Carbon leakage and competitiveness – how to measure it?

First Stakeholder meeting on post-2020 carbon leakage provisions for the EU Emissions Trading System

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Carbon leakage provisions: Pre-conditions for win-win solutions

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- Precondition 1: the most effective, workable policy tool & ETS design

- Precondition 2: create fair & realistic impact assessment as basis

Precondition 1: the most effective, workable policy tool & ETS design

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- Now ETS is fundamentally changing, from the most cost-effective policy tool to reduce emissions, to a very cost driven one with the MSR; is it the best policy instrument?
- ETS is only acceptable if it provides effective GHG reduction while protecting against carbon- and investment leakage
- 100% free allocation at benchmark level should be 100%, not mean in practice 50% shortage or more on direct emissions
- Effective compensation for indirect costs in place
- Feasible long-term future investment management possible

Precondition 2:
Create fair & realistic impact assessment as basis

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- No realistic EC impacts assessment have been done on the ETS sector shortages, nor on consequences on direct and indirect and cost impact on the steel industry and society

➢ It still needs to be done, at EU & national level

- The macro models used by the EC impact assessments can still not match the real costs impact on industry and society

➢ Structural improvements are required: eg use real data, all aspects

- CEPS energy costs & cumulative costs studies: good start how to match reality, but ad-hoc

➢ Agree: creation of an adequate analytical framework is key

Improving EC Impact assessments on industry
Reality vs EC impact assessment structurally too big

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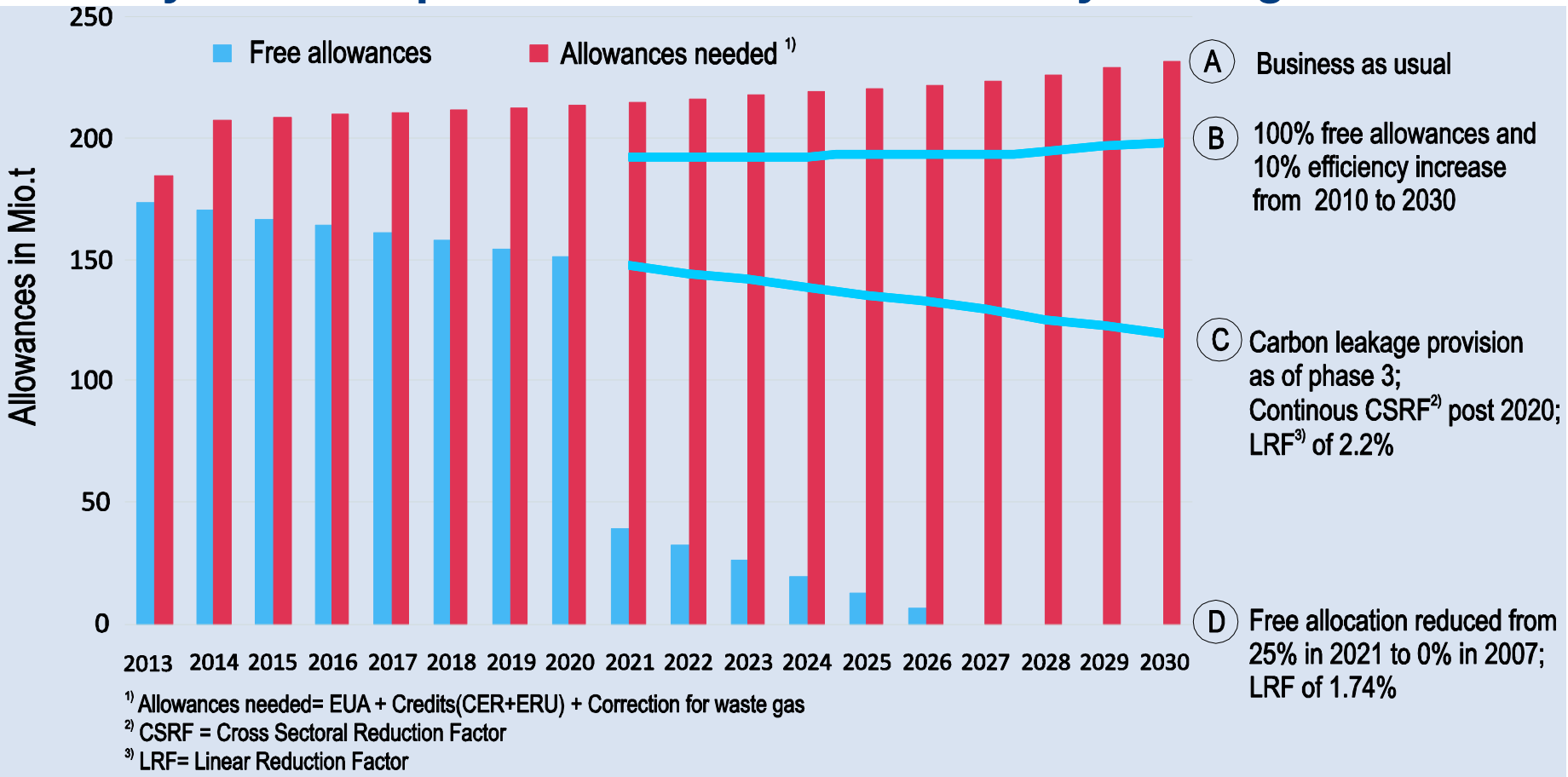

1) Allowances needed= EUA + Credits(CER+ERU) + Correction for waste gas
2) CSRF = Cross Sectoral Reduction Factor
3) LRF= Linear Reduction Factor

4) Accumulated shortage of allowances for **direct** emissions in 2030: (B) 0.43 bn t; (C) 1.03 bn t; (D) 2.23 bn t

5) Shortage for **indirect** emissions: 32 Mio t CO_2/year (Assumptions: (a) Electricity consumption EAF=550 kWh/t cs; BF/BOF = 150 kWh/t cs; Downstream processes = 136 kWh/t HRC; (b) 10% electricity import for BF/BOF route; (c) Electricity emission intensity in line with state aid guidelines; (d) yield for hot rolling = 98%)

Source: Own calculations dated June 2014, based on information available at that stage.

Impact of the EU Com proposal for the Review of EU ETS Post-2020 on the EU steel industry

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Scenarios	CO_2 price EUR/t	Direct + Indirect CO_2 costs billion EUR
B: (a)100% free allowances on benchmark level and financial compensation for indirect emissions, (b) 10% efficiency increase from 2010 to 2030 (Steel Roadmap)	30	21.4
	40	28.5
C: (a) Carbon leakage provisions,(b) CSCF remains, (c) 2.2% linear reduction factor	30	39.6
	40	52.9
D: Current EU ETS	30	78.6
	40	100.8

- Any case scenario shows that the steel industry will face high direct and indirect costs related to the EU ETS.
- The EU Com proposal (D) leads to CO_2 costs of 79 to 101 billion EUR bis 2030
- Even with 100% free allowances (scenario B) the CO_2 costs will amont 22 to 29 billion EUR by 2030

Source: Own calculations dated June 2014, based on information available at that stage.

Improving EC impact assessments on industry

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Accept limitations of macro models for industry impacts

- Best available on modeling is not good enough
- Optimization of modeling was tried in vain: PACE model - DG Enterprise process “Improving macro modeling to realistic impacts”: not possible to match reality with the least worse model: PACE
- Test: test all models on empiric evidence (eg NAP1 windfall profits power sector), stop using unsuitable products / models; eg GEM E3, E3MG
- Macro-equilibrium models should not be used: no equilibrium
- Do not use power sector models for overall conclusions for other sectors or society, eg on cost or allowances surplus (Primes, Gaines)
- Use realistic assumptions: eg not full revenue recycling to industry

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- Full transparency: eg need right classification steel waste gases in CITL – now partly hidden in power, while branding sector as benefitting from ETS
- Use regular realistic existing (forward) price data, like Platts, Eurostat
- Need a more regular data / impact monitoring, not ad-hoc
- Game theory on commercial sector behavior (see later)
- Use micro models on sectors & carbon market studies on price CO2

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- Create credibility & trust in EC independence and impact assessments
- Test any tool to past data – only allow proven successful assessments
- An impact on a sector can be huge, should not be hidden as GDP %
- NAP2 Carbon Leakage assessment is no justification for NAP4 policy
- Need fair data: eg as basis benchmarks setting: no steel plant can make it
- CL list: set indirect impacts as in the CO_2 compensation guidelines
  DG Comp : use marginal prices, not average CO_2 grid factor

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- Do not hide policy impacts:
  - Current creation by higher carbon & energy prices of new ‘MSR’ windfall profits in the power sector, who bought huge surplus allowances
  - ETS targets & switch to gas create further EU gas dependency and costs
  - Extreme shortages in industry - 100% or - 50% by 2030

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Other indicators of competitiveness impacts

Priority 1: solve ETS problem: impact assessment & huge policy impacts

Priority 2: other indicators on industrial competitiveness:

- Value chain impacts, EU dependence, price taker
- Excess of production to demand in EU, but also worldwide -> China
- Measure leakage: carbon intensity consumption vs domestic production
- Raw materials quality evolution: possibly > impact technology
- External market aspects; the EU is an open economy vs closed markets
- When Life Cycle Assessment is not applied, steel is disadvantaged vs. competing materials and recycling can be a disadvantage
- Distinctive aspects between Energy Intensive industries, eg profits, see later

Distinctive aspects between Energy Intensive industries

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Base policy on different economic and technical sector realities

- Large span of profitability ranges, per sector. Steel at the very low end
- Huge difference of ability to pass on costs
- Steel process emissions: less potential for change than other sectors
- Power sector asking for carbon price 30 and 50€/t, then no point to produce steel, while it may be too weak an incentive for sector X to move
- Not reasonable to think that a single carbon price will incentivize all these sectors without closing one of them: steel first (indirect CL started)
- Some sectors can wait for eg steel to stop producing; no lobby 2030 cost
- Some sectors accept high reduction targets; eg innovation subsidy ok
- Steel are asking for an approach by sector, based on benchmarking with the right to produce for the most efficient producers

Impact assessment

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Regulatory costs for steel compared to EBITDA per tonne of steel, 2002-2011:

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EBITDA t/steel	**€48**	**€71**	€99	€77	€142	€110	€92	**- €25**	**€38**	**€43**
EU regulatory costs	**28.1%**	**18.9%**	13.4%	17.3%	9.4%	12.2%	14.5%	**-53.9%**	**35.0%**	**30.9%**

Source: Centre for European Policy Studies, *Assessment of Cumulative Cost Impact for the Steel Industry*, 2013, p. 55-58
EBITDA: *earnings before interest, taxes, depreciation, and amortization*

- Already today huge impact on profit margins
- At an **Ø EBITDA of €69,5** (2002-2011) a CO2 price of €30 or €40 without safeguard measures for direct and indirect costs could wipe out all profit margins.
- **A CO2 price of €40 = up to €80 additional costs** per tonne of steel (BF/BOF route)

Impact of the EU Com proposal for the EU climate and energy package 2030 on the EU steel industry

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- Preliminary assessments show that the implementation of the EU Commission proposal would lead to increased high additional costs and a further damage of the competiveness of EU energy intensive industries.
- EUROFER believes that a genuine reform of the EU ETS with an improved carbon leakage support must take place and not the proposed piecemeal approach of the EU Commission.
- EUROFER is actively involved in finding solutions for achieving both the EU's climate objective for 2030 while safeguarding the global competitiveness of industries at risk of carbon leakage.
- Therefore EUROFER has made concrete proposals for the Review of EU ETS Post-2020

Draft EUROFER discussion paper on the review of the EU ETS (I)

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What we need to safeguard our global competitiveness:

- Provide sectors at risk of carbon leakage with 100% free allocation at the level of the most efficient installations, based on achievable benchmarks and no correction factor **and continuation of 100% free allowances beyond 2020.**
- Provide sectors at risk of carbon leakage **with full off-setting of CO_2 cost-pass through in electricity prices** in all member states by either financial compensation, free allocation, or re-designing the electricity market in a way that it prevents any carbon price pass through in electricity prices, or a combination of these.

Draft EUROFER discussion paper on the review of the EU ETS (II)

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More concrete proposals for a review of the EU ETS Post-2020:

- The repartition of the ETS cap between a manufacturing cap and a power cap shall become flexible to allow full free allocation up to the level of the benchmark to every leakage industry. The remaining part is left for auctioning**. In this way there is no longer any need for a correction factor.**
- Leakage industries should receive free allocation for their direct emissions up to the level of their benchmarks **times the effective production** (based on the year n-1); they need however to purchase and surrender additional allowances to cover the emissions emitted **beyond the benchmark** times the real production level.

Thanks for your attention