



Revision of the State Aid Guidelines for compensation for indirect CO2 costs in electricity prices in Phase IV of the EU ETS

Cillian O’Donoghue, Climate & Energy Director, Eurometaux

Brussels, 7th May 2019



My Key Messages for Today

State Aid for Indirect Guidelines Reform need to protect most electro-intensive sectors

1

Carbon leakage protection should be adequate for both:

Carbon-intensive industries & **Electro-intensive industries**

(Indirect costs of EU ETS)

2

Current State Aid scheme is not fit for purpose

Carbon leakage risk for most electro-intensive sectors without benefit for global climate.

3

We need an improved compensation system in Phase IV

More effective in achieving the objectives of the indirect costs compensation scheme

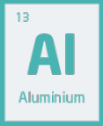
The Non-Ferrous Metals Sector: 3 Key Facts



3 key facts about non-ferrous metals production in Europe

Electro-intensive

One of Europe's most electro-intensive industries



Electricity = **38-45%** of production costs



Electricity = **40%** of production costs



Electricity = **35-40%** of production costs

Rising demand being replaced by imports

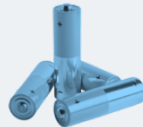
Metals demand increase by 2050



+300%



+200%



+1000%

BUT

European production is being replaced by imports with higher carbon footprint



Tonnes of CO₂
China 20
Europe 7

Price-taker

As price-takers, we cannot pass on any regulatory costs to the customer



Metals priced globally by London Metals Exchange

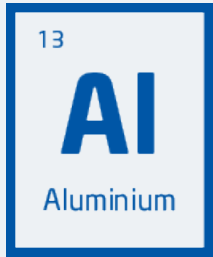


Electricity costs vary from country to country

=

Automatic competitive disadvantage on global market

Massive exposure of metals with increasing ETS price



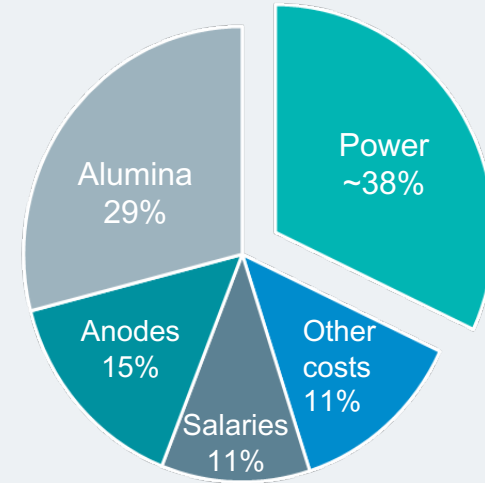
Electricity costs = **38-45%** of production costs, decisive for investments



Electricity = **40%** of production costs



Electricity = **35-40%** of production costs



Indirect costs =

2017 **4%** of Al sales price
at a CO2 price of **€6**

Phase IV **19%** of Al sales price
at a CO2 price of **€30**

- 19% cannot be passed on to the customer (Price Taker)
- 19% **sales price** is far above profitability ratios



The result is further carbon leakage

With further electrification of industry, aligned with EU's 2050 vision, other industries will likely soon face the same challenges

Elements of the reform

Level playing field & Aid Intensity

Market distortions

Eligibility

Interactions with RES

CO2 emission factors

Assessment of the Current Compensation Formula



Level Playing Field & Aid Intensity

13 Al Aluminium	29 Cu Copper	28 Ni Nickel	82 Pb Lead	30 Zn Zinc	79 Au Gold	47 Ag Silver	78 Pt Platinum	51 Sb Antimony	6 Be Beryllium	14 Si Silicon	27 Co Cobalt	42 Mo Molybdenum	23 V Vanadium	50 Sn Tin	46 Pd Palladium	44 Ru Ruthenium	75 Re Rhenium	76 Os Osmium	77 Ir Iridium	74 W Tungsten	73 Ta Tantalum	32 Ge Germanium	34 Se Selenium	31 Ga Gallium	24 Cr Chromium	12 Mg Magnesium
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The aid intensity methodology in current Guidelines leads to distortion between sectors & companies within sectors

The Commission Public Consultation – deadline 16th May 2019

The abovementioned provisions of the ETS Directive are based on the premise that financial support for indirect emissions costs can be highly distortive, if it is not properly targeted to sectors that are at significant risk of carbon leakage due to CO₂ costs passed on in electricity prices and limited to the additional cost stemming from ETS Phase 3 for the most energy efficient firms. Otherwise, aid would introduce economic distortions within the EU economy and have a detrimental impact on the efficiency of the EU ETS.

The Commission Staff Working Document 2012

maximum aid amount). The key basis for comparing sectors according to the logic of the ETS Directive is indirect CO₂ costs as a percentage of the GVA. Thus all comparable electricity costs are taken into account, whether attributable to specific electro-intensive processes or not. The data on indirect CO₂ costs which constitutes the fundamental basis of this Report did

However, this parameter is only used in determining eligibility



Not on the level of the aid

Current approach disregards differentiation is needed to provide equal carbon leakage protection & to avoid distortion both globally & within EU

Compensation of direct & indirect emission costs

Free allowances for direct emission cost

- ✓ Equal carbon leakage protection to all industries/undertakings

State Aid for emission cost on electricity prices (indirect cost)

- × Unequal carbon leakage protection in current scheme

→ Continuation of current indirect principles will only continue the discrimination between industries

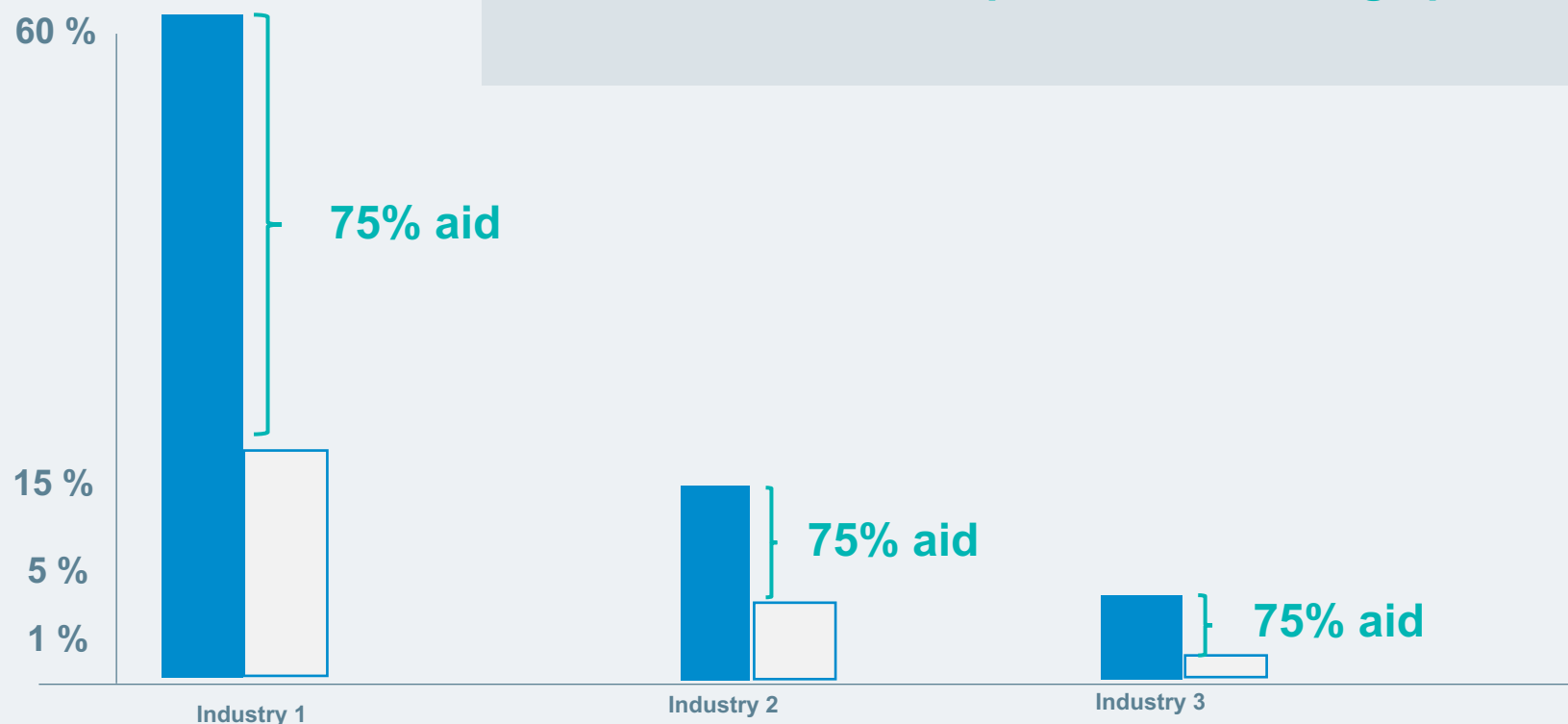
A more equal carbon leakage protection can be introduced based on the same principles as in current Energy & Environment Guidelines EEAG 2014 - 2020

Current situation for indirect cost



Huge differences & unequal carbon leakage protection

Indirect cost
% of GVA



Indirect cost in % of GVA before compensation

Remaining indirect cost in % of GVA after compensation

The New Guidelines



Must obtain equal carbon leakage protection for all sectors/undertakings, which is proportional to their exposure

More targeted & proportional aid



- ✓ To minimize the risk of carbon leakage
- ✓ Less distortion between electricity costs & free allowances

We propose to implement the principles in EEAG p. 188 & 189

- ✓ Aid is considered appropriate if aid beneficiaries pay at least 15% of the cost
- ✓ Undertakings having a significant electro-intensity, further limit the amount of the costs to be paid to no more than 0.5% of undertakings' GVA

*1. Aid intensity should be **85%** and remain **stable** over the entire period*



*2. For **those companies particularly exposed** to indirect costs:*

- *Introduce a mechanism to ensure they shall face **no more than a certain %** indirect costs in percentage of GVA, after compensation is granted*

Proposed methodology: proportionate indirect cost compensation to provide equal carbon leakage protection (thus not penalizing those undertakings using electricity as their source)

Step 1



Step 2

Indirect cost
% of GVA

85% equal aid intensity to all

60 %

10 %

5 %

1 %

Industry 1 Industry 2 Industry 3

Indirect cost
% of GVA

85% aid intensity to all plus
proportional aid to the most
electro intensive

60 %

10 %

5 %

1 %

Undertaking 1 Undertaking 2 Undertaking 3

Indirect cost in % of GVA before compensation

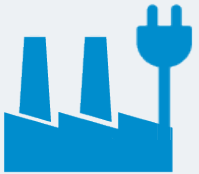
Remaining indirect cost in % of GVA after compensation



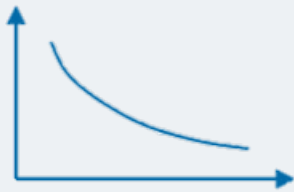
Degressivity

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From a public policy perspective degressive aid serves no function



The regulatory framework should encourage the electrification of more heterogeneous production processes as a decarbonisation pathway to reduce the policy distortions between carbon & electro-intensive industries



Degressive aid would not send the right investment signal in further use of electricity to reduce direct carbon emissions

*This **approach is inconsistent** with the 2050 strategy which promotes the electrification of industry to meeting our 2050 decarbonisation objectives*

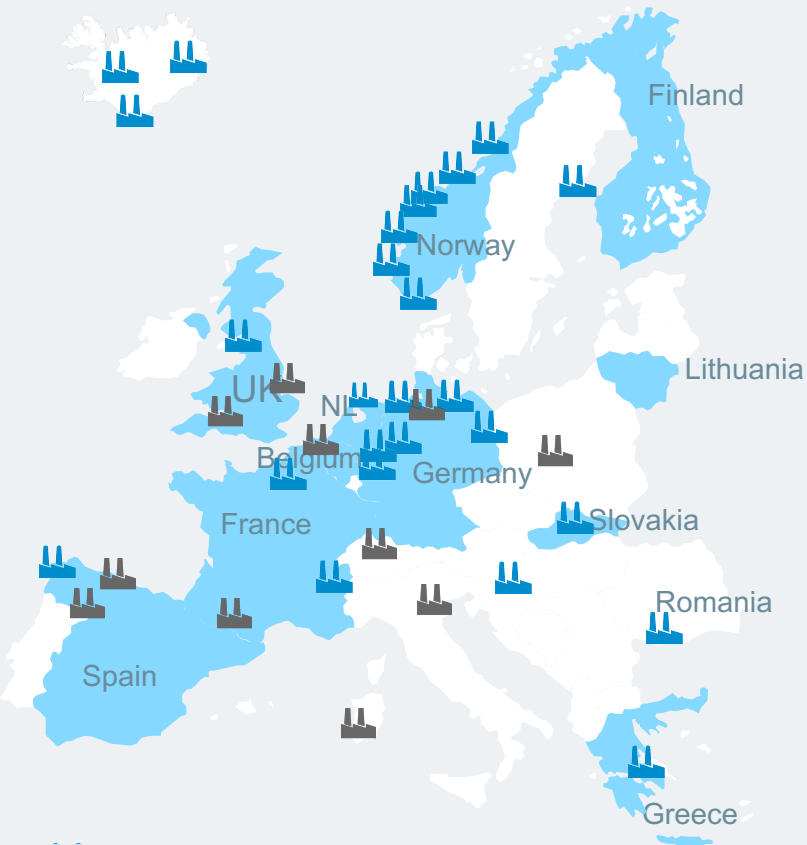




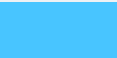
The best way to avoid over/under-compensation and reflect the electricity markets reality is to regularly update the emission pass through values instead

Market distortions



The key market distortion for our industry is between EU & non EU producers



-  Operating AL smelters
-  Closed AL smelters since 2007
-  Countries giving compensation

88% of European aluminium primary production is located in **countries compensating indirect ETS costs**

BUT

European production sites closing, being replaced by (more carbon intensive) imports & investments being redirected to more resilient areas



Share global Chinese production 2008

Al
Aluminium

10%

↓ +40%

Share global production 2018

50%

Cu
Copper

20%

↓ +15%

35%

Ni
Nickel

15%

↓ +15%

30%

The Global picture:

Indirect carbon costs outside of Europe

Indirect costs are low or negligible for smelters outside of Europe.
Only European producers face substantial indirect CO2 costs.

Regions with smelters	Million tonnes (2017)	Carbon regulation	Power price impact	Compensation indirect	Net CO2 Cost
Canada	2.9	Yes	No	N.A.	0
CIS	4.0	No	No	N.A.	0
Middle East	5.5	No	No	N.A.	0
China	31	Yes	Uncertain	Uncertain, likely highly protect	Negligible
Europe	4.4	Yes	Yes	Partial, degressive & unpredictable	Substantial

Eligibility

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Eligibility criteria



The list should be established based on to economic situation of the relevant sectors, with 2 factors:

1

Exposure to international commercial activity



2

Exposure to indirect ETS costs being most relevant



With regards factor 1, if a sector is a 'price-taker' sector or not needs to be integrated into the assessment

Interactions with RES

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Renewable Energy & Long term PPAs - Non-ferrous metals leadership



FINANCIAL
TIMES

Renewable Energy

+ Add to myFT

Norsk Hydro in 'biggest' deal to secure wind farm energy

New renewables PPAs in our industry:



HYDRO

~ 9 TWh/year

Hydro and Wind Power contracts in Norway beyond 2021

~4.5 TWh/year

Wind Power contracts



Alcoa

~ 2.6 TWh/yr

3 Wind PPAs for 15 yrs

Elkem

~ 1.8 TWh/yr

Long term renewable PPAs – a 'win-win' for both parties

- **For developers:** Enabling new large scale wind farms through a stable revenue stream
- **For Industry:** Long term horizon for investment– wants to reduce risk of volatility by achieving predictable power costs



Indirect carbon costs: Myth & Reality



Myth

Compensation reduces incentive to switch from “grey to green” electricity



Industry reality

EU ETS effect on power prices is independent of power sources

Why ?

Marginal producer price setting mechanism



Price impacted by ETS even entering into PPAs

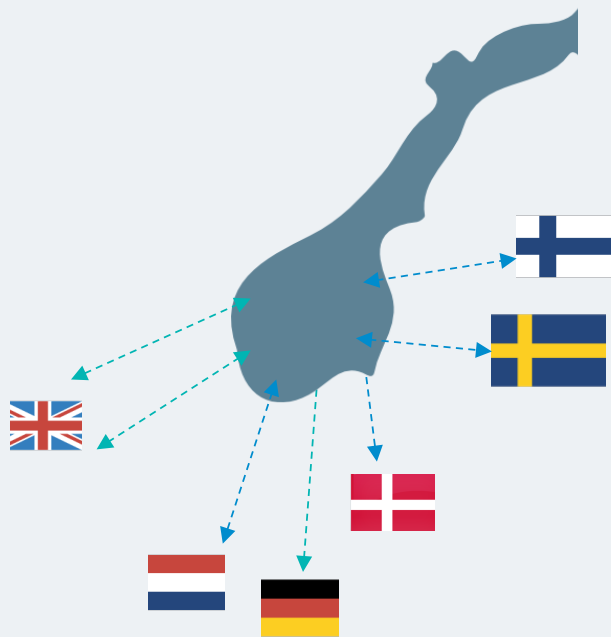
Long term PPAs with renewable projects do not reduce our exposure to indirects costs

Indirect Carbon Costs with renewable PPAs?

Yes.

Even with renewable PPAs, companies still face full indirect carbon costs

Example – Green Aluminium Production in Norway



←---→ Existing interconnector

←---→ Interconnector under construction

Norwegian NFM production **is carbon free** now based on hydropower... and on wind in the future

BUT

Fossil fuel production in Nordics and interconnectors set **the marginal cost** for Nordic electricity generation

The industry reality is that **100% of electricity costs** are impacted by indirect CO2 costs

Recent long term PPAs do not reduce indirect carbon cost exposure

CO2 emission factors

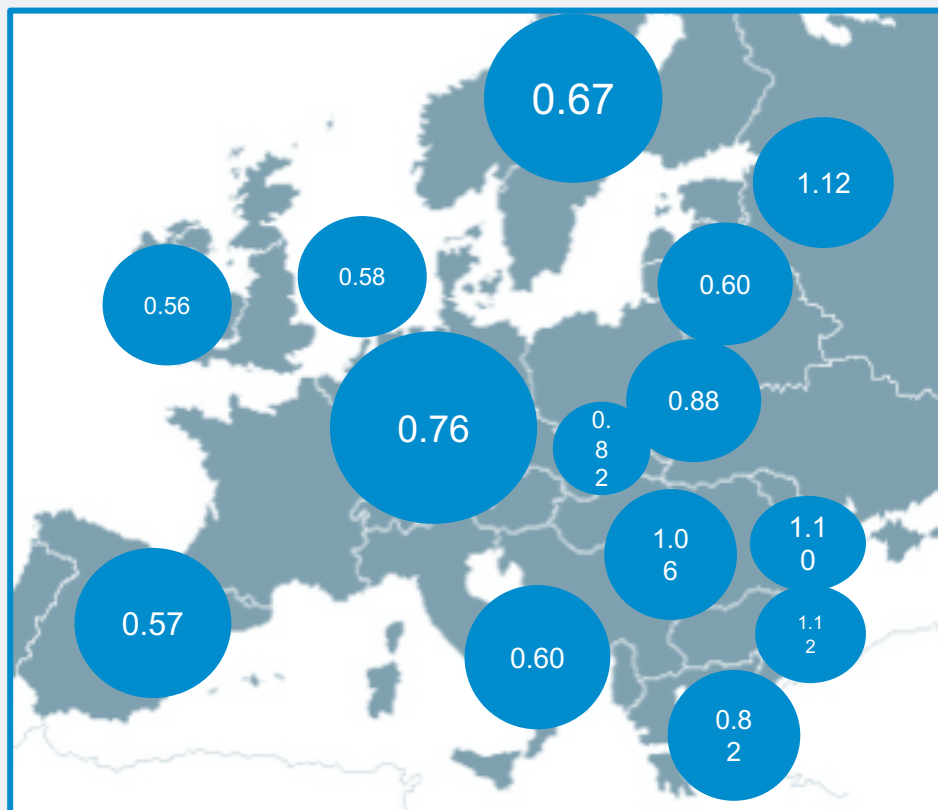
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An EU-wide CO2 pass through?

Implementing an EU-wide target would assume full interconnections

However, we are nowhere near full market convergence in the P.IV perspective (Up to 2030)

This is why, the Guidelines should continue with the current approach, based on market principles, which reflect the electricity mix in a given region.



Regions to be defined through analysis & the Commission's impact assessment.

Studies confirming methodology is accurate:



Concludes a **0.71** for the Nordic power market between 2013-2017



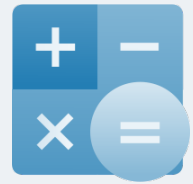
Concludes a **0.75** for the CWE region between 2013-2018

Aligned with current fixed values

Assessment of the Current Compensation Formula

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Assessment of the Current Compensation Formula



AID INTENSITY **X** **EMISSION PASSTHROUGH FACTOR** **X** **EMISSION PRICE** **X** **ACTIVITY LEVEL** **X** **BENCHMARK FOR POWER CONSUMPTION**

85% declining to 75% leads to unequal carbon leakage protection between sectors

Current method identifies correctly the impact of CO₂ costs on power prices & ensures equal treatment of electricity sources.

Reflects correctly MSs budgeting need and ensure equal treatment of all purchasing strategies

Historical production: no incentives for industry to grow and might lead to a compensation which does not reflect actual costs.

Should be based on actual data for the 10% best

→ To be amended

→ Correct methodology, values to be regularly updated

Wrap up

Takeaways

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Electrification for decarbonisation

Indirects compensation and the EU's 2050 agenda go hand in hand

THE POTENTIAL FOR ELECTRIFICATION OF INDUSTRY



The **electrification of industry** is key to reach our 2050 objectives

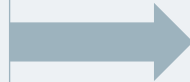


Having electrified our processes, non-ferrous metals are the **frontrunner**



Other sectors (i.e. steel & chemicals) may follow – **regulatory framework** will be crucial to the shift

POWER SECTOR CAN FULLY DECARBONISE BY 2050



But...

Indirect ETS carbon costs

=



Electro-intensive industries driven out of Europe



Unless we put in place an adequate compensation system

POSITIVE COMPETITIVENESS & CLIMATE IMPACTS



With an adequate State Aid regime, **EU production can survive** the short-medium term cost impacts of the transition

+



Import dependency from regions with higher carbon footprint

Annex: Guidelines of the Objectives vs. Industrial Reality



Indirects Compensation: Myths vs Industry Reality



Myths cited in the current Guidelines

Reduces incentive to switch from “grey to green” electricity

Rewards industry for buying electricity from carbon intensive power generators

Reduces the incentive for industry to improve efficiency

Leads to internal carbon leakage within EU



Industry reality

Large electro-intensive consumers cannot influence the electricity mix. The ETS should not seek to penalize industries which have no influence on the process of decarbonizing the power sector

EU ETS effect on power prices is independent of power sources

High energy costs & benchmarks already act as the incentives for continuous energy efficiency improvement

If production closes due to high (non compensated) electricity prices, products will be replaced by imports from outside EU, not moved to another MS.

Why?

The price is impacted by the markets emission passthrough of ETS even entering into RES PPAs

Marginal producer price setting mechanism, no extra support to fuel based generation

Reduced compensation will reduce financial resources for efficiency investments in electro intensive industry

European metals face fierce global competition (price-takers), and increasing imports to EU

Indirects Compensation: Myths vs Industry Reality



Myths cited in the current Guidelines

Aid for indirects may have a negative impact on the efficiency of the EU ETS

Aid must not fully compensate for the costs of EUAs in electricity prices and must be reduced over time

Aid must be partial to achieve the environmental objective of the EU ETS and avoid aid dependency



Industry reality

Indirects compensation has no negative impact on the efficiency of the EU ETS

The decarbonisation of EU electricity markets will ensure that beneficiaries do not become aid dependent

Not in line with the agreed ETS Directive. The proportionality of the aid needed to achieve the environmental objectives of the aid (prevent carbon leakage) vary greatly between sectors

Why?

Power producers face the direct emission costs, ETS will incentivise further decarbonisation of the power sector, independent of any indirect compensation.

Aid is a temporary solution to help the transition period while the grid decarbonized. A reduction in aid intensity over time is not required by law or regulation for example, in the EEAG 2014-2020, neither aid for energy from renewable sources, nor environmental taxes, require aid to be degressive

No sector should be put in an international competitive disadvantage. Other regulations such as EEAG supports a proportional aid