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## **Study Tour of Chilean Experts 11 to 15 December 2017, Berlin/Leipzig**



# Allocation to Existing Installations – General rules of free allocation

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E 2.3 – Economic Aspects of Emissions Trading, Monitoring, Evaluation

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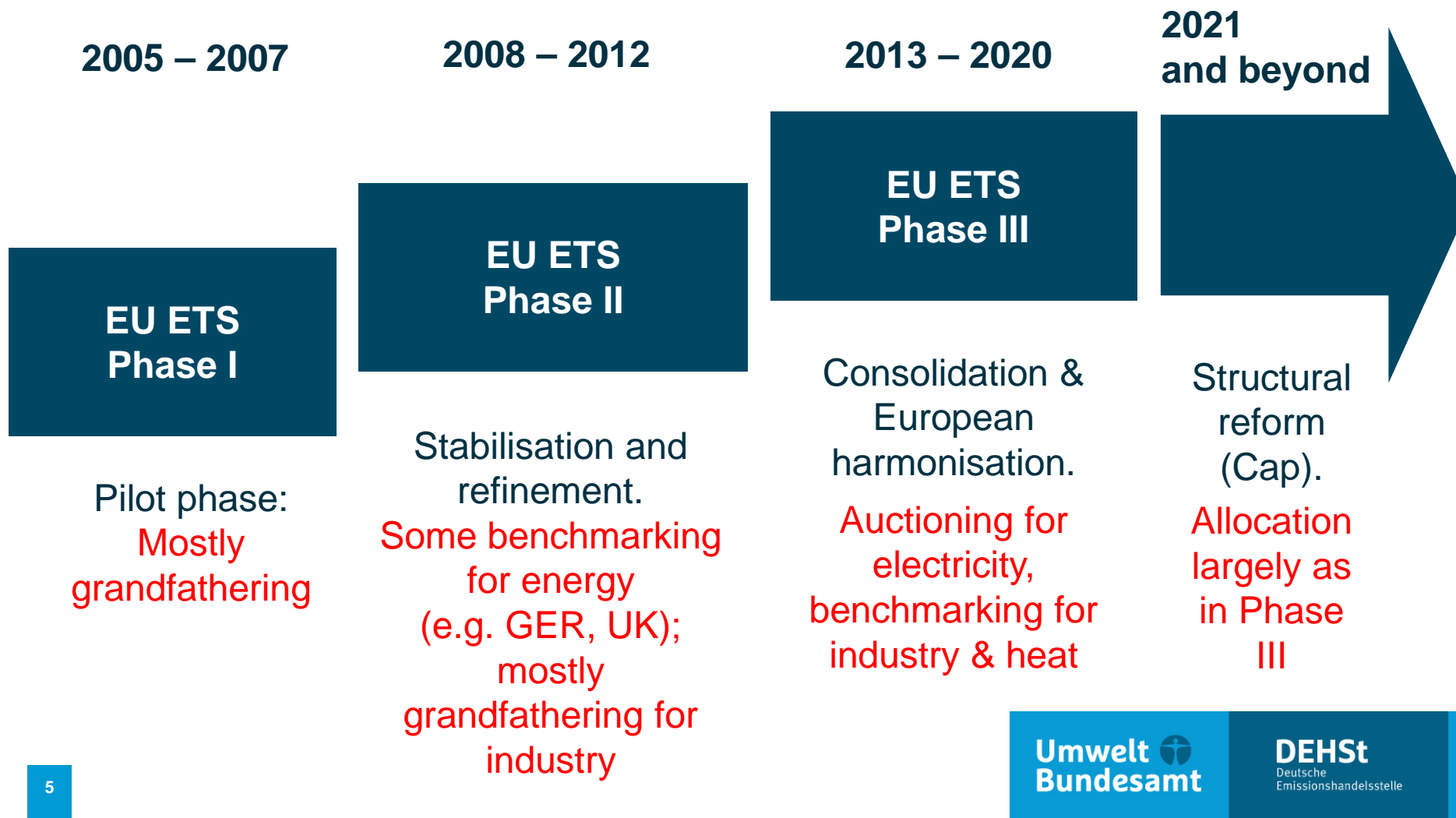
# What we will discuss in this presentation on free allocation

- General principles of allocation and the evolution of allocation in the EU from 2005 to 2017
- Criteria for deciding which sectors should receive free allocation because of significant „Carbon Leakage“ risk
- Details of the „Benchmarking“ process
- „Dynamic“ allocation: new entrants, closures, and production changes

# Why free allocation anyway?

- Introduction of new ETS -> give firms time to adapt
- Protects confidence of investors, compensates for stranded investments
- Win political support by industry stakeholders
- If internationally large carbon price differences:  
*potential* shield from „carbon leakage“
  
- => In the long-run: Establish auctioning (at least partially for all sectors)
  - -> secures price signal across the economy
  - -> avoids windfall profits
  - -> avoids wrong incentives to invest in carbon intensive technologies („lock-in“ effect)
  - -> raises money that can be refunded directly or used to reduce other distorting taxes, or support R&D/demonstration of low-carbon options
  - -> no need for explicit „dynamic“ allocation rules!

# Steps within EU ETS – Changes in Allocation Rules



# Methods for free allocation: grandfathering vs benchmarking

1st + 2nd trading period  
(industry, partly energy):  
grandfathering

3rd trading period:  
benchmarking

$$\begin{aligned} & \text{Allocation} \\ & = \\ & \text{Historical Emissions} \\ & \text{(e.g., 2000-2005)} \\ & \times \\ & \text{correction factor} \\ & \text{(to meet the cap)} \end{aligned}$$

$$\begin{aligned} & \text{Allocation} \\ & = \\ & \text{Benchmark} \\ & \text{(e.g., 0.766 EUA} \\ & \text{per ton of cement clinker)} \\ & \times \\ & \text{Historical Activity Level} \\ & \text{(e.g., 800,000 t cement clinker)} \\ & \times \\ & \text{correction factor} \end{aligned}$$

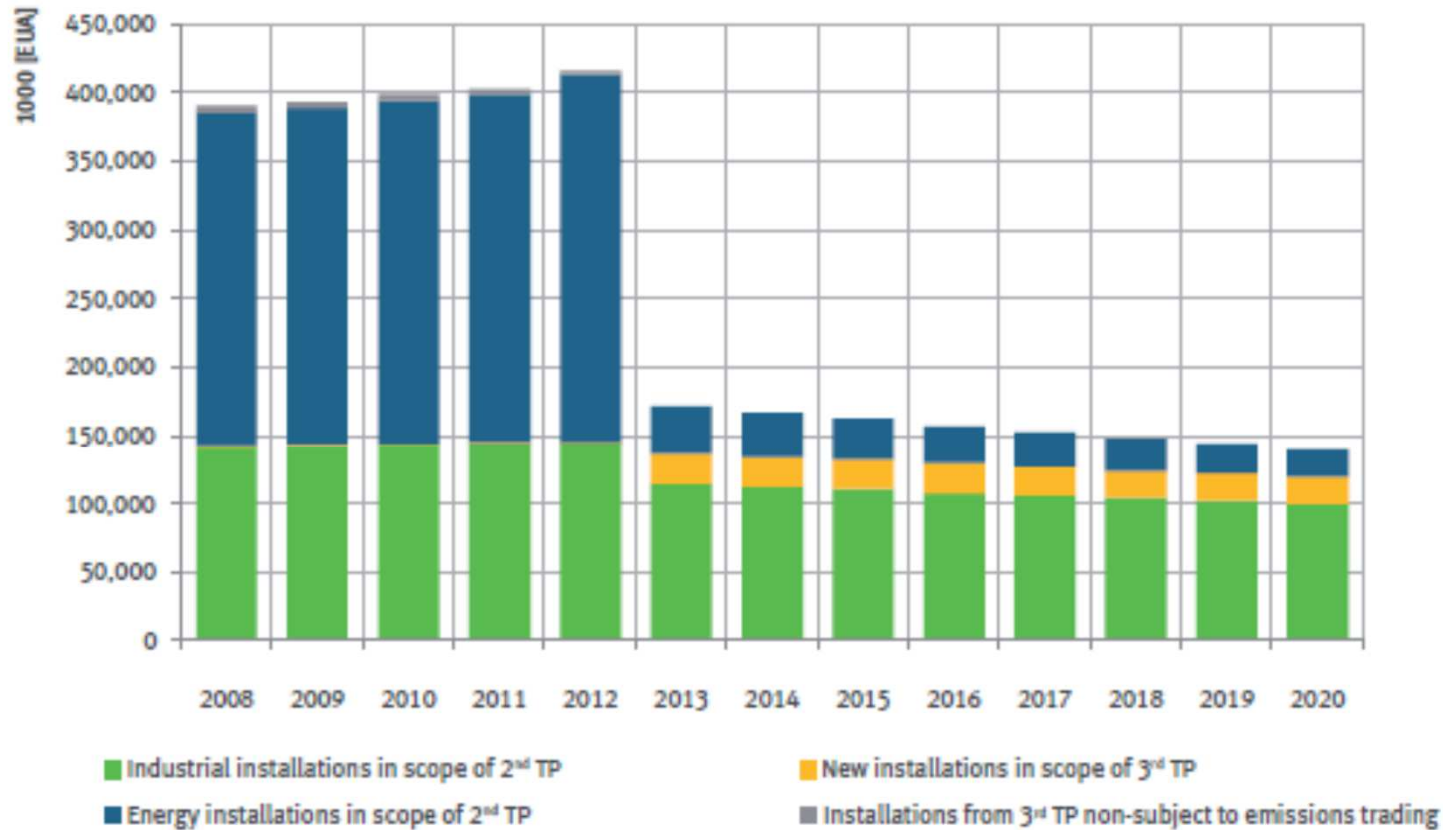
# Free Allocation in the 3rd trading period (EU-ETS)

## General rules - Eligibility

- Electricity not eligible for free allocation (but free allocation for heat production)
- **free allocation to industry:**
  - community wide allocation rules
  - Benchmarks **based on most efficient plants in each sector**
- In principle, free allocation rate declines from 80% of benchmark value (2013) to 30% (2020), but...
- “exemptions” for industries deemed to be at risk of carbon leakage (~100% of *benchmark value*, minus a correction factor to match the overall cap)
- EU countries can pay limited compensation to industry for power price increases

# Free allocation in Germany

Industry (green); new activities from 2013 onwards (yellow);  
energy (blue)



As of: 25/11/2013



# Criteria for assuming a significant risk of carbon leakage

# How an industry sector's risk of carbon leakage is determined in the EU-ETS

## 1. Additional costs in comparison to foreign competitors

-> EU criteria: additional production costs from ETS, calculated as a proportion of the *gross value added*

## 2. Competition

Goods which are subject to intensive international competition lose market share if cost increases induced by ETS are passed on

-> EU criteria: intensity of trade with third countries

-> **„Carbon leakage list“:**

if criteria 1. and 2. are met, risk of carbon leakage is assumed

-> list of sectors with high free allocations (100% of benchmark value)

## Impact on allocation in 3rd trading period (TP) in Germany

> 95% of free allocation for industry is considered „at risk“ !

# Treatment of carbon leakage risk - lessons learnt: Keep the „leakage list“ short - or differentiate it

- -> EU system currently „over-addresses“ carbon leakage and free allocation
- Intensifying cap over time (the „cake“ for allocations gets smaller)  
-> **targeted** free allocation more and more important
- Economic disadvantage (missing price signals) of free allocation compared to auctioning is largest in sectors with no large carbon leakage risk
- -> California and Québec use 3 classes („tiers“: high, medium, low) of leakage risk and accordingly, free allocation

# „Dynamic“ free allocation rules

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# „Dynamic“ free allocations: Pro...

- 1. „Fairness“ and distribution when plants change over time:
  - Owners of new plants „should“ also receive free allowances
  - Shutdown of a plant „should“ not be rewarded through keeping the allowances (which were received for free)
- 2. Helping in avoiding carbon leakage
  - By means of free allocation that is tied to capacity and/or production „at home“

# Free allocation: how to deal with changes over time?

## “Dynamic allocations” in the EU-ETS 3<sup>rd</sup> period

**Option 1: “Updated” base period for allocation: 2005-08** (or optional: 2009-10)  
(in 2<sup>nd</sup> trading period it was usually 2000-2005)

**Option 2: free allocation to new entrants or extensions of capacity**

- from EU-wide new entrant reserve; roughly identical rules as for existing plants

**...and withdrawal of allowances after closures or capacity reductions**

- No allocation to a closed installation in following years

**Option 3. Immediate change in allocation, proportional to changes of a plant’s production (“output-based allocation”):**

- In EU 3<sup>rd</sup> trading period: Yearly reporting on activity rates (production levels)
- If activity drops *below 50%* (compared to base period), allocation is adjusted downward proportionally. (raised again in subsequent years if again above 50%)

**In EU-ETS, all three options are currently combined.**

# “Dynamic allocations” in the EU-ETS 3<sup>rd</sup> period

## - Typical problems (1)

1. Capacity-based rules can be complex and cause high administrative effort & legal disputes (e.g. about the definition of “capacity”),
  2. activity-based rules are **less complex** and include any kind of production changes, but
    - **require threshold levels** to limit administrative effort and
    - **set little or no incentives for change to less CO<sub>2</sub>-intensive products**
- > climate policy gets more expensive in the long-run.

# “Dynamic allocations” in the EU-ETS 3<sup>rd</sup> period

## - Typical problems (2):

**Why are incentives for changes to less CO<sub>2</sub>-intensive products so important?**

Climate Policy depends on process innovation as much as on product innovations: Take the example of cement:

- 1) introduce new types of cement
- 2) reduce the clinker ratio (share of clinker in the cement)
- 3) increase cement durability & material efficiency in use
- 4) substitute cement by less CO<sub>2</sub>-intensive products (e.g., bricks)
- 5) recycle cement

Source: see for example European Commission:  
[https://ec.europa.eu/clima/events/articles/0115\\_en](https://ec.europa.eu/clima/events/articles/0115_en)



# EU-ETS: Change of free allocation for phase 4

High (political) priority:

- Most likely only activity-based allocation rules
  - Annual adjustment of the allocation if the activity level increase/decrease more than X % compared to a baseline activity level
  - Threshold 15 % and adjustments in both directions => highly increasing administrative effort compared to 3<sup>rd</sup> period expected

# EU-ETS New Entrants Reserve for phase 3

- New entrants reserve (Art. 10a para 7 ETS – Directive)
  - 5 % of the Cap is reserved for new entrants (incl. NER 300)  
= *greenfields (new installations) and capacity extensions*
  - If amount is not exhausted at the end of phase 3 ⇨ auctioning of surplus
- Germany
  - Phase 2: 5 % of the cap
  - Phase 1: 0,8 % of the cap

# Allocation Rules

## General lessons learnt

- Allocation rules
  - need to be understandable for authorities, operators and verifiers
  - need to be enforceable
- Special rules and exceptions
  - increase complexity
  - have potential to undermine the general rules
  - equal treatment challenged

Example: Germany 1<sup>st</sup> trading period: choice between grandfathering and benchmarking (“option rule”).
- The more generous rules for free allocation are, the more likely is the need to introduce a correction factor in order to meet the cap
- For Carbon Leakage: try to focus free allocations on the sectors most at risk – and work towards international co-ordination of free allocation

**Thank you for your attention!**

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