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2.020 days EU ETS – An Insider‘s lessons learnt

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Pricing carbon – The EU Emissions Trading Scheme in its Sixth Year

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Berlin

EU ETS = “cap and trade” – In principle a very simple instrument

- **Specification of a total volume of emissions (“cap”)**
- **Distribution of this total volume of emissions to individual emitters (preliminary allocation of emissions allowances)**
- **Specification of framework conditions for a transparent and liquid market and to prevent competition barriers**
- **Establishment of a monitoring and reporting system (“ecological accounting”)**
- **Whether, where, when, how and how many emissions are avoided is decided by the market**
- **Outcome: emissions trading allows the exploitation of costs differences between emitters**

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Why Emissions Trading? – The Theory

Advantages of cap & trade:

- **Environmental effectiveness: emission reduction target will be achieved exactly**
- **Cost efficiency: a price for emissions is created and leads to least cost reductions (internalization of external effects)**
- **ex ante defined scheme provides a very high predictability/reliability**
- **Highest possible flexibility for companies/operators**
- **Cap and trade automatically adapts to a crisis (price goes down) or to an upturn (price goes up)**
- **Linking can lead to a global carbon market and improve cost efficiency**

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Barriers for the introduction of cap & trade

Problems for governments:

- **How to convince industry opposing ETS?**
- **How to deal with broader economic concerns (e.g. impacts on employment, economic growth, international competitiveness and consumer costs)?**

Possible solutions:

- **ETS offers a lot of balancing options to provide a “soft start” and (temporary) compensations (Pilot Phase)**
- **Use of auction revenues and additional policies can reconcile economic impacts (e.g. by developing renewable energy, improving energy efficiency, solutions for carbon leakage)**
- **Very important – please keep in mind: many counterarguments in the political debate refers to the target and not to the instrument!**

2004: The Counter Arguments ! – Not very sophisticated

Emissions trading is a legislative and administrative nightmare

German industry has done enough for climate protection (but committed itself to additional CO2-reduction)

Emissions trading is a barrier to growth

Emissions trading is a job killer

Emissions trading will destroy Germany's standing as an industrial location

Race for allowances in 2004

Everyone wants more emissions allowances – preferrably lots more!

The arguments are extremely varied and highly imaginative! The age of poets and inventors has dawned.

There is hardly an operator that hasn't joined the race. They all see their installations as unique pieces of art that are second to none.

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Germany within the EU ETS

Germany's share of EU-ETS emissions is 24% (biggest part in EU-ETS)

Roughly 43% of all German GHG emissions are covered by EU ETS – roughly 49 % of the CO_2-emissions in Germany are covered by ETS

Of the German ETS emissions 21% come from industry and 79% from energy sectors

About 1656 installations were covered with annual emissions of 428 million tonnes (2009)

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Experiences in Germany

Emissions trading can be designed compatible with industry needs:

- **Germany has a strong industrial economy with high export shares**
- **Safeguards against "carbon leakage" therefore important – but no border adjustments**
- **Free allocation on a transitional basis to affected sectors and low compliance factor for industry**
- **Ambitious benchmarks keep incentives for companies to reduce emissions**
- **A permanent stakeholder working group (government, industry, Parliament, regional governments, trade unions, NGOs) was established to pave the way ("Permanent Hearing").**

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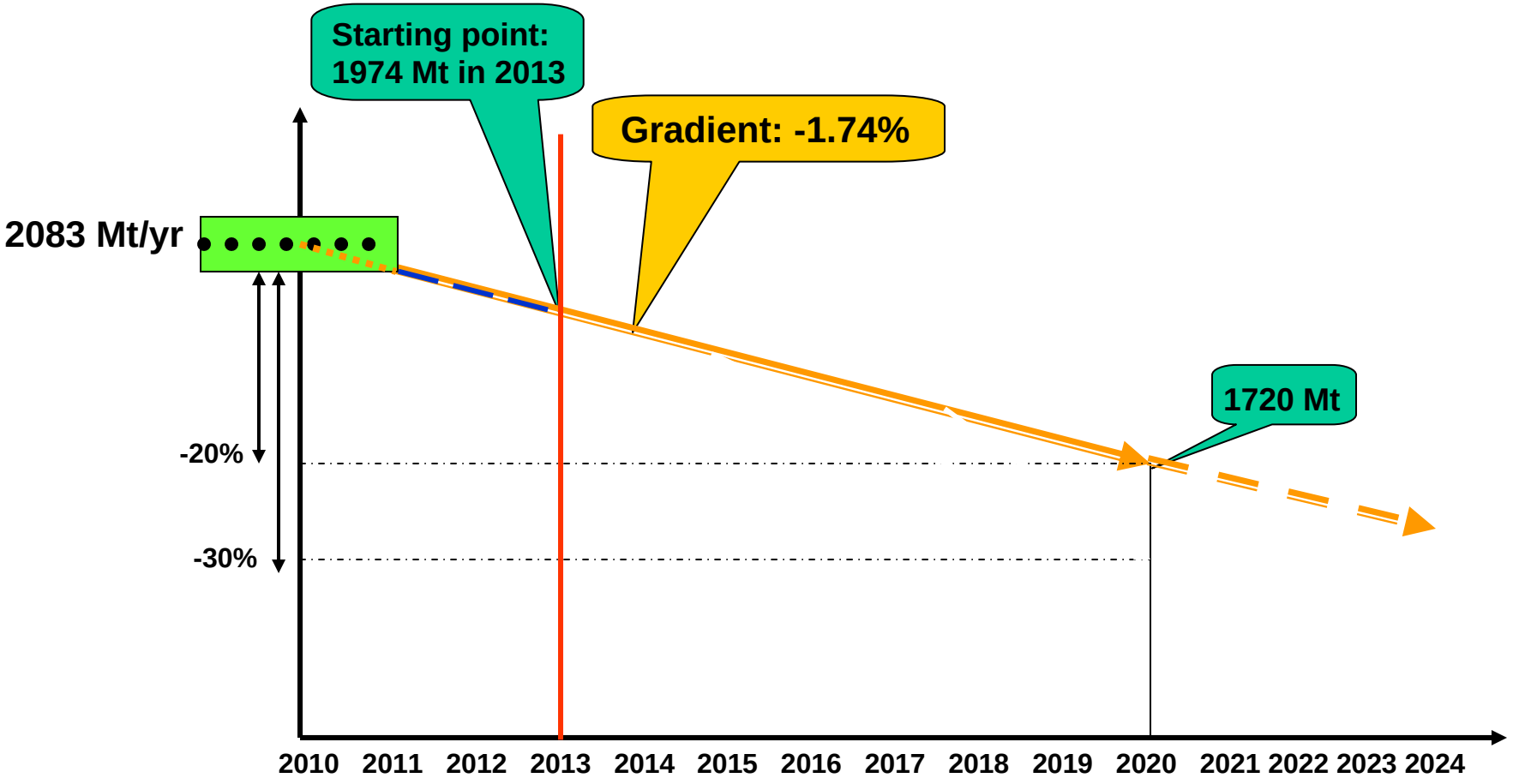
Lessons learned (I)

EU Emissions trading works:

- **Emission reductions have been reached (EU: 3-11% in 2008-2009)**
- **Cap has been tightened from phase to phase**
- **Cost containment by using international credits (but within limits)**
- **Competitiveness concerns can be addressed by (transitional) free allocation respectively (partial) exemption from auctioning**
- **Behavioral changes within companies – higher awareness of carbon costs and inclusion in investment decisions**
- **The market of EUAs has matured and performs comparably to other markets of related commodities**

Primary feature of the new ETS: A robust EU-wide cap beyond 2020



- Linear factor to be reviewed before 2025
- Aviation to be included; will change figures correspondingly, but cap not reduced
- Disclaimer: all figures are provisional and do not account for new sectors in third period

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Lessons learned (II)

Problems for the government during implementation:

- **Lack of data in the initial phase**

Phase I: Overallocation in EU ETS and price decline

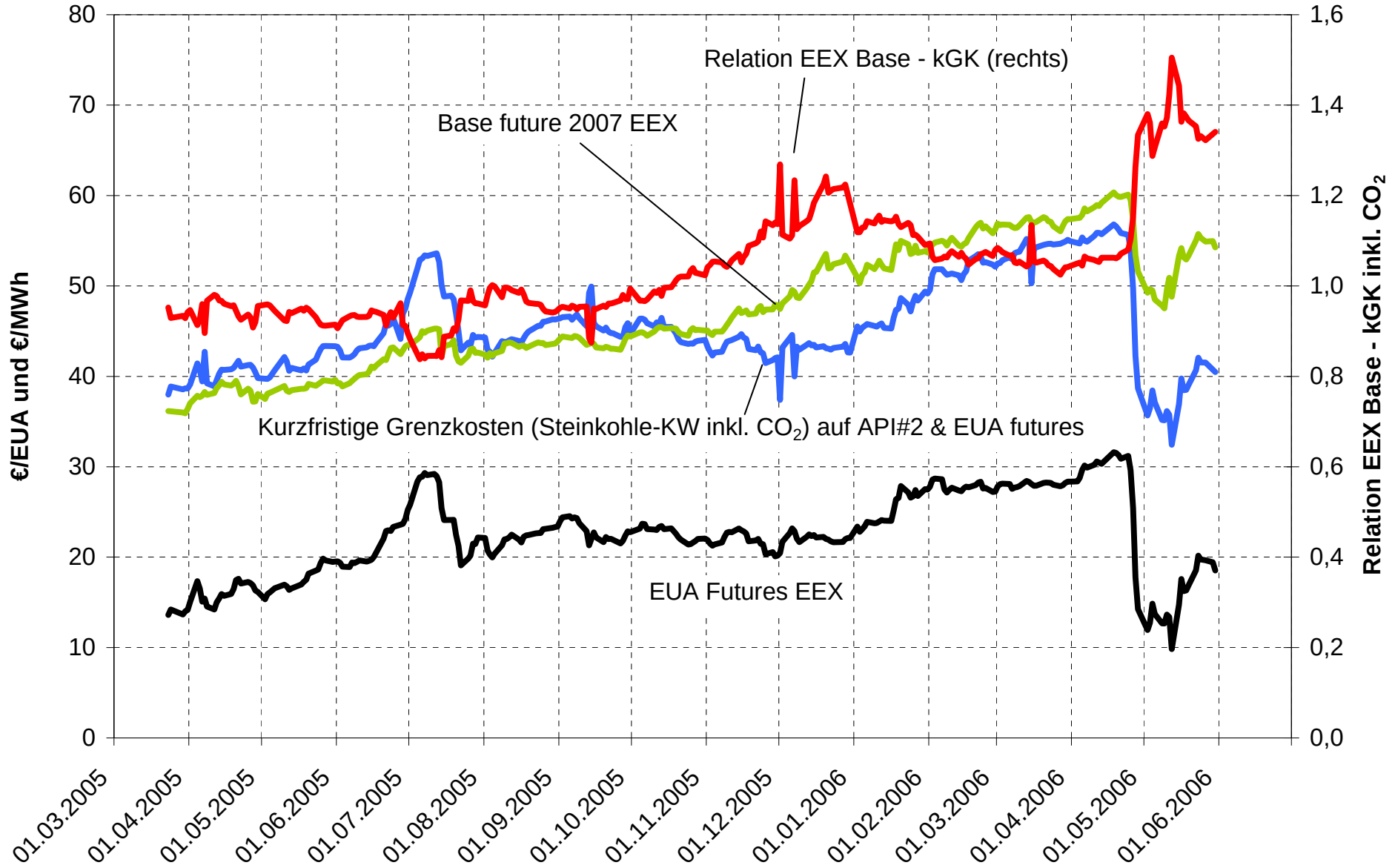
Phase II: Improved data through monitoring reports

- **Free allocation causes distribution conflicts between sectors and companies**

Phase I: (too) many different rules (58) – counter productive rules – very high second compliance factor needed to meet the cap

Phase II: harmonisation, but still no level playing field within the EU (1 Directive – 27 National Allocation Plans)

Phase III: auctioning is the main allocation method – after the experience of high windfall profits especially by power companies!


Relation EEX Base - kGK (rechts)
Base future 2007 EEX
Kurzfristige Grenzkosten (Steinkohle-KW inkl. CO_2) auf API#2 & EUA futures
EUA Futures EEX
€/EUA und €/MWh
Relation EEX Base - kGK inkl. CO_2
80
70
60
50
40
30
20
10
0
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01.06.2006

Reduction by German Industries? – The First Trading Period

Yes. But most of the compliance factor is due to distributional effects.

NAP 2005 - 2007

EF = reduction factor	- set aside	– process-oriented emissions	- Early action	– CHP	- hardship clause
0,9709 = 0,9960	- 0,0090	- 0,0034	- 0,0067	- 0,0030	– 0,0030
Reduction	Distribution				

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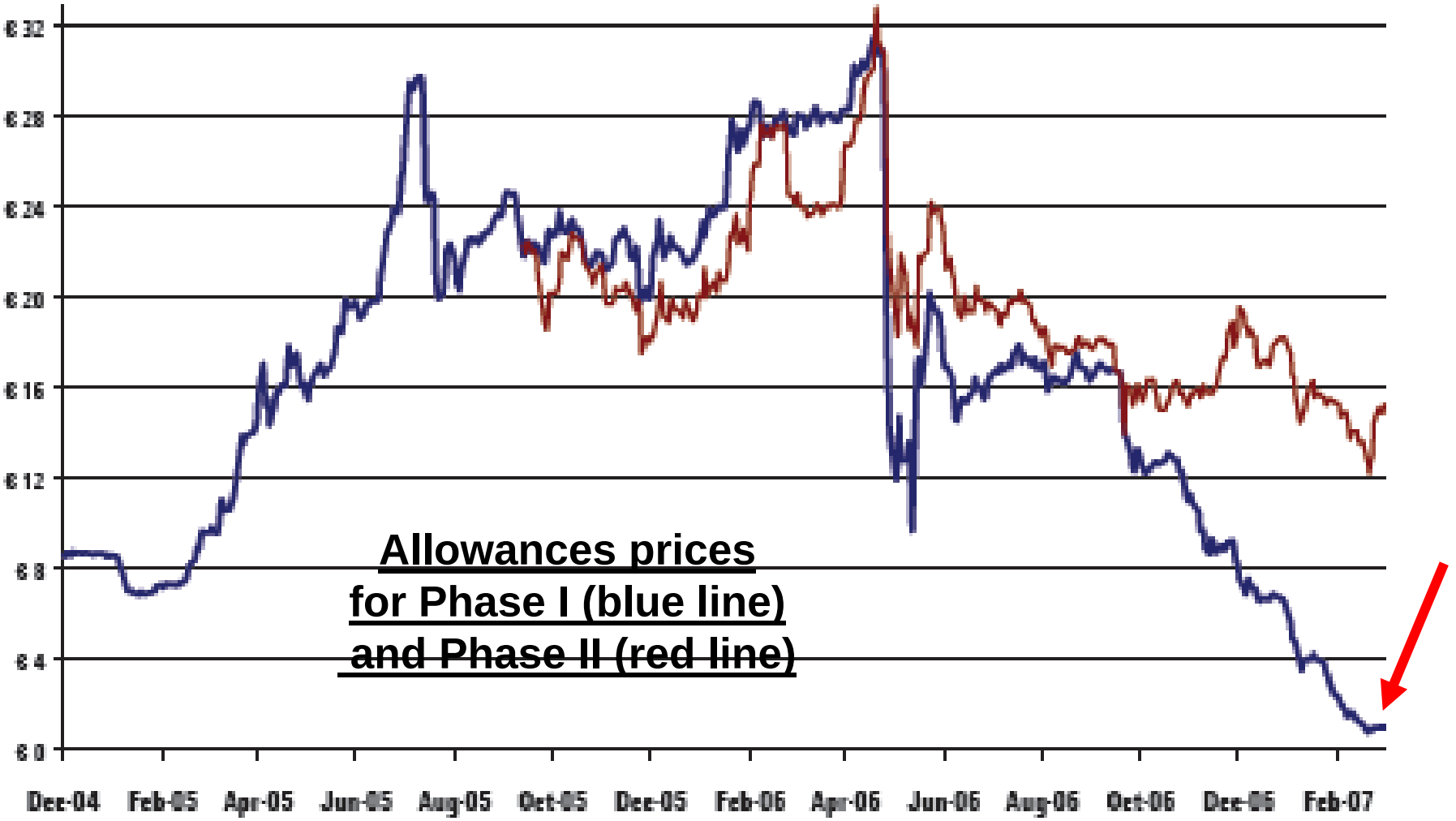
Lessons learned (III)

Problems for the government during implementation:

- **Lack of an institutional structure and administrative framework**
- **Lack of a legal structure on the national level** (GHG-Emissions Trading Act, Allocation Act 2007, Allocation Ordinance 2007, Allocation Act 2012, Allocation Ordinance 2012, Project Mechanism Act, Data Collection Ordinance, Cost Ordinance etc.)
- very strong fluctuating prices between the first an der second trading period – no banking allowed

BImSchG permission which not reflects EU ETS needs

EU ETS Allowance Prices 2004 - 2007



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Lessons learned (IV)

Changes of EU ETS from 2013 and their reasons:

- **Predictability and robust framework: EU-wide cap - ex ante defined, linear reduction path – ex ante defined, harmonised allocation methodologies**
- **Cost effectiveness: expansion of the scope (initially: large emitters of CO_2 from energy and industry – now: aviation in and from/to EU, large emitters from chemical and aluminium sectors, N_2O and PFC emissions are included)**
- **Transparency: simple and harmonised allocation rules**
- **Allocation efficiency: Auctioning as preferred allocation method**
- **Earmarking of revenues (50% for climate protection, instead of windfall profits); EU-wide harmonised ambitious benchmarks for industry**
- **Incentives for domestic investment: limited use of international credits (quantity as well as quality)**

Lessons learned

- **Lesson 1**
  - **Integrated political processes are necessary for complex instruments. There is a limited capacity to manage such integrated processes (before the German background).**
- **Lesson 2**
  - **From the empirical evidence there are strong interactions between cap definition on the macro level and allocation to installations. A strong fixing of the cap is the key – and the problem.**
- **Lesson 3**
  - **Allocation does not only determine distributional effects. Allocation influences the efficiency of the scheme significantly.**
  - **Different decisions which lead to different emission levels must create different price signals!**

Lessons learned

- **Lesson 4**
  ex ante definition is very important. Ex post corrections should be avoided.
- **Lesson 5**
  No border adjustments.
- **Lesson 6**
  - **Special provisions are demanded by many players in the political arena. The same players lament most on the related uncertainties, on the limited predictability of allocation results an on the use of a second compliance factor to keep the balance of the whole system.**
- **Lesson 7**
  - **The interaction of different provisions are difficult to explain to the operators as well as to the political sector.**

Lessons learned

- **Lesson 8**
  - **Reduction of complexity will be a key for the success of the EU ETS experiment. The high degree of flexibility for the Member States does not support that at the present stage.**
- **Lesson 9**
  - **During the implementation of the EU ETS in Germany the information situation improved dramatically.**
- **Lesson 10**
  - **It was and is a very difficult process. But in the end it works. The system is implemented – All actors are on track – In principle the EU ETS is accepted**

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Allocation in phase III

- **100% auctioning for electricity production**
- **Transitional free allocation on the basis of ambitious benchmarks for industry up to a fixed industry cap**
  - **Phase-in of auctioning for industry (from 20% in 2013 to 70% in 2020), exemption for sectors exposed to carbon leakage based on a set of criteria (5 % CO_2-costs + 10 % trade intensity)**
  - **Benchmarks on the basis of 10% most CO_2-efficient installations**
  - **In general : “one product – one benchmark”, i.e. no distinction due to individual aspects**
  - **Over-allocation of single sectors must be avoided to ensure fair treatment of all sectors (overall reduction if industry cap is exceeded)**

Nevertheless: The Discussion is going on!

Highlights

- **figthing for as many benchmarks as possible („red bottles are totally different compared with green bottles“)**
- **figthing for less ambitious benchmarks**
- **figthing for a reference period with activities as high as possible**
- **figthing for a less ambitious „fall back solution“**
- **figthing for compensation (indirect carbon leakage – steel, non ferrous metal – chemical industries etc.)**
- **figthing for exemption from auctioning for CHP, power generating by industry etc.**

- **déjà vu…**

Conclusions

- **auctioning is the right allocation method**
- **broadening the market is very important (carbon leakage)**
- **ex ante definition (cap, rules, methods) provides reliability and stability**
- **no border adjustments**
- **no interventions into the ETS market(s)**
- **clear and transparent legal, administrative and institutional structures**

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Outlook: global carbon market (I)

EU ETS Directive provides for future linking with other systems:

- **Mutual recognition of allowances from other systems is generally possible**
- **Inclusion of aviation emissions to/from EU will be adapted if equivalent measures are taken in third countries (no double-coverage)**
- **Credits from new mechanisms can be included**

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Outlook: global carbon market (II)

Steps to build up a global carbon market:

- **Establish well designed ETS in our regions**
- **Avoid possible barriers for linking**
- **Bring in developing countries through new mechanisms leading to ETS**
- **Establish a forum for exchange and discussions – technical level: International Carbon Action Partnership (ICAP) is already functioning**

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Thank you for your attention

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