CZ-AT EEG

Czech-Austrian Energy Energy Expert Group

Prague, 16 April 2009

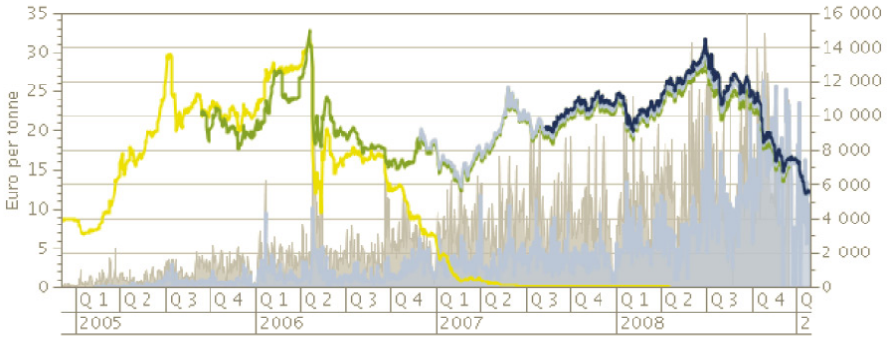
Rethinking EU carbon market policies

Safeguarding against price volatility and carbon leakage

Stefan P. Schleicher

Wegener Center for
Climate and Global Change
University of Graz

Austrian Institute of
Economic Research
Vienna

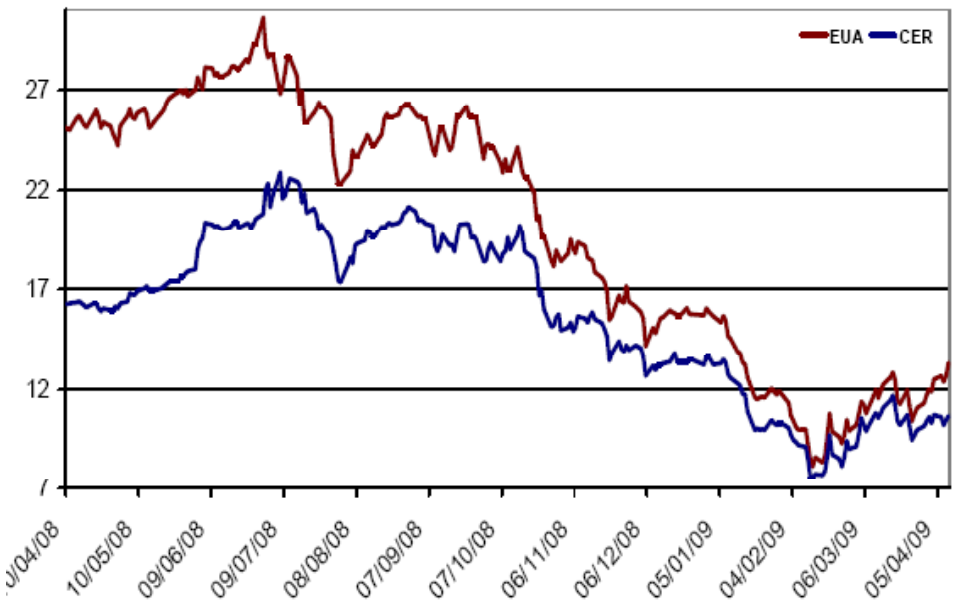


Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

The EU carbon market



Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

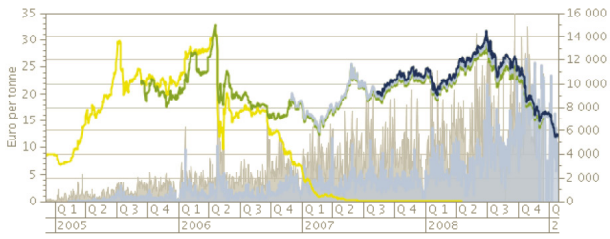
My propositions

- The EU Emissions Trading System (ETS) is an unprecedented and unique policy activity.
- It has the potential for shaping energy and climate policy.
- It has also the potential for re-designing economic development on a global scale.

Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center



Understanding the carbon market

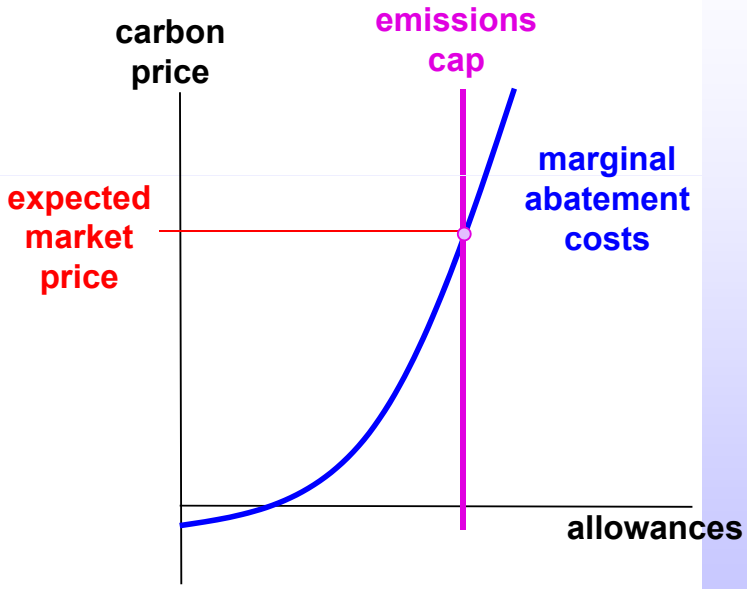
Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

The carbon market
The simplistic view

- **Based on courageous assumptions**
  - Perfectly informed forward looking agents
  - Market knows until 2020 the aggregated marginal abatement costs for all installations



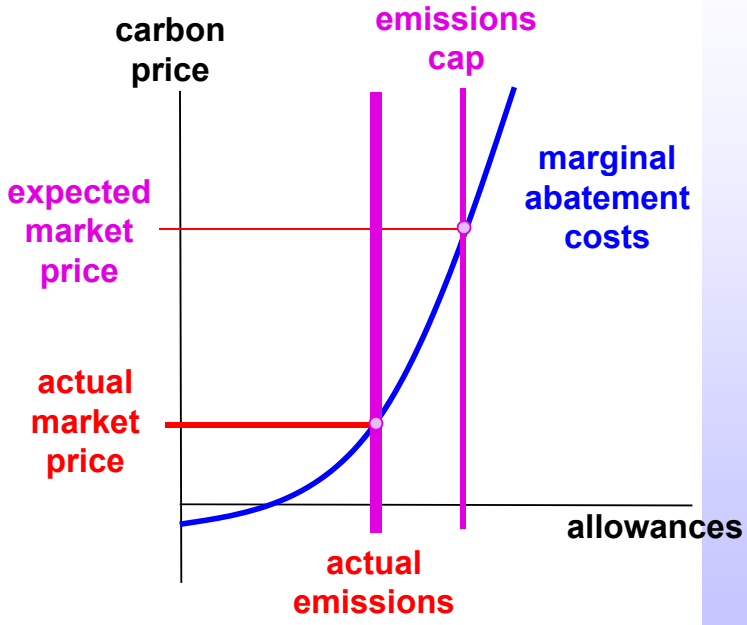
Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

The carbon market and a bit more reality
The cap may not be binding

- **Abundant historical examples**
  - UK ETS
  - EU ETS Phase 1
  - EU ETS Phase 2 – emerging evidence
- **Theory and evidence combine on why allocations tend to be inflated**
- **Not certain that even Phase 3 will be binding, particularly when banking taken into account**
- **Michael Grubb**
  - Carbon Prices in Phase 3 of the EU ETS Climate Strategies



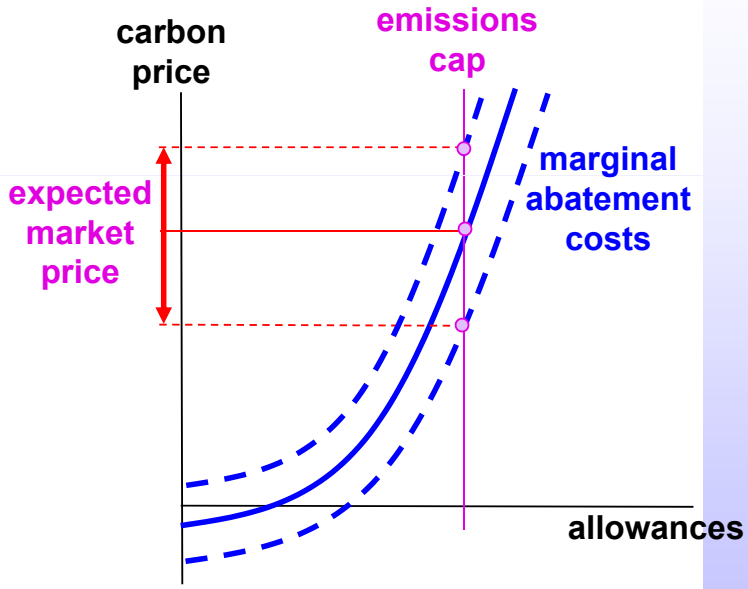
Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

The carbon market and a bit more reality
Perceived abatement costs may vary

- There is high uncertainty about abatement costs
- Abatement costs vary
  - Interest rates
  - Capital depreciation rates
  - Energy prices
  - Cyclical fluctuation
- Abatement costs may not be unique at all
  - e.g. joint production structures



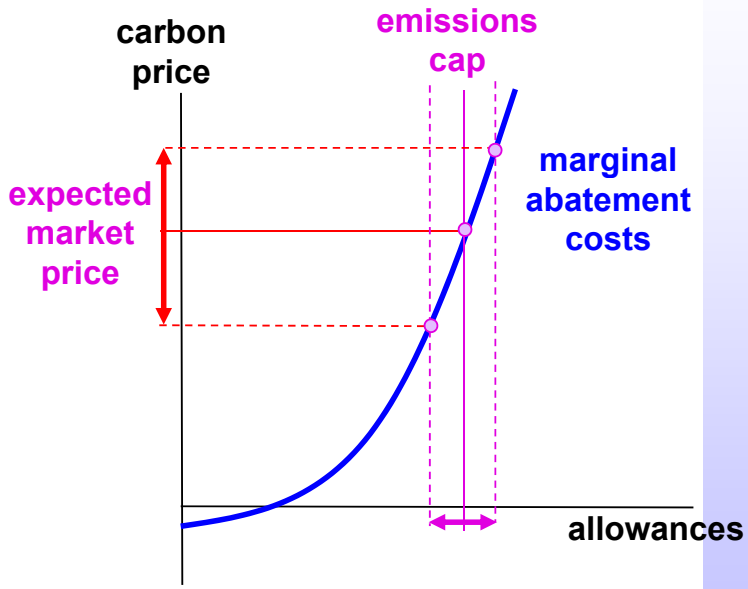
Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

The carbon market and a bit more reality
Perceived supply of allowances may vary

- The impact of strategic buyers and sellers



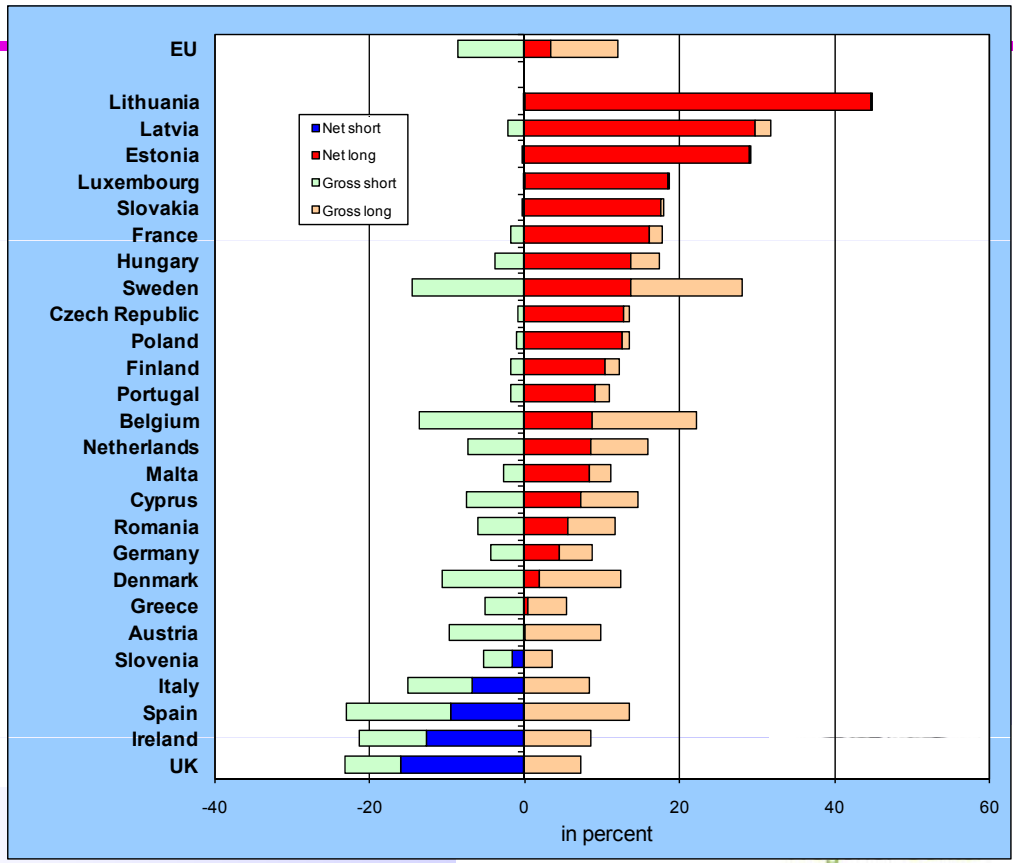
Stefan.Schleicher@uni-graz.at

WIFO

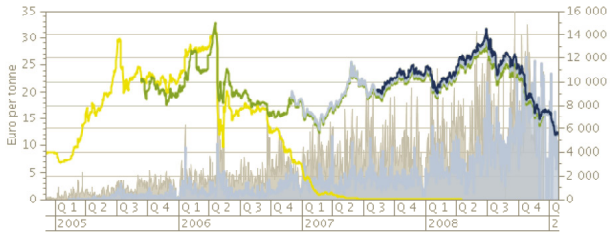
Wegener Center

The carbon market and a bit more reality

- Aggregate information about installations may be wrong
- Particular problem of free allowances



Stefan.Schleicher@uni-graz.at



Rethinking the design of the carbon market

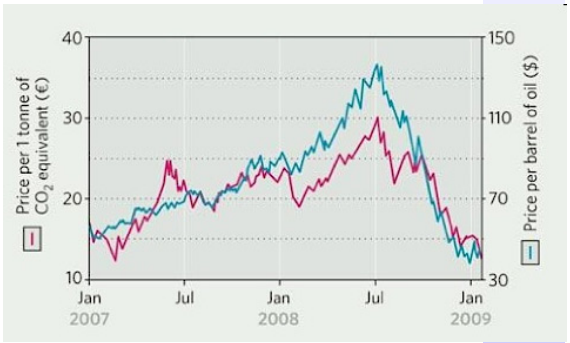
Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

The current controversies about EU ETS market

- **The Commission position: Regulatory framework reduces price volatility**
  - Market data now available for several years
  - Banking from Phase 2 to Phase 3
  - Predictable cap until 2020



- **But: Increasing evidence of a non incentive-compatible market**
  - Strategic actors push down market price
  - Uncertainty creates additional costs

Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

What incentives do we expect from the carbon market?

- **Incentives for cost minimisation**
  - Current carbon management activitites
  - Investment decisions
- **Assurance about a carbon price range creates stronger incentives for technological change**
- **Almost all emerging carbon markets include some kind of mechanism to stabilise the carbon price**
  - e.g. RGGI (Regional Greenhouse Gas Initiative)

Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

Steps to a carbon market management
A coordinated procedure for auctioning

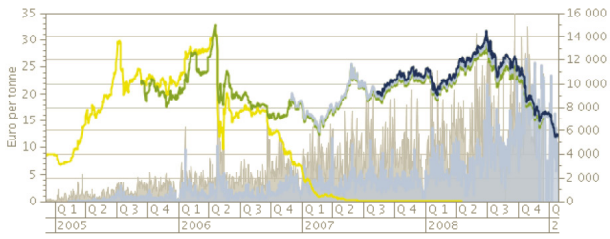
- Emerging consensus that carbon prices should be predictable
- Design of auctioning offers instruments for reducing price volatility

- Step 1: Reserve price for auctioning defines floor price
- Step 2: Timing of supply of allowances for auctioning
  - Timing and volume of auctioning,
  - No need for auctioning by individual Member States
- Step 3: Determining a ceiling price
  - Carbon authority intervenes in market

Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center



Making the decisions about ETS in phase 3 operational

Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

Dealing with carbon leakage
Major problems with data requirements

- **Problems with publicly available data**
  - Incomplete
  - Limited reliability
  - Limited comparability among Member States
- **Disaggregated data needed**
  - Gross value added
  - Direct carbon emissions
  - Electricity input
- **Assumptions needed**
  - Carbon price
  - Impact of carbon price on electricity price

	Relative carbon cost impact CITL %	UNFCCC %
Austria	12%	13%
Belgium	8%	10%
Bulgaria	91%	94%
Czech Republic	10%	23%
Denmark		
Estonia		
Finland	9%	9%
France	17%	13%
Germany	7%	14%
Greece	4%	4%
Hungary	15%	28%
Ireland		
Italy	8%	6%
Latvia		
Lithuania		
Luxembourg		
Netherlands		
Poland	11%	22%
Portugal	5%	5%
Romania	58%	37%
Slovakia		
Slovenia	3%	4%
Spain	6%	8%
Sweden	5%	4%
United Kingdom	29%	31%

Stefan.Schleicher@uni-graz.at

Dealing with carbon leakage
A cooperative procedure for CL and benchmarking (1)

- **Without the cooperation of sectors / sub-sectors it is hardly possible to determine reliable carbon cost indicators**
- **Sectors / sub-sectors which see a risk of CL are invited to opt-in for Carbon Market Monitoring**
  - The opt-in procedure eliminates the need for deciding on NACE 3 or 4 categories

Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

Dealing with carbon leakage
A cooperative procedure for CL and benchmarking (2)

- **The CM Monitoring is done annually and determines**
  - **The actual carbon cost and trade intensity indicators**
  - **The updated list of sectors / subsectors exposed to CL**
- **The information provided for CM Monitoring also serves for the distribution of free allowanced to installations by a benchmarking procedure**

Stefan.Schleicher@uni-graz.at

WIFO

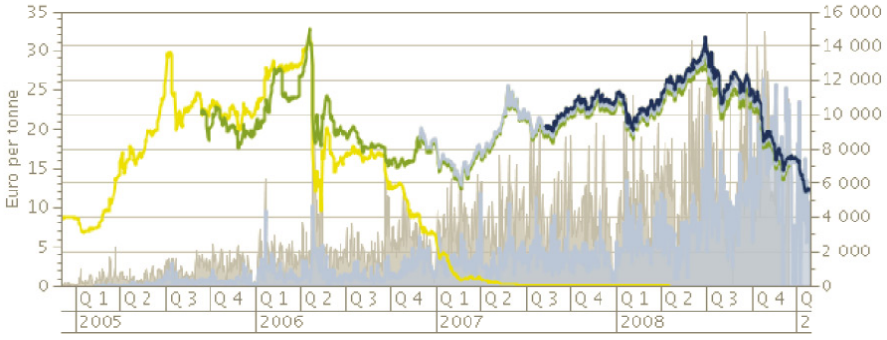
Wegener Center

Thank you.

Stefan P. Schleicher

Austrian Institute of
Economic Research
Vienna

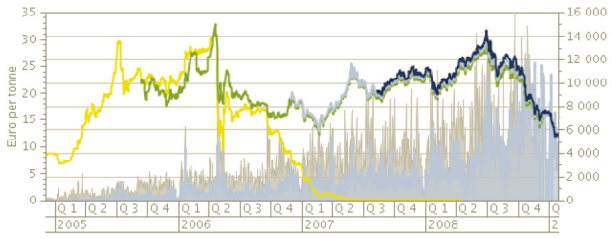
Wegener Center for
Climate and Global Change
University of Graz



Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center



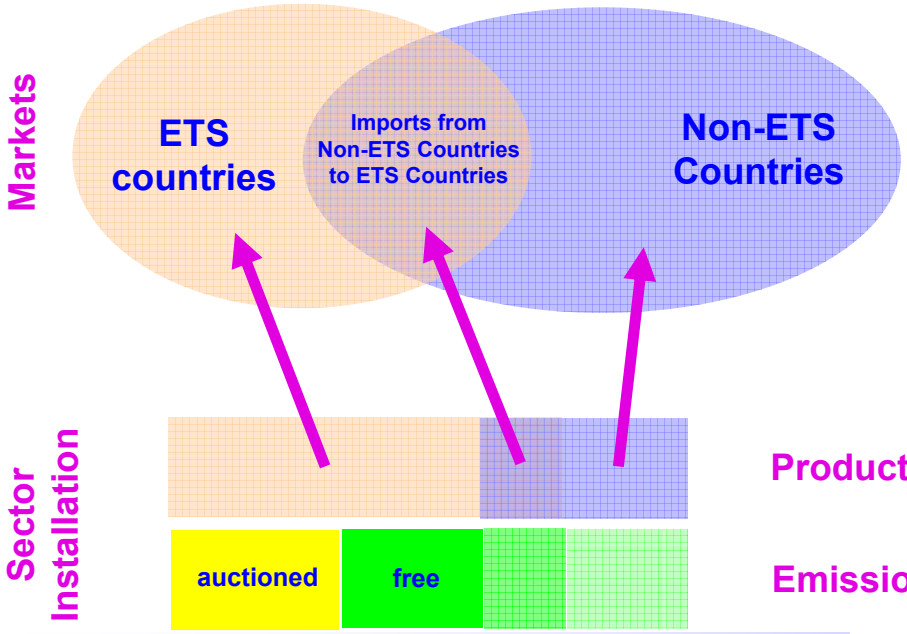
Rethinking the procedure for carbon leakage

Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

Carbon Leakage
Impact on production



- **Trade intensity**
  - ↗ Relocation of production from existing installations
- **Export Competition**
  - ↗ Exports to Non-ETS Countries
- **Import Competition**
  - ↗ Imports from Non-ETS Countries to ETS Countries

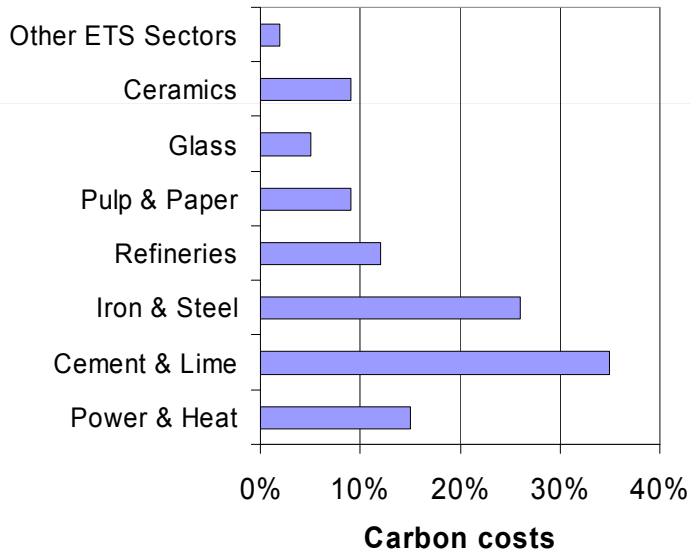
Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

Carbon Leakage
Impact on investments

- **C-Cost intensity**
  - ↗ **Relocation of new installations**
- **Relocation competition for new installations**
  - ↗ **C-Costs in gross value added**



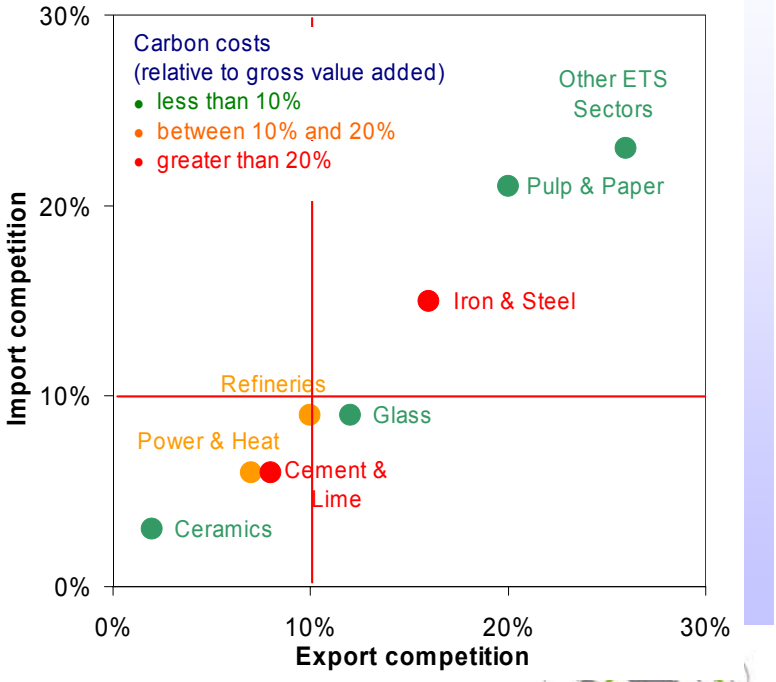
Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center

Carbon Leakage
Some indicators

- **Sectors and individual product classes are exposed to carbon leakage for different reasons and to different degrees**



Stefan.Schleicher@uni-graz.at

WIFO

Wegener Center