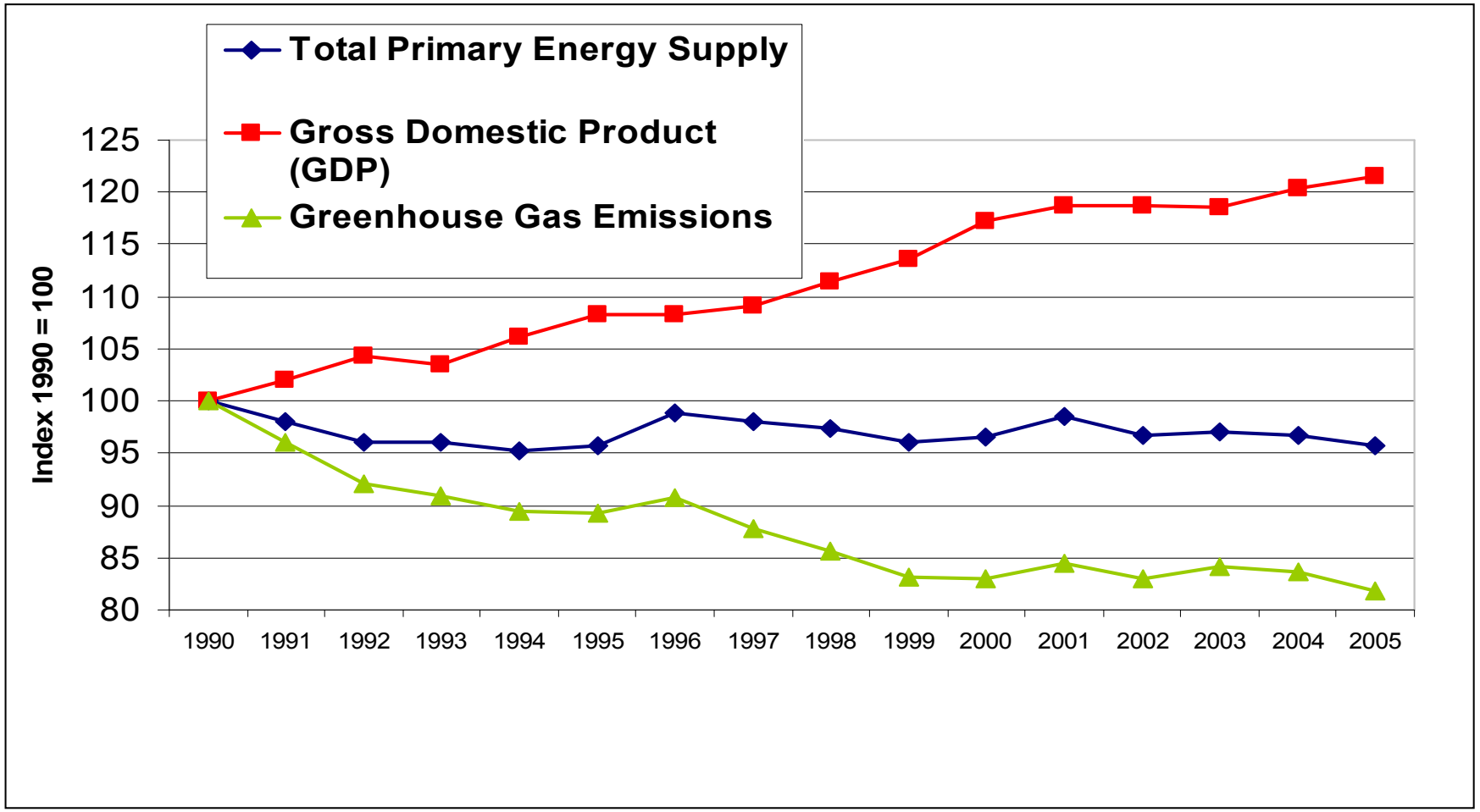
- Achieving effective GHG targets requires **Decoupling** of emissions and economic growth!

→ Increase of Energy Efficiency

→ Strengthening low Carbon (or Carbon free) energy sources (renewables, CCS, nuclear?)

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

Decoupling of economic growth and GHG emissions in Germany



Source: FME 2007.

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

CDU

Government‘s declaration on Climate Change (April 26th 2007)

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

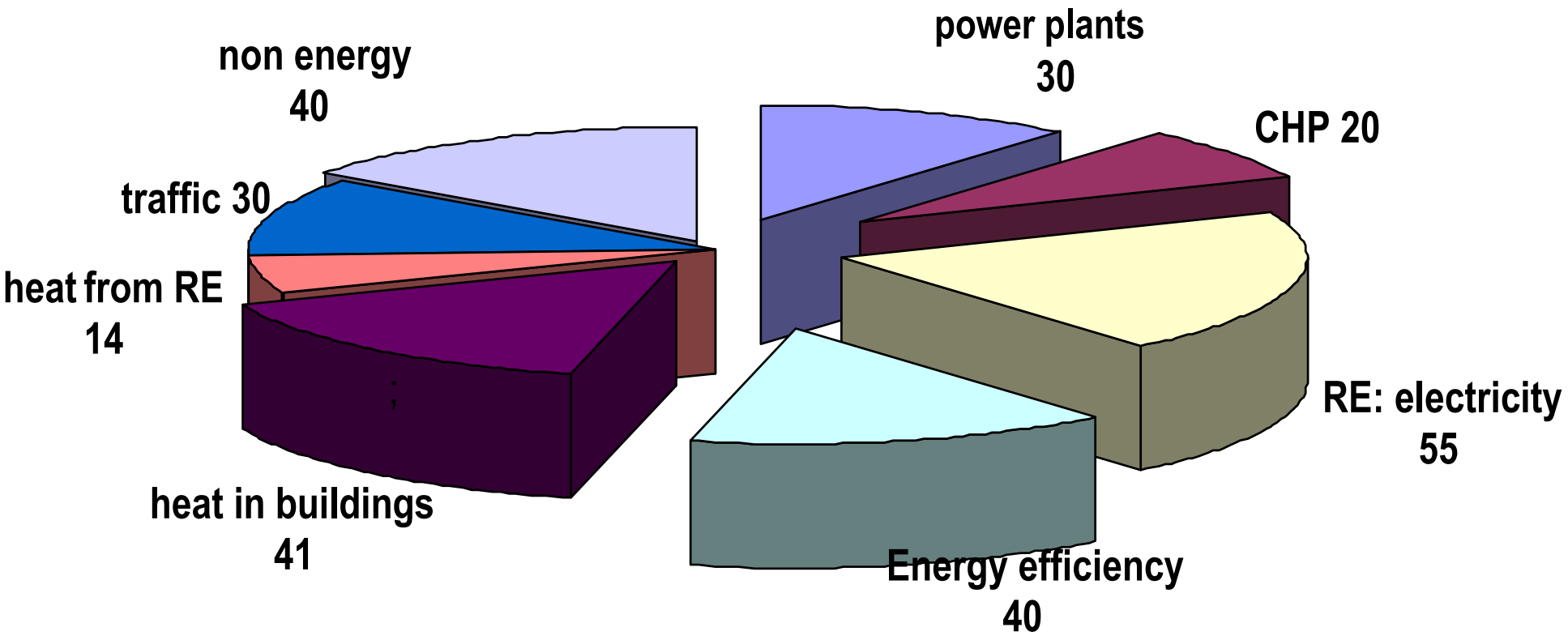
CDU

Emission reduction contributions

Measure	Reduction contrib. in million t/a CO_2equiv.
11 % reduction in electricity consumption	40
Upgrade of the power plant portfolio	30
Increase the proportion of electricity generated from renewables	55
Doubling in the share of electricity generated from CHP plants to 25 %	20
Reduction in energy consumption via building renovation, efficient household technology and production processes	41
Use of renewable energies to generate heat - increase to 14 %	14
Increase in transport efficiency and increase in the use of biofuels to 17 %	30
Reduction of non-CO_2 gases	40

8 Main Sectors of the „Minus 40 %“ Declaration

CO2 Reductions (Mio t/year) **(∑ 270 Mio t/year)**



Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

CDU

The new approach – Creating an integrated Climate Change and Energy Programme (endorsed 5th Dec. 2007)

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

CDU

The integrated Energy and Climate Programme – Highlights

1	Improvement of the CHP-Act and the Voluntary Agreements on CHP	25 % power generation by CHP
2	Expansion of power generation by renewables	25 – 30 % power generation by renewables
3	Development of CCS – construction of 2 – 3 demonstration plants	Next step: Legal framework
4	Smart metering	Optimisation of power consumption
5	Clean power generation (low NO_x power plants)	
6	Energy Management in small and medium sized companies	Using the unexploited potential to enhance energy efficiency

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

The integrated Energy and Climate Programme – Highlights

7	Economic incentives to promote CO_2-reduction and energy efficiency	Support programmes outside buildings
8	Energy efficient products and services	Use of standards, consumer friendly labelling etc.
9	Feed in of biogas to natural gas grids	Target setting, specification of special provisions
10	Improvement of existing building codes	Energy efficiency requirements to be raised by an average of 60 % (2012)
11	Operation costs of rental accomodation	right to withhold payment
12	Substitution of electric heating systems	Replacement of night storage heaters

The integrated Energy and Climate Programme – Highlights

13	Energy-efficient modernisation of social infrastructure	Refurbishment of schools, day nurseries
14	Renewable Heating Act	14 % renewable energies share of heat consumption
15	Energy efficient modernisation of federal buildings	2006 – 2009: 500 Mio. € budget
16	CO_2 strategy for passenger cars	average CO2-emissions form new cars 120 g/km
17	Expansion of the biofuel market	20 % biofuels by volume by 2020

The integrated Energy and Climate Programme – Highlights

18	Reform of vehicle tax based on CO_2	Differentiation of tax rates related to CO_2-emissions
19	Energy labelling of passenger cars	EU-wide labelling
20	Development of the Highway toll for Trucks	Differentiation of toll rates by emission classes
21	Emissions Trading on Aviation	
22	Emissions Trading on Maritime Shipping	
23	Reduction of emissions of HFC‘s	Chemical Climate Protection Ordinance (air conditioning, refrigeration systems)

The integrated Energy and Climate Programme – Highlights

24	Procurement of energy efficient products and services by the Federal Government	Technical guidelines to form the basis for procurement decisions
25	Energy research and innovation	Development and implementation of a High-Tech Strategy
26	Electric Mobility	New batteries, new power storage systems
27	JI and CDM	Support programmes, Energy Efficiency Export Strategy
28	Reporting on Energy and climate policy by German embassies	
29	Transatlantic climate and technology initiative	Closer transatlantic cooperation and consultation on climate Protection

Instruments of the energy and climate package

- **legally binding frame** → clear perspective and conditions for reaching the targets
- supporting and **funding schemes** → developing start up initiatives
- **feed in tarifs** → creating development of sustainable techniques
- **Information** → creating savings and win-win situations

Implementation (First Package)
Cabinet Decision on December 5th 2007

Update of Acts and Ordinances

- Combined Heat and Power-Act,
- Renewables Act,
- Renewable Heat Act,
- Act on Biofuel Quotas,
- Fuel Quality Ordinance,
- Modification of the Gas Market Regulation Ordinance to improve the use of Biogas,
- Energy Act on grid restruction (off shore wind),
- Legal requirements on CCS,
- Act on the liberalisation of metering.

Implementation (Second Package) Forthcoming Cabinet Decision End of May 2008

- Technical requirements on the Ordinance on Energy Saving (Building Codes)
- Modification of the Vehicle Tax (Tax Base: Carbon Dioxide)
- Modification on the Highway Toll
- Modification of the Ordinance on Heating Costs
- Modification of the Enery Act on the restructering of the grid
- Ordinance on the liberalisation of Metering and to Implement die EU Ordinance on Energy services

Results of the Climate Programme

- The Programme decisions will be able to reduce the GHG-emissions by 35 to 36 % by 2020 (base year 1990)
- In absolute terms: **213 Mio. t** (CO_2-eqiv.) of GHG - emissions
- There is a gap of 5 – 4 % (- 57 Mio. t) with regard to the 40 % target

Energy Future in Germany – Perspective 2020
(based on the decisions by the Cabinet)

Power Generation:

- 25 – 30 % renewables (fluctuating generation – to be backed by fossil capacity)
- 25 % CHP
- 11 % reduction of power consumption through efficiency measures
- phase out of nuclear power

Heat Generation:

- 14 % renewables
- increased share of heat generation by CHP
- reduction of heat consumption through efficiency measures (Building Codes, 2,6 bill/y economic incentives)

Transport:

- 12 - 15 % biofuels
- reduction of fuel consumption through efficiency measures

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

Integrated energy and climate programme

Assessment and demands

- If systematically implemented, the Meseberg programme will bring a good 35% to 36% GHG reduction by 2020 compared with 1990
- A further 5% is needed
  - Longer utilization of nuclear energy?
- A package of single measures that are not completely dovetailed, e.g. in the areas of CHP, building modernization and renewables in heating
- This is also where a conflict of goals will emerge. Which goal has priority: expansion of renewables or CHP?
- Instead of reducing and adapting climate instruments, we are adding numerous new instruments
- Cost-benefit analysis urgently needed

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

The Programme Costs and Benefits (FME Position)

Costs and benefits of selected measures in the year 2020

Measure no.	Measure	costs (bill.€)	saved (fossil) energy (bill.€)	Reduction costs (€/t $CO_{2)}$
1	Combined heat and power generation	0.003	-0.3	12.9
2	Electricity from renewable energies	5.55	4.2	27
7	Energy management systems and support programmes energy/climate	2.30	3.2	-90
8	Energy-efficient products - households/industry	0.21	4.2	-266
10A	Energy Saving Ordinance	8.43	10.30	-47
10B	Replacement of night-storage heaters	1.05	0.90	23
12	Modernisation programme to reduce CO_2 emissions from buildings	2.43	3.20	-58
13	Energy-efficient modernisation of social infrastructure	0.49	0.26	163
14	Renewable energies heat	4.42	3.5	77
15	Programme for the energy-efficient modernisation of federal buildings	0.06	0.080	-38
16	CO_2 strategy for passenger cars	6.44	8.7	-128
17	Biofuels	0.00	-1.0 to 2.0	84 to 168
	Total	**31**	**36.3**	**-26**

Source: Fraunhofer ISI (2007)

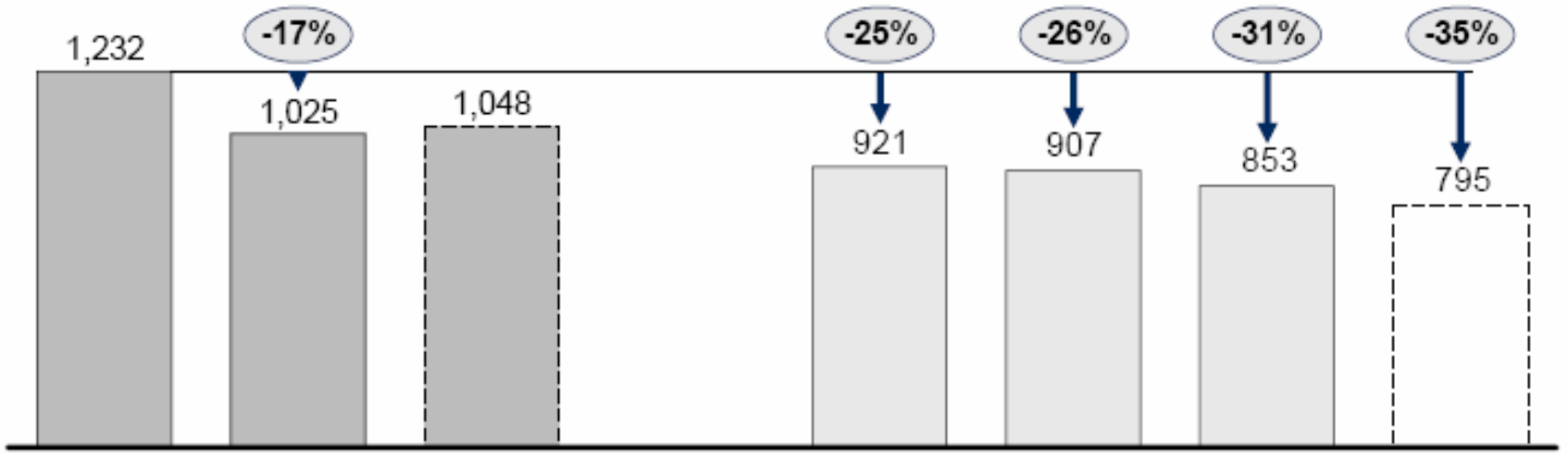
Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

CDU

Abatement potential – Germany 2020*

Mt CO_2e

DECISION-MAKER PERSPECTIVE



Abatement potential compared to "State of the art technology" projection 2020

After implementation of economic levers	Plus implementation of levers @ EUR 0 - 20/ t CO_2e	Plus change in energy mix (ø EUR 64/ t CO_2e***)	Plus implementation of all other levers (ø EUR 430/ t CO_2e
127	14	54**	58

* Maintaining nuclear phase-out

** Including 6 Mt CO_2e from CCS pilot projects in power generation

*** Power generation: ø EUR 32/t CO_2e; biofuels: ø EUR 175/t CO_2e; both considering the applicable subsidy rates in each case, taxes, and customs

Dr. Joachim Pfeiffer
Mitglied des Deutschen Bundestages

CDU

THANK YOU FOR YOUR ATTENTION!

04/20/2008