The state of the EU ETS
Is the ETS delivering?

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When is the EU ETS delivering?

A number of conditions need to be fulfilled in order for the EU ETS to be 'fit for purpose':

1. Is the EU ETS able to provide a long-term price signal, able to drive investment and innovation, within environmental delivery?
2. Can the EU ETS provide good market functioning and price discovery, and mimic the behaviour of a "natural market " (i.e. flexibility on both the demand and supply sides of the market)?
3. Does it provide effective, but at the same time proportional, protection against the risk of carbon leakage for those sectors of the economy which are open to global competition, while we are still faced with an asymmetrical climate change regime?
4. Does the package have forward-looking provisions?

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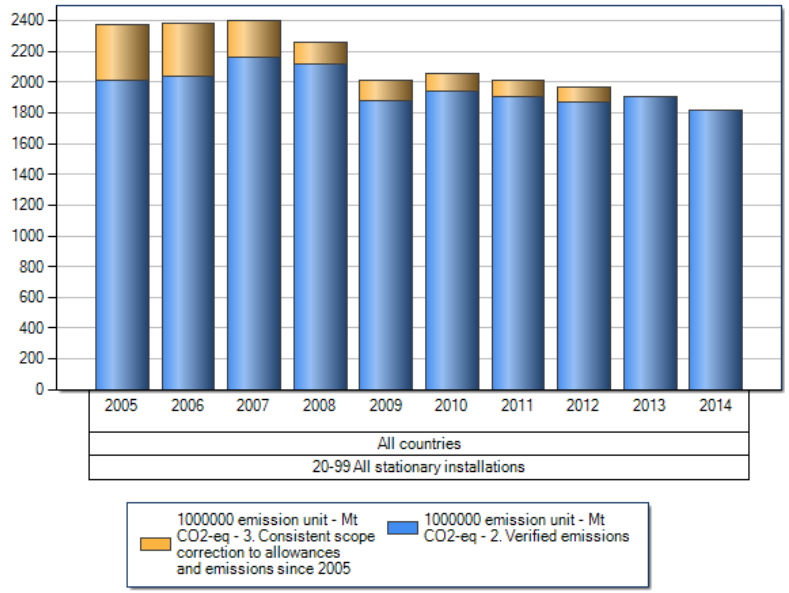
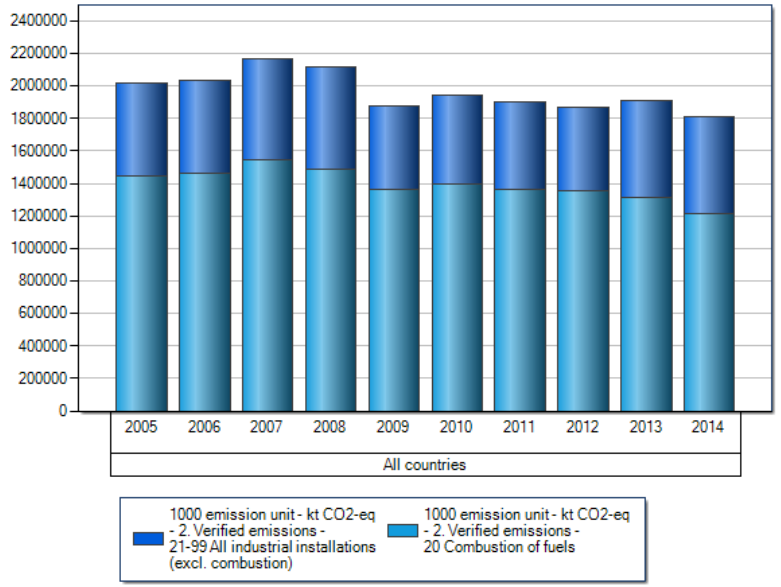
Environmental delivery

Emissions in ETS sectors:

2014 emissions (latest year): - 4.5%





Source: EEA EU ETS Data Viewer

Environmental delivery: domestic vs international dimension

Domestic dimension:

- 2050 low-carbon roadmap
- 2030 Framework
- Oct 2014 EUCO Conclusions

International dimension:

- Paris Agreement
- IPCC Assessment Reports

Environmental delivery: domestic

EUCO of Feb 2011 endorses 80-95% reduction target and called on EC to develop roadmap

2050 Roadmap for moving to a competitive low-carbon economy

Temperature target:

- Roadmap refers to COP15 where "world leaders agreed that global average temperature should not rise more than 2°C"

GHG reduction targets:

- 2030: 40%
- 2040: 60%
- 2050: 80%
- RM refers to 80-95%, but considers the above trajectory in line with this

Environmental delivery: domestic

2030 Framework

Temperature target:

- 2030 framework Communication mentions "limit global temperature rise to below 2°C"
- Impact Assessment repeats "to below 2°C"

GHG reduction targets:

- 2030: 40% compared to 1990
  - ETS: 43% compared to 2005
  - Non-ETS: 30% compared to 2005

Environmental delivery: domestic

October 2014 EUCO Conclusions

- "At least **40%** domestic reduction in [GHG] emissions by **2030** compared to 1990"
- LRF of 2.2%
- EUCO "will revert to this issue [contributions/targets to UNFCCC] after the Paris Conference"

Environmental delivery: international

Paris Agreement:

- P.A. Art. 2(1a) speaks of “well below 2°C” and “to pursue efforts to limit [the increase] to 1.5°C”
- CP.21 para. 20 [COP Decision]: Facilitative dialogue in 2018 to take stock of collective efforts of Parties in relation to progress towards the long-term goal
- CP.21 para. 24 & Art. 4(9): communicate or update NDC by 2020 and to do so every 5 years – new EU NDC by 2025
- Art. 14: global stocktake every 5 years (binding); starting in 2023

Environmental delivery: international

- IPCC: possible impact of 6th Assessment Report (AR6) – ARs released every 5-7 years (AR5 released in 2013-2014)
- UNEP Emissions Gap Report (November 2015):
  - Modest emission reductions up to 2020 → "deep and stringent emission reductions over later decades"
  - Net zero or negative emissions require more investment into absorption/carbon sink measures; both domestically and internationally
- Other jurisdictions may also increase ambition with new NDCs

Environmental delivery: LRF

- 2.2% LRF proposed by EC, following EUCO
- I.A. of the ETS proposal mentions 80-95% reductions & “at least 40%” but refers to 2030 I.A. for justification of 2.2 LRF (p.22)
- I.A. of 2030 framework notes that 2.2 LRF is necessary for 40% GHG target (43% compared to 2005) (p.105)
- The I.A. of the 2030 framework also notes that a 2.2 LRF would not be sufficient for a 90% reduction compared to 2005 (in ETS sectors) – this would require a LRF of 2.4% (p.105)

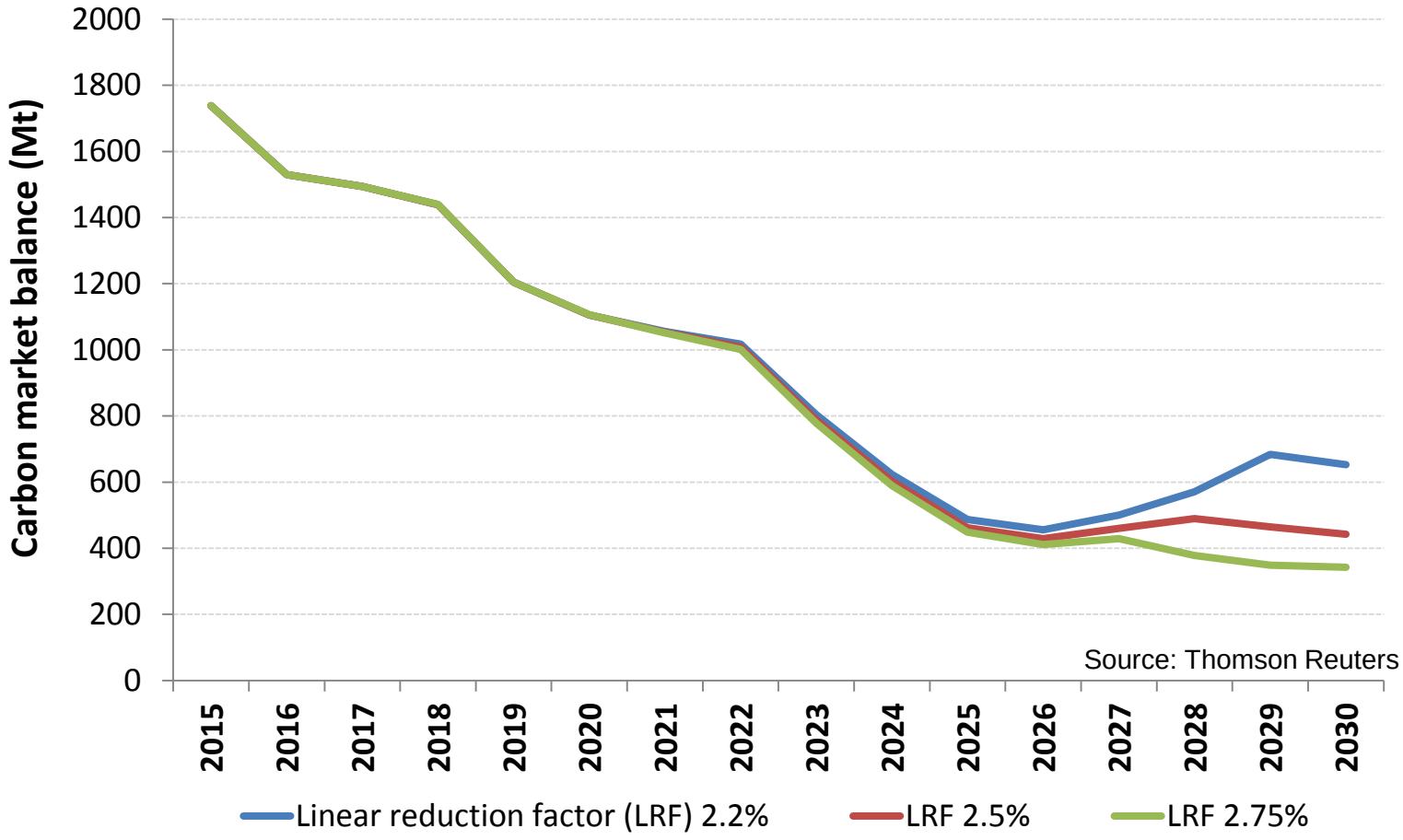
Reconciling domestic and international dimensions of environmental delivery

- 2.2 LRF would be on the lower bound of ambition; based on ‘below 2°C’ & 80% by 2050
- LRF is also bound by other headline targets (RE/EE)
- Provisions in the Paris Agreement make it probable that the EU’s ambition will be updated before 2030

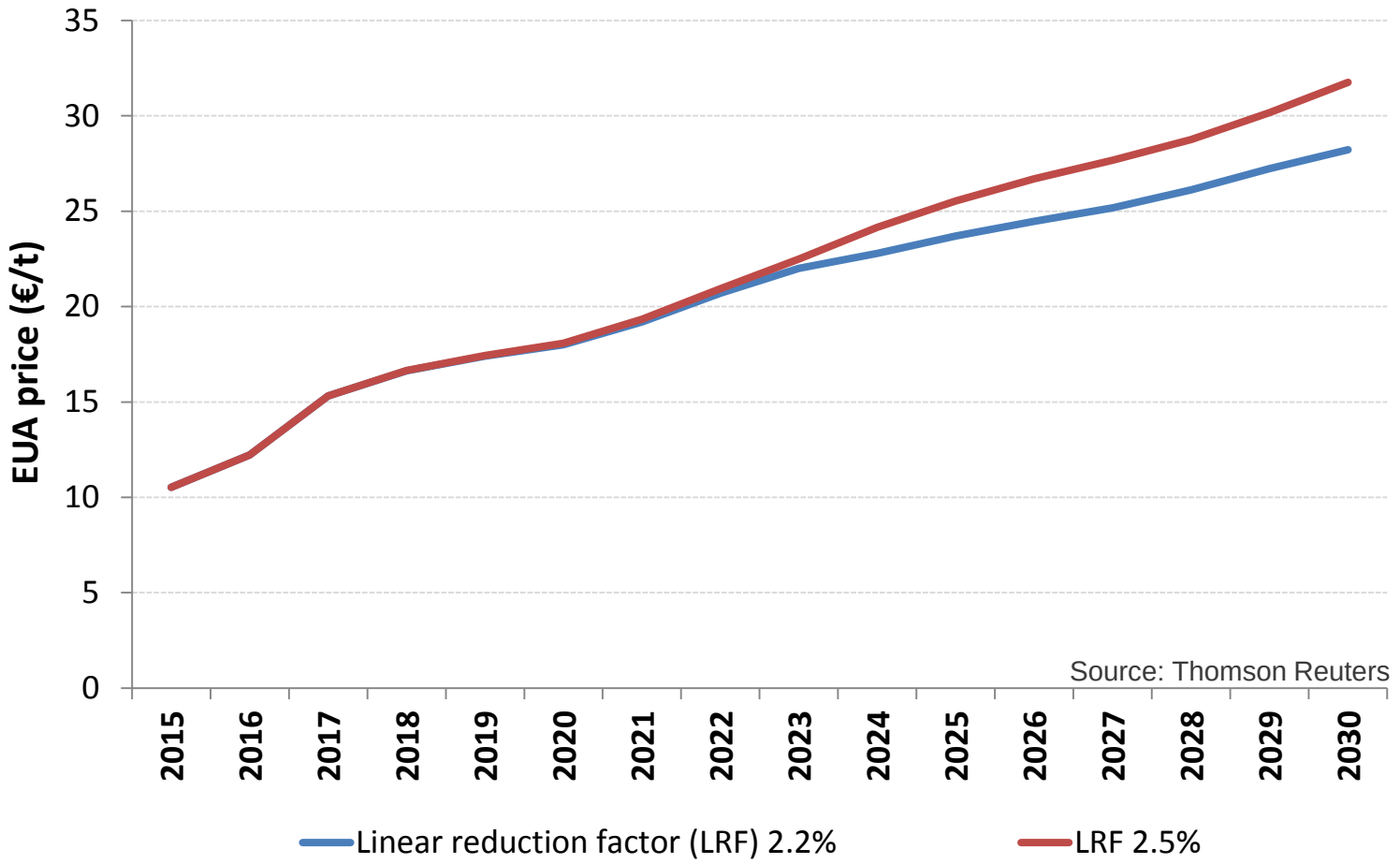
LRF Governance

- There should be provisions in governance for updating the LRF: is repeated co-decision to update a fixed LRF value in the Directive optimal?
- Paris Agreement creates cycles that are unaligned with proposed 10yr cycle for ETS Phase 4
  - Informal dialogue + global stocktake; new NDC
  - Other policies in EU or MS may set targets that interact with ETS and which may necessitate change of LRF

Market balance (Mt) under different LRF scenarios



Nominal EUA prices (€/t) under different LRF scenarios



Environmental delivery

Coverage & scope:

- The EU ETS covers about 45% of all EU emissions → major sectors continue to be left out of the system
- Differential treatment of some sectors (aviation, different allocation rules power/industry)
- What does this say about the ETS & EU climate policy?
  - GHG reductions wanted in all sectors simultaneously
  - Market-driven logic not uniformly accepted

Decoupling GDP and emissions:

- Modest GDP growth in EU while ETS emissions drop shows some decoupling; but what happens with higher growth?
- Emission reductions achieved due to reduced economic output in earlier ETS phases continue to affect surplus and ETS functioning today

Environmental delivery: int. credits

- International credits allowed for phase 3, but phase 4 target is domestic-only
  - High use of credits may result in domestic emissions staying the same → raises concern for long-term ambition
- Possible future role for Art. 6 of P.A. on ITMOs?
  - Moving beyond domestic-only target: increasing ambition by using international markets?
  - Art. 4(1) of P.A. mentions "balance between emissions [..] and removals by sinks" → implies special attention to carbon sinks necessary as a long-term objective
- Link to Switzerland ETS has been agreed

Cost efficiency: main considerations

- Alignment between market & environmental conditions
- Short-term vs long-term (dynamic) efficiency
- Auctioning vs Free Allocation

Cost efficiency: main considerations

Over the last years, the ETS is marked by:

- The carbon market being long
- The environment being short

- There will need to be alignment at some point
- The ETS also has operated in an environment with low or negative GDP growth and low energy prices

  → these circumstances may not hold in the future

  → Incentive for inaction → incentive for regulatory intervention

Cost efficiency:

Short-term vs long-term (dynamic) efficiency

- Cap-and-trade inherently cost-efficient as reductions should take place where they are cheapest first
- Price should not matter in a short-term perspective; however, the surplus + relatively depressed prices have triggered calls for political reform
  - Other systems, such as RGGI, use a hybrid system which includes both quantity and price control

    → MSR shows that EU is set on quantity control as only means to reconcile short and long-term efficiency
- For long-term, dynamic efficiency, the ETS should reflect long-term scarcity
  - Rigidity of supply distorts visibility of long-term scarcity
  - ETS should also create long-term investment signal for dynamic efficiency
  - System may not optimally reflect long-term scarcity right now

Cost efficiency:

Auctioning vs Free Allocation

- Auctioning in principle most cost-efficient
- While auctioning is in principle the main allocation method for all sectors, the vast majority of industrial emissions continues to be covered by the carbon leakage list
- Unfocused FA necessitates CSCF

Ensuring protection against CL risk:

- Free allocation is chosen method for this, but is this sustainable in the long-run?
- Carbon leakage risk should take account of developments in other jurisdictions post-COP21

Ensuring protection against CL risk:

Costs of mitigating carbon leakage risk

- Free allocation, in particular if not well targeted, may distort incentives for reductions and affect ETS market participant behaviour
- Auctioning revenue is foregone if free allocation is granted; this also has implications for the beneficiaries of these revenues, e.g. if they are used for climate-related purposes
- Distortions in the internal market may arise if direct & indirect carbon costs are compensated unequally (FA vs state aid)

Observed carbon costs

ETS costs for selected sectors, in % of EBITDA

	Phase 1 (2005-2008)	Phase 2 (2009-2012)
Steel: Blast Oxygen Furnace (direct, indirect and admin costs)	**0%**	**-9%**
Steel: Electric Arc Furnace (direct, indirect and admin costs)	**5%**	**12%**
Primary Aluminium (indirect costs)	Between 1 and 51% **(average: 27%)**	Between 30 and 99% **(average: 49,8%)**
Flat glass (indirect costs)	/	Between 1,6% and 5,7% **(average: 3,1%)**

Source: CEPS publications, pass-on rate 1

Observed carbon costs

ETS costs for selected sectors, in Euro/ton production costs

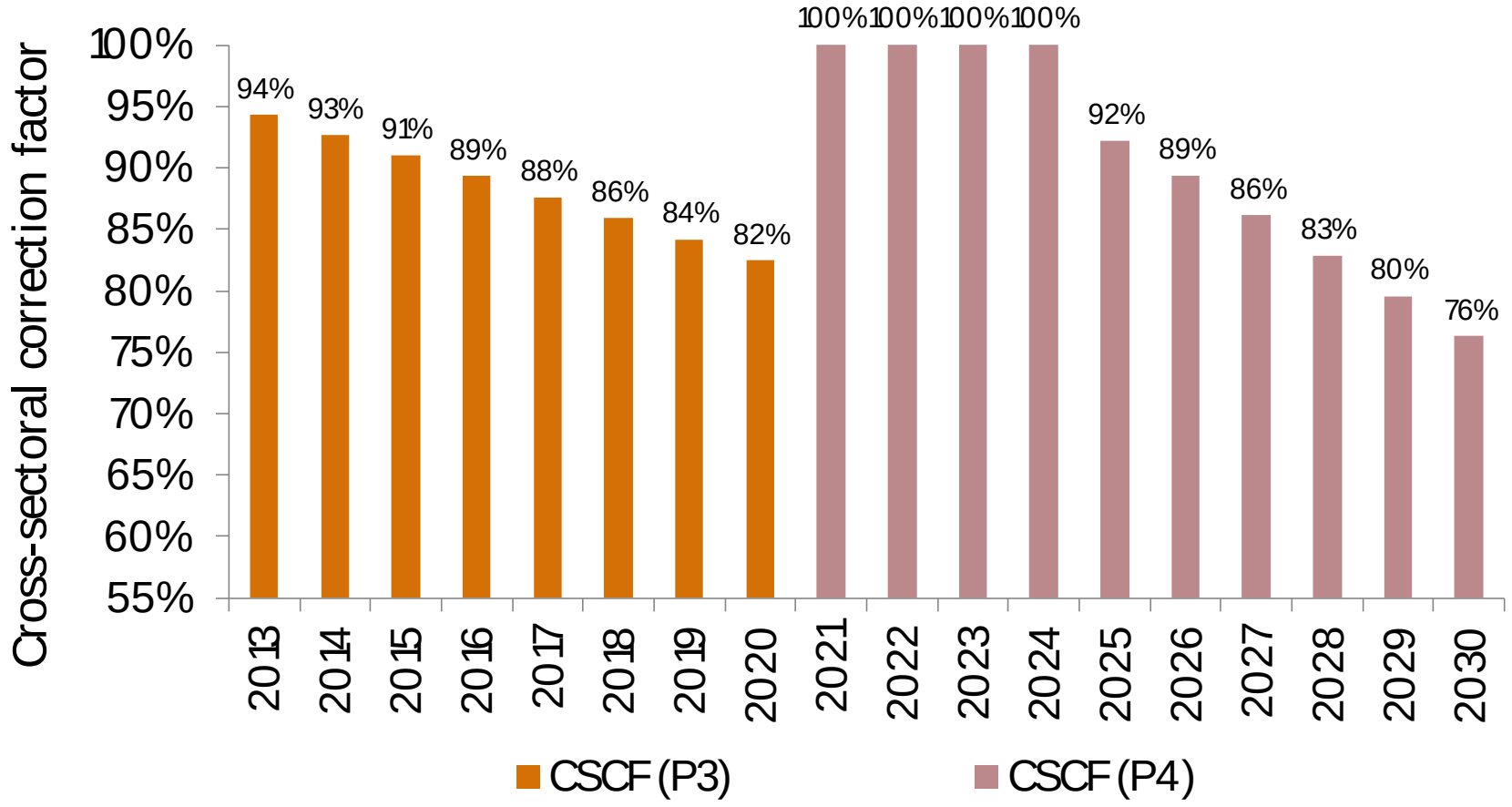
	Phase 1 (2005-2008)	Phase 2 (2009-2012)
Steel: Blast Oxygen Furnace (direct, indirect and admin costs)	-2.88 Euro/ton	-6.97 Euro/ton
Steel: Electric Arc Furnace (direct, indirect and admin costs)	4.05 Euro/ton	3.86 Euro/ton
Primary Aluminium (indirect costs)	58,79 Euro/ton	61.47 Euro/ton
Flat glass (indirect costs)	/	1.37 Euro/ton
Ammonia (indirect costs)	/	1.8 Euro/ton
Chlorine (indirect costs)	/	31.13 Euro/ton
Bricks and Roof tiles (indirect costs)	/	0.61 Euro/ton
Wall and Floor tiles (indirect costs)	/	1.48 Euro/ton

Source: CEPS publications, pass-on rate 1

Ensuring protection against CL risk:

- Observed carbon costs not always a significant component of total costs for all sectors; sometimes negative costs
- CL protection has worked so far, but problems may arise in future
  - If fixed auctioning share of 57% is maintained, provision for CSCF becomes inevitable – but CSCF reduces protection
- Choice has to be made for…
  - Accepting CSCF may be triggered
  - Breaking 57% auctioning share, thereby no longer capping free allocation
  - Using allowances from MSR

The cross-sectoral correction factor (base case)



Source: ThomsonReuters PointCarbon, 2015

Assumes 1% annual benchmark reduction
2013-2017: Median industry production level expected 15% below 2005-2008 levels
2018-2022: Median industry production level expected 10% below 2005-2008 levels

EU ETS guiding principles

- **EU ETS as the central instrument & the driver for change**
- **Polluter-pays principle**
- **Technology neutrality**

EU ETS guiding principles

Central instrument & the driver for change?

- EU ETS is envisaged to be the central instrument of EU climate policy
- Many complementing policies, however, which interact with ETS [more in afternoon]
- Rigidity of supply (both for auctioning & free allocation) exacerbates interactions and may result in a residual role for ETS
- LRF interacts with other policies; governance of the LRF does not account for this
- An environment with low energy and carbon prices may trigger calls for other policy instruments, or lead to inaction, both which undermine the role of the ETS as a driver for change

EU ETS guiding principles

Polluter-pays principle (PPP)

- Auctioning ensures polluter-pays principle is adhered to; this should in principle be the main method of allocation, but in reality this is less so
- Rigidity of supply for free allocation has led to overcompensation and windfall profits
- Direct + Indirect cost compensation may be justified to ensure undistorted carbon leakage risk mitigation, but it in principle goes against PPP
  - Capping free allocation may be triggered by PPP
  - The tapering of state aid for indirect costs may be explained by the PPP
- NER: allocation is possible for growth

EU ETS guiding principles

Technology neutrality

- In principle, cap-and-trade systems such as the EU ETS are inherently technology neutral, but some issues may arise with specific implementation:
  - MSR parameters: the thresholds reflect the hedging needs of the power sector – these hedging needs, however are based on the given technology mix when the parameters were set
  - Differential treatment of different sectors with regard to allocation; aviation completely separate
  - Innovation/modernization Funds: need to carefully ensure not to benefit certain technologies only; the decision to include industrial projects from P4 onwards is a positive