Umwelt Bundesamt

DEHSt
Deutsche Emissionshandelsstelle

Emissions Trading System – Capacity Building

Benchmarking and lessons learnt

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Study Tour of Chilean Experts at the
German Emissions Trading Authority (DEHSt)

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Outline

- Concept of allocation at sub-installation level
- Steps towards benchmark development
- Distribution of allocation in Germany
- Lessons learnt

Allocation rules in 3rd trading period

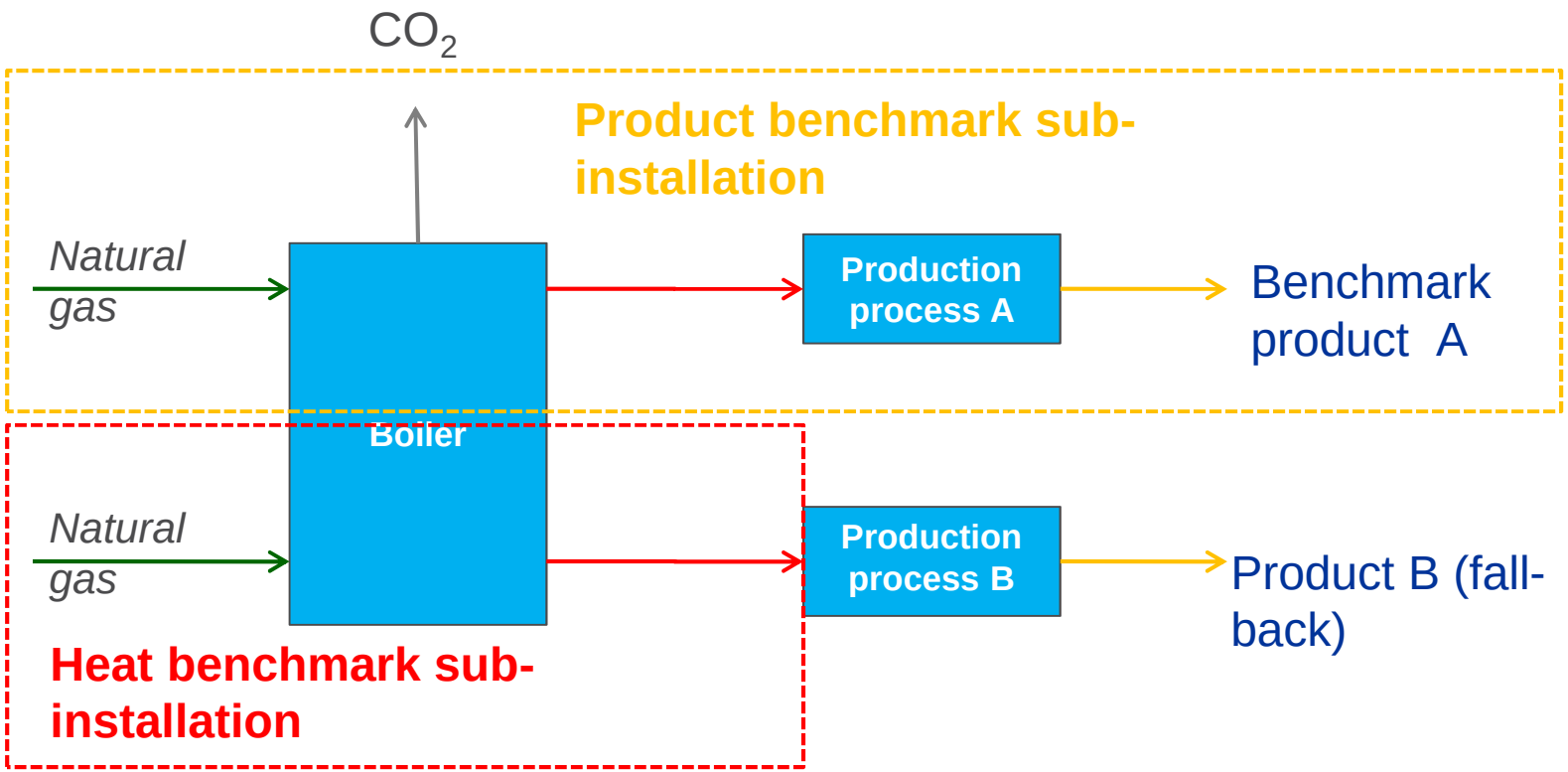
Hierarchy of allocation rules

- **Product benchmarks** (BM) for 52 products, defined as the average of the 10th percentile of the most greenhouse gas efficient installations at EU level in the years 2007-2008
- Otherwise „**fallback**“ approaches in the following hierarchy:
  - Heat benchmark on measurable heat used for production (= 62.3 allowances / TJ)
  - Fuel benchmark (= 56.1 allowances / TJ),
  - Process emissions outside of BM products (list of specific processes) (= historical emissions x factor 0.97)

→ Installation to be split up in **sub-installations** to correctly apply the methodology in the right order (all inputs, outputs and corresponding emissions related, ≠ boundaries of physical process units)

Different sub-installations in one installation

Product benchmark sub-installation and fallback sub-installation



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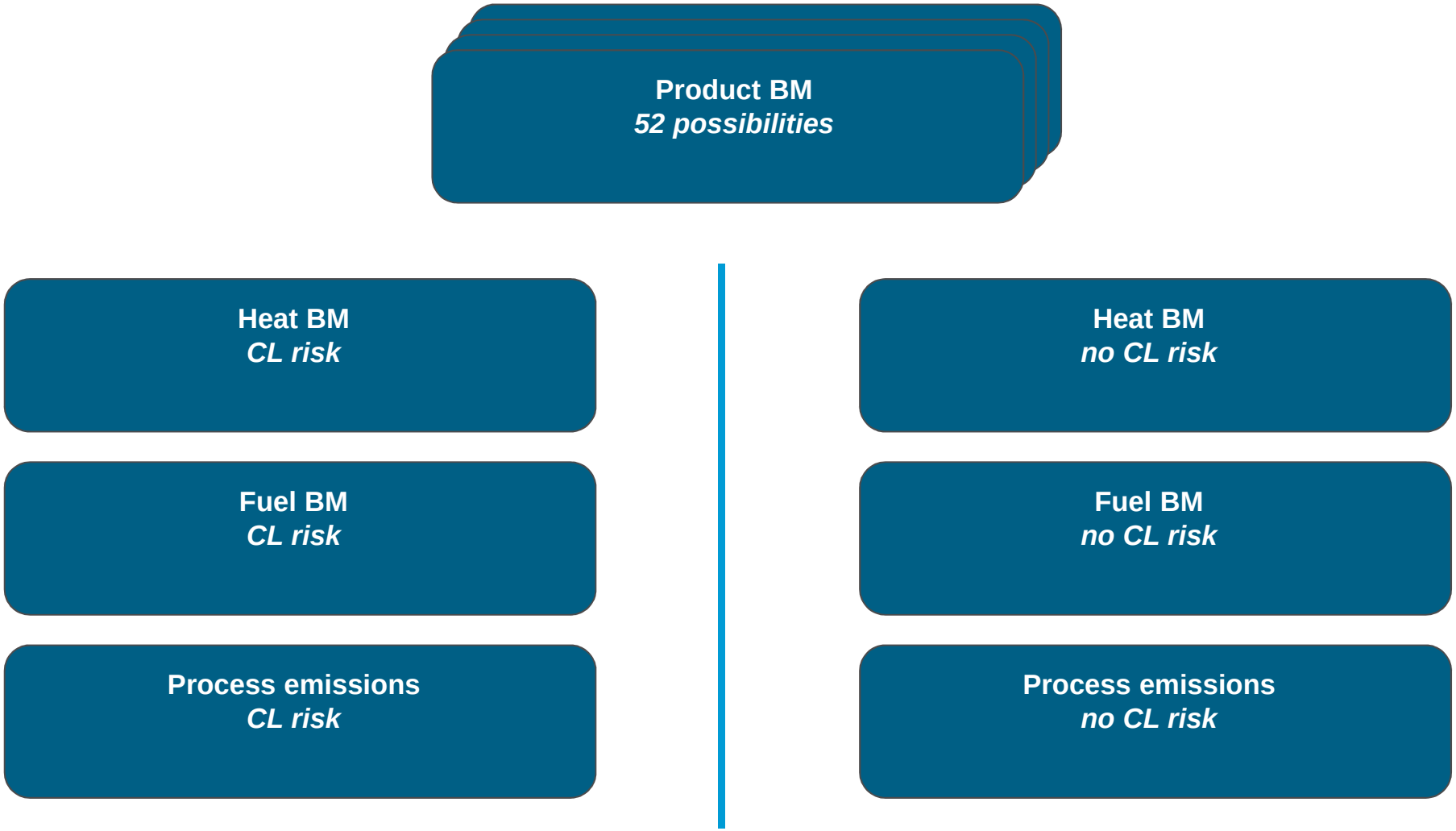
Concept of allocation at sub-installation level



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The choice of free allocation method – benchmarking vs. grandfathering

Benchmarking

- „rewards“ owners of efficient installations and „punishes“ owners of high-emitting installations,
- gives higher incentive for investment in low emission techniques,
- allows equal allocation for existing (incumbent) and new installations.
- But: resistance from lobby groups possible

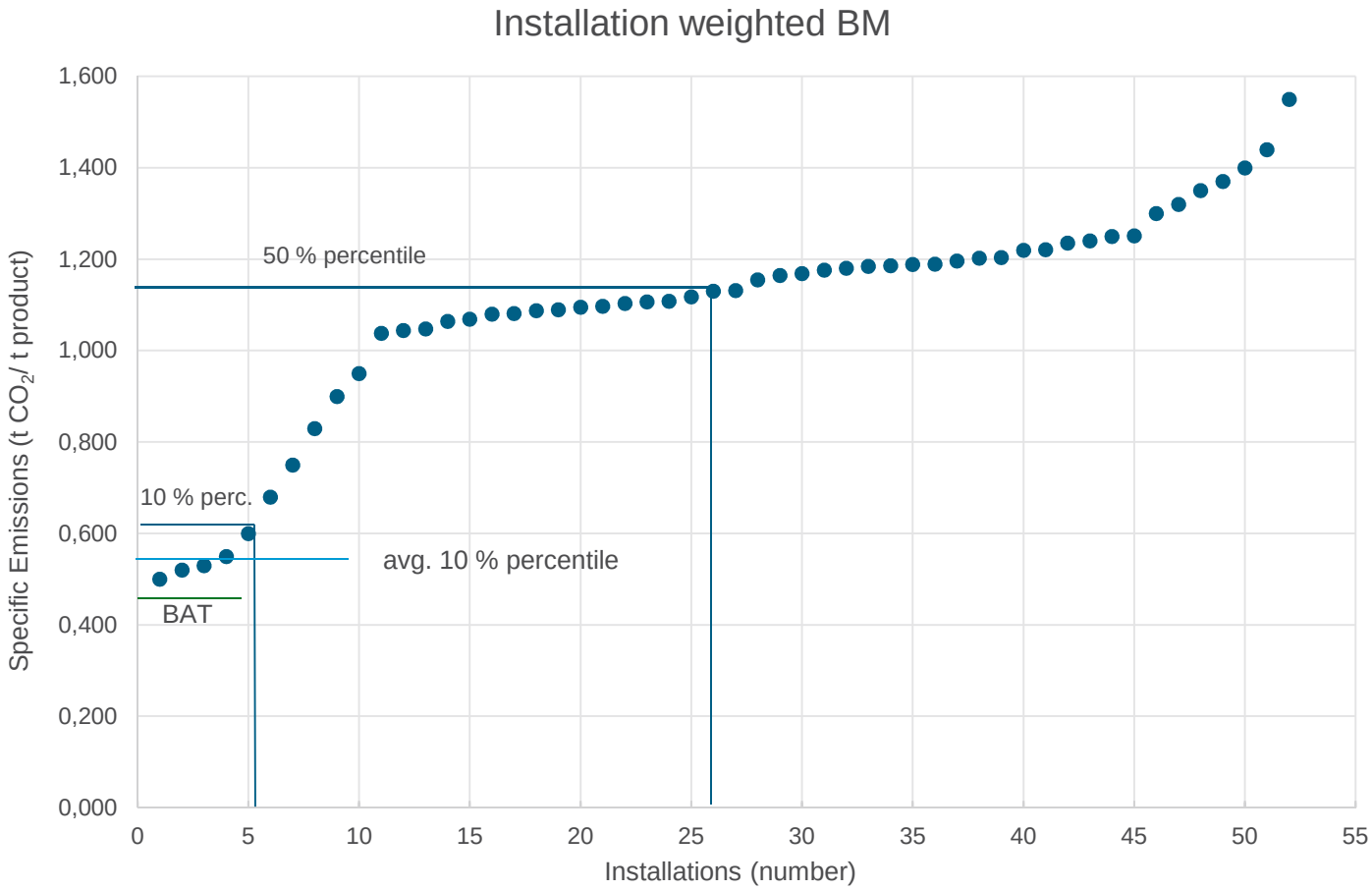
Steps towards benchmark development and allocation rules in phase III

- Pilot projects on benchmark methods & workshops on behalf of some Member states
- Study on General approach, 13 sector studies & stakeholder meetings on behalf of EU Commission
- Informal Technical Working Group
- BM data acquisition by industry associations (guided by “Quality and Verification Criteria for BM data“ and sector-specific „Rule books“)
- EU Guidance and Studies, FAQs: http://ec.europa.eu/clima/policies/ets/cap/allocation/documentation_en.htm and http://ec.europa.eu/clima/policies/ets/cap/allocation/studies_en.htm
- EU “ETS Training Courses” (22 units, partly in Spanish) http://ec.europa.eu/clima/policies/ets/summer-university_en

Benchmark development in phase III

- Benchmarks (BM) are applied EU-wide – to avoid distortions of CO_2 price signal within Member States
- Same ambition level for all product benchmarks within all sectors
- Starting point within a sector: One product group - one BM
- If relevant differences in product specification within a sector (“quality of product”) → more than one BM (but: what is “relevant”?)
- Differentiation within a BM should be avoided, e.g. not for technology, plant age & size, raw material, site-specific factors, or cross-media effects
- Pre-requisite for benchmarking:
  - Harmonised definition of activities and clear product definition (like Prodcom number system)
  - Verified historical data of emissions and production at sub-installation level

Approaches for BM definition



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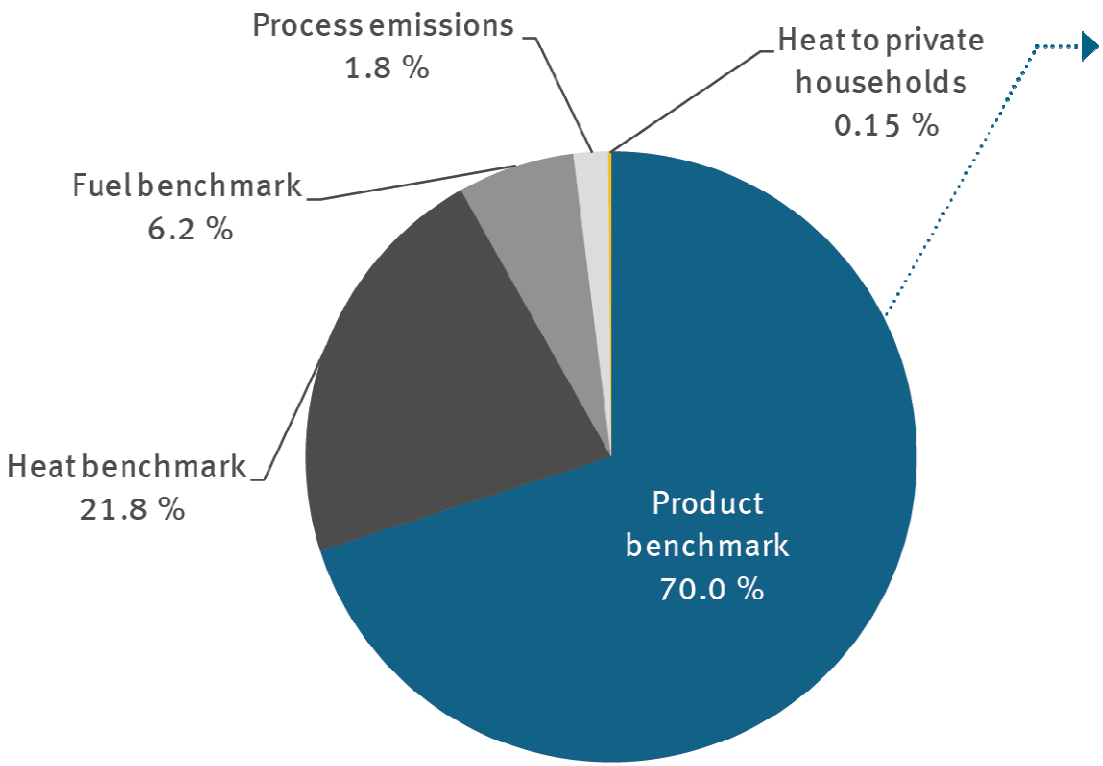
Distribution of allocation 2013-2020 in Germany



Product benchmark	2013-2020 share of total allocation
Hot metal	22.2 %
Grey cement clinker	11.2 %
Refinery products	10,7 %
Steam cracking	3.9 %
Lime	3.6 %
Sintered ore	2.9 %
Ammonia	2.0 %
Coke	1.3 %
Hydrogen	1.3 %
Remaining 40 product BM	10.9 %
Total	70.0 %

Source: Allocation 2013-2020: Results of Free Allocation of Emission Allowances to Incumbent Installations, DEHSt, 2016

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Benchmarking in phase III – lessons learnt

- Benchmark allocation easy compared to fall-back approaches (heat, fuel) → high coverage of BM allocation recommended
- Principle: one product – one BM → no differentiation of BM for similar usage of products (e.g. coloured vs. white container glass, coated vs. uncoated paper), quality or similar raw materials (e.g. grey vs. white cement clinker) → correction for some BM definitions recommended
- Same ambition level for all BM → correction for some BM recommended for phase IV (e.g. some paper products, refineries, hydrogen, ammonia, nitric acid, soda ash, coke, pig iron (hot metal))
- Higher ambition levels for fall-back approaches and some BM for phase IV

→ Keep it simple!

Excursus: Inclusion in ETS

(German) Emissions trading act:

- **Maximum production capacity** for many sectors:
  - legal maximum taken from the permit (e.g., a maximum melting capacity of 20 t/day)
  - Otherwise: other documents, such as the technical specifications of the installation
- **Rated thermal input,** e.g. for energy, non-ferrous metal, gypsum installations: heat content of the fuel with respect to its net calorific value, which can be supplied to a technical unit per unit of time
  - ➔ in Germany: usually part of the permit
  - ➔ Otherwise: refer to manufacturer's specifications or calculation by maximum production capacity of the installation per hour (e.g., melting rate) multiplied by the specific energy consumption per product unit.
- **Sectors (without any threshold)**, e.g. for refineries, primary aluminium, nitric acid, ammonia

Thank you for your attention!

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This presentation is based on a speech held by the German Emissions Trading Authority (DEHSt) and is not clear for publication. Check against delivery. References and quotations from the presentation must at all times be approved in written form by the DEHSt.

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