DIW BERLIN

World Congress of Environmental and Resource Economists

Trade and Climate Policies in the Context of the Paris Agreement

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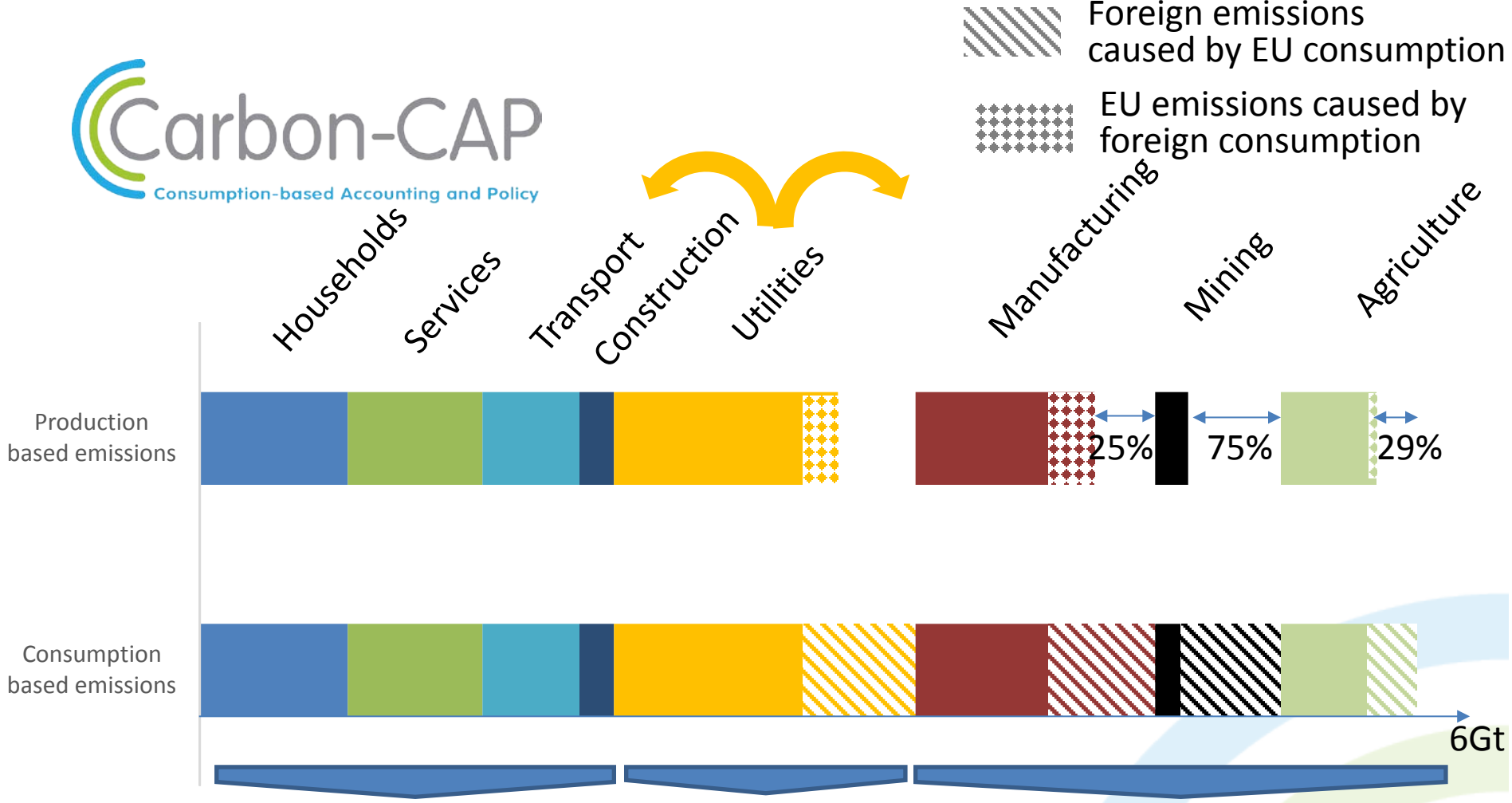
Carbon-CAP
Consumption-based Accounting and Policy

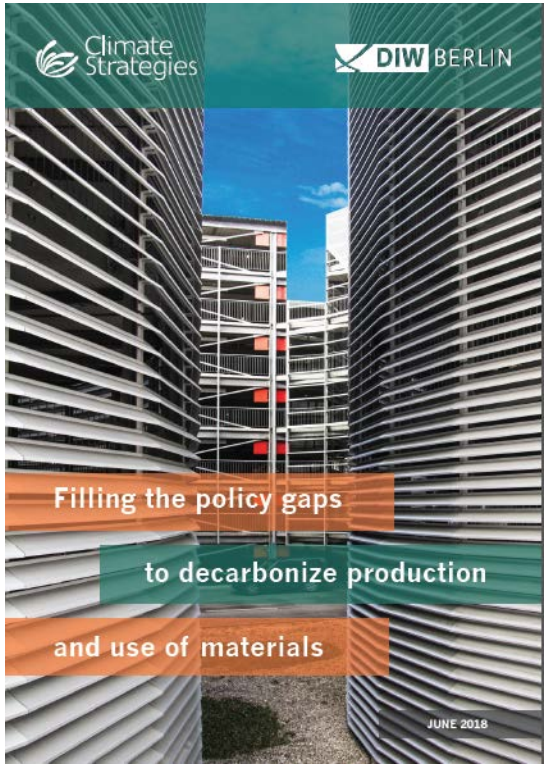


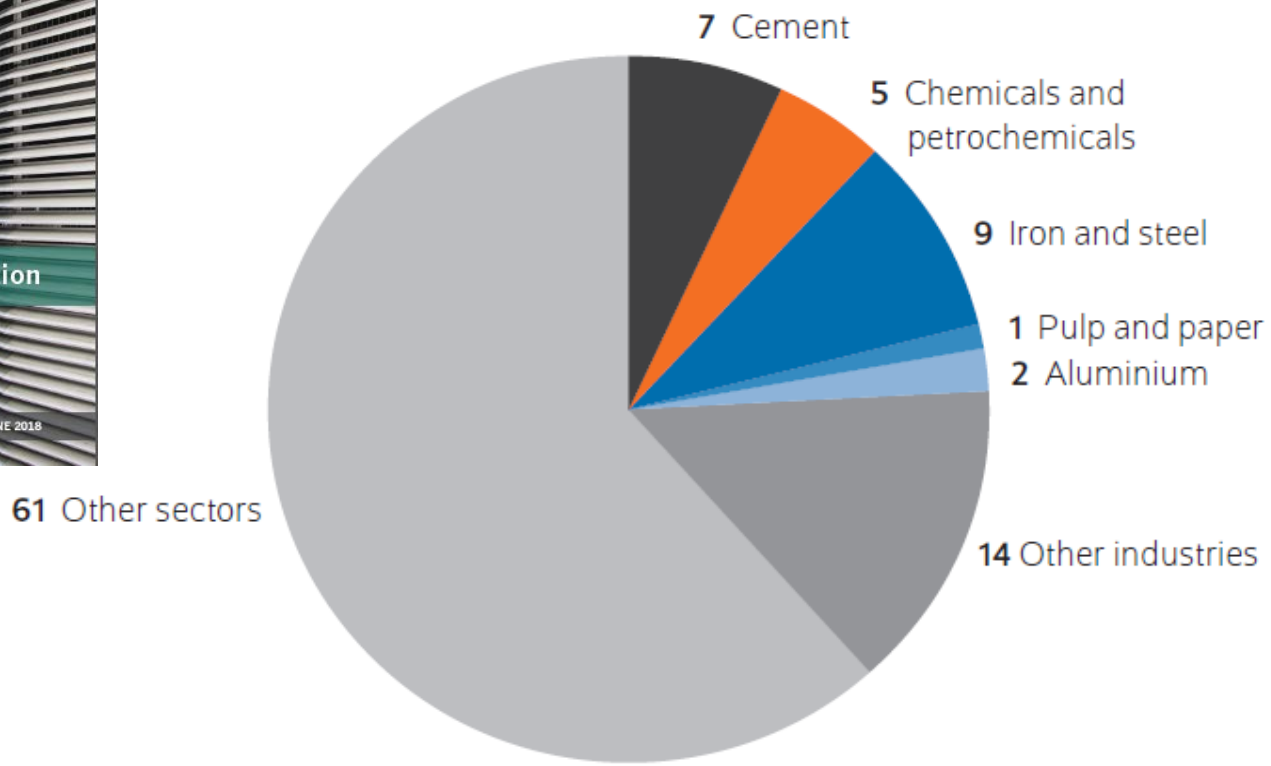
- Success of measures tailored to consumption decisions (efficiency standards, financial support, advice).
- Higher feasibility and fiscal preference for energy taxes over production based policies (e.g. oil cartel).

- EU ETS for fuel shift
- RE policy

- Largely production based policies like EU ETS, so far with limited impact on consumption choices.
- Consumption based policy emerging (labeling, Eco-Design), but not price based

2 Percentage contribution of various basic materials to global CO_2 emissions (based on IEA ETP 2017)





3 Carbon price not „active“ for most mitigation opportunities

Mitigation option	Role that carbon pricing can play:	ETS with free allocation
Fuel shifting and production efficiency	Savings with more efficient production	**Carbon price effective with benchmarks (level too low …)**
Carbon focused process innovation	Extra Innovation funding	**Carbon price muted:**
	Covering incremental costs	• International Trade
Material efficiency and substitution	Savings with efficient / lower-carbon material use	• Dynamic allocation • Persistent allocation at high benchmark level

Munnings et al. (2016). “Experience with Pricing Carbon Consumption”, RFF Discussion Paper.

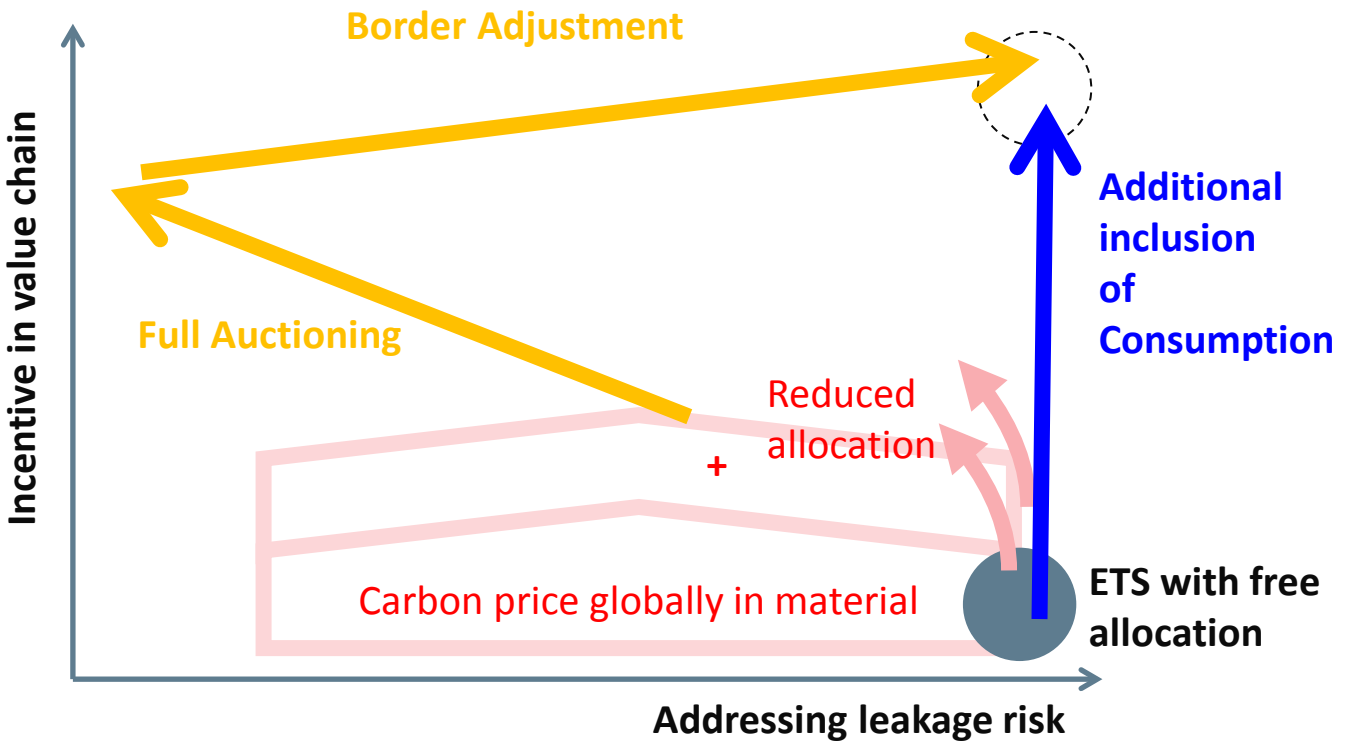
4 How to create incentive and revenue for transition?

Incentives for

Climate friendly production with incremental cost

Efficient material use and substitution

Production efficiency and fuel shifting



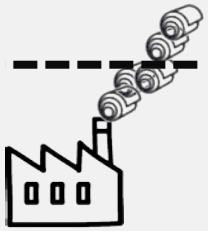
Basic options for leakage protection in post Paris world of differentiated carbon prices:

0. Iterative increase of carbon price in traded materials with reduction of free allocation
1. Full auctioning for incentives backed by Border Adjustment for leakage protection
2. Free allocation for leakage protection & Inclusion of Consumption for incentives

4 Option 1: Border related approaches - politically or economically difficu

Coverage of material producers

Surrender allowance to cover CO2 emissions →

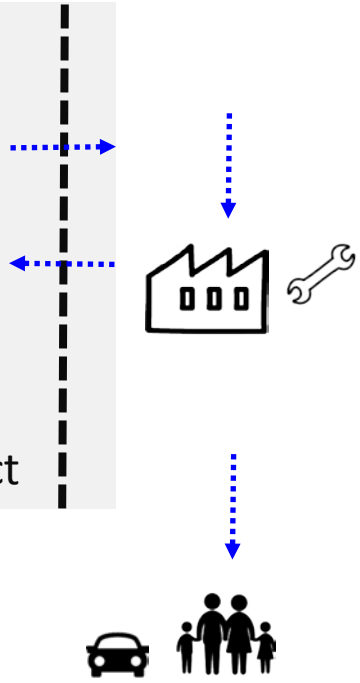


Carbon leakage protection

Charge on import

Reimburse export

- benchmark * weight * EU ETS price
- also material in product



- Incentive for climate friendly material production
- Consumers contribute to carbon cost: Essential for viability of technologies with incremental cost

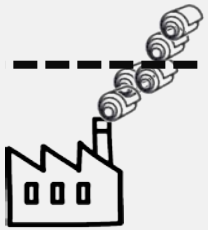
Incentives for efficient material use and substitution: Saves European consumers the consumption charge

For WTO compatibility (Art 3 GATT), use best available technology benchmark in combination with full auctioning to avoid discrimination

Ismer, R. and Neuhoff, K., 2007. Border Tax Adjustments: A feasible way to support stringent emission trading, European Journal of Law and Economics 24, p. 137–164.

5 Option 2: Inclusion of Consumption of basic materials in carbon pricing

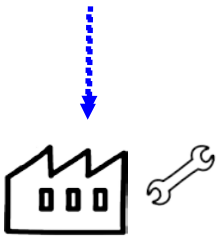
Coverage of material producers



Surrender allowance to cover CO2 emissions

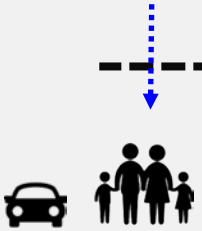
Free allowances allocation (benchmark * tons material)

Incentive for climate friendly material production and carbon leakage protection



Consumers contribute to carbon cost: Basis for viability of technologies with incremental cost

Consumption charge for **final consumers**



Charge on material in product sold in country (benchmark * tonnes material * ETS price)

Incentives for efficient material use and substitution: Saves European consumers the consumption charge

Ismer, R. & Haussner, M. (2015). "Inclusion of Consumption into the EU ETS: The Legal Basis under European Union Law". *Review of European, Comparative & International Environmental Law*.

6 Finding from technical reports

- Pricing Carbon Consumption: Synthesizing an Emerging Trend (Munnings C., Acworth, W., Sartor, O., Kim, Y.-G., Neuhoff, Climate Policy)
- Quantifying Impacts of Consumption Based Charge for Carbon Intensive Materials (Pauliuk, Neuhoff, Owen, Wood, DIW Discussion paper)
- Inclusion of Consumption into Emissions Trading Systems: Legal Design and Practical Administration (Ismer/Haussner, Neuhoff, Acworth)
- Benchmarks for Emissions Trading – General Principles for Emissions Scope (Zipperer, Sato, Neuhoff, *DIW Discussion Papers)*
- Inclusion of Consumption into the EU ETS: The Legal Basis under European Union Law (Ismer/Haussner, RECIEL)
- Inclusion of Consumption of carbon intensive materials in emissions trading – An option for carbon pricing post-2020

https://climatestrategies.org/projects/inclusion-of-consumption-in-emissions-trading/

7 Summary: Design of carbon pricing for innovation and investment in climate friendly materials production and use

- Trade of materials motivates free allowance allocation, mutes price

- Three perspectives to reinstate full carbon price (while avoiding carbon leakage)
  0. Converging carbon prices + phase out free allocation: **Slow**
  1. Shift from auction to border adjustment: **Politics and economics difficult**
  2. Additional consumption charge at benchmark: **Suitable for basic materials**

- Inclusion of consumption in Emissions Trading
  - Reinstates full carbon price signal for all decision makers
  - As consumption charge at benchmark level WTO-compatible
  - Supports market based approach to achieve climate objectives

- International cooperation could help
  - Align objectives & approach to avoid repercussions for/from trade
  - Facilitate effective policies in materials sector (Paris Climate Agreement)

Project Team: Inclusion of Consumption in Emission Trading

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