

State Aid Guidelines for compensation for indirect CO2 costs of the EU ETS

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Revision of the State Aid for compensation for the Indirect Costs of the EU ETS Guidelines

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Presentation's Outline

Today we will cover 4 issues:

1

**Level Playing
Field &
distortions in
the Internal
Market**

2

**RES PPAs &
Indirects
Compensation**

3

**Indirects
Compensation
and the EU's
2050
decarbonisation
objectives**

4

**Adaptability
to future
evolutions**

But first, let me introduce the Non Ferrous Metals sector...

Our Energy Profile

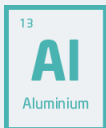
How non-ferrous metals are produced & why electricity costs are so important



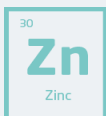
3 key facts about non-ferrous metals production in Europe

Electro-intensive

One of Europe's most electro-intensive industries



Electricity = **38%** of production costs



Electricity = **40%** of production costs



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

Rising demand being replaced by imports

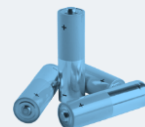
Metals demand increase by 2050*



+300%



+200%



+1000%

BUT

European production is being replaced by imports with higher carbon footprint



Tonnes of CO₂**
China **15.5**
Europe **4.8**

Price-taker

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



Metals priced globally by London Metals Exchange

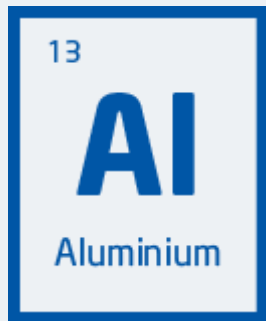


Electricity costs vary from country to country

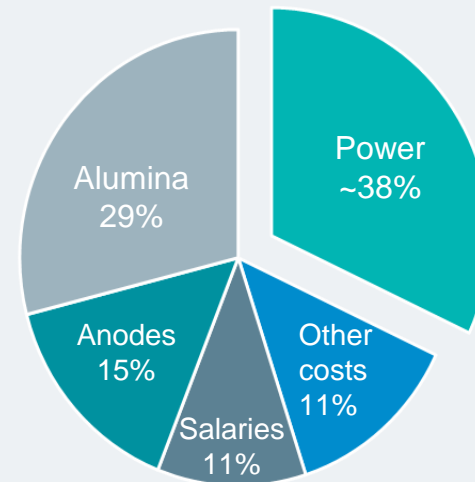
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Automatic competitive disadvantage on global market

Massive exposure of metals with increasing ETS price



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



Indirect costs =

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

Phase IV **19%** of 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



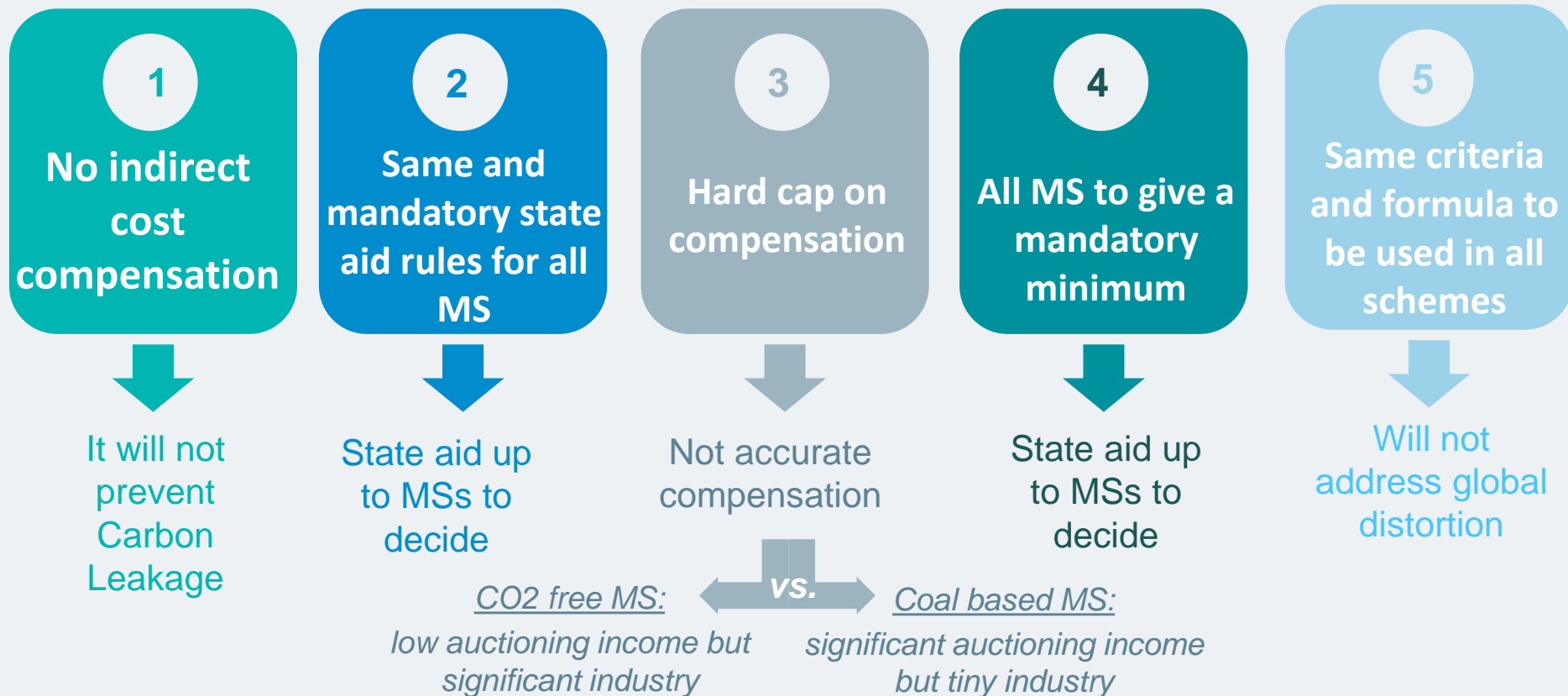
The result is further carbon leakage

1. Level Playing Field and Market distortions



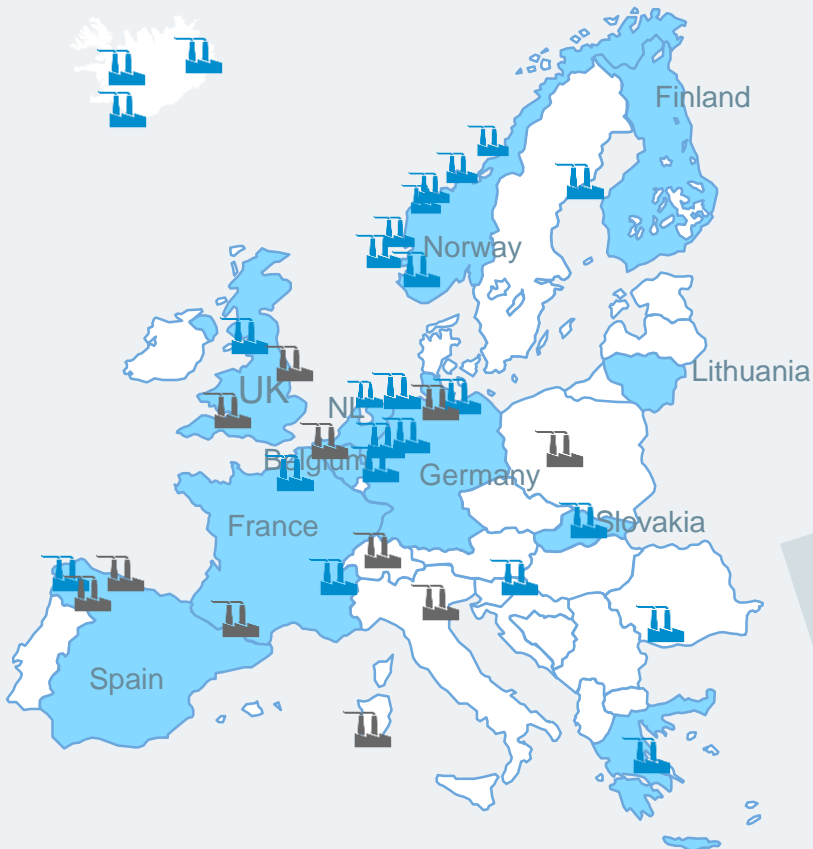
Options presented in the paper

The presentation gives 5 options.
However, for our sector, none will mitigate concerns... why?



EU State Aid rules need to address distortions between EU and non-producers

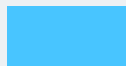
The key market distortion for our industry is between EU & non EU producers



Operating AL smelters



Closed AL smelters since 2007



Countries giving compensation

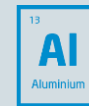
88% of European aluminium primary production is located in **countries compensating indirect ETS costs**

BUT

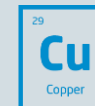
European production sites closing, being replaced by (more carbon intensive) imports



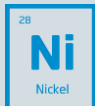
Share global Chinese production 2008



10%



20%



15%

↓ +40%

↓ +15%

↓ +15%

Share global production 2018

50%

35%

30%

2. RES PPAs & Indirects Compensation

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	4 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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Issues outlined in the presentation

1

Should indirect cost compensation count towards Art 3(d)4 of the ETS Directive?

Yes, it promotes industrial decarbonisation via electrification

2

Current guidelines state that no state aid can be granted 'in case of electricity supply contracts that do not include any CO2 costs'

✓ **All market options regardless of source are impacted by CO2 costs.**

Annex 2 of the Guidelines:

... In order to ensure equal treatment ... the same CO2 factor applies to all sources of electricity supply...reflects the marginal plant in the merit order ...

✓ **This definition reflects the electricity market reality**

3

How does this relate to renewable electricity becoming marginal plants? In Phase IV, fossil fuel plants will still be the price setters in vast majority of cases *

- | | | | |
|----|---|--|---|
| a. | If it's hydro power with reservoir |  | they sell to the opportunity cost
(to marginal producer) |
| b. | If it's intermittent (Wind + solar)
renewables |  | no passthrough in the market |
| c. | If it's a long-term PPA from
reservoirs or intermittent |  | they sell at expected market price
which has CO2 costs embedded |

Issues outlined in the presentation

4


Has this disincentivized industry to engage in 100% RE contracts as they miss out on SA?

No Issues with Guidelines at EU level, only implementation at MSs level

5

How does indirect compensation interact with long-term electricity contracts? How prevalent are such contracts currently?

Compensation should continue being source-neutral

- Extremely **diverse** portfolio of sourcing **contracts nature** (tenors, price structures, financial or physical settlement, etc.)

- **Huge administrative burden** when determining the precise indirect CO2 in each energy-intensive industry power consumption, mostly, materially impossible

6

Which effects has indirect cost compensation had on electricity markets?

No impact on the market- it is the consumers which are compensated based on the market price. Annex 2 ensure no market abuse

7

If electricity prices are set through merit order, then 100% renewable contracts also pass through 'opportunity' CO2 costs

Yes, see upcoming example in Nordic markets

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



Renewable Energy

+ Add to myFT

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


FINANCIAL
TIMES

New renewables PPAs in our industry:



~ 9 TWh/year
Hydro and Wind Power contracts in Norway beyond 2021

HYDRO **~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

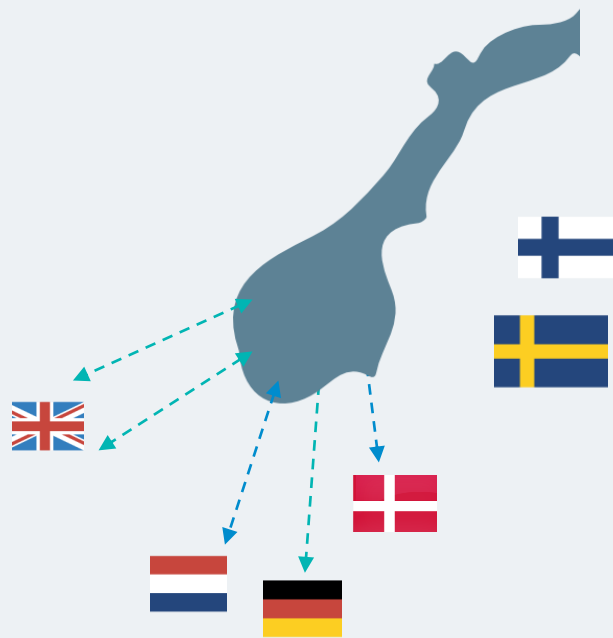
Long term PPAs with renewable projects do not reduce our exposure to indirects costs

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

3. Policymaker Priorities



Question raised in the presentation



Should indirect cost compensation count towards Art 3(d)4 of the ETS Directive?

All Revenues generated from the auctioning of allowances should be used to tackle climate change

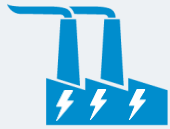
Yes.

Indirect costs compensation is a climate friendly measure that encourages industry to further electrify and survive as power generation decarbonizes

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

4. Adaptability to future evolutions



Adapting to future evolutions

The presentation notes 3 future evolutions:

1

**Decarbonisation
of Electricity
Production**



- ✓ Yes, update the emissions pass through factor to reflect this development
- ✓ An increasing share of intermittent generation means that the share of thermal power declines, however the thermal power influence will not diminish accordingly

2

**Electrification
of Industrial
Sectors**



Some sectors have heterogeneous processes and regulatory framework should encourage electrification

3

**Climate Action
by International
Partners**



Need to do a deep analysis and see what industry *actually* pays indirect carbon costs
(i.e. Canadian provinces no indirect carbon costs due to different market design).