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Katerina Peterkova, PhD candidate

Calculating Potential for Emission's Reduction via Supply Chain Contracts

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Regulatory framework

› International public regulation

- › Clash of interests of developing and developed countries
- › Post-Kyoto negotiation impasse

› National public regulation

- › Unequal ⟶ Carbon leakage
- › Emissions embedded in imported products: Herrmann and Hauschild (2009)

› Private regulation

- › Prevailing in regulation of scope 3 emissions
- › Deficiencies: legitimacy, effectiveness, monitoring and enforcement
- › GHG Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard

What role for contracts?

- **Old-new tool**

- **Why they can be successful where other regulation fails?**
  - Lower adoption costs
  - Best practice in place
  - Enforceability through international contract law
  - Overcoming deficiencies of private regulation
  - Interaction with other regulation

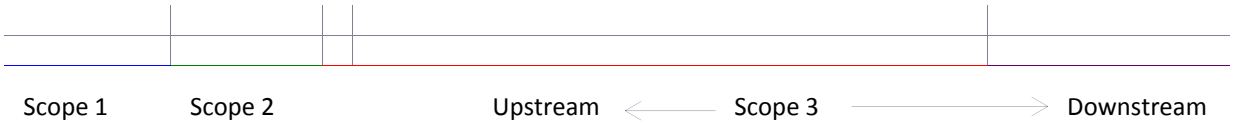
Theoretical picture

- Companies do not provide complete data on their carbon inventory
- Estimates: scope 3 emissions account for 50 – 90 % of companies' overall emissions
- Not all scope 3 produced by suppliers
- What can we do without knowing exact amount of scope 3 suppliers' emissions?
- Qualitative or quantitative goals?

Methodology

› 4 steps:

1) Scope 1 and 2 emissions from 2011
2) Estimate of scope 1 and 2 emissions percentage
3) Estimate of supplier's emissions percentage
   - › for the sample companies and the specific industry as a whole



4) 2 quantifiable goals for carbon emissions' reduction per industry
   - › less and more ambitious
5) Calculation how much carbon emissions would be saved if the largest companies achieved the goals

$$s_{sc} = ((s_{1,2} / p_{1,2}) * p_{sc}) * (g / 100)$$

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Methodology

- **4 selected industries**
  - Telecommunication
  - Food & beverages
  - Chemicals
  - Aerospace & defense

  - Largest European and US companies based on revenues from 2011 (2012 Fortune Global 500 list)

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Results

- **Telecommunications** (10 companies)
  - Goals: 10 %; 20 %
  - Potential reduction: **5,8** million tCO2e; **11,7** million tCO2e
  - Georgia; Bolivia
- **Food & Beverages** (8 companies)
  - Goals: 10 %; 50 %
  - Potential reduction: **20** million tCO2e; **100,1** million tCO2e
  - Jordan; Greece, Vietnam
- **Chemicals** (5 companies)
  - Goals: 10 %; 20 %
  - Potential reduction: **16,7** million tCO2e; **33** million tCO2e
  - Tunisia; Slovakia
- **Aeropsace & Defense** (10 companies)
  - Goals: 10 %; 40 %
  - Potential reduction: **5,4** million tCO2e; **21,6** million tCO2e
  - Albania; Estonia

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Results

- **Cautious goals extended to all 500 companies on the 2012 Fortune Global 500 list**
  - 2 % of global emissions
- **Ambitious goals extended to all 500 companies on the 2012 Fortune Global 500 list**
  - 8 % of global emissions

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Discussion

- The aim to demonstrate the magnitude of potential for carbon emissions reduction
- Easier acceptable to reduce direct emissions by few percent than to provide full inventory
- How should the potential be triggered?
  - Private-regulation does not seem to be enough
  - Meta-regulation (reporting)
  - How should contracts be drafted?
  - Should all sectors be included?

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Drawbacks and achievements

› Drawbacks

- › No time consideration involved
- › The results depend on several estimates

› Achievements

- › First calculation of this type
- › Ground for devoting more attention to supply chain and available regulatory possibilities

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Thank you for your attention!

Katerina Peterkova
katpe@asb.dk