CAP SETTING, SCOPE AND COVERAGE OF AN ETS

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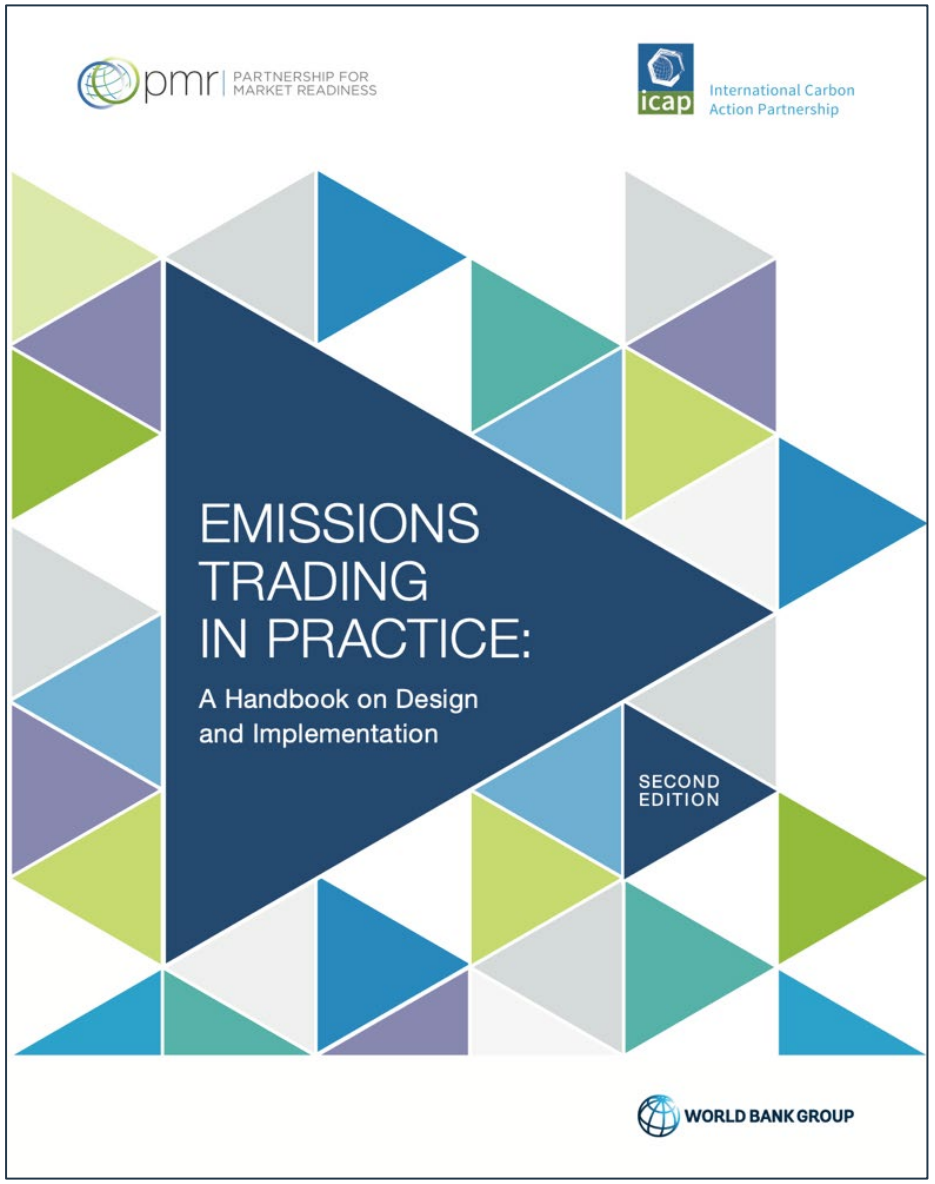
Background Reading

ICAP/PMR Handbook
Emissions Trading in Practice
2nd ed. (2021)

Chapter 3: “Decide the Scope” (pp. 55-76)
Chapter 4: „Set the Cap“ (pp. 77-96)

Available at:
https://icapcarbonaction.com/system/files/document/ets-handbook-2020_finalweb.pdf



What is the function of the cap?

- The ‘cap’ is the **maximum quantity** of allowances issued by the government over a defined period of time
- It **limits emissions by** covered sources – and thus directly determines the environmental outcome
- The cap thus:
  - expresses the ambition level (relative to ‘Business-as-Usual’)
  - defines the need to abate emissions, and therefore sets
  - the scarcity of emission allowances and ultimately their price
- It needs to reflect the **ambition level** of the climate targets it is supposed to achieve – and depending on the type of target, it can be derived **from the target**

Guiding considerations when setting the cap

- **National climate policy – objectives and trends**
  - Is there a target (or several) to translate?
  - What are the trends in the relevant sectors?
  - How should the cap be balanced with emissions from uncapped sectors?
- **Technical potential to reduce emissions**
  - Technological trajectories, sector scenarios, high-level mitigation potentials
- **Economic potential to reduce emissions**
  - Abatement cost in the different sectors
  - (Dis-)investment cycles

Climate policy targets: a typology

- **Absolute emission** targets
- **Relative emission reduction** targets (relative to a historical or projected baseline)
- Emission **intensity** targets (emissions per unit of production, GDP, capita etc.)
- **Technology targets** (e.g. share of renewable energy in final energy demand, energy efficiency, etc.)

… and combinations of the above!

From climate policy target to ETS cap

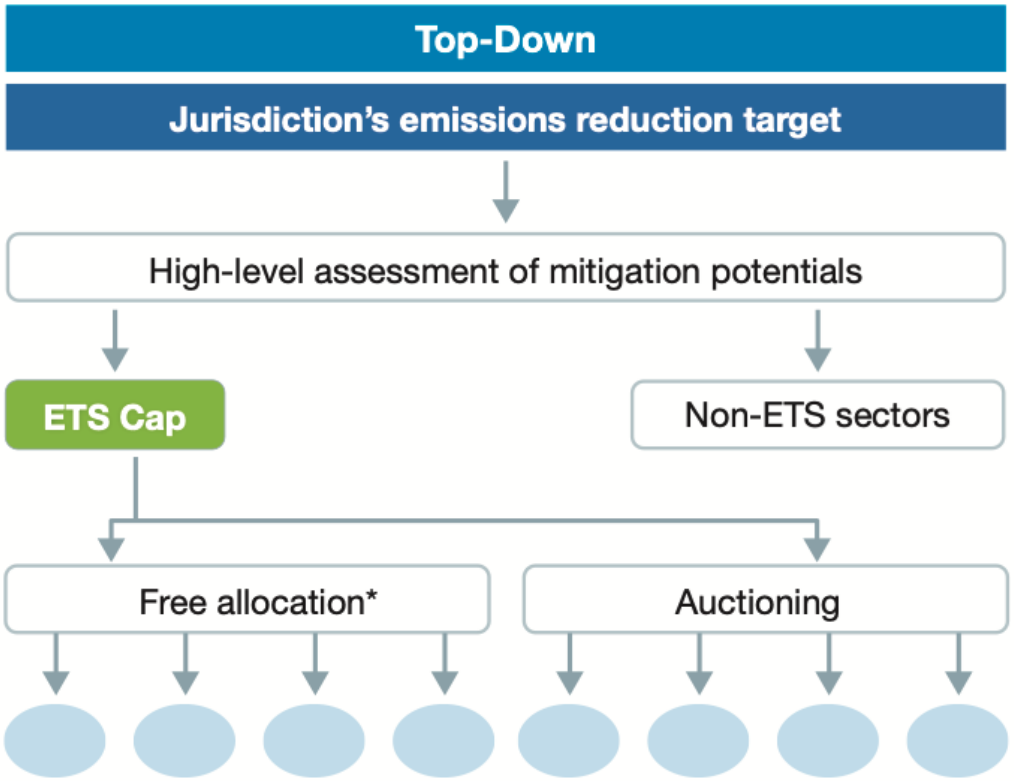
Absolute emission target

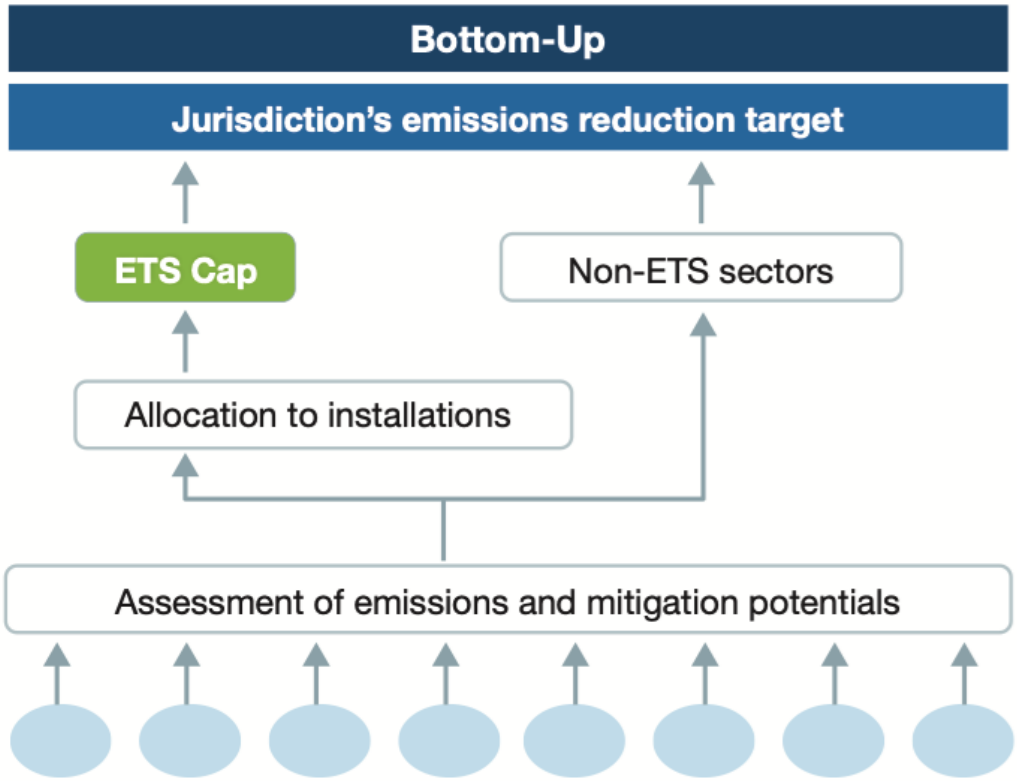
Emission reduction target (below BAU)

Emission intensity target

- Straightforward case: The broader the coverage, the more directly the cap derives from the emission target (at 100% coverage, both would have to be equal). For partial coverage, the effort needs to be distributed between the ETS and the non-covered sectors
- Cap will still need to be expressed in absolute emissions. Formulation of target with reference to BAU means that BAU may be updated – also revisiting the cap. Problematic: what happens if the economy falls (far) short of BAU
- For any year, the cap still needs to be expressed in absolute emissions. Intensity-based target suggests that the cap is updated annually (e.g. based on last year's GDP growth)

Alternative approaches to cap-setting





Source: *ICAP/PMR, 2021*

Why it is important to get the cap right

- Periods of low prices have been observed in a majority of ETS to date
- Oversupply of allowances can result from structural changes in energy supply, economic crises, excessive supply of offset credits etc.

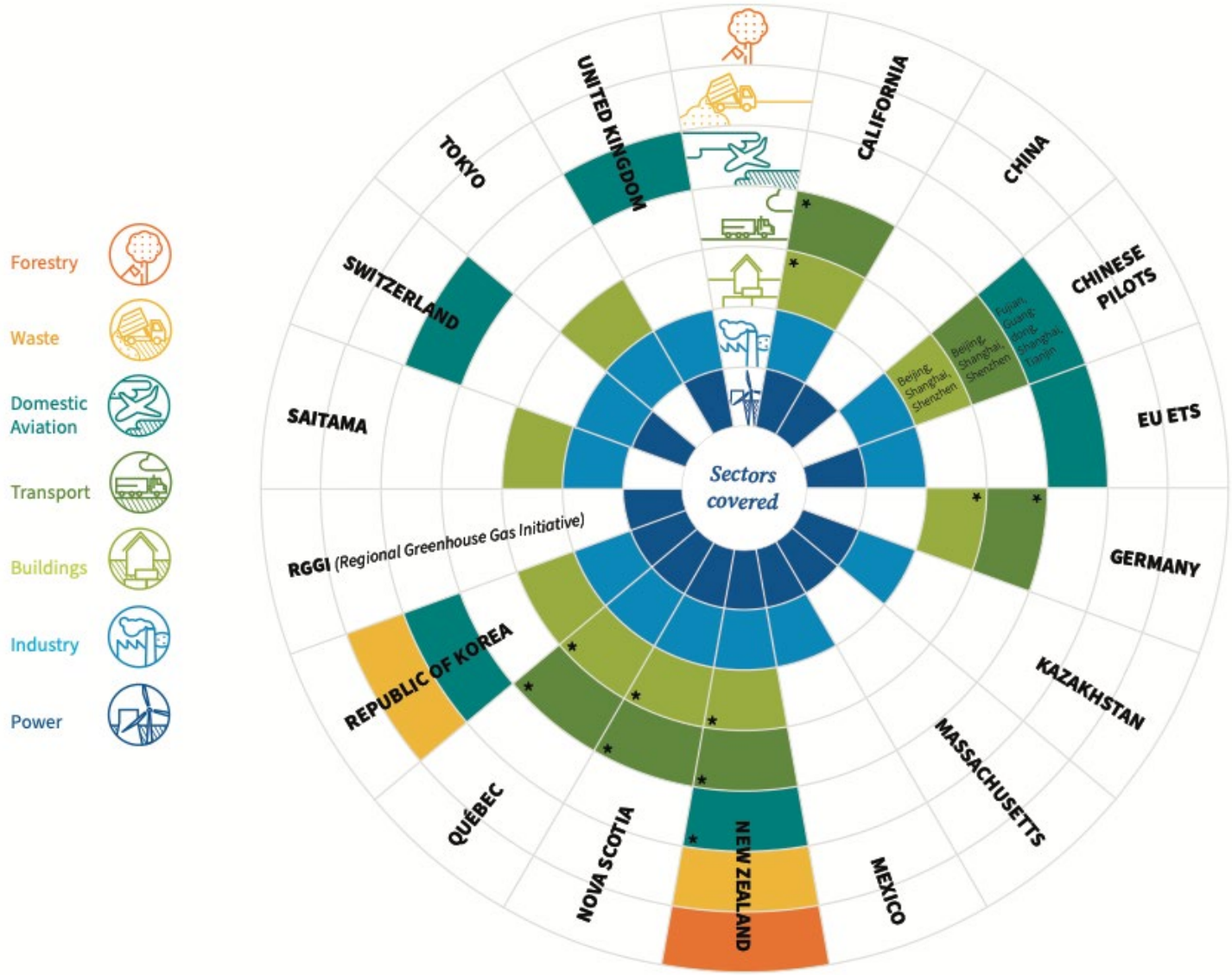
Balancing predictability and flexibility when setting the cap

- **Predictability**: market confidence will only emerge if the cap is sufficiently independent from political interventions

- **Flexibility:** responding to new developments (political, economic, technological, etc.) to ensure that the ETS cap remains sufficiently stringent

- **Possible solutions:**
- Periodic review of the cap (based on clear standards and criteria)
- Mechanisms for cap adjustment (rule-based, price or quantity trigger)
- Rolling cap

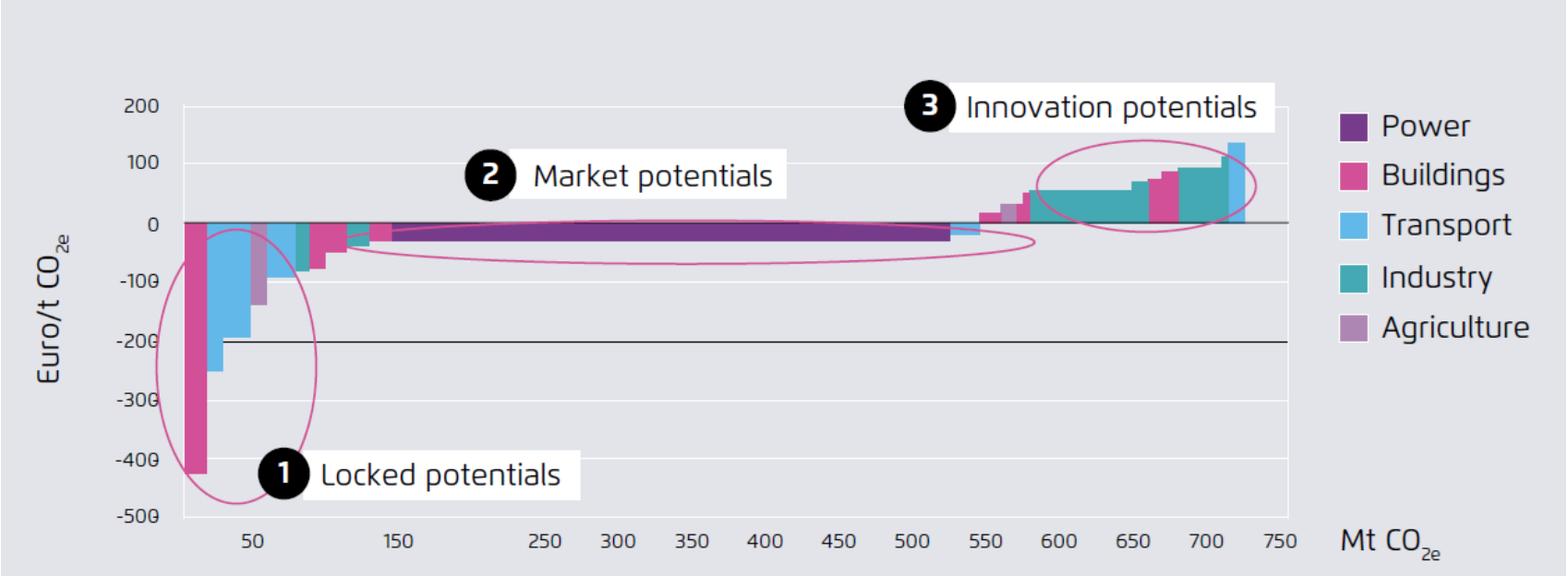
ETS scope and coverage: many different options are possible



Source: *ICAP/PMR, 2021*

Determining the scope of an ETS

- Not all sectors/ abatement potentials are equally suited for carbon pricing



Source: Agora Energiewende & Ecologic Institute, 2021

More criteria to determine the scope of an ETS

- Does the sector/activity represent a significant share of emissions? Are there viable mitigation options?
- Are emissions already covered by other policies?
- Is the sector “used” to pricing or market approaches? What is the market structure?
- Can emissions from the sector/activity be monitored with reasonable accuracy?
- Are transaction costs manageable?
- Are there political issues that need to be addressed (distributional effects, industrial competitiveness)?

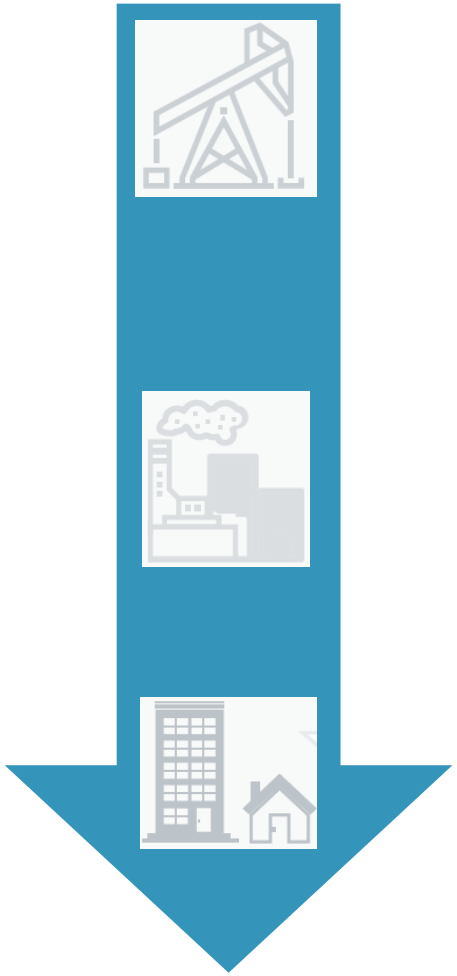
Coverage of greenhouse gases

Jurisdiction	CO_2	CH_4	N_2O	HFCs	PFCs	SF_6	NF_3
California	●	●	●	●	●	●	●
China national and pilots*	●						
EU	●		●		●		
Kazakhstan	●						
Massachusetts	●						
Mexico Pilot	●						
New Zealand	●	●	●	●	●	●	
Nova Scotia	●	●	●	●	●	●	●
Québec	●	●	●	●	●	●	●
Republic of Korea	●	●	●	●	●	●	
Regional Greenhouse Gas Initiative (RGGI)	●						
Switzerland	●		●		●		
Toykyo-Saitama	●						

- All ETS cover **CO_2** from energy
- Many also cover **N_2O** and **PFCs**
- Some ETS cover additional industrial gases (all 6 '**Kyoto GHGs**' and **NF_3**)

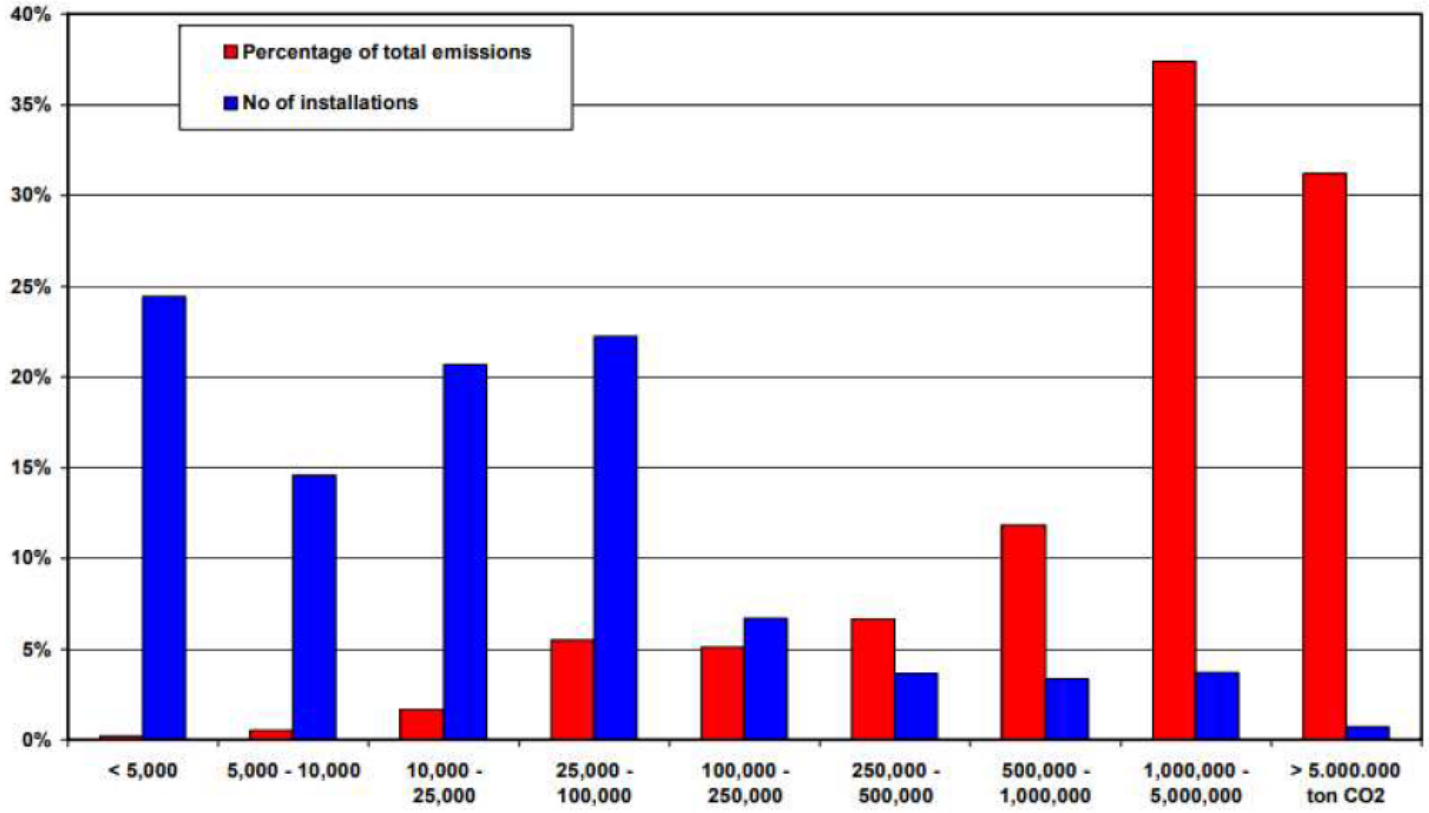
Source: *ICAP/PMR, 2021*

Point of regulation



- **Upstream:**
  extractors and importers / vendors of fossil fuels have to report (embodied) emissions of the fuels produced and surrender allowances
- **At the source of emissions:**
  actual (point-source) emitters measure and report their emissions and surrender allowances
- **Downstream:**
  consumers pay for the emissions released in the production of a good (e.g. electricity)

Thresholds for small emitters



Source: European Commission "Small installations within the EU ETS"

THANK YOU!

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