The Carbon Border Adjustment Mechanism

Dear participants,
Welcome to the webinar session on the

IRON & STEEL SECTOR

Please be patient, the webinar will start at 12:00 (CET).

The Carbon Border Adjustment Mechanism (CBAM)

Webinar session on the iron & steel sector

Please make sure that you appear in Zoom with your name and affiliation.

If needed, rename yourself:

- Click on the "Participants" icon in the Zoom toolbar.
- In the "Participants" window, next to your name click on "More" and choose "Rename".
- Enter a new name and click "Rename" to save it. You will see the new name showing in the "Participants" window.

Starting time: 12:00 (CET)

12 October 2023

Housekeeping rules

- ✓ All participants are muted
- ✓ Webinar is being recorded and will be made public
- ✓ Video recording is not allowed
- ✓ Please write your questions in the chat – they will be answered at the end of the webinar
- ✓ A feedback survey will appear on your screen at the end of webinar
- ✓ The presentation will be uploaded on the DG TAXUD CBAM webpage, where you can also find additional materials.

Zoom poll

Question:
Which entity defines you best?

- EU Member State
- EU Importers
- Non-EU country
- Non-EU producer
- Non-EU exporter
- International organisation
- NGO & think tank
- Law firm, consultancy
- Academia
- Other

Webinar Agenda

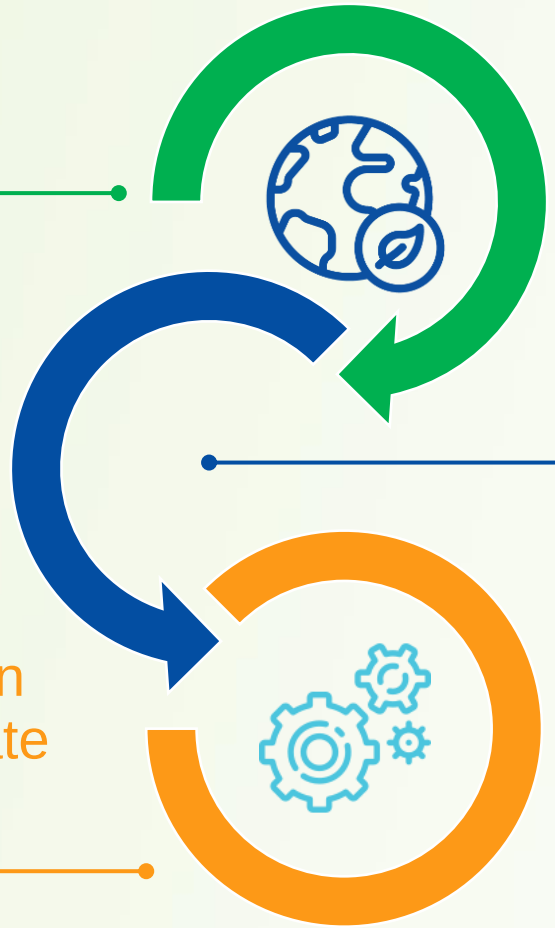
1. **CBAM general overview**
2. **Determination of embedded emissions in iron & steel sector**
3. **Overview of the actors in CBAM & reporting declarants**
4. **Submitting CBAM reports**

Carbon Border Adjustment Mechanism

1 CBAM general overview

The aim of CBAM

Prevents carbon leakage
to ensure effectiveness of
EU climate policy



Complements and
reinforces the EU ETS

Contributes to decarbonisation
globally and to reaching climate
neutrality by 2050

Reporting obligations in the transitional phase

October 2023 – December 2025

CBAM report containing the following:

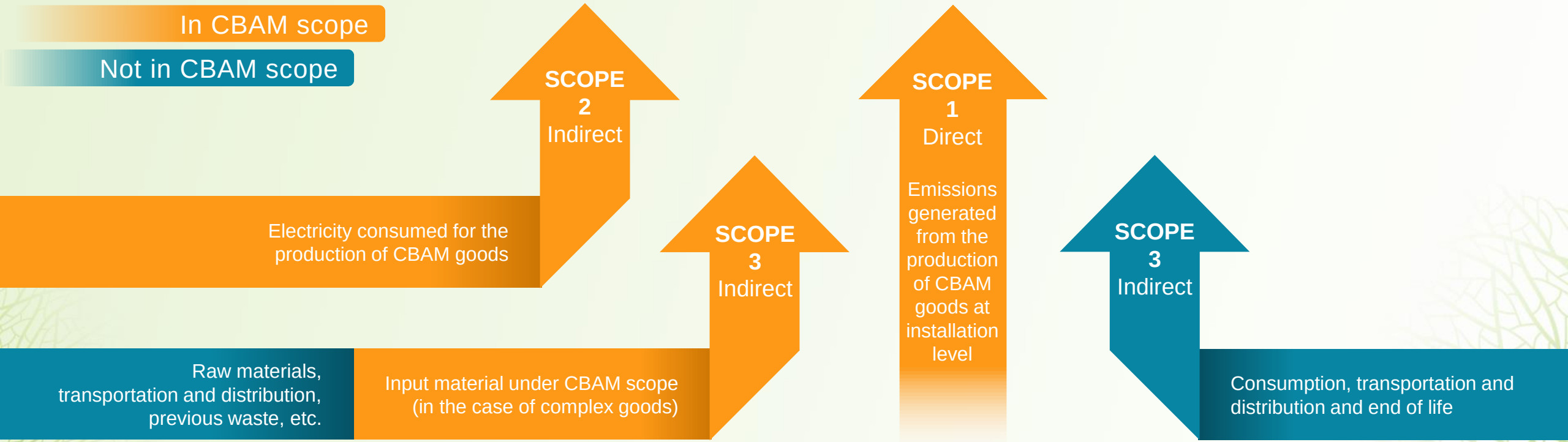
- Total quantity of goods imported during the preceding quarter
- Total embedded direct and indirect emissions
- The carbon price due in the country of origin for the embedded emissions

Report to be submitted quarterly

No verification of emissions by EU-accredited verifier

No CBAM certificates

CBAM emissions during the transitional phase



Carbon Border Adjustment Mechanism

2 Determination of embedded emissions: Iron & Steel

Key Terms

Simple goods

- goods produced from fuels and raw materials considered to have zero embedded emissions under CBAM

Complex goods

- goods produced from other CBAM goods (either simple or other complex goods)

Aggregated goods category

- group of CBAM goods with different CN codes but similar characteristics
- for each aggregated goods category and production route: provisions on system boundaries (inputs, outputs and corresponding emissions), emission monitoring and relevant precursors

Production process

- chemical or physical processes carried out in parts of an installation to produce goods under an aggregated goods category and its specified system boundaries

Production route

- specific technology used in a production process to produce goods

CBAM goods in the Iron & Steel sector (2/2)

Aggregated goods category	Product CN Code	Description
Iron or steel products	Includes: 7205, 7208–7217, 7219–7223, 7225–7229, 7301–7311, 7318 and 7326	7205 Granules and powders, of pig iron, spiegeleisen, iron or steel 7208 Flat-rolled products of iron or non-alloy steel 7209 Flat-rolled products of iron or non-alloy steel 7210 Flat-rolled products of iron or non-alloy steel 7211 Flat-rolled products of iron or non-alloy steel 7212 Flat-rolled products of iron or non-alloy steel 7213 Bars and rods, hot-rolled, in irregularly wound coils, of iron or non-alloy steel 7214 Other bars and rods of iron or non-alloy steel 7215 Other bars and rods of iron or non-alloy steel 7216 Angles, shapes and sections of iron or non-alloy steel 7217 Wire of iron or non-alloy steel 7219 Flat-rolled products of stainless steel 7220 Flat-rolled products of stainless steel 7221 Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel 7222 Other bars and rods of stainless steel; angles, shapes 7223 Wire of stainless steel 7225 Flat-rolled products of other alloy steel 7226 Flat-rolled products of other alloy steel 7227 Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel 7228 Other bars and rods of other alloy steel; angles, shapes and sections, of other alloy steel 7229 Wire of other alloy steel 7301 Sheet piling of iron or steel, 7302 Railway or tramway track construction material of iron or steel, 7303 Tubes, pipes and hollow profiles, of cast iron 7304 Tubes, pipes and hollow profiles, seamless, of iron or steel 7305 Other tubes and pipes (for example, welded, riveted or similarly closed) 7306 Other tubes, pipes and hollow profiles 7307 Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel 7308 Structures (excluding prefabricated buildings of heading 9406) and parts of structures 7309 Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas) 7310 Tanks, casks, drums, cans, boxes and similar containers 7311 Containers for compressed or liquefied gas, of iron or steel 7318 Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter pins, washers 7326 Other articles of iron or steel

CBAM goods in the Iron & Steel sector (1/2)

Aggregated goods category	Product CN Code	Description
Sintered Ore	2601 12 00	Agglomerated iron ores and concentrates, other than roasted iron pyrites
Pig iron	7201	Pig iron and spiegeleisen in pigs, blocks or other primary forms
	7205	Some products under 7205 (Granules and powders, of pig iron, spiegeleisen, iron, or steel)
Ferro-alloy: FeMn	7202 1	Ferro-manganese (FeMn)
Ferro-alloy: FeCr	7202 4	Ferro-chromium (FeCr)
Ferro-alloy: FeNi	7202 6	Ferro-nickel (FeNi)
DRI	7203	Ferrous products obtained by direct reduction of iron or and other spongy ferrous products
Crude steel	7206, 7207, 7218 and 7224	7206 Iron and non-alloy steel in ingots or other primary forms (excluding iron of heading 7203) 7207 Semi-finished products of iron or non-alloy steel 7218 Stainless steel in ingots or other primary forms 7224 Other alloy steel in ingots or other primary forms

Steps to determine specific embedded emissions

Step 1. Define the system boundaries associated with the production processes

Step 2. Identify relevant parameters and methods, then carry out monitoring

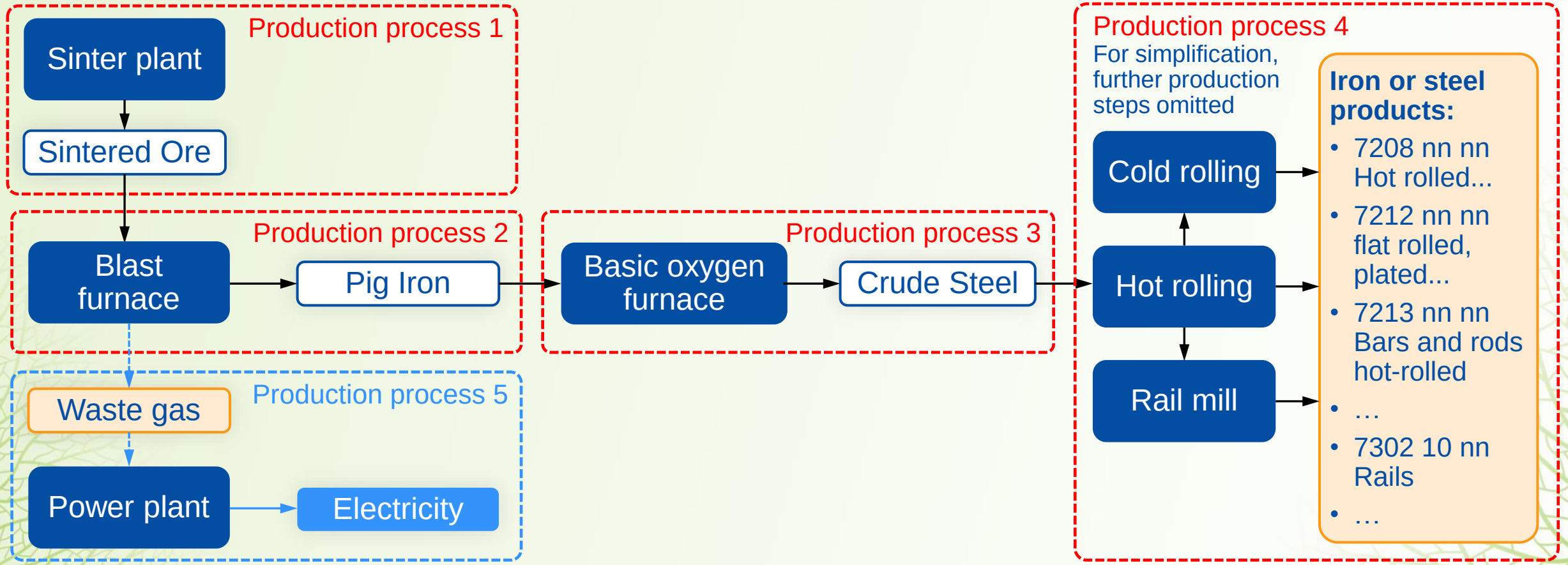
Step 3. Attribute emissions to production processes and then to goods

Step 4. Add the specific embedded emissions of relevant precursors

Step 5. Determine the specific embedded emissions of CBAM goods

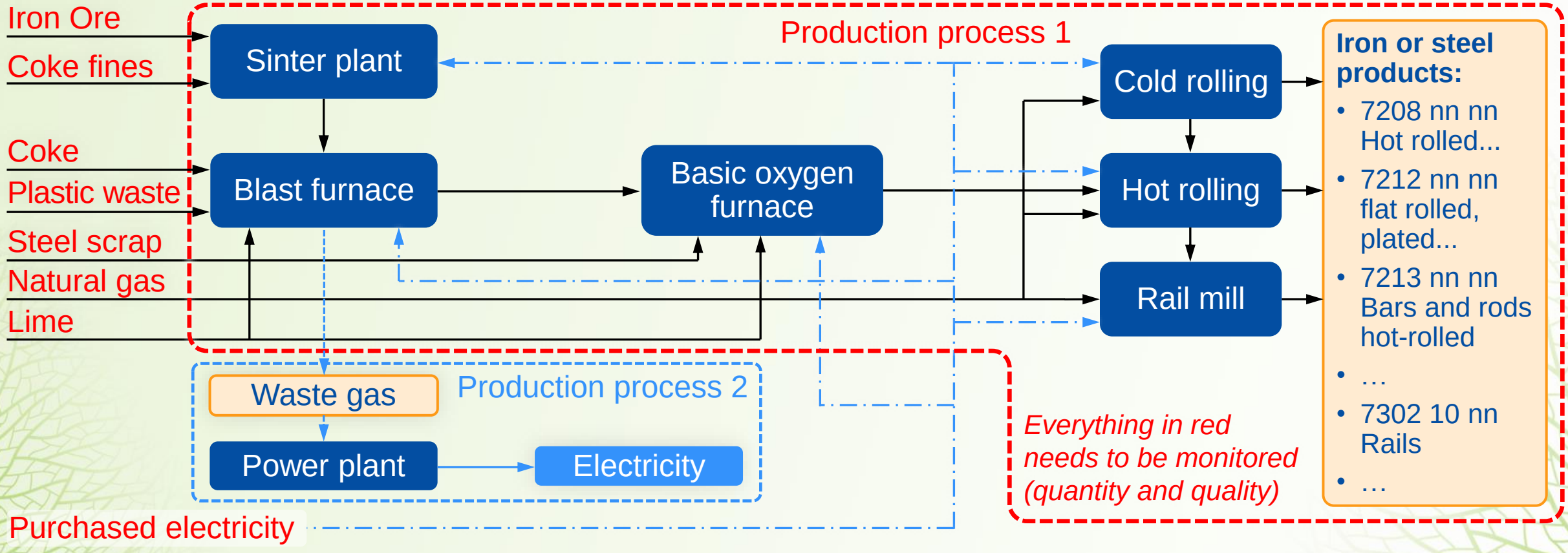
Step 1: Define the system boundaries – Example (1/2)

Carbon steel production, blast furnace route – Definition of separate production processes



Step 1: Define the system boundaries – Example (2/2)

Carbon steel production, blast furnace route – 'Bubble approach'



Step 2: Monitoring – General

Direct emissions from fuels and materials

- Standard method, mass balance, continuous emissions monitoring

Electricity produced, if relevant

Direct emissions related to heat flows, if relevant

- Determine heat flows
- Emissions = heat flow × corresponding emission factor

Indirect emissions related to electricity consumption

- Determine electricity consumption for the production of CBAM goods

Waste gases, if relevant

- Determine flows and calorific values

Precursors, if relevant

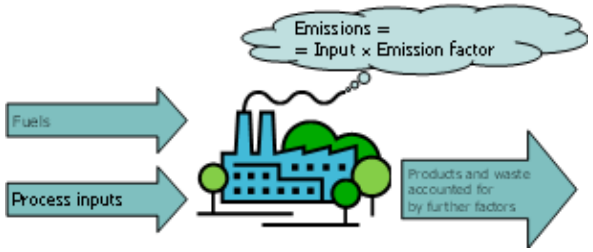
- Determine precursor consumption

Step 2: Monitoring – Direct emissions

1 Calculation-based methodology

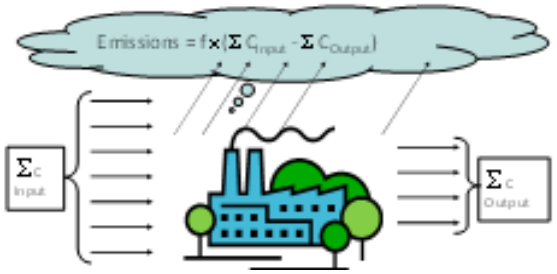
Standard method

- determine quantities of fuels and input materials consumed
- determine calculation factors such as net calorific value and emission factor
- determine emissions by multiplying consumption with calculation factors



Mass balance

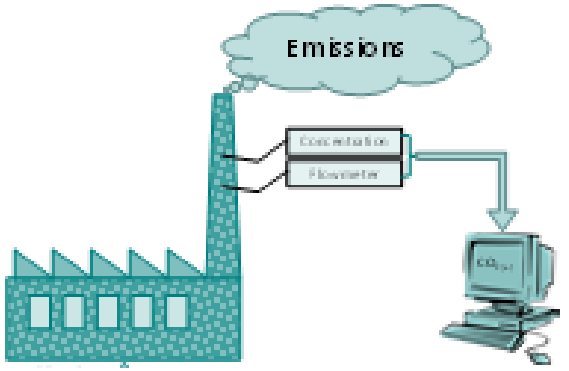
- determine carbon content in all fuels and input materials
- determine carbon content in all output materials
- determine emissions as difference between inputs and outputs
- typically relevant where carbon remains in the goods produced (e.g. steel).



2 Measurement-based methodology

Continuous emissions monitoring system

- measure GHG concentration directly in the stack or using extractive procedures
- measure flue gas flow
- determine emissions



Step 2: Monitoring – Other methods

1. **Other monitoring and reporting methods** until 31 December 2024, if similar coverage and accuracy of emissions data:
   - A carbon pricing scheme where the installation is located.
   - A compulsory emission monitoring scheme where the installation is located.
   - An emission monitoring scheme at the installation which can include verification by an accredited verifier.
2. **Other referenced methods** including default values until 31 July 2024
3. **Estimation of up to 20%** of the total embedded emissions in the case of complex goods (includes the use of default values)

Step 3: Attribution of direct emissions

Attributed direct emissions of the production process

Emissions related to the attribution of measurable heat exported

Correction for exported waste gases

Emissions related to electricity production

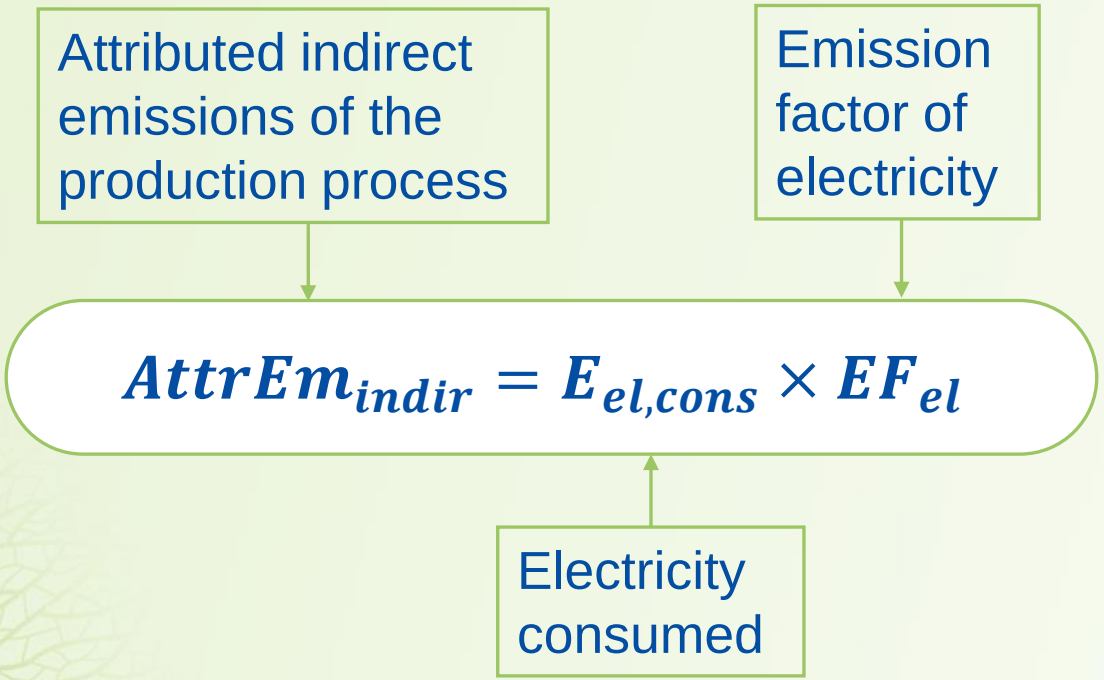
$$AttrEm_{dir} = DirEm^{*} + Em_{H,import} - Em_{H,export} + WG_{corr,import} - WG_{corr,export} - Em_{el,produced}$$

Directly attributable emissions as linked to source streams (exceptions for heat and waste gases)

Emissions related to the attribution of measurable heat imported

Correction for imported waste gases

Step 3: Attribution of indirect emissions



Emission factor of electricity

1) General case: use of default values
- average emission factor of the country of origin, based on IEA data
- other emission factors based on publicly available data (average emission factor or CO_2 emission factor)

2) Use of actual emission factors, in the case of:
- direct technical connection or
- power purchase agreement

Steps 4 & 5: Precursors and calculation of specific embedded emissions

For simple goods (Step 5):

$$SEE_g = \frac{AttrEm_g}{AL_g}$$

- $AttrEm_g$: Attributed emissions (direct or indirect)
- SEE_g: Specific embedded emissions (direct or indirect)
- AL_g: Amount of goods produced

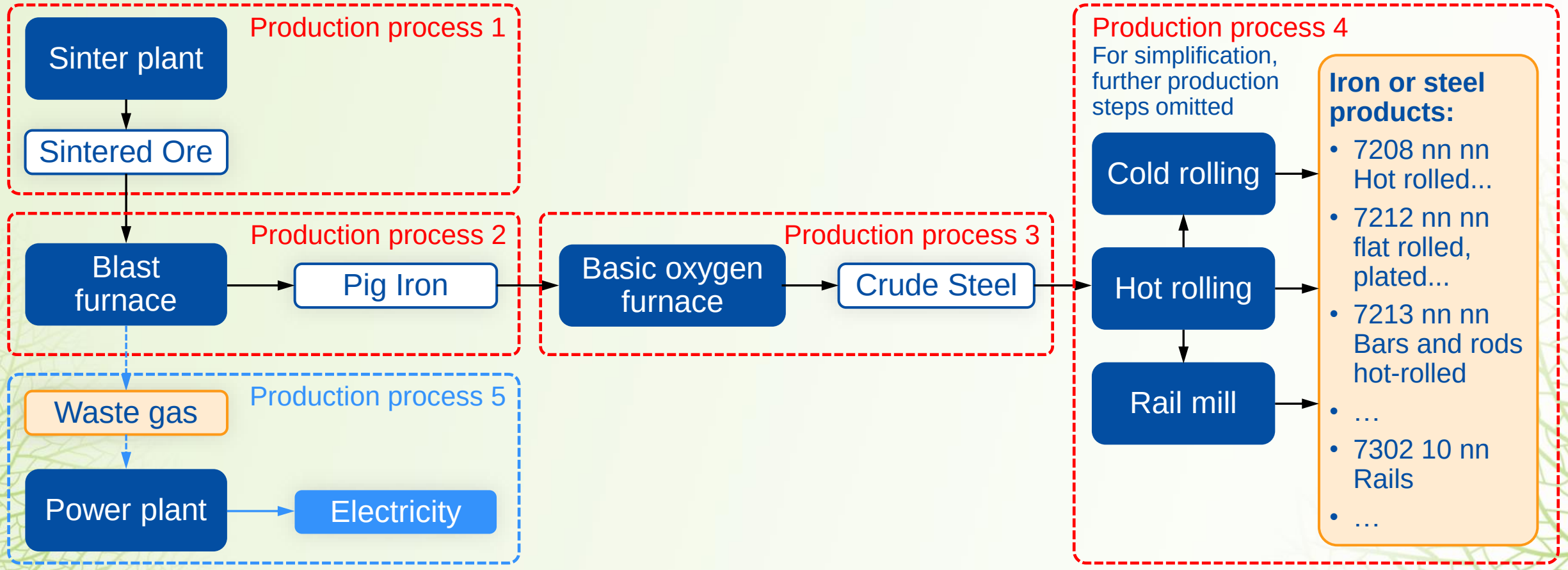
For complex goods using precursors as input (Steps 4 and 5):

$$SEE_g = \frac{AttrEm_g}{AL_g} + \sum_{i=1}^{n} m_i \cdot SEE_i$$

- SEE_g: Specific embedded emissions (direct or indirect) of the precursors
- $AttrEm_g$: Specific embedded emissions (direct or indirect)
- m_i: Amount of precursors used per goods produced

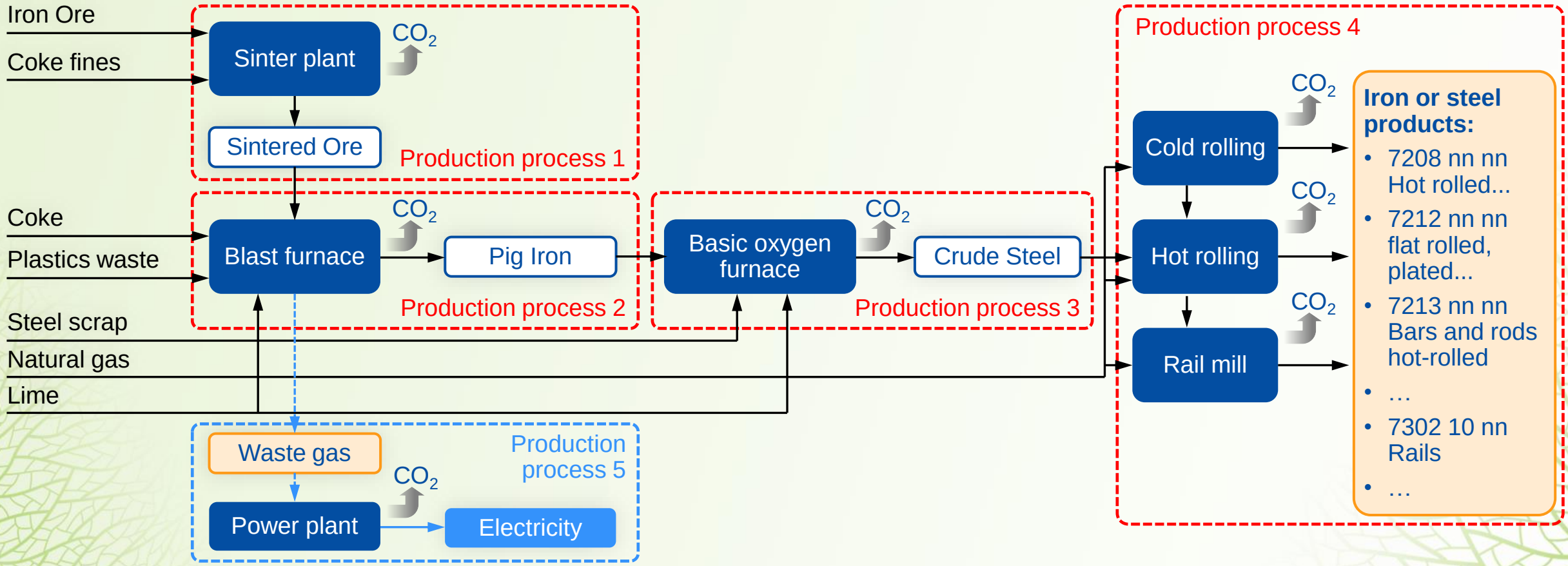
Worked iron & steel example (1/9)

Carbon steel production, blast furnace route – Overview



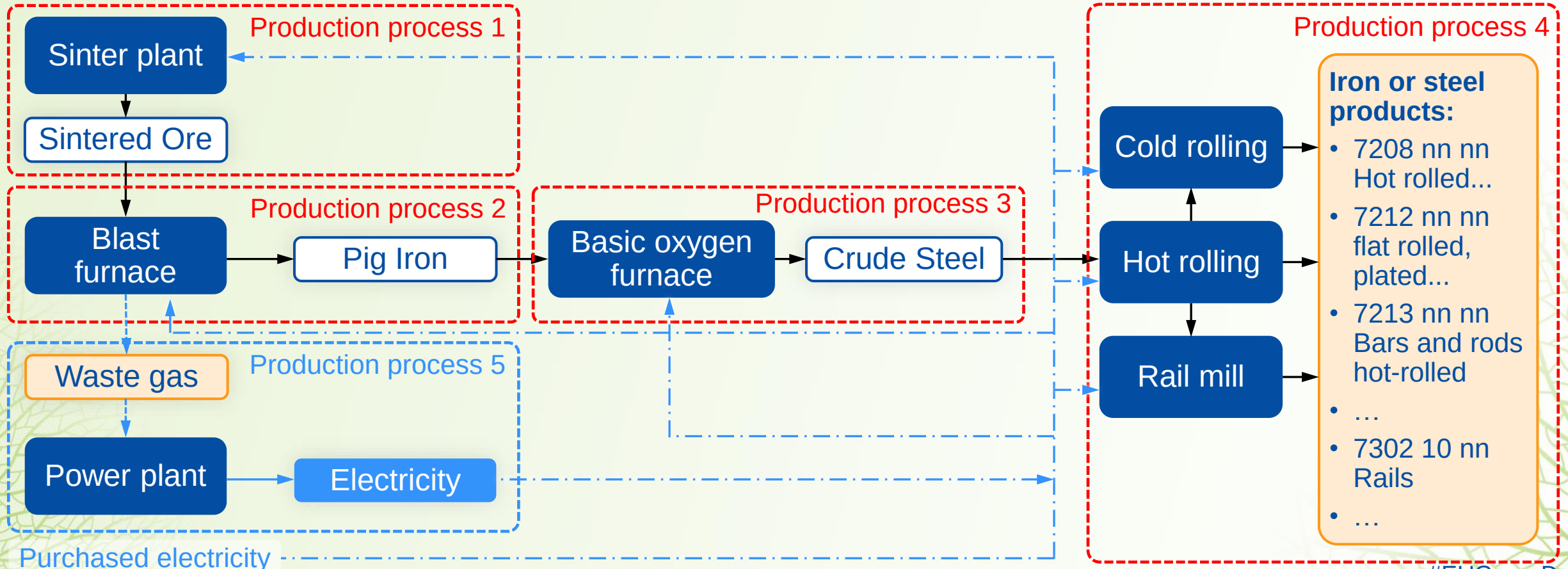
Worked iron & steel example (2/9)

Carbon steel production, blast furnace route – Direct emissions and related source streams



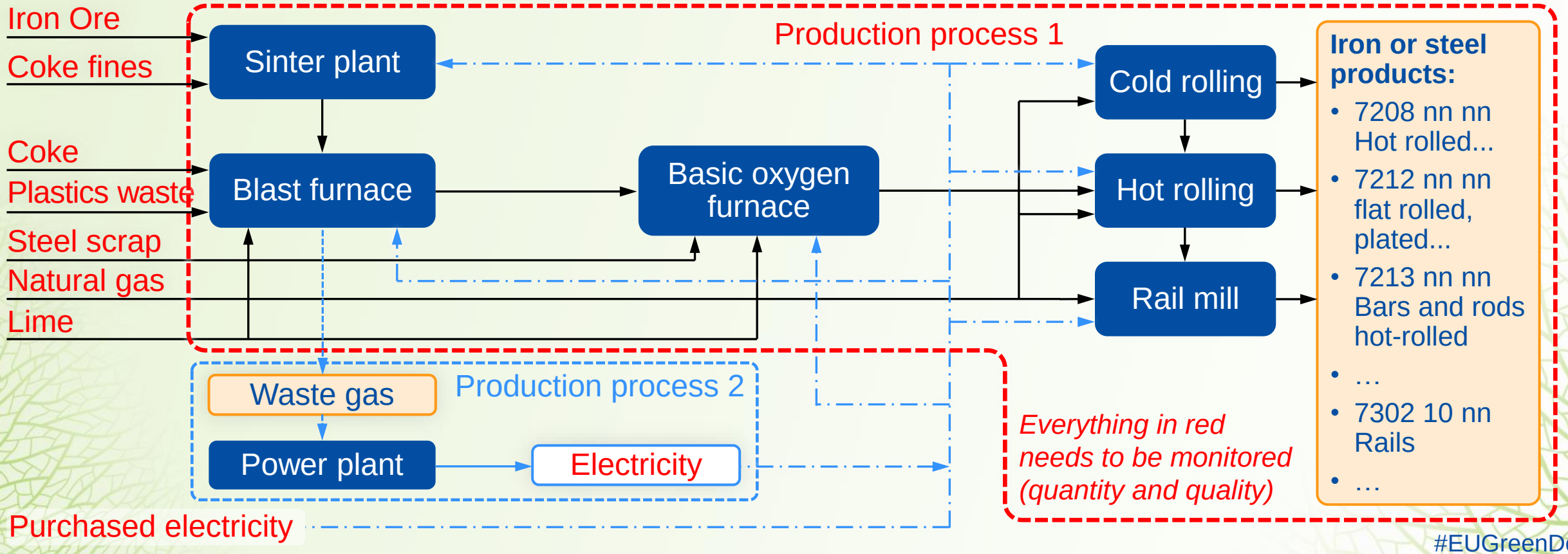
Worked iron & steel example (3/9)

Carbon steel production, blast furnace route – Indirect emissions monitoring (electricity flows)



Worked iron & steel example (4/9)

Carbon steel production, blast furnace route – complete monitoring approach



Worked iron & steel example (5/9)

Mass balance to determine direct emissions

AD = Activity data, CC = carbon content

Inputs	AD (tonnes)	CC	Bio fraction	Emissions (t CO_2)*	Comments
Coke fines	50 000	88,0%		161 216,0	
Iron ores	5 600 000	0,023%		4 719,2	
Coke	2 200 000	88,0%		7 093 504,0	
Plastics waste	70 000	68,4%	16%	147 270,8	Biomass fraction = 28 052 t CO_2
Scrap (external)	800 000	0,210%		6 155,5	
Scrap (internal)	200 000	0,180%		1 319,0	
Lime calcined	280 000	0,273%		2 800,0	
Natural gas	170 000	75,0%		467 160,0	
Other inputs	40 000	10,0%		14 656,0	
Sum				**7 898 800,6**	

Outputs	AD (tonnes)	CC	Bio fraction	Emissions (t CO_2)*	Comments
Steel	-4 800 000	0,180%		-31 657,0	
Slags	-1 000 000	0,030%		-1 099,0	
Sum				**-32 756,2**	
Total direct emissions of the installation				**7 866 044,4**	

* *Using a factor of 3,664 t CO_2 / t C*

Worked iron & steel example (6/9)

Determination of total attributed direct emissions (correction for waste gas export)

			t CO_2 / year	Comment
Total direct emissions of the installation			7 866 044	From previous slide
	AD (TJ)	EF (Natural gas)		
Deduction for waste gases	-12 800	56.1	-478 959	Takes into account a correction factor of 0,667
Total attributed direct emissions of the production process for crude steel products			**7 387 085**	

Worked iron & steel example (7/9)

Determination of indirect emissions

Input	AD (MWh)	Emission factor (t CO_2 / MWh)	Comments
Electricity from the grid (25%)	414 711	0,628	Mix of 50% coal, 30% natural gas, rest renewable energy sources
Electricity from waste gas combustion (75%)	1 244 133	0,576	Emission factor slightly higher than for natural gas
Total electricity consumption	1 658 844	0,589	Weighted average of the emissions factors for the electricity from the grid and from waste gas combustion
Indirect emissions		**Indirect emissions (t CO_2)**	
Total indirect emissions		977 059	

Worked iron & steel example (8/9)

Goods produced in the reporting period

Products	Activity level (AL)	Units
Precursors		
Pig Iron	4 000 000	t / year
Crude steel	5 000 000	t / year
Iron or steel products		
Sheets	3 500 000	t / year
Bars	800 000	t / year
Rails	500 000	t / year
Total goods produced	**4 800 000**	**t / year**
Internal scrap	200 000	t / year

Worked iron & steel example (9/9)

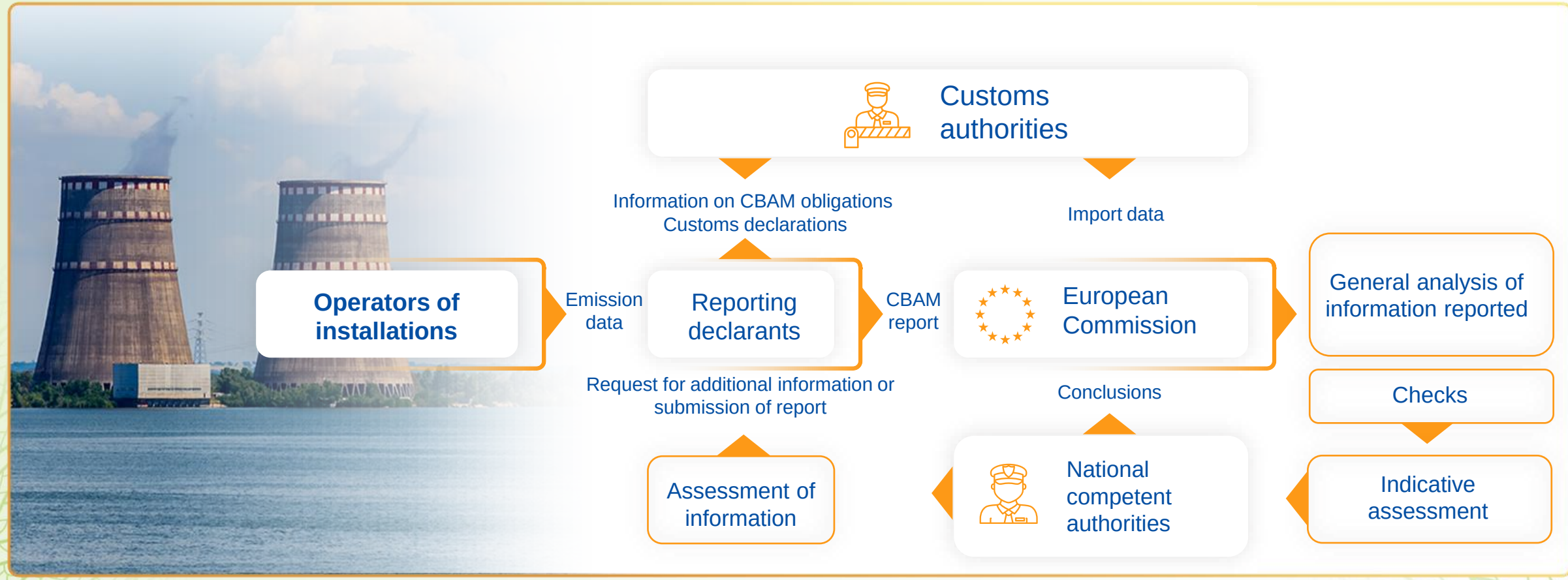
Specific embedded emissions SEE under the simplified "bubble" approach for iron or steel products

Total amount of goods produced (steel products)	4 800 000	t / year
Total direct emissions of the production process for steel products	7 387 085	t CO_2 / year
Total indirect emissions of the installation	977 059	t CO_2 / year
Specific direct embedded emissions	1.539	t CO_2 / steel product
Specific indirect embedded emissions	0.203	t CO_2 / t steel product
Specific total embedded emissions	**1.742**	**t CO_2 / t steel product**

Carbon Border Adjustment Mechanism

3 Overview of CBAM actors & reporting declarants

Overview of the actors in CBAM



Who are the reporting declarants?

Rules for Representatives

No representation by others - Own import

Direct customs representative (Status: Customs Declarant)

Importer is the reporting declarant

Indirect customs representative (Status: Importer)

Importer or indirect customs representative may be the reporting declarant

Subject to reporting obligations

Steps to comply with the CBAM reporting obligations

Step 1: Define the scope of goods concerned

Step 2: Determine the reporting period to use

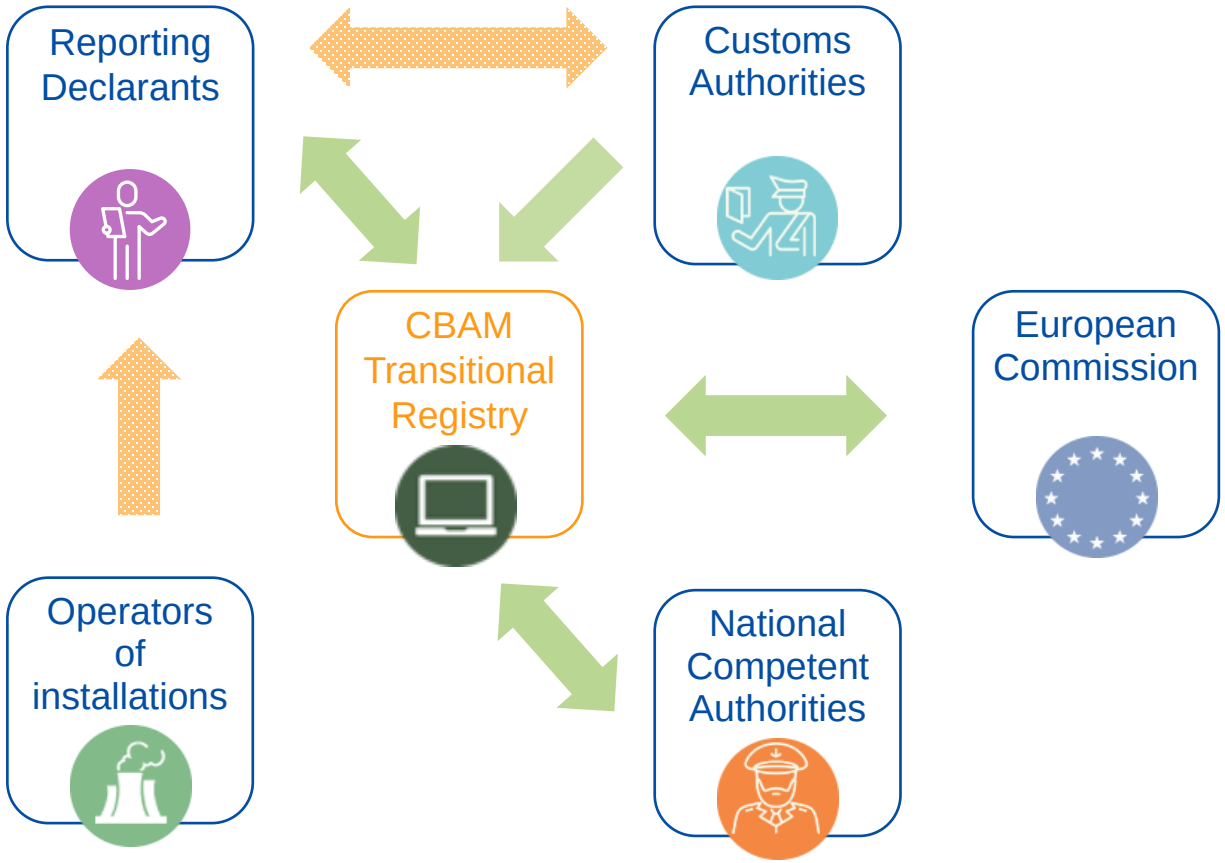
Step 3: Identify all the parameters you need to report

Step 4: Collect data on carbon price due in jurisdiction if any

Carbon Border Adjustment Mechanism

4 Submitting CBAM reports

Reporting in the CBAM Transitional Registry



Key highlights

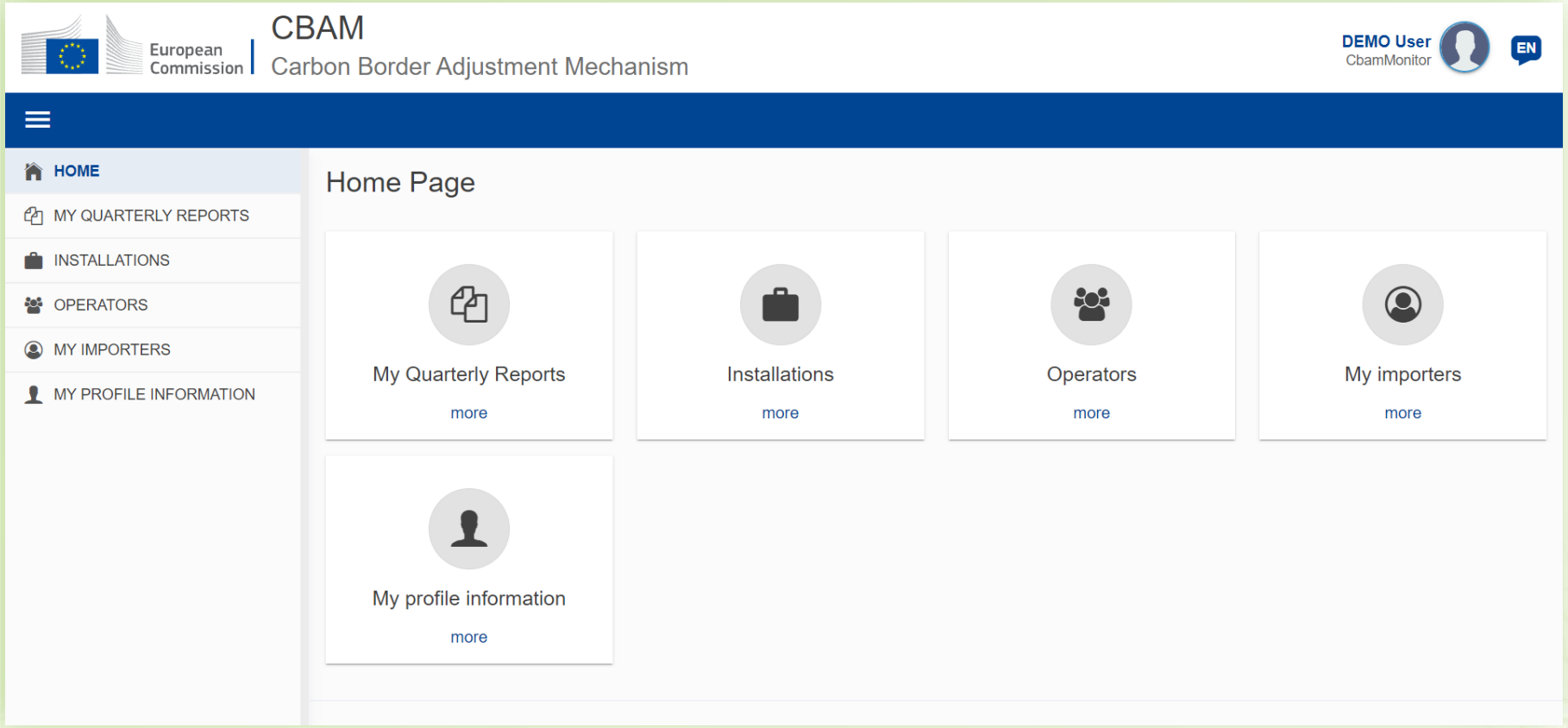
- Single platform to create synergies
- Tool to perform CBAM-related tasks
- Secured platform to ensure confidentiality of information

OUTSIDE THE REGISTRY

VIA THE REGISTRY

The CBAM Transitional Registry

https://cbam.ec.europa.eu/declarant



Timeline for reporting declarants

REPORTING PERIOD	SUBMISSION DUE BY	MODIFICATION POSSIBLE UNTIL*
2023: October – December	**2024:** January 31	**2024:** July 31
2024: January – March	**2024:** April 30	**2024:** July 31
2024: April – June	**2024:** July 31	**2024:** August 30
2024: July – September	**2024:** October 31	**2024:** November 30
2024: October – December	**2025:** January 31	**2025:** February 28
2025: January – March	**2025:** April 30	**2025:** May 31
2025: April – June	**2025:** July 31	**2025:** August 31
2025: July – September	**2025:** October 31	**2025:** November 30
2025: October – December	**2026:** January 31	**2026:** February 28

**After the modification deadline, reporting declarants may request reopening of the file before the national competent authority for eventual corrections.*

Where to find further information on CBAM?

Visit the CBAM webpage regularly – our one-stop shop

https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en

- Link to the CBAM Transitional Registry
- 2 guidance documents
- Communication template between importers and operators
- Registration to dedicated webinars
- Links to recordings of webinars through the Customs and Tax EU Learning portal
- Link to our E-learning materials through the Customs and Tax EU Learning portal
- Q&A and factsheet

The Carbon Border Adjustment Mechanism - Iron & Steel sector

5 minutes break

We will resume the webinar in 5 min
to answer questions from the chat

The Carbon Border Adjustment Mechanism - Iron & Steel sector

Thank you!