Role of energy efficiency in an ambitious climate policy in Germany

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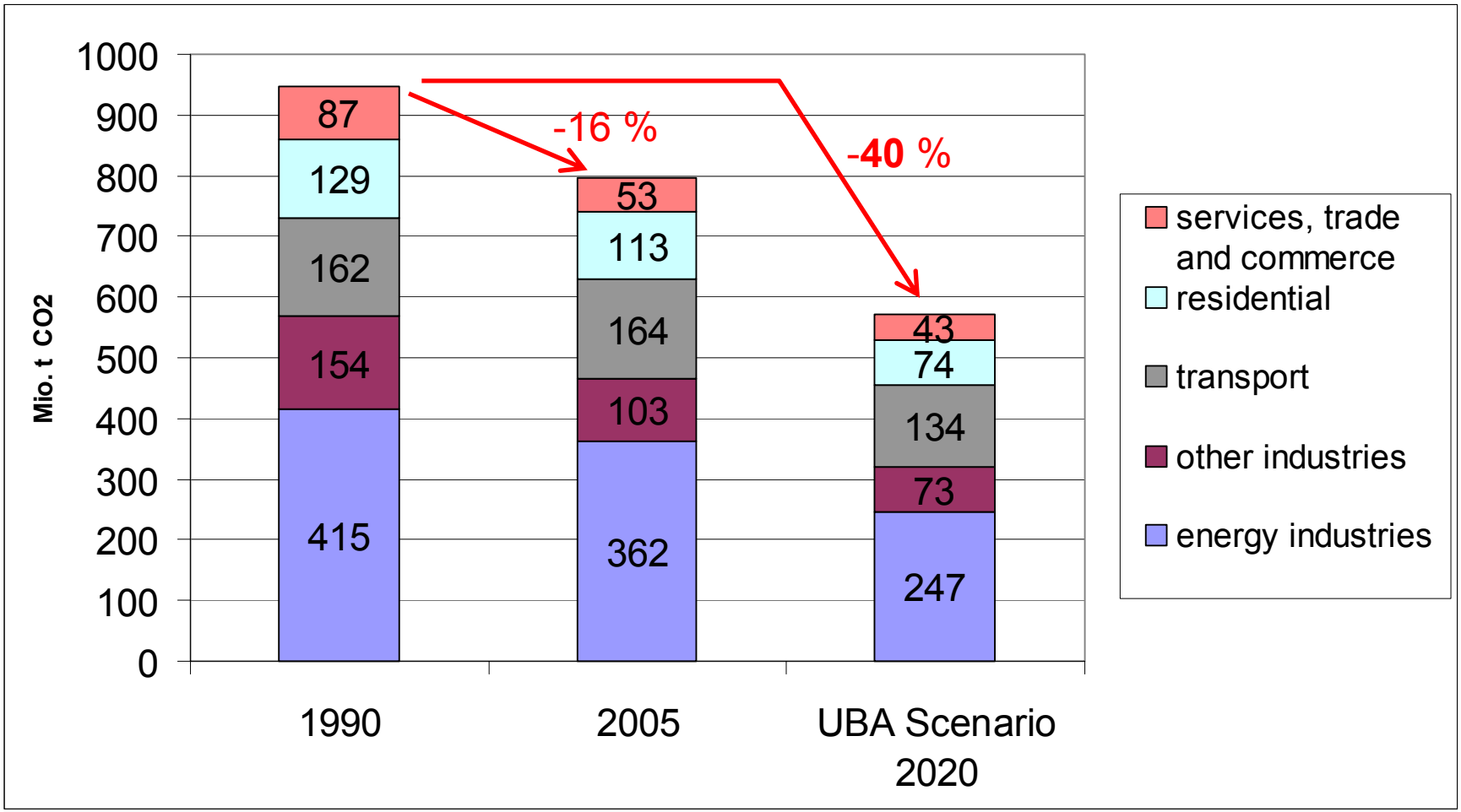
Section I 4.4 Efficient Use of Energy

General Suggestions

- 3 Pillars for a sustainable Energy Use:
  - efficient transformation of primary energy to end-use energies
  - efficient use of end-use energies
  - use of renewable energies

- all three pillars must be developed equally!

German CO2-Emissions (energy-related)



Cross-Sector Technologies and Saving of Electricity: Mitigation 2020

- Cross-sector Technologies
  - Efficient steam generation: -9 Mio. t CO_2
  - compressed air systems -33%
  - lighting -24%
  - electric motors (for e.g. pumps and fans) -15%
    >> all with negative or zero costs!
- Electricity Savings: -40 Mio. t CO_2
  - small consumers (lighting, no-load) -15%
    >> payback within 5 years!
  - replace of electric heating:
    >> 8% of electric energy consumption!!

Cross-Sector Technologies and Saving of Electricity: Instruments

- withdrawal of exemptions from energy taxes (proposed)
- Energy Efficiency fund (proposed)
  - subsidy investment costs for high-efficiency-equipment
  - consulting programmes
- Labelling of energy consumption
  - mandating of efficiency goals for small consumers
  - proposed: Efficiency Races as top-runner principle

Buildings: Mitigation 2020

Mitigation:	1990	2005	*2020*
(Mio. t CO_2)	129	113	*74*

- Building Improvement: -20 Mio. t CO_2
  - better insulation
  - increase energy reconstruction rate
- efficient heating systems: -11 Mio. t CO_2
- district heating: -15 Mio. t CO_2
- doubling the share of „renewable heat“: -6 Mio.t

Buildings: Instruments 1

- Energy Saving Ordinance (EnEV)
  - limits for specific primary energy demand, including heating, ventilation, cooling, lighting
  - proposed: more ambitious limits
- CO2 building improvement program
  - subsidies for energy efficient building refurbishment
  - proposed: increase sigificantly
- Energy Performance Contracting
  - investor improves building
  - owner shares cost savings with investor

Buildings: Instruments 2

- Investor-Occupant-Dilemma
  - Building Owner invests ⇔ Building User benefits
  - not yet solved!
- long-term stable mechanism for heat from renewable energy sources
  - proposed mechanisms: guaranteed payment for the heat produced and/or fixed subsidy for investment cost
  - will replace current incentive programme
- forced combined heat and power production act
  - to amend for better CHP conditions

Profits

- Independency by energy imports
- Independency by increasing of energy costs
- economic cycle: investments in efficiency equipment instead of paying energy bills
- no loss of comfort!

>> all mitigiation with existing technologies!

Thank you
for your attention!

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