

Allocation System and Practice under EU-ETS

IGES Emissions Trading Seminar

“Emissions Trading Scheme in Various Countries and Regions”

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Tokyo, March 11, 2010

The EU Emissions Trading Scheme

Some background information

- **The world's largest GHG emissions trading scheme**
 - Largest economic area of the world (30 countries, 506 mln inhabitants, 12,064 bn € = 16,755 bn US\$ GDP in 2009)
 - Regulates about 2.2 bn tons CO₂e: power sector, refineries, large combustion installations, iron & steel, cement, pulp & paper, etc – from 2012/13 onwards: aviation (220 mln t CO₂) & other sources (e.g. industrial gases)
- **Key features**
 - Mandatory downstream scheme (release to the atmosphere is the point of regulation)
 - Multi-period scheme (2005/2007, 2008/2012, 2013/2020, etc)
 - Decentralized cap-setting and allocation (NAPs) in P1/P2
 - Started with a large share of free allocation but strong decrease of free allocation from 2013 onwards

The EU Emissions Trading Scheme Allocation (1)

- **Allocation emerged as the key debate on the EU ETS**
- **Allocation approaches changed significantly over time**
 - Phase 1: 2005-2007 (Pilot Phase)
 - decentralised definition of allocation provisions by the Member States (National Allocation Plans – NAP-1)
 - >95% free allocation, in most Member States primarily based on historic emissions
 - insignificant auctions
 - many updating features (new entrant allocation, plant closure provisions, ex post adjustments)
 - significant overallocation (based on data uncertainties, projection-based allocation and generous allocation provisions in general) – price collapse in 2006/2007

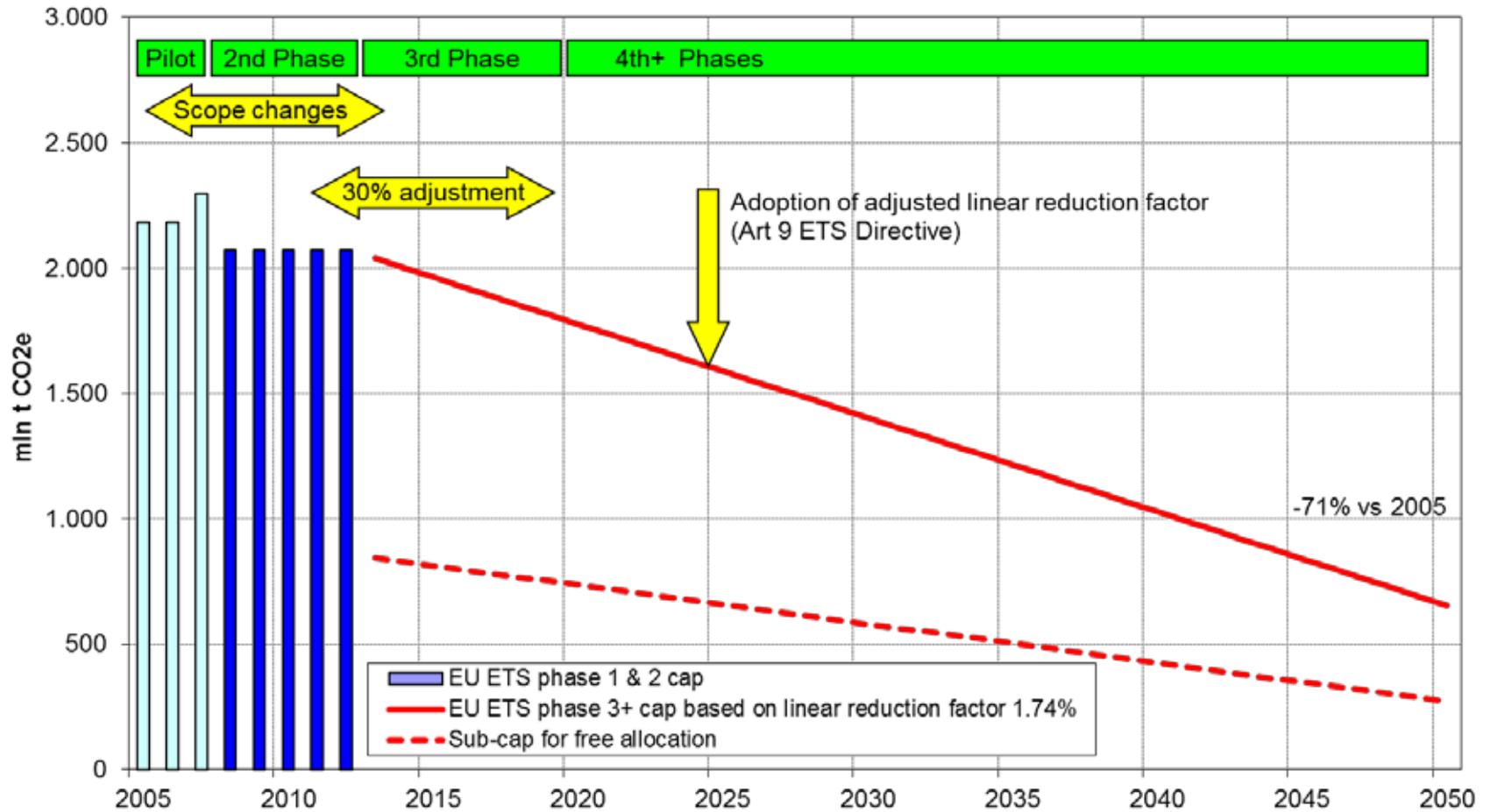
- **Allocation approaches changed significantly over time (ctnd)**
 - Phase 2: 2008-2012 (Kyoto Phase)
 - decentralised definition of allocation provisions by the Member States (National Allocation Plans – NAP-2) but strong interventions by the European Commission
 - >90% free allocation, in many Member States partly transition to benchmarking, significantly less free allocation to the power sector (windfall profits from pass-through of opportunity costs in the liberalised EU electricity market as the main driver)
 - significant auctions in some Member States
 - narrowed updating features (new entrant allocation, plant closure provisions)
 - significant scarcity – robust price since 2008

- **Auctioning in Phase 2 of the EU ETS**
 - Germany 8.8% 40 mln EUA/a
(sales to the market in 2008 and 2009,
weekly auctions since 2010)
 - UK 7% 17 mln EUA/a
 - The Netherlands 3.7% 3.2 mln EUA/a
 - Austria 1.3% 0.4 mln EUA/a
 - Ireland 0.5% 0.6 mln EUA/a
 - Hungary 2.0% 2.7 mln EUA/a
- **Total auctioning volume (in few Member States) related to total cap for Phase 2: ~3%**

- **Allocation approaches changed significantly over time (ctnd)**
 - Phase 3: 2013-2020
 - fully harmonized allocation provisions
 - auctioning as the general principle
 - full auctioning for electricity generation
 - transitional free allocation for other sectors, based on benchmarking (10% best installations)
 - No phase-out of free allocation for sectors with leakage problems
 - significant scarcity – robust price for period beyond 2012
 - permanent contraction of the cap (linear reduction factor) and sub-cap for free allocation

The EU Emissions Trading Scheme

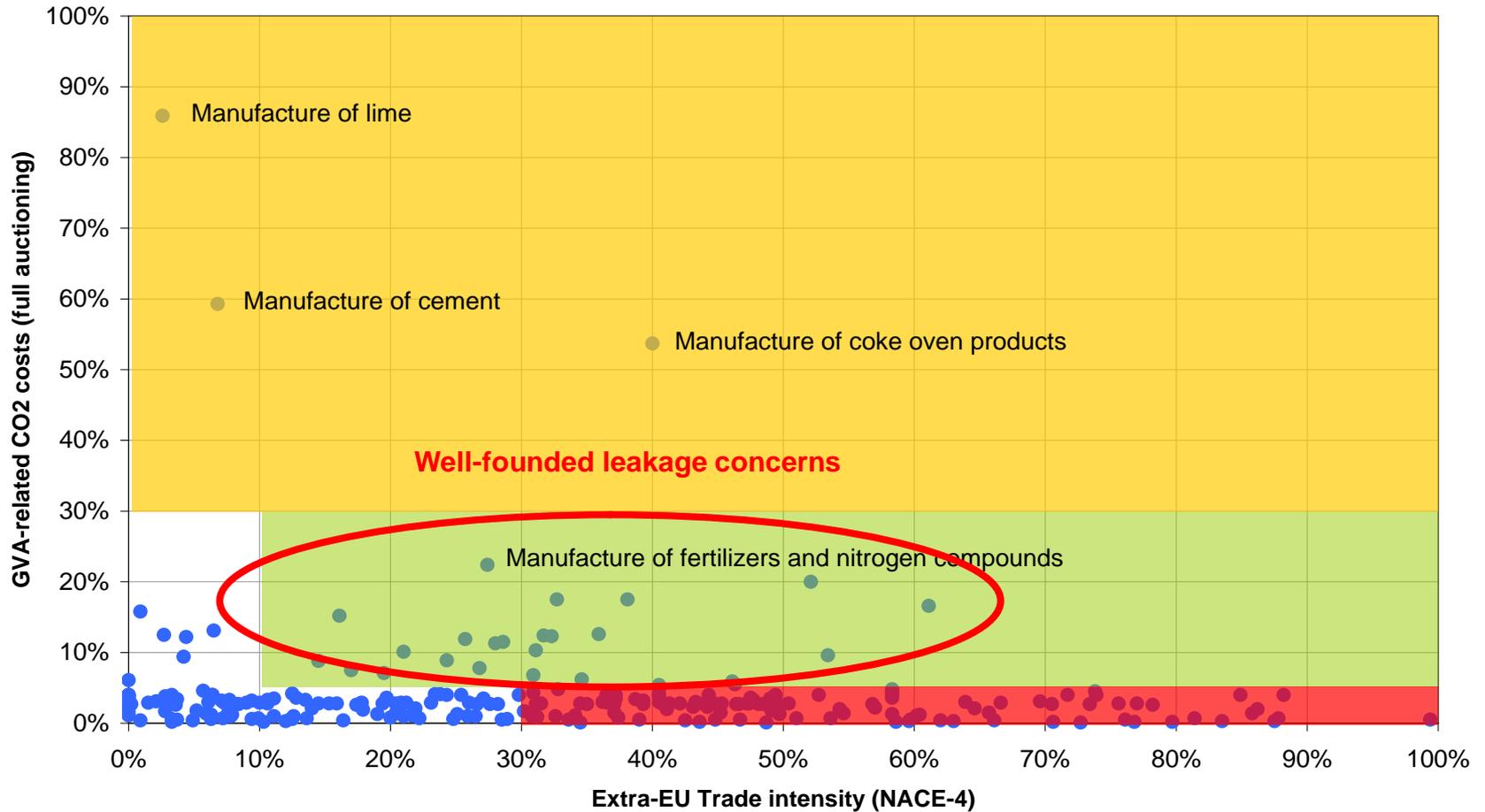
Revision of caps for 2013 and beyond



- **Motivation for auctioning increased over time**
 - free allocation can distort the uniform price signal (and the cost-efficiency of the scheme) in an ETS with updating components (new entrant allocation, multi-period design, etc.)
 - free allocation generates significant windfall profits (e.g. for the power sector)
 - robust large-scale auctions can be implemented
- **Motivation of free allocation changed significantly over time**
 - Phase 1 and 2:
 - phase-in compensation
 - rewards for early action
 - Phase 3 and beyond:
 - avoiding leakage

Leakage-relevant sectors

Legal definition under the revised EU ETS

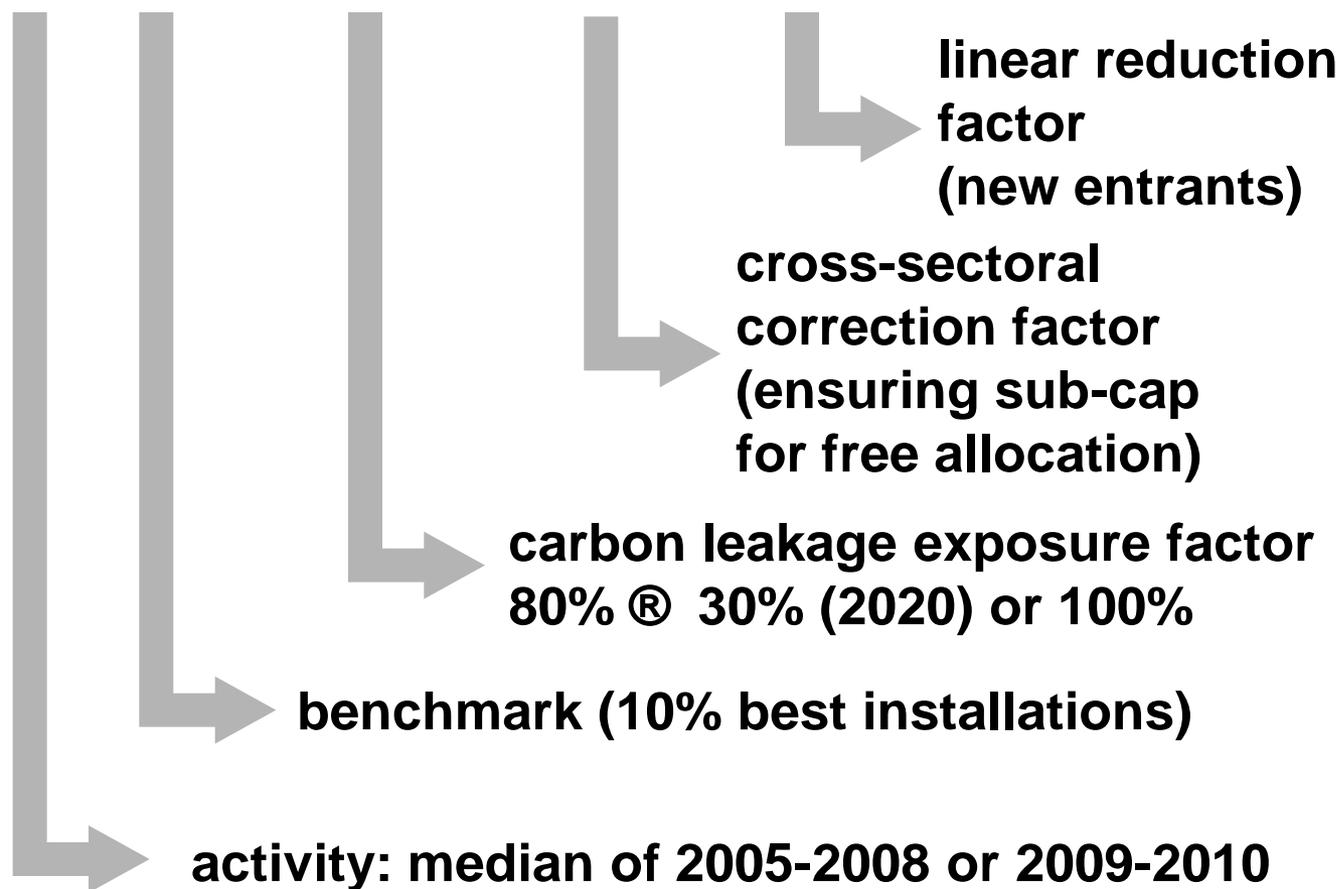


The EU Emissions Trading Scheme

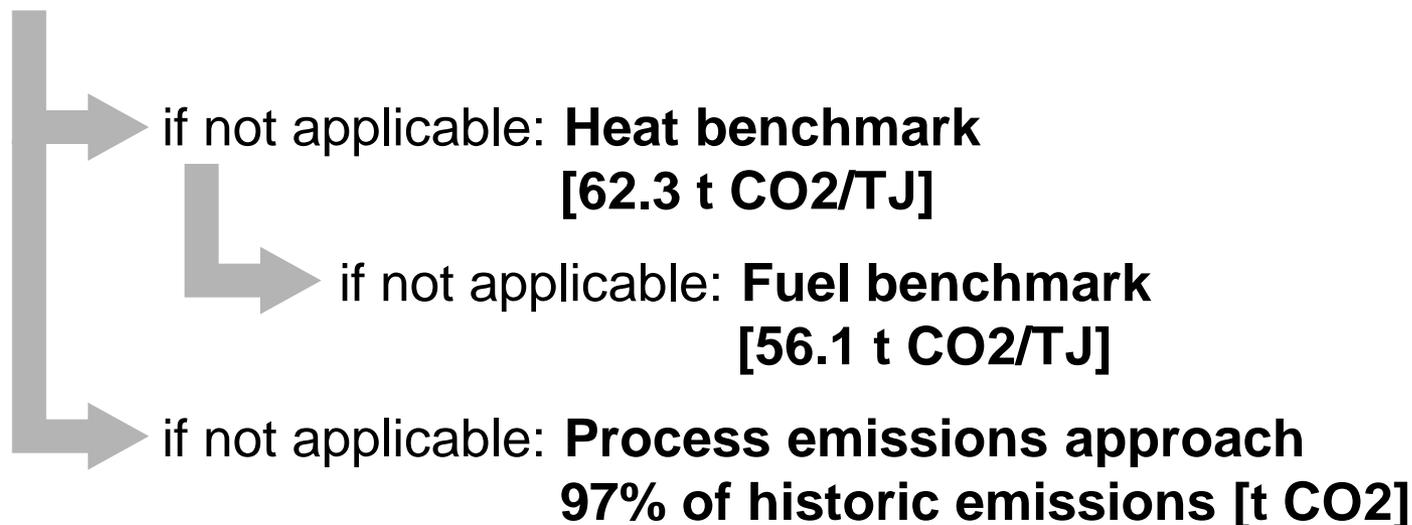
Benchmarking as new approach (1)

- **Benchmarking is more than benchmarks**

$$A_{free} = A \times BM \times CLEF \times CSCF \times [LRF]$$



- **Product benchmarks [t CO₂/t]** as the general principle

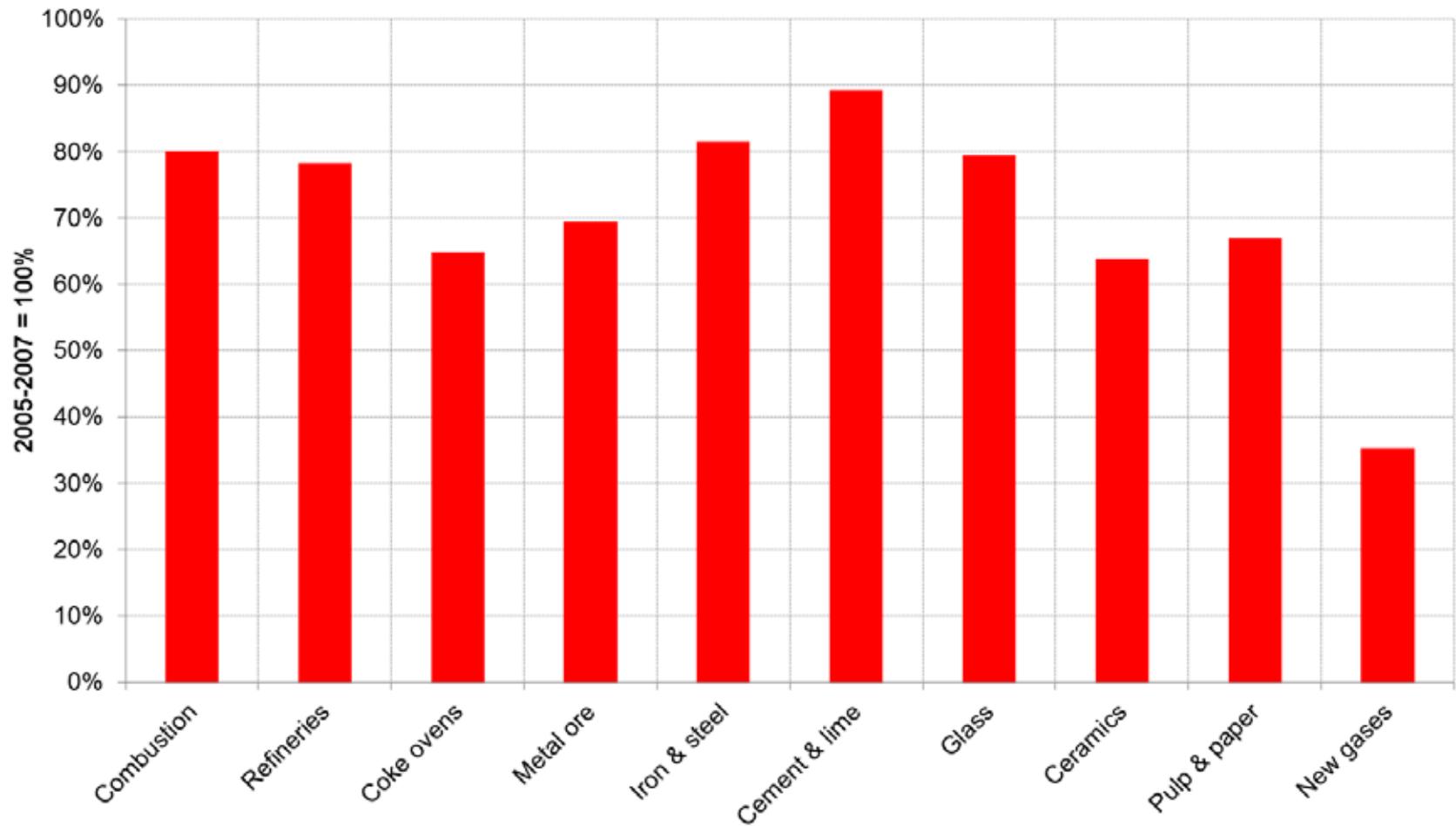


- **Avoiding double counting for cross-boundary heat flows:**
deduction of free allocation from net heat exporter
- **Special provision for waste (e.g. blast furnace) gases:**
full allocation at point of production

- **Results from the benchmarking exercise for the EU ETS**
 - 52 product benchmarks (based on 10% best)
 - coke 1
 - iron & steel 5
 - aluminum 2
 - cement & lime 7
 - glass 4
 - ceramics 6
 - pulp & paper 11
 - chemicals 15
 - refineries 1 (CWT, 64 sub-processes)
 - 1 heat benchmark, based on natural gas as fuel
 - 1 fuel benchmark, based on natural gas

Preliminary assessment of benchmarks

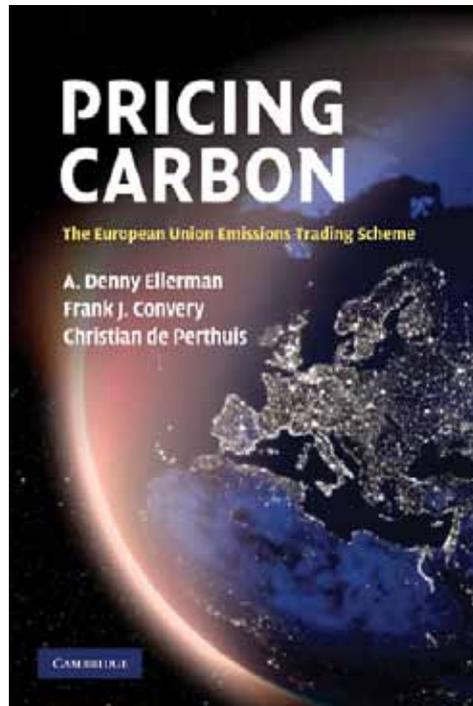
Sectoral aggregates



- **Allocation was the political core of the ETS debates**
- **Allocation in the EU ETS changed significantly between Phase 1, 2 and 3**
 - from decentralised (national) approaches to EU-wide harmonised approaches (driven by problems of competition distortions and cost-effectiveness)
 - from mainly free allocation to significant shares of auctioning (power sector & sectors without leakage exposure)
 - from free allocation based on historical emissions to benchmarking
 - from phase-in compensation/rewarding early action to prevention of leakage
- **A streamlined benchmarking scheme was developed in a relatively short time**

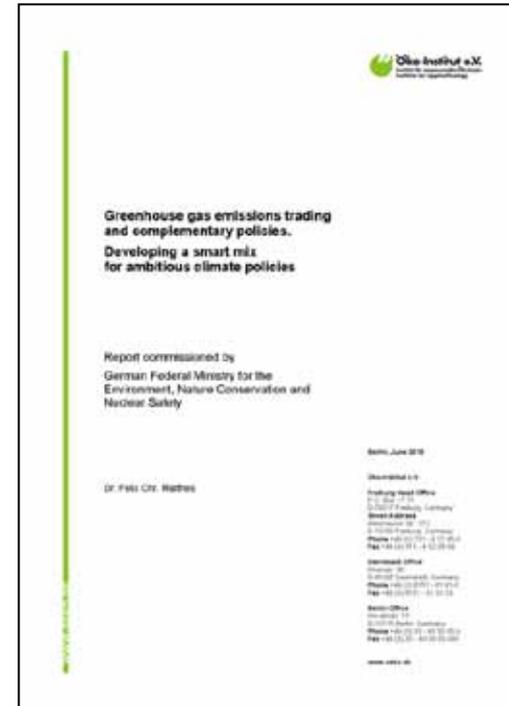
**Thank you
very much**

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Cambridge University Press, 2010

A. Denny Ellerman, Frank J. Convery, Christian de Perthuis, Emilie Alberola, Richard Baron, Barbara K. Buchner, Anaïs Delbosc, Cate Hight, Jan Kepler, Felix Chr. Matthes



Greenhouse gas emissions trading and complementary policies. Developing a smart mix for ambitious climate policies

Federal Ministry for the Environment, Nature Protection and Nuclear Safety /
Öko-Institut, 2010
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