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NOTE

From:	Commission Services
To:	Delegations
Subject:	CBAM: Indirect Emissions from the generation of electricity

Delegations will find attached a note on indirect emissions from the generation of electricity.

Brussels, 25/11/2022

Indirect Emissions from the generation of electricity

DISCLAIMER

This note has not been adopted or endorsed by the Commission. Any views expressed in it may not in any circumstances be regarded as stating an official position of the Commission.

In the framework of the ongoing negotiations, the European Parliament has suggested to include indirect emissions, that is emissions arising from the generation of electricity used to produce CBAM goods, to the scope of the CBAM regulation. The way forward is yet to be defined. This note summarises key policy choices and their underlying trade-offs to inform the ongoing discussion between co-legislators on this issue.

1. Initial Commission's proposal

The CBAM as proposed by the Commission would initially only cover direct emissions originating within the boundaries of an installation, such as those associated with fuel combustion on site in furnaces and boilers or those associated with chemical processes (Scope 1). While the impact assessment outlined the relevance to include into the CBAM scope emissions from the generation of electricity used to produce CBAM goods (so-called indirect emissions or Scope 2) in terms of environmental effectiveness and general climate ambition (and as such these emissions are covered by the ETS), the Commission decided to postpone the decision on their inclusion until the end of the transitional period. However, the CBAM proposal does contain an obligation on CBAM importers to report on indirect emission data and on the Commission to the collect this data during the transitional period, which would help to understand and determine the quantity of electricity used in the production of the CBAM goods as well as the source of that electricity. Article 30 of the proposal for CBAM requires the Commission to report on the possible inclusion of indirect emissions by the end of the transitional period.

The inclusion of indirect emissions in CBAM would allow for applying a carbon price (based on the EU Emission Trading System or 'EU ETS') on indirect emissions embedded in imports of CBAM goods. Such coverage would incentivise third country producers to decarbonise their production of electricity for the production of CBAM goods in particular. It would therefore strengthen the role of CBAM as an instrument to address the risk of carbon leakage and contribute to the reduction of GHG emissions globally.

Embedded indirect emissions are particularly relevant for some products (see Annex III). There are risks of carbon leakage due to indirect emissions, because EU ETS costs related to the power sector may be passed on to EU producers of CBAM goods through higher energy prices, whereas competitors from third countries without carbon pricing on electricity do not face similar costs. At present, this risk is being addressed by allowing Member States to compensate certain electro-intensive industries for part of the indirect carbon costs they face under the state aid guidelines ('indirect cost compensation').

To include indirect emissions in the scope of CBAM, two aspects need to be considered:

- the interaction with the existing framework to address carbon leakage from indirect emissions, and
- the methodology for calculating embedded indirect emissions in third countries.

The main building blocks for the methodology for indirect emissions would be the elaboration of default values to be applied and the conditions allowing for the use of actual emissions.

Commission services are developing the reporting requirements for indirect emissions for the transitional period starting in 2023. Special focus will be given to the electricity used in the production of CBAM goods as well as the source of that electricity. In parallel, Commission services are also developing the default values for electricity as an imported CBAM good. These values relate to a limited number of exporting countries but can also help to inform the decision on the default values to be used for indirect emissions. The Expert Working Group on measurement of carbon intensity will also allow informal discussions with stakeholders and Member States on the reporting requirements for the transitional period, to ensure that they are fit for purpose and allow to collect the most useful information.

2. Methodology for calculating embedded indirect emissions

Setting a methodology to calculate indirect emissions is a complex matter that would need to be informed by further analysis, including based on the information reported during the transitional period. The main parameters can however be described as below. As always, we would have to ensure WTO-compatibility of the methodology so as to treat imported CBAM products not less favourably than domestic ones.

Indirect emissions amount to electricity consumption multiplied by a factor representing the emissions releases in the production of electricity. This factor can either be based on actual emissions of electricity generation or on a default value. As it is very difficult to follow flows of electricity, the method for calculating embedded indirect emissions should rely on default values rather than on actual emissions, but give CBAM-importers the possibility to prove under strict criteria that the actual emissions are lower than the default value. An approach based on default values also would reduce the risk of resource shuffling and provide an incentive to decarbonise electricity generation in the exporting countries. Several options on how to set these default values could be considered.

2.1. Possible default values:

The default values to be applied could be based on the embedded emission (expressed as tCO2/MWh) as determined in the case of electricity as an imported CBAM good[1]. Broadly speaking, there could be at least three alternatives for possible default values, all three with merits and drawbacks.

[1] Cf. Article 7(3) and Annex III, point 4.2 of the CBAM Regulation.

A first approach could be to take into account the average GHG intensity of all generating sources in the grid of the EU.

Alternatively, this default value could be based on the average GHG intensity of all generating sources in the grid of origin instead of the EU (See Annex IV for Carbon intensity of electricity in selected countries in 2021).

Finally, a third option could be based on the weighted average of the CO2 intensity of electricity produced from fossil fuels in the grid of origin (also known as the CO2 emission factor).

2.2. Stringency of the rules to accept actual emissions

Importers could have the possibility to demonstrate that their actual indirect emissions are lower than the reference value. The criteria to accept actual emissions in electricity can be more or less strict and will need to be certified by external verifiers. It would be appropriate that they mirror the criteria for the case of imported electricity under CBAM to ensure coherence.

To limit resource shuffling and ensure that declared actual emissions are as close as possible to reality, the evidence of the origin of electricity should be clearly established, e.g. by requiring the proof of a directly link to the electricity generation facility.

The possibility of accepting other pieces of evidence such as advance purchase agreements could be part of the discussion. Circumvention risks should also be avoided and the environmental integrity of the system should be ensured.

3. <u>Timing of the scope extension</u>

In the Commission's proposal, the decision on the inclusion of indirect emissions in CBAM was postponed to a later stage, following the review at the end of the transitional phase, where information on indirect emissions will be collected.

With a view to anticipating the extension of CBAM to indirect emissions in a gradual manner, a staged approach could be considered, whereby indirect emissions would be included in a first step for some specific CBAM products only and would be at a later stage extended to other products following the review foreseen in the proposal.

One possible variant of this approach could be to start with products that are not in the list of sectors that can receive state aid for indirect cost compensation (see Annex I and Annex II).

In such a case, an appropriate methodology for calculating embedded emissions of the relevant products (chapter 2) would have to be established.

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ANNEX I

Sectors deemed to be exposed to a genuine risk of carbon leakage due to indirect emission costs

	NACE code	Description
1.	14.11	Manufacture of leather clothes
2.	24.42	Aluminium production
3.	20.13	Manufacture of other inorganic basic chemicals
4.	24.43	Lead, zinc and tin production
5.	17.11	Manufacture of pulp
6.	17.12	Manufacture of paper and paperboard
7.	24.10	Manufacture of basic iron and steel and ferro-alloys
8.	19.20	Manufacture of refined petroleum products
9.	24.44	Copper production
10.	24.45	Other non-ferrous metal production
11.		The following subsectors within the plastics sector (20.16):
	20.16.40.15	Polyethylene in primary forms
12.		All product categories in the casting of iron sector (24.51)
13.		The following subsectors within the glass fibre sector (23.14):
	23.14.12.10 23.14.12.30	Glass fibre mats Glass fibre voiles
14.		The following subsectors within the industrial gases sector (20.11):
	20.11.11.50 20.11.12.90	Hydrogen Inorganic oxygen compounds of non-metals

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ANNEX II

List of products that currently do not receive indirect cost compensation and are included in the CBAM proposal

CN Code	Product
Cement	
2523 10 00	Cement clinkers
2523 21 00	White Portland cement, whether or not artificially coloured
2523 29 00	Other Portland cement
2523 90 00	Other hydraulic cements
25070090	Kaolin and other kaolinic clays, calcined
Electricity	
2716 00 00	Electrical energy
Fertilisers	
2808 00 00	Nitric acid; sulphonitric acids
2814	Ammonia, anhydrous or in aqueous solution
2834 21 00	Nitrates of potassium
3102	Mineral or chemical fertilisers, nitrogenous
3105	Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg -Except: 3105 60 00 – Mineral or chemical fertilisers containing the two fertilising elements phosphorus and potassium
Iron and Steel	
2704 00	Coke and semi-coke of coal, of lignite or of peat, whether or not agglomerated; retort carbon
2601 12 00	Agglomerated iron ores and concentrates (excl. roasted iron pyrites)

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2518 20 00	Dolime: Calcined or sintered dolomite (excl. broken or crushed dolomite for concrete aggregates, road metalling or railway or other ballast)
2519 90	Magnesia: Fused magnesia; dead-burned "sintered" magnesia, whether or not containing small quantities of other oxides added before sintering; other magnesium oxide (excl. natural magnesium carbonate "magnesite")
2522	Lime: Quicklime, slaked lime and hydraulic lime (excl. pure calcium oxide and calcium hydroxide)
Polymers	
3902 10 00	Polypropylene, in primary forms

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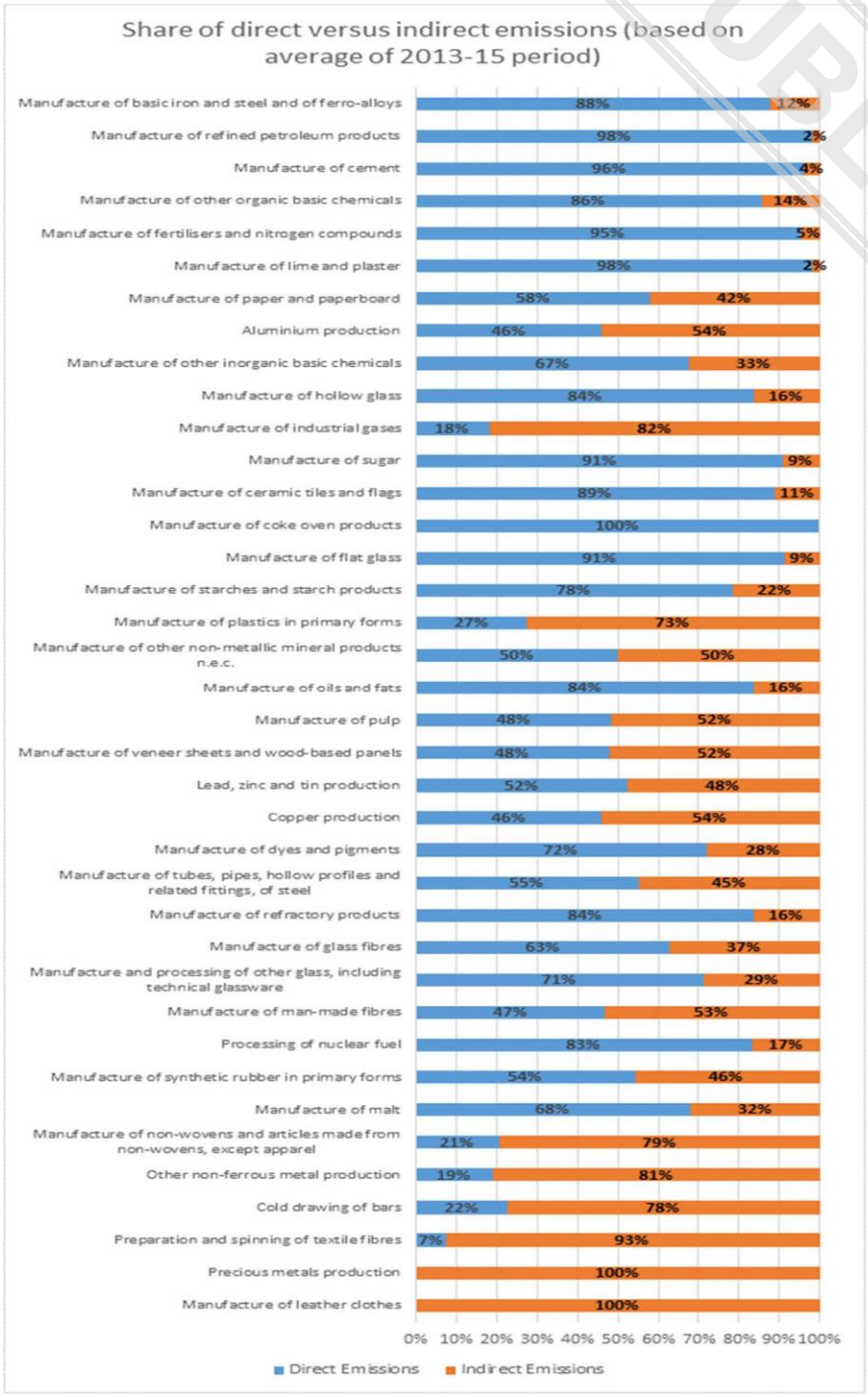
ANNEX III

Direct/Indirect emissions weight per sector (ETS data)



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Annex IV

Carbon intensity of electricity per grams of CO_2e per kilowatt-hour in selected countries in 2021 (source: Ember Climate)

Norway	25	gCO_2e
Switzerland	58	gCO_2e
Canada	119	gCO_2e
New Zealand	136	gCO_2e
Brazil	142	gCO_2e
Ukraine	241	gCO_2e
European Union (27)	260	gCO_2e
United Kingdom	265	gCO_2e
Russia	336	gCO_2e
United States	357	gCO_2e
Mexico	374	gCO_2e
Egypt	389	gCO_2e
Japan	416	gCO_2e
South Korea	424	gCO_2e
Turkey	430	gCO_2e
Singapore	464	gCO_2e
Tunisia	470	gCO_2e
Australia	486	gCO_2e
Senegal	534	gCO_2e
China	541	gCO_2e
India	626	gCO_2e
South Africa	665	gCO_2e

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