The Carbon Border Adjustment Mechanism

Guidance on How to Use the CBAM Communication Template for Embedded Emissions

May 2024

Overview

- **Target groups:**
  - Operators of installations producing CBAM goods – you should learn to fill the template
  - Importers of CBAM goods – you should learn to use the results presented in the template
  - Potential verifiers – you should learn the concepts around which you will have to establish your competence and verification processes
  - Competent authorities in the EU – you should learn to interpret data presented using the template

- **Content of the training:**
  - Where to find information on the EU CBAM
  - Guide to general features of the template
  - Step-by-step data entry of two examples:
    - An integrated steel work with blast furnace, using the “bubble approach”
    - A production of high-alloy steel using several purchased precursors
  - What data are required by the importer for the (quarterly) CBAM report

General information on the EU CBAM

Central access point is the **Commission's website**: **https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en**

- Latest official **legislation**
- Link to the (Transitional) **CBAM Registry**
- **Guidance documents & communication template**
- Recorded **Webinars** and **eLearning** for the concerned industry sectors
- **Latest information** e.g. to deadline extensions for the CBAM reports, technical problems of the Registry, etc.
- **FAQs**

The Monitoring & Reporting Approach of the CBAM (1)

- **Step 1**: Define installation boundaries & boundaries of production processes
  - Optional: Monitor only those emissions that are related to CBAM products
  - Production process = system boundaries of the emissions that belong to each “aggregated goods category”
- **Step 2**: Monitor GHG emissions of the installation
  - Step 2a: Monitor electricity consumption of the installation for determining indirect emissions
- **Step 3**: Attribute the emissions to the relevant production processes
  - Where heat is not directly produced inside the production process, or where heat is exported from the process, the respective heat flows and associated emissions have to be taken into account
  - Where “waste gases” (like blast furnace gas) are imported to or exported from the production process, corrections to the emissions need to be applied
  - Indirect emissions from electricity use (or electricity export) need to be taken into account

The Monitoring & Reporting Approach of the CBAM (2)

- **Step 4**: Add embedded emissions from precursors to attributed emissions of the process
  - Take into account both purchased precursors and precursors produced in the same installation
- **Step 5**: Divide the attributed emissions of the process by its activity level (production output) – this results in the specific embedded emissions of the good ($t\ CO_2e$ per t product)
- **Step 6 (optional)**: Collect and report data on a carbon price already paid for (part of) the embedded emissions

Monitoring & Reporting – where to find information

Monitoring step	Template	Guidance
Step 1: Define installation boundaries & boundaries of production processes	Sheet **A_InstData**	Sections **6.1** to **6.4** of the operators' guidance
Step 2: Monitor GHG emissions of the installation	Sheets **B_EmInst** and **C_Emissions&Energy**	Section **6.5** (direct emissions) **6.6** (indirect emissions)
Step 3: Attribute the emissions to the relevant production processes	Sheet **D_Processes**	Section **6.7**
Step 4: Add embedded emissions form precursors to attributed emissions of the process	Sheet **E_PurchPrec** (only for purchased precursors)	Section **6.8.2**
Step 5: specific embedded emissions of the good (t CO_2e per t product)	**Summary_Processes** **Summary_Products**	Section **6.8**
Step 6 (optional): Provide information on carbon price paid	**Summary_Products** supported by sheet **F_Tools**	Section **6.10**

Introduction to the Template's Features

The CBAM Communication template

- Current Version (used in the examples):
- Version 2.1 of 5 June 2024
- Download from Commission‘s website:

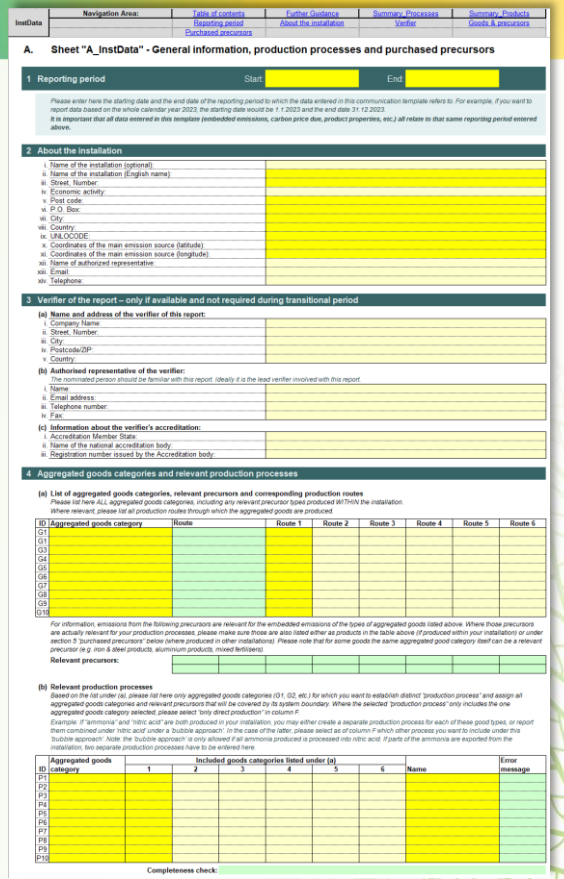
22 MARCH 2024

CBAM communication template for installations

English (1.28 MB - XLSX)

Download

- Please always check the version on first page (Sheet 0_Versions and a_Contents)
- **Do not use older versions than 2.1**



InstData | Navigation Area: | Table of contents | Further Guidance | Summary_Processes | Summary_Products
Reporting period | About the installation | Verifier | Goods & precursors
Purchased precursors

A. Sheet "A_InstData" - General information, production processes and purchased precursors

1 Reporting period Start: End:

Please enter here the starting date and the end date of the reporting period to which the data entered in this communication template refers to. For example, if you want to report data based on the whole calendar year 2023, the starting date would be 1.1.2023 and the end date 31.12.2023.
It is important that all data entered in this template (embedded emissions, carbon price due, product properties, etc.) all relate to that same reporting period entered above.

2 About the installation

i. Name of the installation (optional):
ii. Name of the installation (English name):
iii. Street, Number:
iv. Economic activity:
v. Post code:
vi. P.O. Box:
vii. City:
viii. Country:
ix. UNLOCODE:
x. Coordinates of the main emission source (latitude):
xi. Coordinates of the main emission source (longitude):
xii. Name of authorized representative:
xiii. Email:
xiv. Telephone:

3 Verifier of the report – only if available and not required during transitional period

(a) Name and address of the verifier of this report:
i. Company Name:
ii. Street, Number:
iii. City:
iv. Postcode/ZIP:
v. Country:

(b) Authorised representative of the verifier:
The nominated person should be familiar with this report. Ideally it is the lead verifier involved with this report.
i. Name:
ii. Email address:
iii. Telephone number:
iv. Fax:

(c) Information about the verifier's accreditation:
i. Accreditation Member State:
ii. Name of the national accreditation body:
iii. Registration number issued by the Accreditation body:

4 Aggregated goods categories and relevant production processes

(a) List of aggregated goods categories, relevant precursors and corresponding production routes
Please list here ALL aggregated goods categories, including any relevant precursor types produced WITHIN the installation.
Where relevant, please list all production routes through which the aggregated goods are produced.

ID	Aggregated goods category	Route	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6
G1								
G2								
G3								
G4								
G5								
G6								
G7								
G8								
G9								
G10								

For information, emissions from the following precursors are relevant for the embedded emissions of the types of aggregated goods listed above. Where those precursors are actually relevant for your production processes, please make sure those are also listed either as products in the table above (if produced within your installation) or under section 5 'purchased precursors' below (where produced in other installations). Please note that for some goods the same aggregated good category itself can be a relevant precursor (e.g. iron & steel products, aluminium products, mixed fertilisers).

Relevant precursors:

(b) Relevant production processes
Based on the list under (a), please list here only aggregated goods categories (G1, G2, etc.) for which you want to establish distinct 'production process" and assign all aggregated goods categories and relevant precursors that will be covered by its system boundary. Where the selected "production process" only includes the one aggregated goods category selected, please select 'only direct production'" in column F.
Example: If "ammonia" and "nitric acid" are both produced in your installation, you may either create a separate production process for each of these good types, or report them combined under 'nitric acid' under a 'bubble approach'. In the case of the latter, please select as of column F which other process you want to include under this 'bubble approach'. Note: the 'bubble approach' is only allowed if all ammonia produced is processed into nitric acid. If parts of the ammonia are exported from the installation, two separate production processes have to be entered here.

ID	Aggregated goods category	Included goods categories listed under (a) 1	2	3	4	5	6	Name	Error message
P1									
P2									
P3									
P4									
P5									
P6									
P7									
P8									
P9									
P10									

Completeness check:

Template: general features (1)

Yellow cells = data entry **mandatory**

Light yellow cells = data entry **optional**

ID	Aggregated goods category	Included goods categories listed under (a) 1	2	3	4	5	6	Name	Error message
P1	Crude steel	Only direct production							Incomplete!
P2									
P3									
P4									
P5									
P6									
P7									
P8									
P9									
P10									

Error messages

Error messages

Completeness check: Missing! Please assign ALL relevant aggregated goods categories to a 'production process'.

Green cells= formulae/results/outputs

Template: general features (2)

Calculation of the attributed emissions: | **P1 - Crude steel**

Please click on this link for further guidance on how to complete this section.

		Measurable	Waste gases	Indirect
(f)	**Please select which elements are applicable**	FALSE	FALSE	TRUE

Based on your selection, related sections below might become irrelevant and greyed out below.

		Unit	Value
(g)	**Directly attributable emissions (DirEm)**	tCO2e	171 005

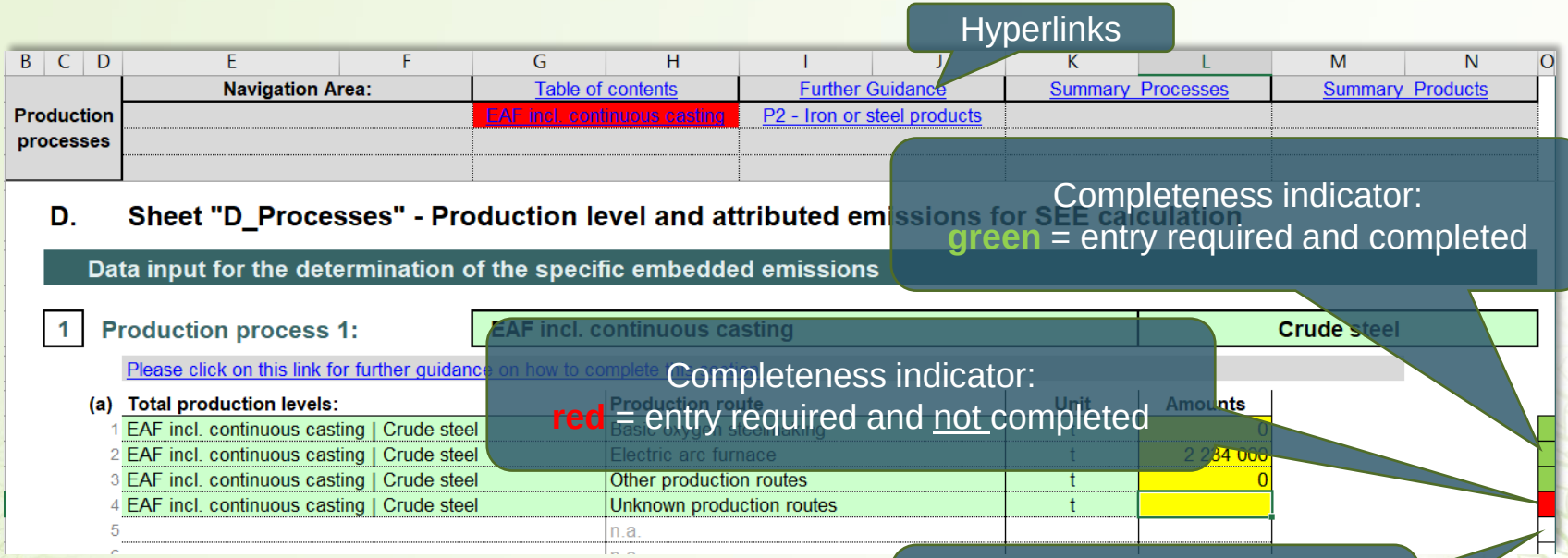
Conditionally **"greyed out"** based on entries under (f) (selecting FALSE)

		Unit	Imported	Exported
(h)	**Import and export of measurable heat**			
i.	Amount of net measurable heat	TJ		
ii.	Emissions factor	tCO2/TJ		
(i)	**Waste gases**	Unit	Imported	Exported
i.	Amount of waste gas	TJ		
ii.	Emission factor	tCO2/TJ		

		Unit	Value
(j)	**Indirect emissions from electricity consumption**		
i.	Electricity consumption	MWh	1 563 800
ii.	Emission factor of the electricity	tCO2/MWh	0,833
iii.	Source of the emission factor	-	Mix

		Unit	Value
(k)	**Electricity exported from the production process**		
i.	Amounts exported	MWh	0
ii.	Emission factor of the electricity	tCO2/MWh	

Template: general features (3)



Template: general features (4)

Example data at top of some tables

Source streams	Navigation Area:	Table of contents	Further Guidance	Summary_Processes	Summary_P
		Source streams	PFC (perfluorocarbon)	Emission sources	

B. Sheet "B_EmInst" - Installation's emission at source stream and emission source level

1 Source streams and emission sources

Please click on this link for further guidance on how to complete this section

(a) Calculation based approaches: Source Streams (excluding PFC emissions)

#	Method	Source stream name	Activity data (AD)	AD Unit	Net calorific value (NCV)	NCV Unit	Emission factor (EF)	EF Unit	Carbon content	C-Content Unit	fa
Ex.1	Combustion	Heavy fuel oil	252 000,00	t	45,00	GJ/t	73,00	tCO2/TJ			
Ex.2	Process Emissions	Raw meal for clinker	121 000,00	t		GJ/t	0,09	tCO2/t			
Ex.3	Mass balance	Steel	-1 808 226,00	t		GJ/t			0,00388	tC/t	

Structure of the template

- 0_Versions
- a_Contents
- b_Guidelines&Conditions
- c_CodeLists

Information for users

- A_InstData
- B_EmInst
- C_Emissions&Energy
- D_Processes
- E_PurchPrec

Sheets for necessary data inputs

- F_Tools — Calculation tools (optional)
- G_FurtherGuidance — Detailed guidance for data inputs
- Summary_Processes — Calculation results
- Summary_Products — Further input required on details of products sold
- Summary_Communication — Automatic copy of “Summary_Products” with English texts

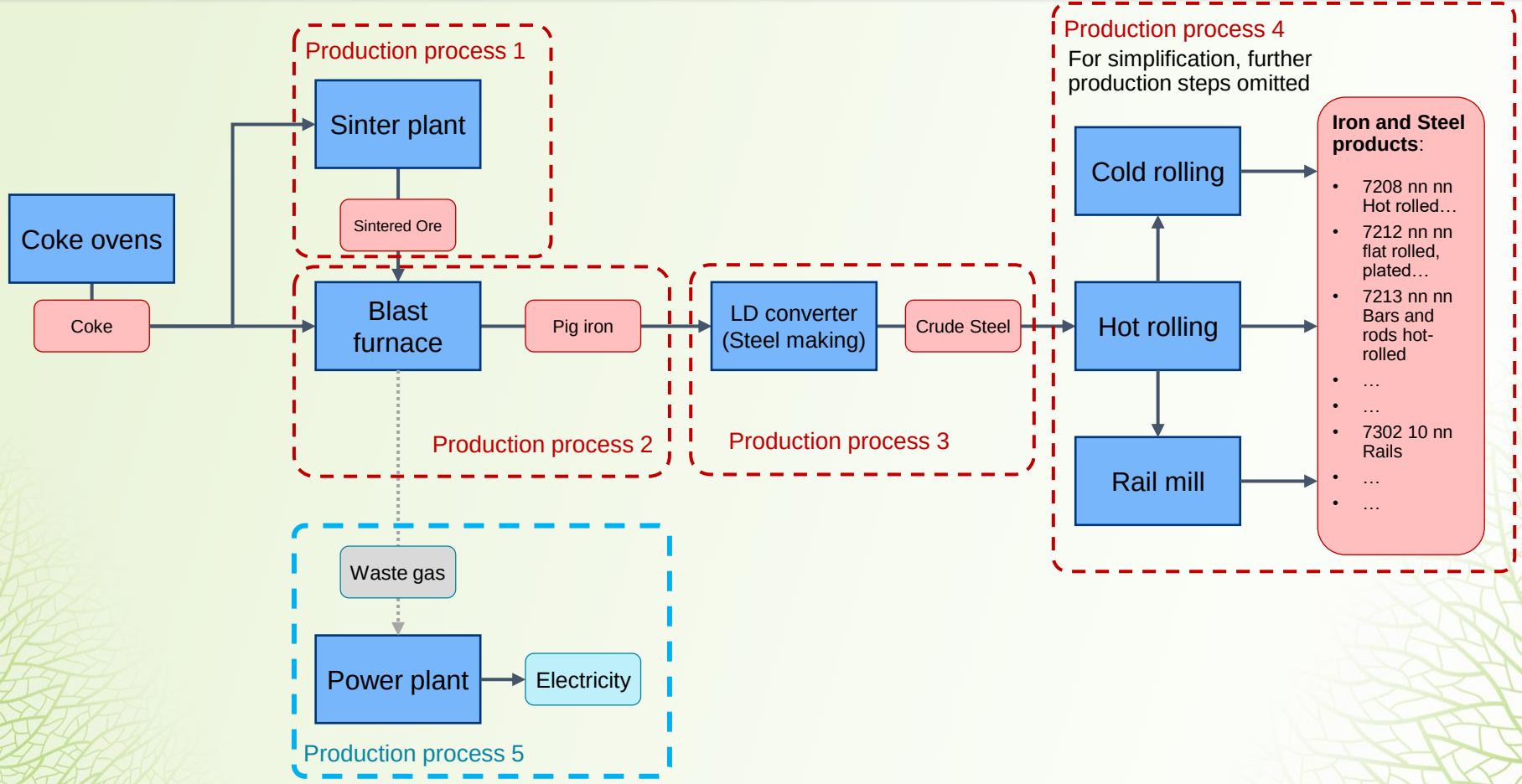
Example 1:
Integrated Steel Work (Blast furnace)

Example 1 – carbon steel, Blast furnace route

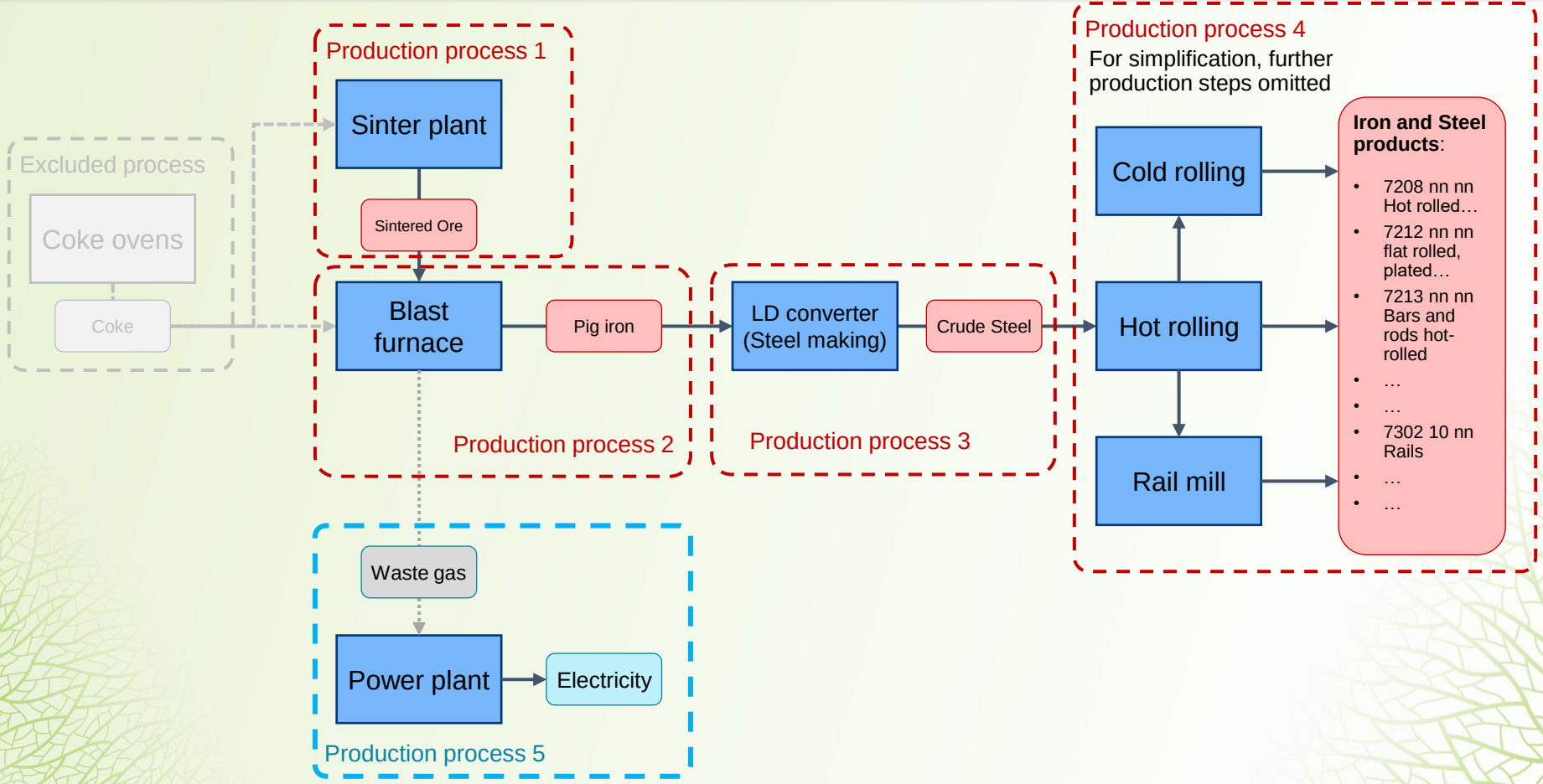
More details on this example are found in section **7.2.2.1** of the guidance document for operators of non-EU installations

- Production process units
  - Coke ovens
  - Sinter plant
  - Blast furnace
  - Basic oxygen steel making
  - Hot rolling, cold rolling → sheets
  - Rail mill → Railway rails
  - Power plant
- Products (CN codes):
  - 7208 nn nn – Flat hot rolled products
  - 7212 nn nn – Flat rolled, plated products
  - 7213 nn nn – Bars and rods hot-rolled
  - 7302 10 nn – Rails
  - …
- Inputs:
  - Coking coal
  - Coke (partly purchased, partly produced onsite)
  - Plastic wastes
  - Iron ore (raw)
  - Natural gas
  - Steel scrap
  - Lime (calcined)
  - Various other inputs (graphite, CaC_2, light fuel oil, waste oils, etc.)
- Wastes & residues
  - Blast furnace slag, other slags, internal scrap

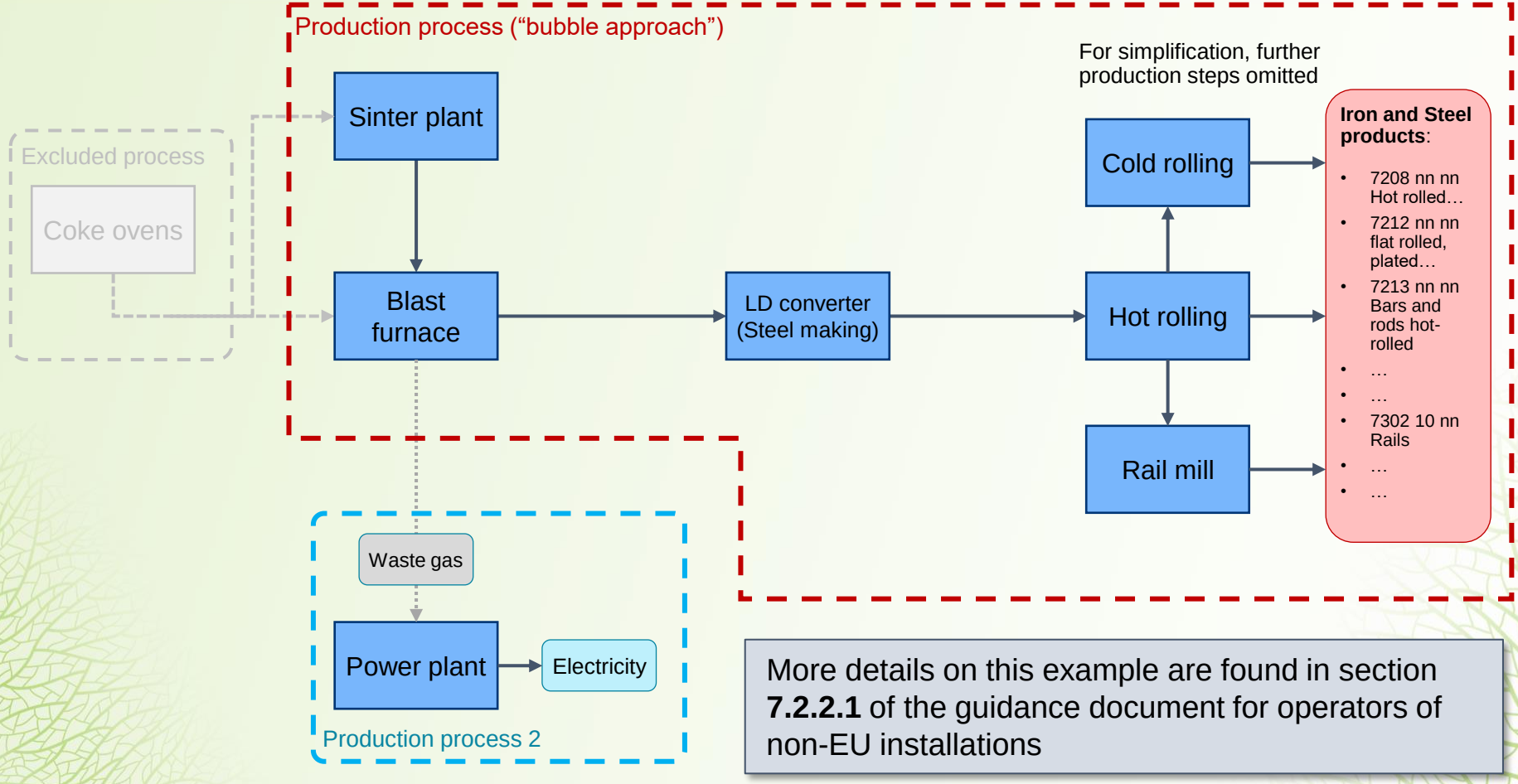
Example 1 – Overview



Example 1 – Overview



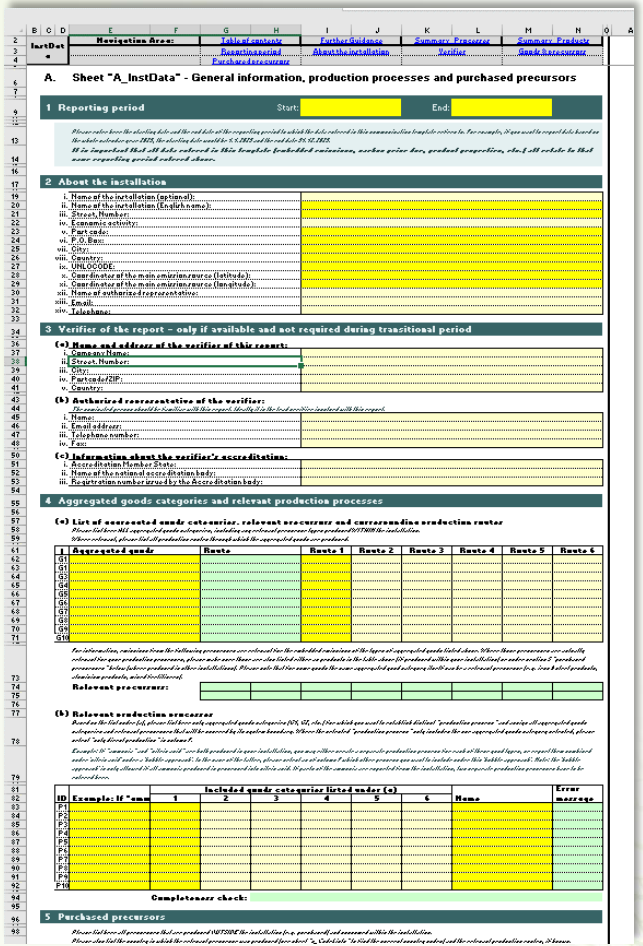
Example 1 – Overview



More details on this example are found in section **7.2.2.1** of the guidance document for operators of non-EU installations

Practical demonstration

- Input of Installation description and definition of production processes
- **Sheet A_InstData**



A. Sheet "A_InstData" - General information, production processes and purchased precursors

1 Reporting period

Start:

End:

2 About the installation

i. Name of the installation (optional):
ii. Name of the installation (English name):
iii. Street, Number:
iv. Economic activity:
v. Post code:
vi. P.O. Box:
vii. City:
viii. Country:
ix. UNLOCODE:
x. Coordinates of the main emission source (latitude):
xi. Coordinates of the main emission source (longitude):
xii. Name of authorised representative:
xiii. Email:
xiv. Telephone:

3 Verifier of the report – only if available and not required during transitional period

(a) Name and address of the verifier of this report:

i. Company Name:
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(b) Authorised representative of the verifier:

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ii. Email address:
iii. Telephone number:
iv. Fax:

(c) Information about the verifier's accreditation:

i. Accreditation Number/State:
ii. Name of the national accreditation body:
iii. Registration number issued by the Accreditation body:

4 Aggregated goods categories and relevant production processes

(a) List of aggregated goods categories, relevant precursors and corresponding production routes

	Aggregated goods	Route	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6
G1								
G2								
G3								
G4								
G5								
G6								
G7								
G8								
G9								
G10								

Relevant precursors:

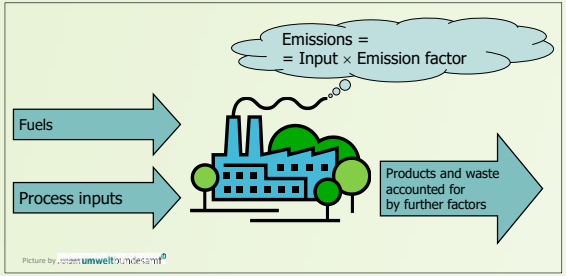
(b) Relevant production processes

ID	Example: If "yes"	Included goods categories listed under (a) 1	2	3	4	5	6	Name	Error message
P1									
P2									
P3									
P4									
P5									
P6									
P7									
P8									
P9									
P10									

Completeness check:

5 Purchased precursors

Recap: Monitoring approaches (direct emissions)



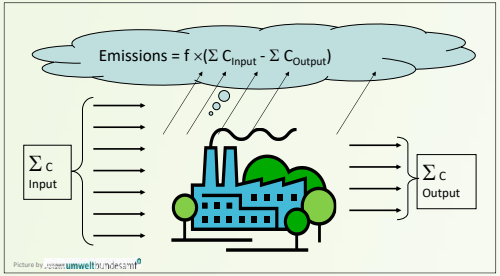
Standard methodology

$$Em_i = AD_i \cdot EF_i \cdot OF_i$$

$$AD_i = FQ_i \cdot NCV_i$$

$$EF_i = EF_{pre,i} \cdot (1 - BF_i)$$

- Em_i…Emissions [t CO_2] caused by fuel *i*
- EF_i…Emission factor [t CO_2 / TJ] of fuel *i*
- AD_i…Activity data [TJ] of fuel *i*
- FQ_i… Fuel quantity consumed [t or m^3] of fuel *i*
- NCV_i… Net Calorific Value (lower heating value) [TJ/t or TJ/m^3] of fuel *i*
- OF_i…Oxidation factor (dimensionless) of fuel *i*
- $EF_{pre,i}$… preliminary emission factor of fuel *i* (i.e. emission factor assuming the total fuel is fossil)
- BF_i… Biomass Fraction (dimensionless) of fuel *i*

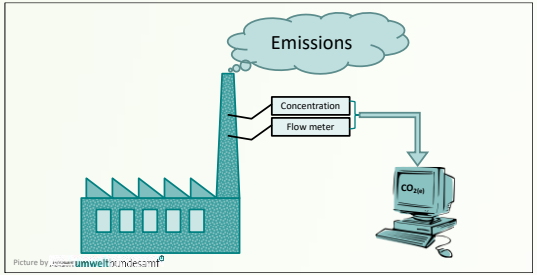


Mass balance

$$Em_k = f \cdot AD_k \cdot CC_k$$

$$CC_k = EF_k \cdot NCV_k / f$$

- AD_k…Activity data [t of material *k*] of material *k*; for outputs, AD_k is negative
- *f*…ratio of molar mass of CO_2 to C: *f* = 3.664 t CO_2/t C
- CC_k…carbon content of material *k* (dimensionless and positive)



CEMS (continuous emissions monitoring systems)

$$Em = \sum_h (c_h \cdot \dot{V}_h)$$

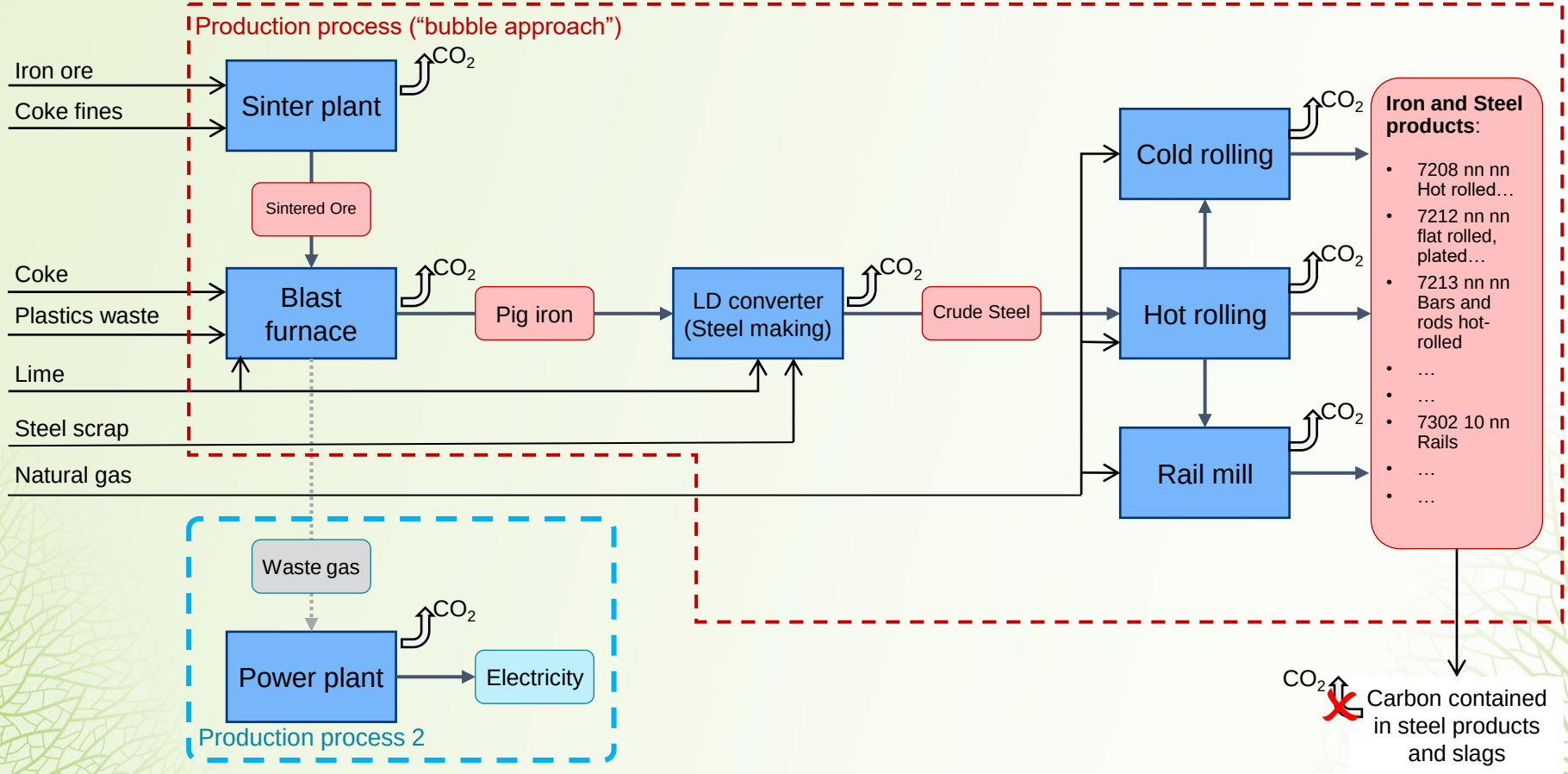
- *h* ...hour (or other interval)
- c_h ...hourly concentration
- $\dot{V}_h$ …hourly flue gas flow

To be summed up over the whole reporting period

Notes:

- Special approach for PFCs (Annex III, section B.7) not shown here
- Wider flexibility rules: see section 6.9.4 of guidance document for operators

Example 1 – Direct emissions



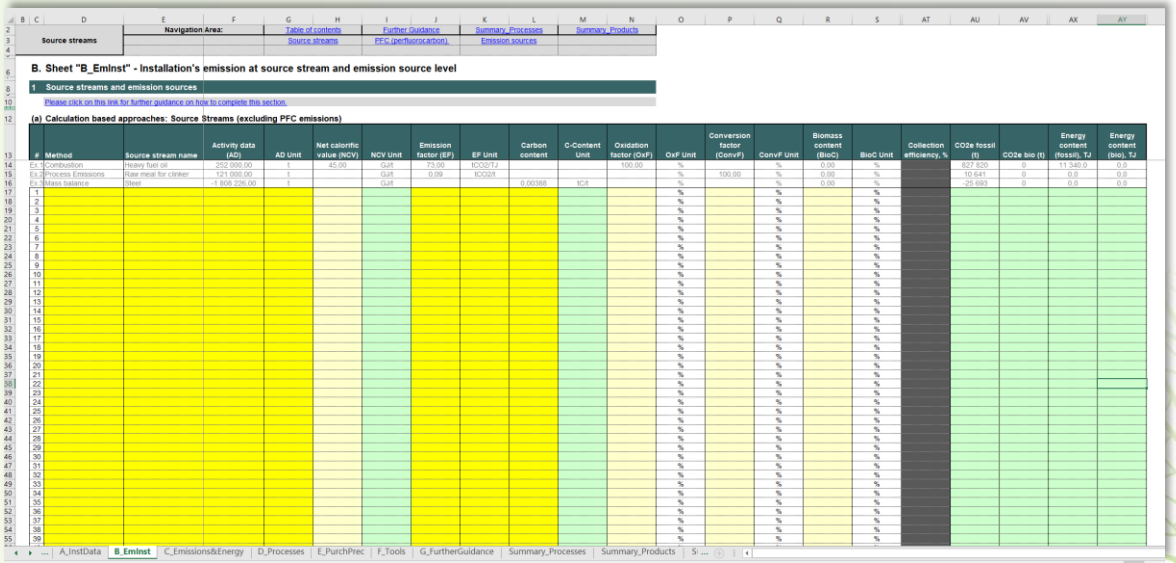
Total installation's direct emissions: Mass balance

Consumption levels	AD [tonnes]	CC	Bio fraction	Emiss. (t CO2)	Assumptions/ 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	
Plastic wastes	70.000	68,4%	16%	147.270,8	biomass CO2 = 28.052 t CO2
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**	
Carbon in outputs	AD	CC		Em (negative)	
Steel	-4.800.000	0,180%		-31.657	0,18% C content on average
Slags	-1.000.000	0,030%		-1.099	250kg/t hot metal
Sum				**-32.756,2**	
Total direct emissions of the installation				**7.866.044**	**t CO2 / year**

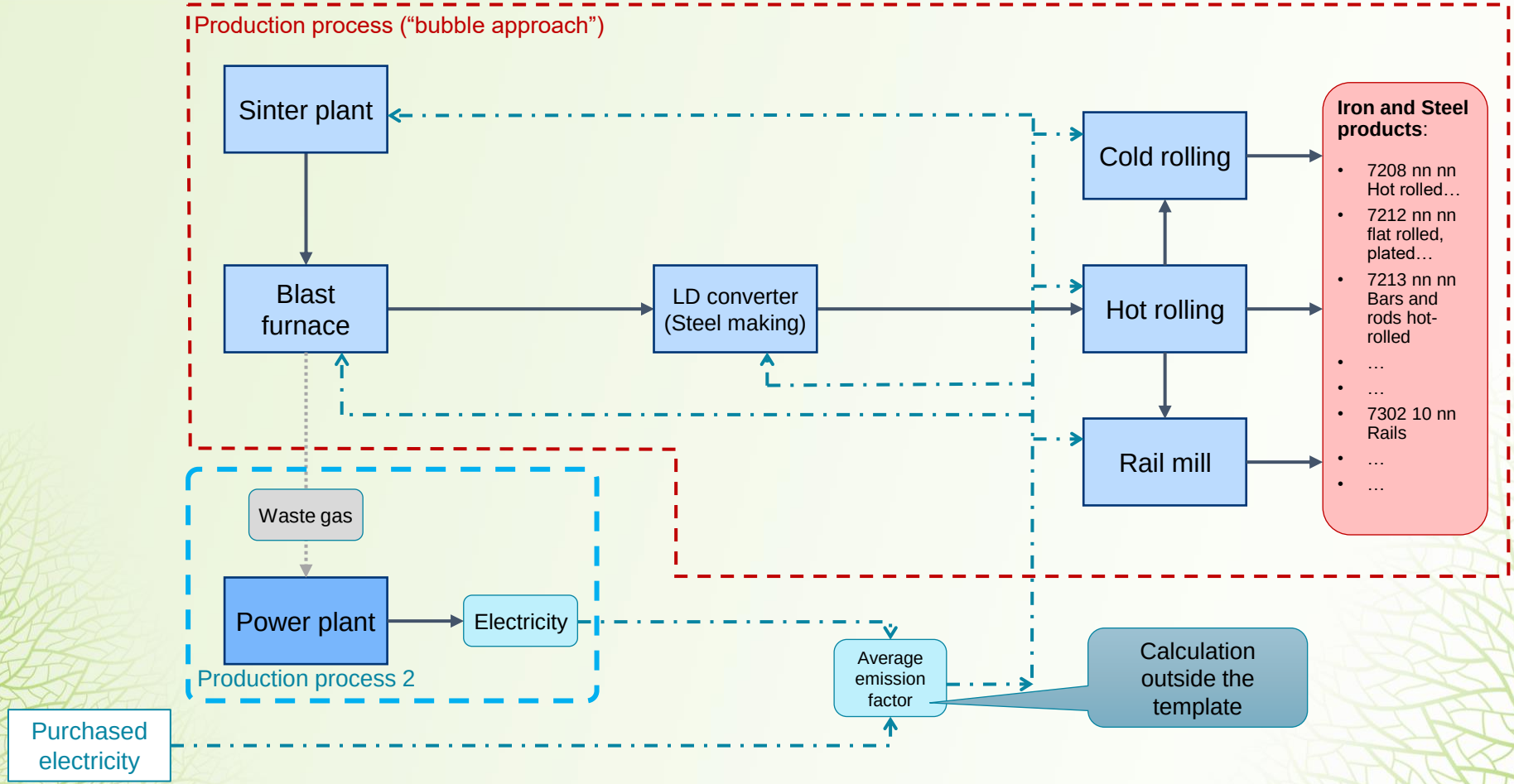
Note: Throughout the presentation, comma: , 1000 delimiter: .

Practical demonstration

- Input of installation-level emissions data
- **Sheet B_EmInst**
- One row per fuel/material
- Separate inputs for PFC emissions and CEMS (Continuous Emissions Monitoring Systems)

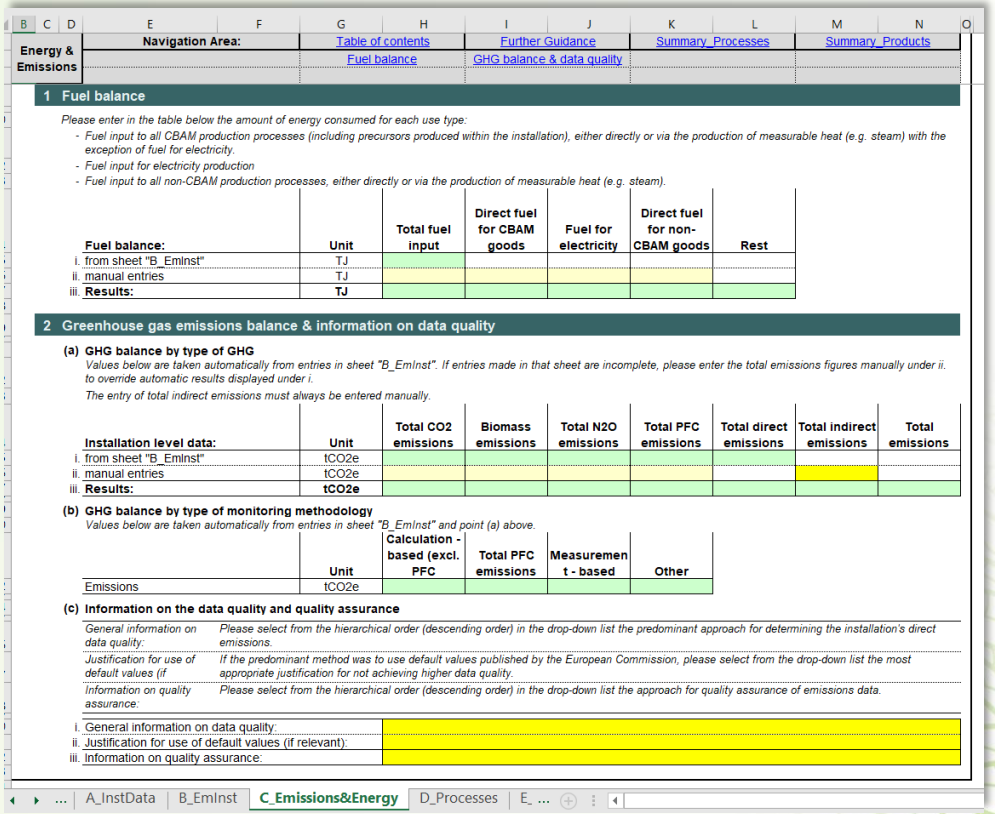


Example 1 – Indirect emissions



Practical demonstration

- Finalisation of installation-level emissions data
- **Sheet C_Emissions&Energy**
- For calculation of the emission factor for electricity and of indirect emissions in this example, see section 7.2.2.1 of the guidance document for operators



Energy & Emissions

Navigation Area: Table of contents | Further Guidance | Summary_Processes | Summary_Products
Fuel balance | GHG balance & data quality

1 Fuel balance

Please enter in the table below the amount of energy consumed for each use type:
- *Fuel input to all CBAM production processes (including precursors produced within the installation), either directly or via the production of measurable heat (e.g. steam) with the exception of fuel for electricity.*
- *Fuel input for electricity production*
- *Fuel input to all non-CBAM production processes, either directly or via the production of measurable heat (e.g. steam).*

Fuel balance:	Unit	Total fuel input	Direct fuel for CBAM goods	Fuel for electricity	Direct fuel for non-CBAM goods	Rest
i. from sheet "B_EmInst"	TJ					
ii. manual entries	TJ					
iii. **Results:**	**TJ**					

2 Greenhouse gas emissions balance & information on data quality

(a) GHG balance by type of GHG

Values below are taken automatically from entries in sheet "B_EmInst". If entries made in that sheet are incomplete, please enter the total emissions figures manually under ii. to override automatic results displayed under i.

The entry of total indirect emissions must always be entered manually.

Installation level data:	Unit	Total CO2 emissions	Biomass emissions	Total N2O emissions	Total PFC emissions	Total direct emissions	Total indirect emissions	Total emissions
i. from sheet "B_EmInst"	tCO2e							
ii. manual entries	tCO2e							
iii. **Results:**	**tCO2e**							

(b) GHG balance by type of monitoring methodology

Values below are taken automatically from entries in sheet "B_EmInst" and point (a) above.

	Unit	Calculation - based (excl. PFC	Total PFC emissions	Measurement - based	Other
Emissions	tCO2e				

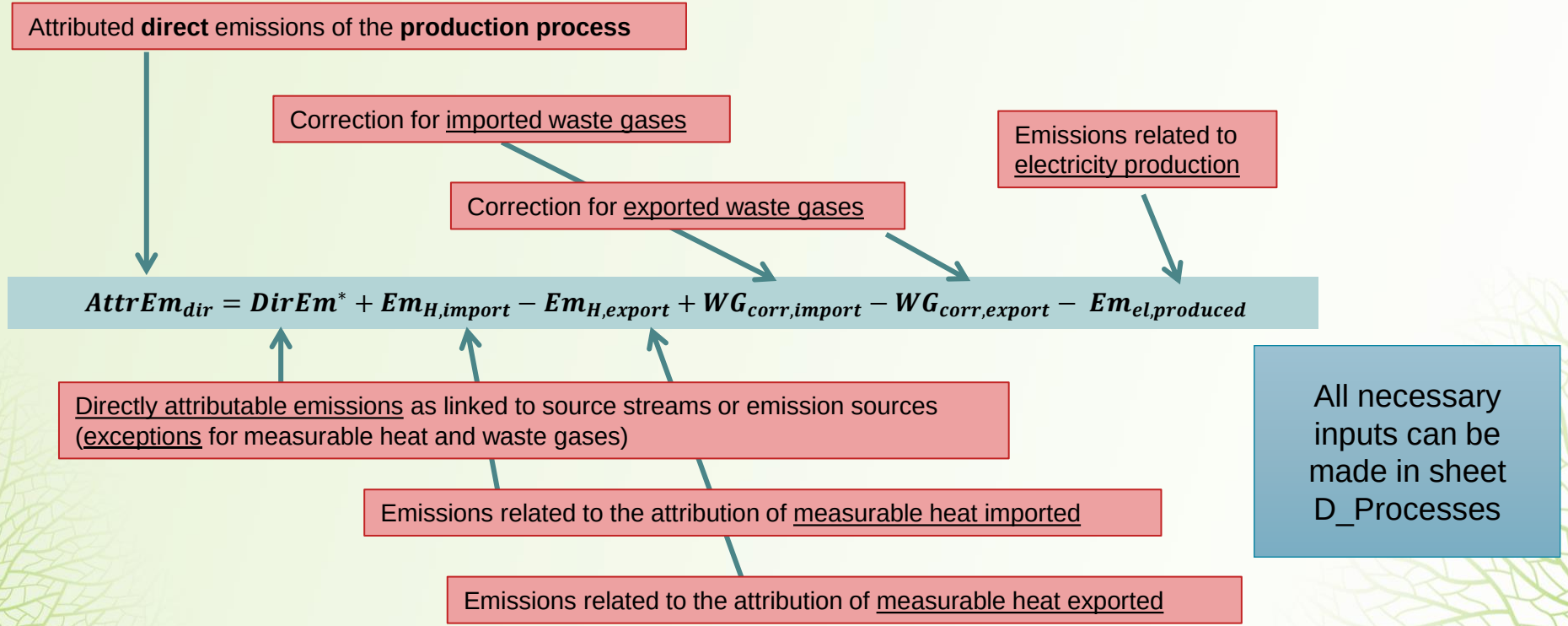
(c) Information on the data quality and quality assurance

General information on data quality:	*Please select from the hierarchical order (descending order) in the drop-down list the predominant approach for determining the installation's direct emissions.*
Justification for use of default values (if	*If the predominant method was to use default values published by the European Commission, please select from the drop-down list the most appropriate justification for not achieving higher data quality.*
Information on quality assurance:	*Please select from the hierarchical order (descending order) in the drop-down list the approach for quality assurance of emissions data.*

i. General information on data quality:	
ii. Justification for use of default values (if relevant):	
iii. Information on quality assurance:	

A_InstData | B_EmInst | C_Emissions&Energy | D_Processes | E_ ...

Attributed emissions of a production process (methodology)



Calculation of specific embedded emissions

- For **complex goods**, taking into account precursors:

Result is shown in sheet **Summary_Processes**

$$SEE_g = \frac{AttrEm_g + EE_{InpMat}}{AL_g}$$

Input in sheet **D_Processes**

and $$EE_{InpMat} = \sum_{i=1}^{n} M_i \cdot SEE_i$$

Input in sheet **D_Processes**

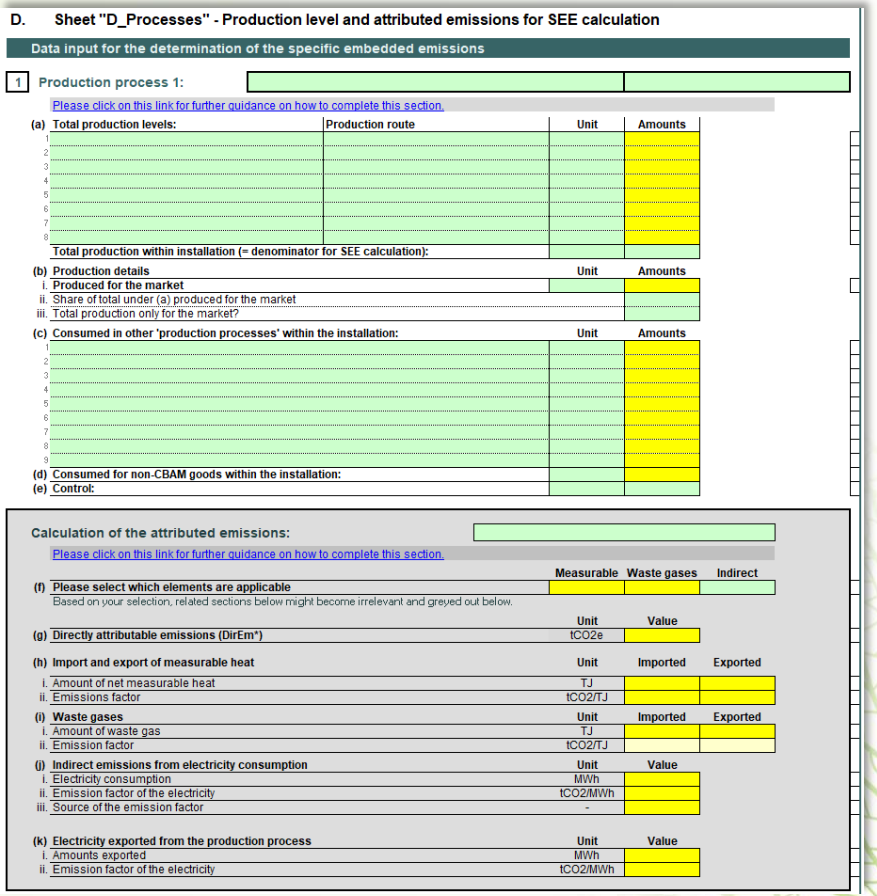
Either input in sheet **E_PurchPrec** or result **within template**

- Where

SEE	specific embedded emissions of good *g* or precursor *i*
$AttrEm_g$	Attributed Emissions of the production process for goods *g*
AL_g	Activity level of good *g* (amount of the goods g produced in the reporting period in that installation, referring to the whole aggregated goods category)
EE_{InpMat}	Embedded direct or indirect emissions of all precursors consumed
M_i	Mass of precursor *i* used in the production process yielding good *g*

Practical demonstration

- Sheet **D_Processes**



D. Sheet "D_Processes" - Production level and attributed emissions for SEE calculation

Data input for the determination of the specific embedded emissions

1 Production process 1:

Please click on this link for further guidance on how to complete this section.

(a) Total production levels:	Production route	Unit	Amounts
1			
2			
3			
4			
5			
6			
7			
8			
Total production within installation (= denominator for SEE calculation):			

(b) Production details	Unit	Amounts
i. Produced for the market		
ii. Share of total under (a) produced for the market		
iii. Total production only for the market?		

(c) Consumed in other 'production processes' within the installation:	Unit	Amounts
1		
2		
3		
4		
5		
6		
7		
8		
9		
(d) Consumed for non-CBAM goods within the installation:		
(e) Control:		

Calculation of the attributed emissions:

Please click on this link for further guidance on how to complete this section.

	Measurable	Waste gases	Indirect
(f) Please select which elements are applicable			

Based on your selection, related sections below might become irrelevant and greyed out below.

	Unit	Value
(g) Directly attributable emissions (DirEm*)	tCO2e	

(h) Import and export of measurable heat	Unit	Imported	Exported
i. Amount of net measurable heat	TJ		
ii. Emissions factor	tCO2/TJ		

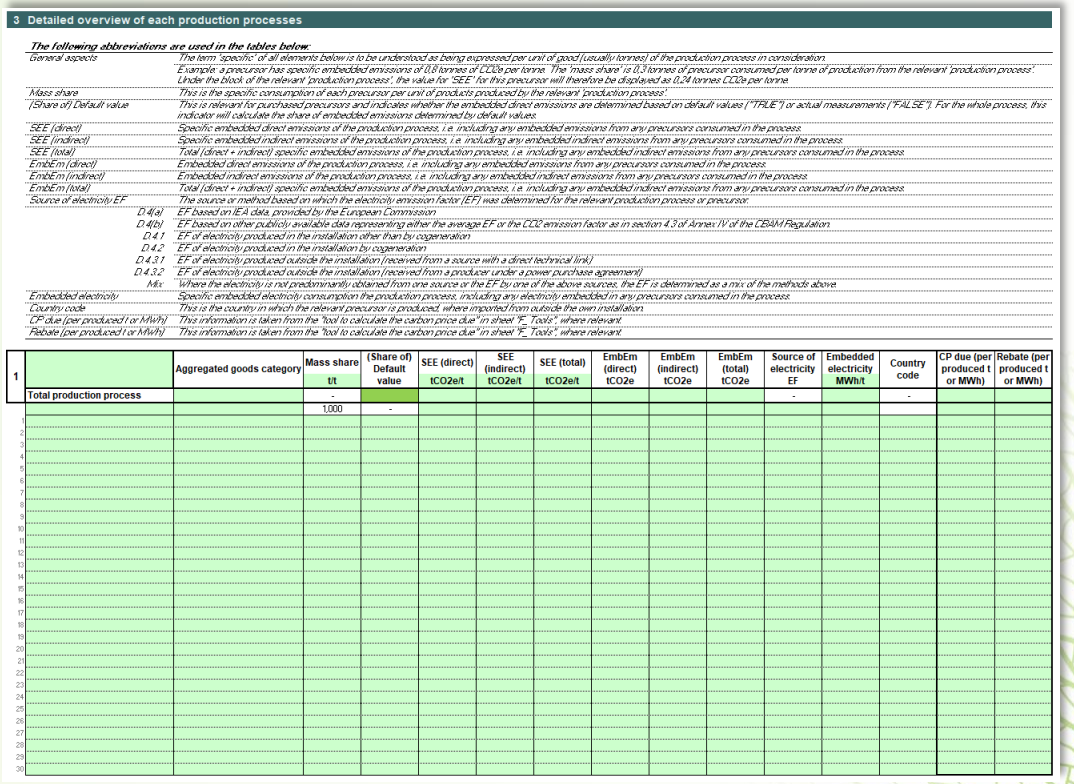
(i) Waste gases	Unit	Imported	Exported
i. Amount of waste gas	TJ		
ii. Emission factor	tCO2/TJ		

(j) Indirect emissions from electricity consumption	Unit	Value
i. Electricity consumption	MWh	
ii. Emission factor of the electricity	tCO2/MWh	
iii. Source of the emission factor	-	

(k) Electricity exported from the production process	Unit	Value
i. Amounts exported	MWh	
ii. Emission factor of the electricity	tCO2/MWh	

Practical demonstration

- Sheet **E_PurchPrec** will be shown with the second example
- Now: Demonstration of results in sheet **Summary_Processes**



3 Detailed overview of each production processes

The following abbreviations are used in the tables below:

General aspects	*The term 'specific' of all elements below is to be understood as being expressed per unit of good (usually tonnes) of the production process in consideration.*
	Example: a precursor has specific embedded emissions of 0,8 tonnes of CO2e per tonne. The 'mass share' is 0,3 tonnes of precursor consumed per tonne of production from the relevant 'production process'.
	Under the block of the relevant 'production process', the value for 'SEE' for this precursor will therefore be displayed as 0,24 tonnes CO2e per tonne
Mass share	*This is the specific consumption of each precursor per unit of products produced by the relevant 'production process'.*
(Share of) Default value	*This is relevant for purchased precursors and indicates whether the embedded direct emissions are determined based on default values ("TRUE") or actual measurements ("FALSE"). For the whole process, this indicator will calculate the share of embedded emissions determined by default values.*
SEE (direct)	*Specific embedded direct emissions of the production process, i.e. including any embedded emissions from any precursors consumed in the process.*
SEE (indirect)	*Specific embedded indirect emissions of the production process, i.e. including any embedded indirect emissions from any precursors consumed in the process.*
SEE (total)	*Total (direct + indirect) specific embedded emissions of the production process, i.e. including any embedded indirect emissions from any precursors consumed in the process.*
EmbEm (direct)	*Embedded direct emissions of the production process, i.e. including any embedded emissions from any precursors consumed in the process.*
EmbEm (indirect)	*Embedded indirect emissions of the production process, i.e. including any embedded indirect emissions from any precursors consumed in the process.*
EmbEm (total)	*Total (direct + indirect) specific embedded emissions of the production process, i.e. including any embedded indirect emissions from any precursors consumed in the process.*
Source of electricity EF	*The source or method based on which the electricity emission factor (EF) was determined for the relevant production process or precursor.*
D.4(a)	*EF based on IEA data, provided by the European Commission*
D.4(b)	*EF based on other publicly available data representing either the average EF or the CO2 emission factor as in section 4.3 of Annex IV of the CBAM Regulation.*
D.4.1	*EF of electricity produced in the installation other than by cogeneration*
D.4.2	*EF of electricity produced in the installation by cogeneration*
D.4.3.1	*EF of electricity produced outside the installation (received from a source with a direct technical link)*
D.4.3.2	*EF of electricity produced outside the installation (received from a producer under a power purchase agreement)*
Mix	*Where the electricity is not predominantly obtained from one source or the EF by one of the above sources, the EF is determined as a mix of the methods above.*
Embedded electricity	*Specific embedded electricity consumption the production process, including any electricity embedded in any precursors consumed in the process.*
Country code	*This is the country in which the relevant precursor is produced, where imported from outside the own installation.*
CP due (per produced t or MWh)	*This information is taken from the "tool to calculate the carbon price due" in sheet "F_Tools", where relevant.*
Rebate (per produced t or MWh)	*This information is taken from the "tool to calculate the carbon price due" in sheet "F_Tools", where relevant.*

1		Aggregated goods category	Mass share t/t	(Share of) Default value	SEE (direct) tCO2e/t	SEE (indirect) tCO2e/t	SEE (total) tCO2e/t	EmbEm (direct) tCO2e	EmbEm (indirect) tCO2e	EmbEm (total) tCO2e	Source of electricity EF	Embedded electricity MWh/t	Country code	CP due (per produced t or MWh)	Rebate (per produced t or MWh)
	Total production process		-								-		-		
			1,000	-											
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
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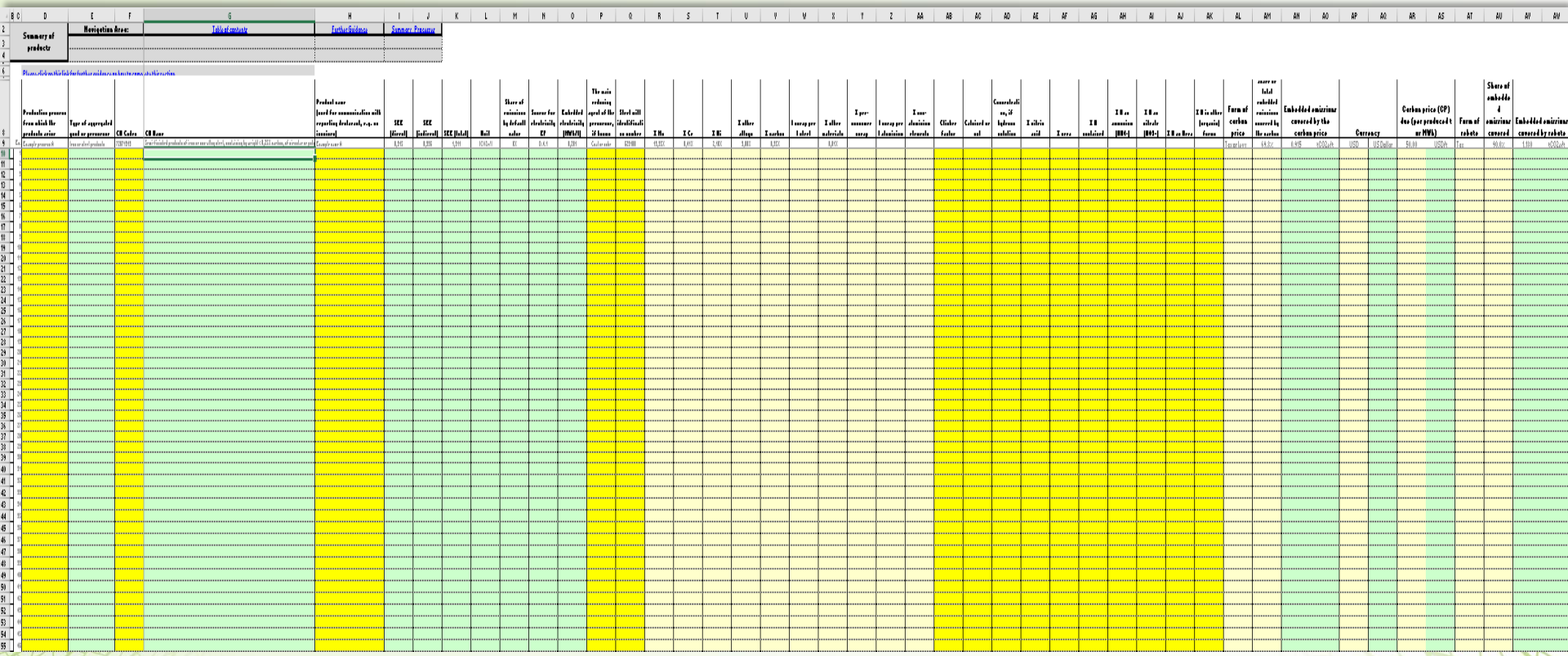
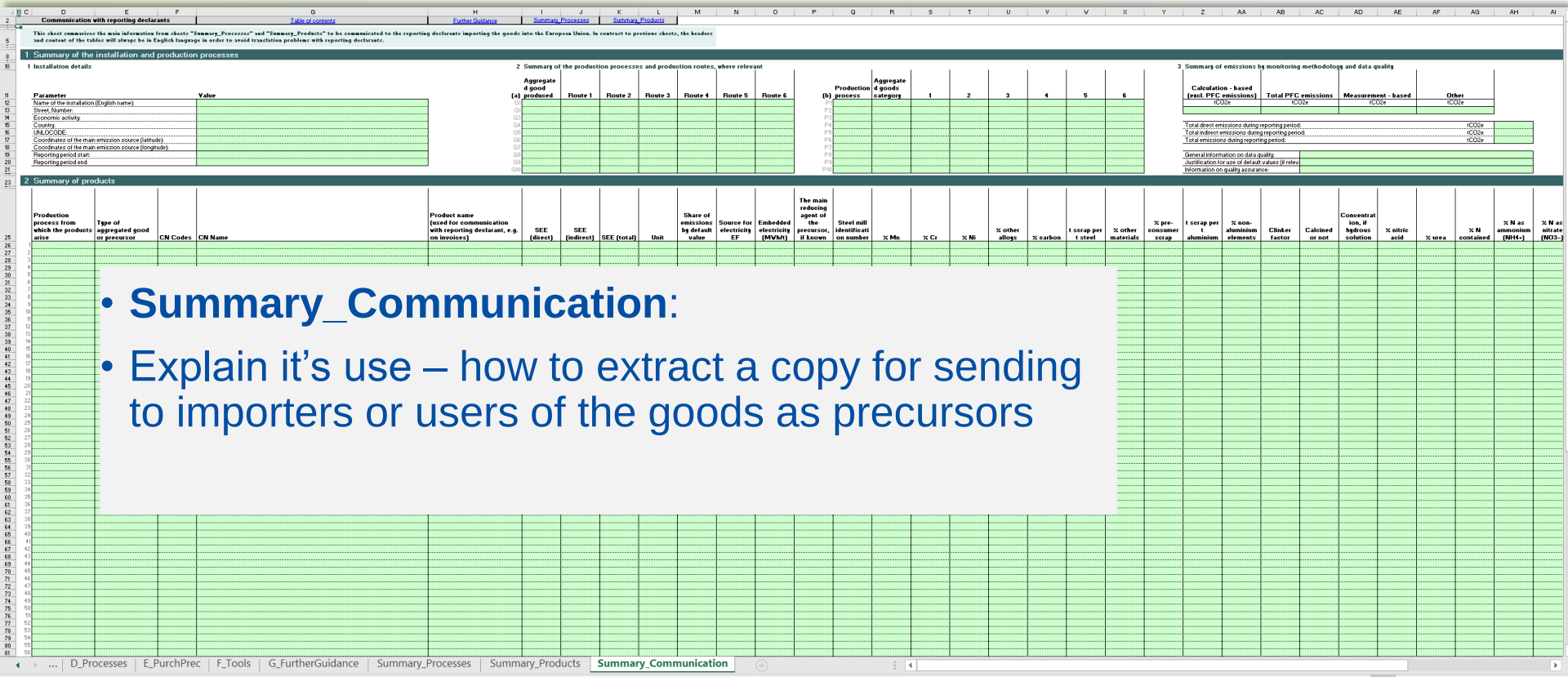
Practical demonstration



*Commission Implementing Regulation (EU) 2023/1773 http://data.europa.eu/eli/reg_impl/2023/1773/oj

Practical demonstration



- **Summary_Communication**:
- Explain it's use – how to extract a copy for sending to importers or users of the goods as precursors

Example 2:

EAF and Conversion to Iron and Steel Products

Example 2: High-alloy steel from Electric Arc Furnace (EAF) route

More details on this example are found in section **7.2.2.2** of the guidance document for operators of non-EU installations

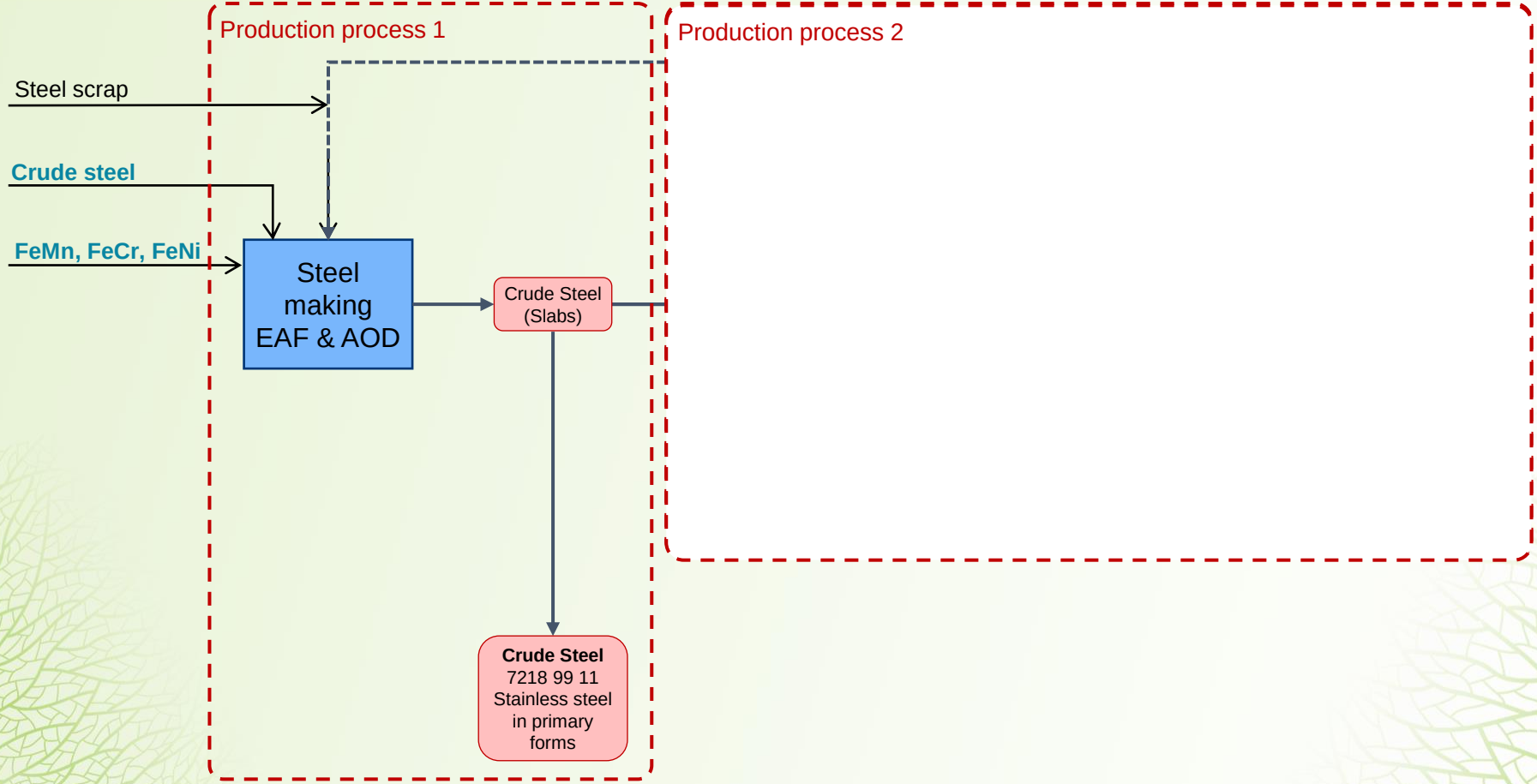
- Products:
  - Slabs of certain alloy grades
  - Bars of certain alloy grades
  - Sheets of certain alloy grades
  - Pipes
  - Scrap (recycled internally)

- Production process units
  - EAF (Electric Arc Furnace) with AOD (Argon Oxygen Decarburisation)
  - Hot rolling, annealing → bars and sheets
  - Cutting, rolling, welding → Pipes

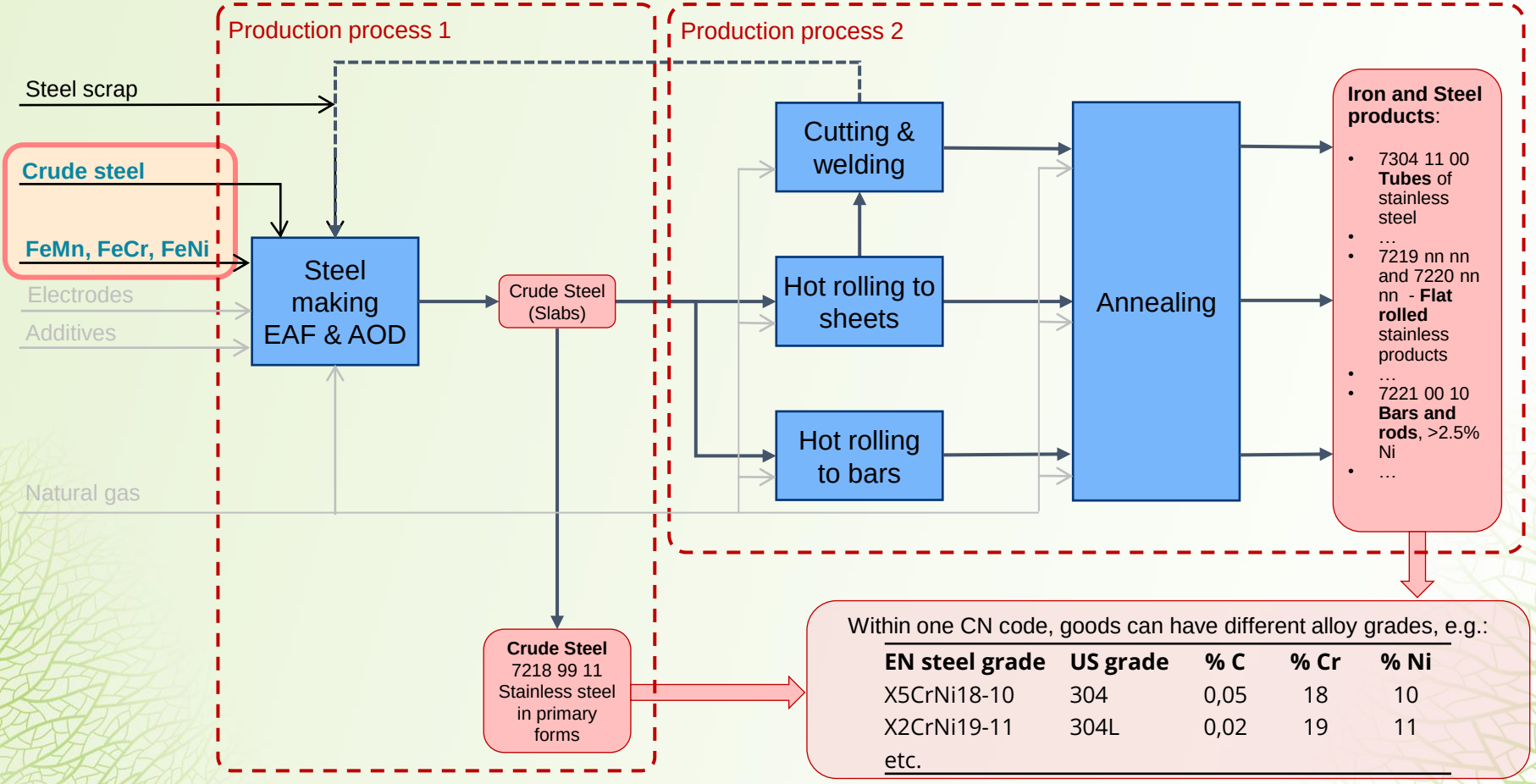
- Inputs:
  - Steel scrap (high-alloy)
  - Natural gas
  - Graphite electrodes
  - Various additives

- Precursors purchased
  - Crude steel (carbon steel)
  - FeNi
  - FeCr
  - FeMn

Example 2 – Overview

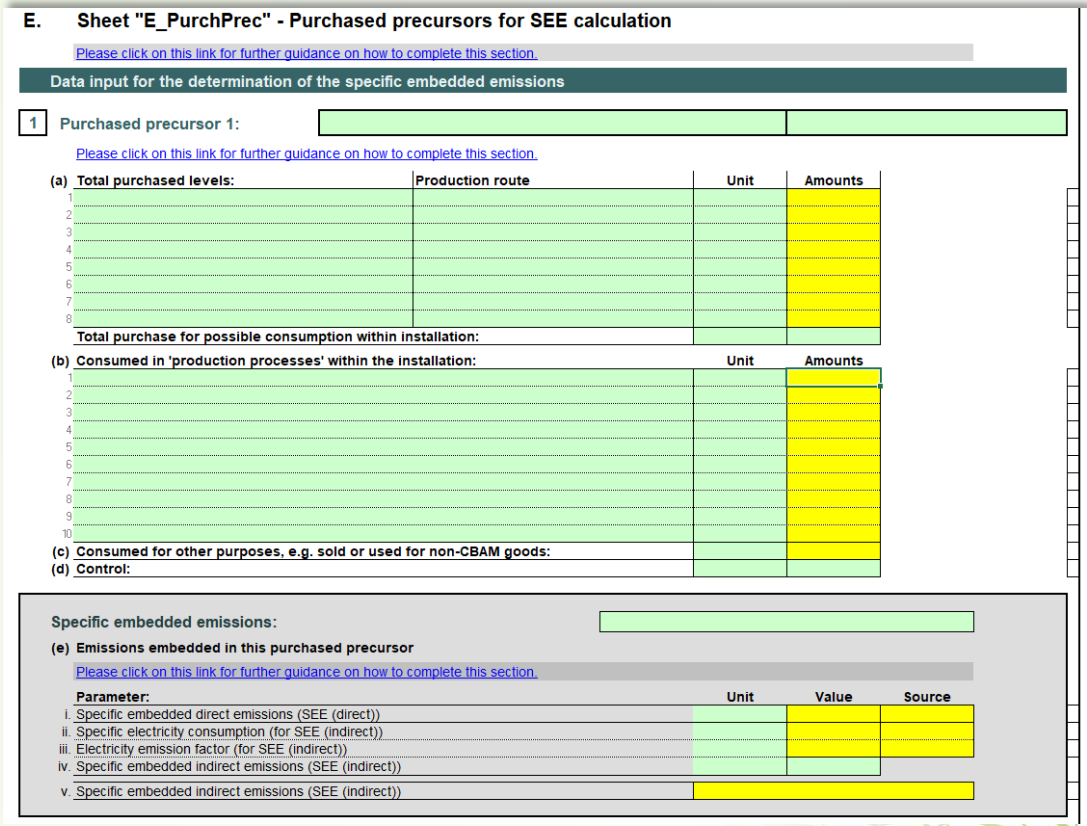


Example 2 – Overview



Practical demonstration

- Sheet **A_InstData** section 5
- Sheet **D_Processes**
- Sheet **E_PurchPrec**
- Demonstration of results in sheet **Summary_Processes**



E. Sheet "E_PurchPrec" - Purchased precursors for SEE calculation

Please click on this link for further guidance on how to complete this section.

Data input for the determination of the specific embedded emissions

1 **Purchased precursor 1:**

Please click on this link for further guidance on how to complete this section.

(a) Total purchased levels:	Production route	Unit	Amounts
1			
2			
3			
4			
5			
6			
7			
8			
Total purchase for possible consumption within installation:			

(b) Consumed in 'production processes' within the installation:	Unit	Amounts
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
(c) Consumed for other purposes, e.g. sold or used for non-CBAM goods:		
(d) Control:		

Specific embedded emissions:

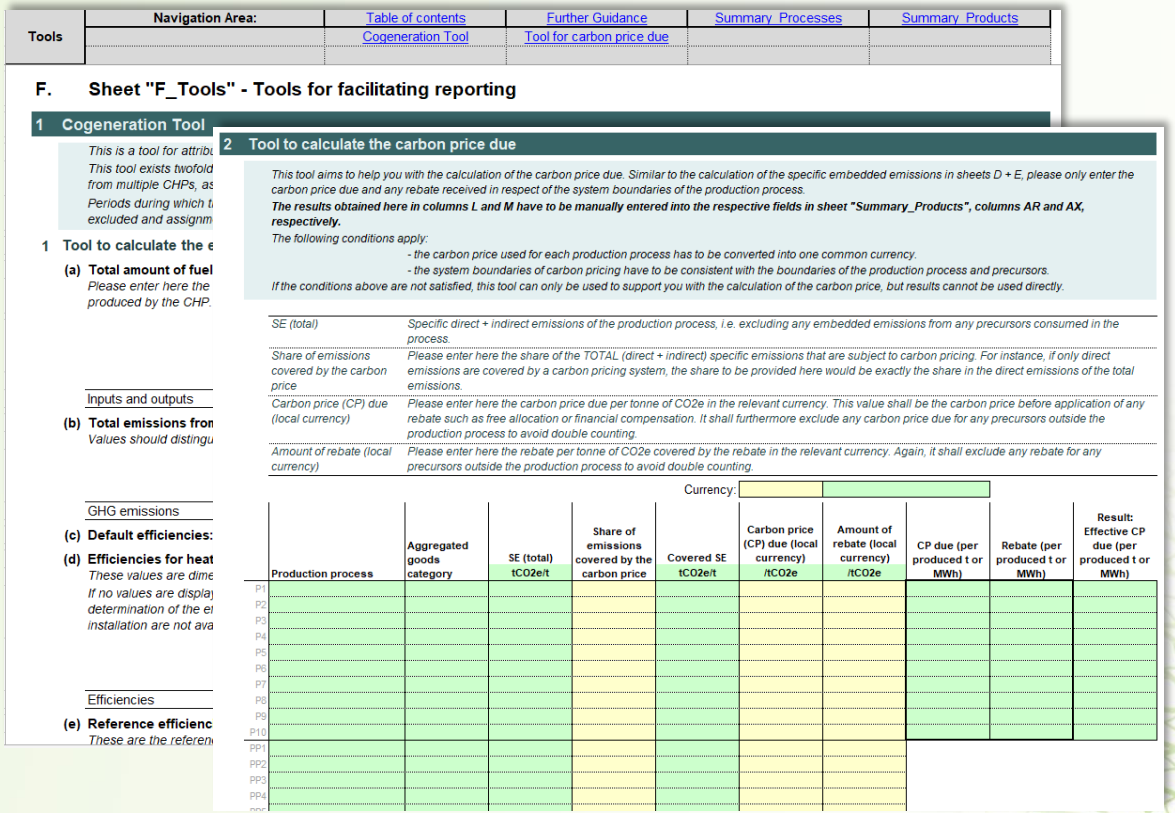
(e) Emissions embedded in this purchased precursor

Please click on this link for further guidance on how to complete this section.

Parameter:	Unit	Value	Source
i. Specific embedded direct emissions (SEE (direct))			
ii. Specific electricity consumption (for SEE (indirect))			
iii. Electricity emission factor (for SEE (indirect))			
iv. Specific embedded indirect emissions (SEE (indirect))			
v. Specific embedded indirect emissions (SEE (indirect))			

Practical demonstration

- Sheet **F_Tools**
  - Cogeneration tool
  - Carbon price due tool



Tools | Navigation Area: | Table of contents | Further Guidance | Summary_Processes | Summary_Products
Cogeneration Tool | Tool for carbon price due

F. Sheet "F_Tools" - Tools for facilitating reporting

1 Cogeneration Tool

This is a tool for attribu
This tool exists twofold
from multiple CHPs, as
Periods during which t
excluded and assignm

1 Tool to calculate the e

(a) Total amount of fuel
Please enter here the
produced by the CHP.

Inputs and outputs

(b) Total emissions fron
Values should distingu

GHG emissions

(c) Default efficiencies:

(d) Efficiencies for heat
These values are dime
If no values are displa
determination of the el
installation are not ava

Efficiencies

(e) Reference efficienc
These are the referen

2 Tool to calculate the carbon price due

This tool aims to help you with the calculation of the carbon price due. Similar to the calculation of the specific embedded emissions in sheets D + E, please only enter the carbon price due and any rebate received in respect of the system boundaries of the production process.
The results obtained here in columns L and M have to be manually entered into the respective fields in sheet "Summary_Products", columns AR and AX, respectively.
The following conditions apply:
- the carbon price used for each production process has to be converted into one common currency.
- the system boundaries of carbon pricing have to be consistent with the boundaries of the production process and precursors.
If the conditions above are not satisfied, this tool can only be used to support you with the calculation of the carbon price, but results cannot be used directly.

SE (total)	Specific direct + indirect emissions of the production process, i.e. excluding any embedded emissions from any precursors consumed in the process.
Share of emissions covered by the carbon price	Please enter here the share of the TOTAL (direct + indirect) specific emissions that are subject to carbon pricing. For instance, if only direct emissions are covered by a carbon pricing system, the share to be provided here would be exactly the share in the direct emissions of the total emissions.
Carbon price (CP) due (local currency)	Please enter here the carbon price due per tonne of CO2e in the relevant currency. This value shall be the carbon price before application of any rebate such as free allocation or financial compensation. It shall furthermore exclude any carbon price due for any precursors outside the production process to avoid double counting.
Amount of rebate (local currency)	Please enter here the rebate per tonne of CO2e covered by the rebate in the relevant currency. Again, it shall exclude any rebate for any precursors outside the production process to avoid double counting.

Currency:

	Production process	Aggregated goods category	SE (total) tCO2e/t	Share of emissions covered by the carbon price	Covered SE tCO2e/t	Carbon price (CP) due (local currency) /tCO2e	Amount of rebate (local currency) /tCO2e	CP due (per produced t or MWh)	Rebate (per produced t or MWh)	Result: Effective CP due (per produced t or MWh)
P1										
P2										
P3										
P4										
P5										
P6										
P7										
P8										
P9										
P10										
PP1										
PP2										
PP3										
PP4										

Closing Remarks

Where to find further information on CBAM?

Visit the CBAM webpage regularly – our one-stop shop

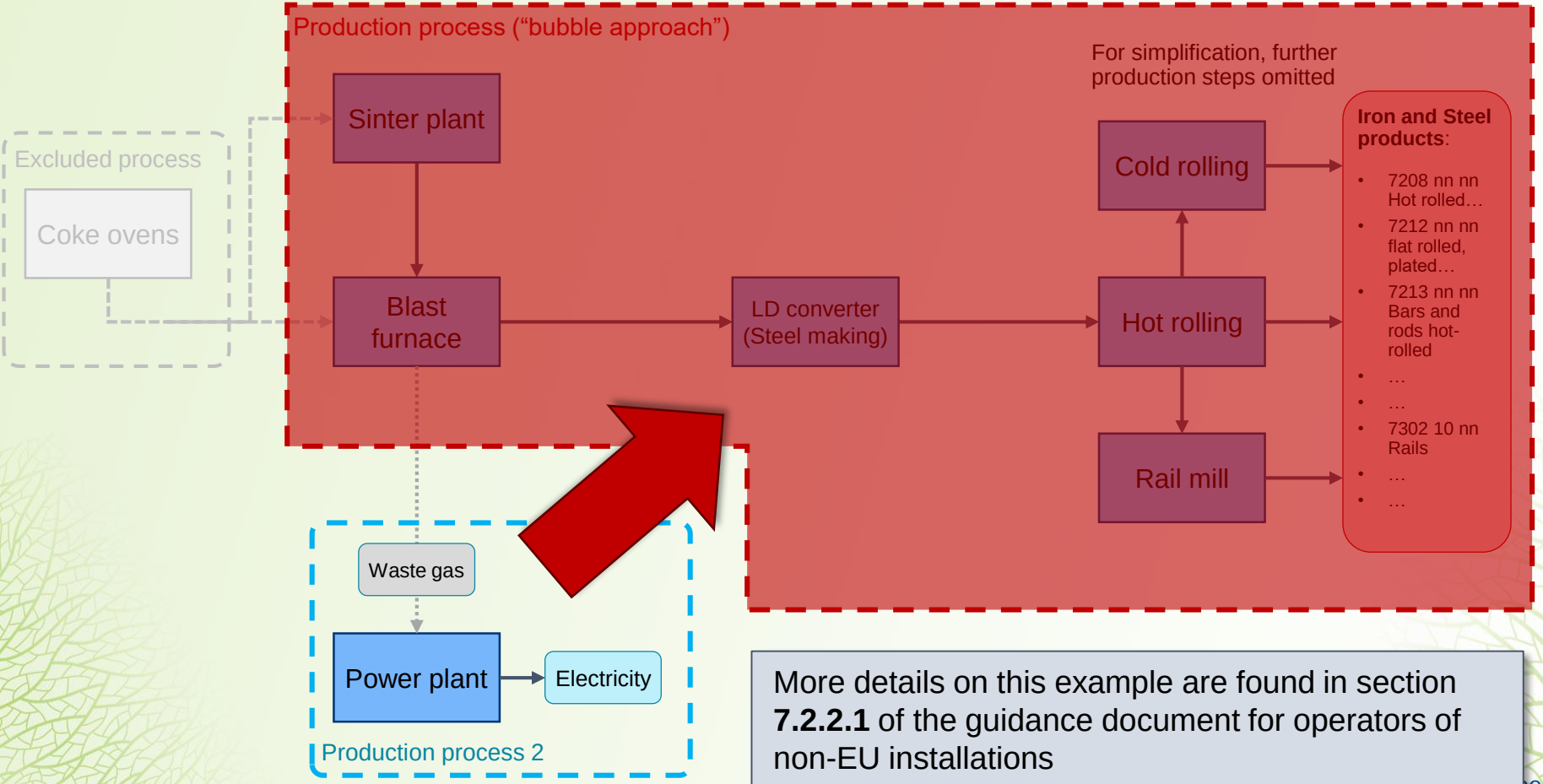
https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en

- **Guidance document for operators of non-EU installations producing CBAM goods**, available in English, Spanish, German, French, Arabic, Hindi, Korean, and Turkish and will be available in Chinese, Italian, Polish and Ukrainian soon
- **Communication template between importers and operators**
- Recording of this training session **"Guidance to the CBAM communication template for embedded emissions"**
- Recordings of dedicated webinars
- Link to our E-learning materials through the Customs and Tax EU Learning portal
- Q&A and factsheet

If you detect an error in the template, please send relevant observations to:
TAXUD-UNIT-C5-CBAM@ec.europa.eu

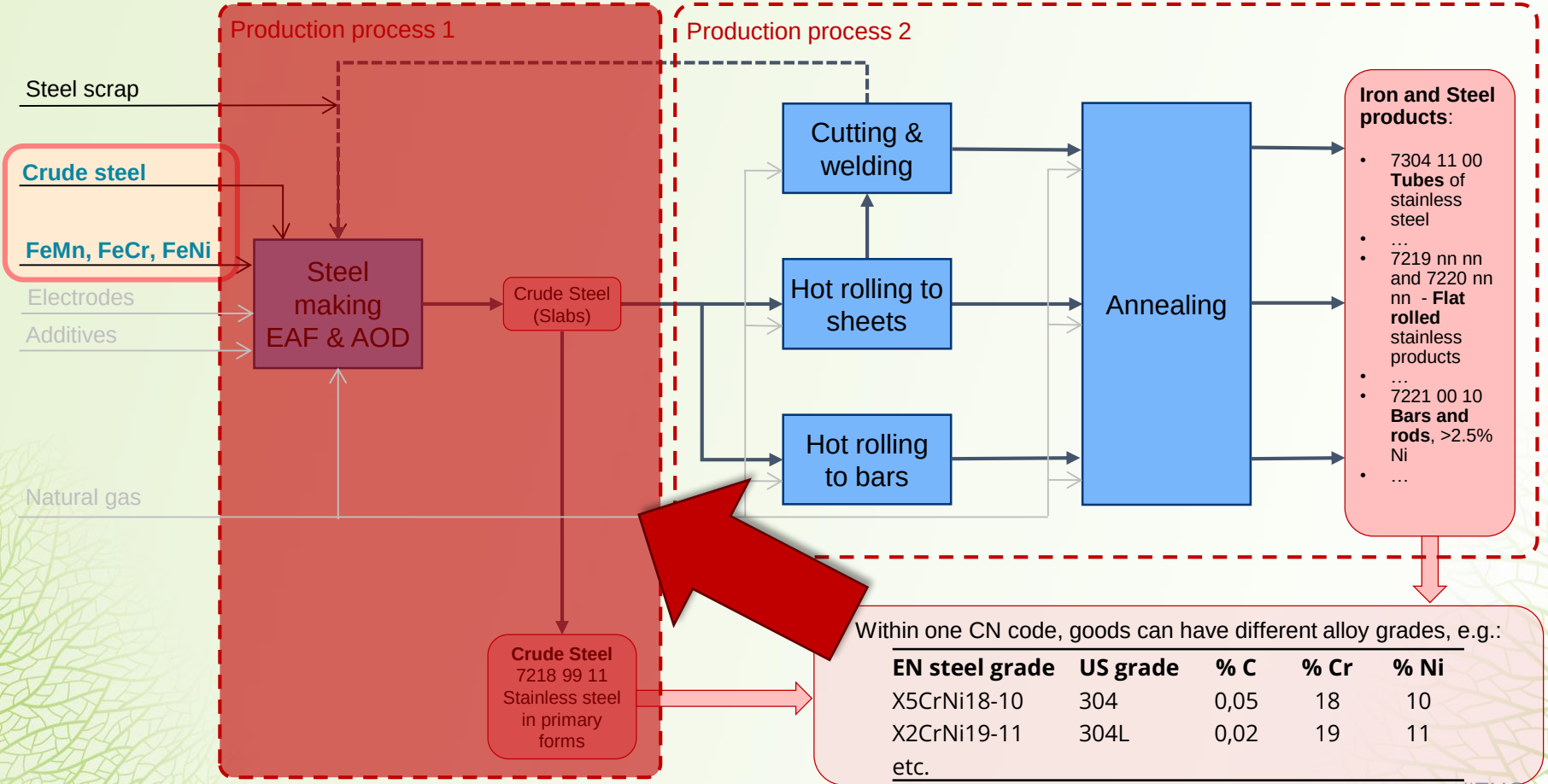
Detailed Flowchart Present in the Recording

Example 1 – Overview

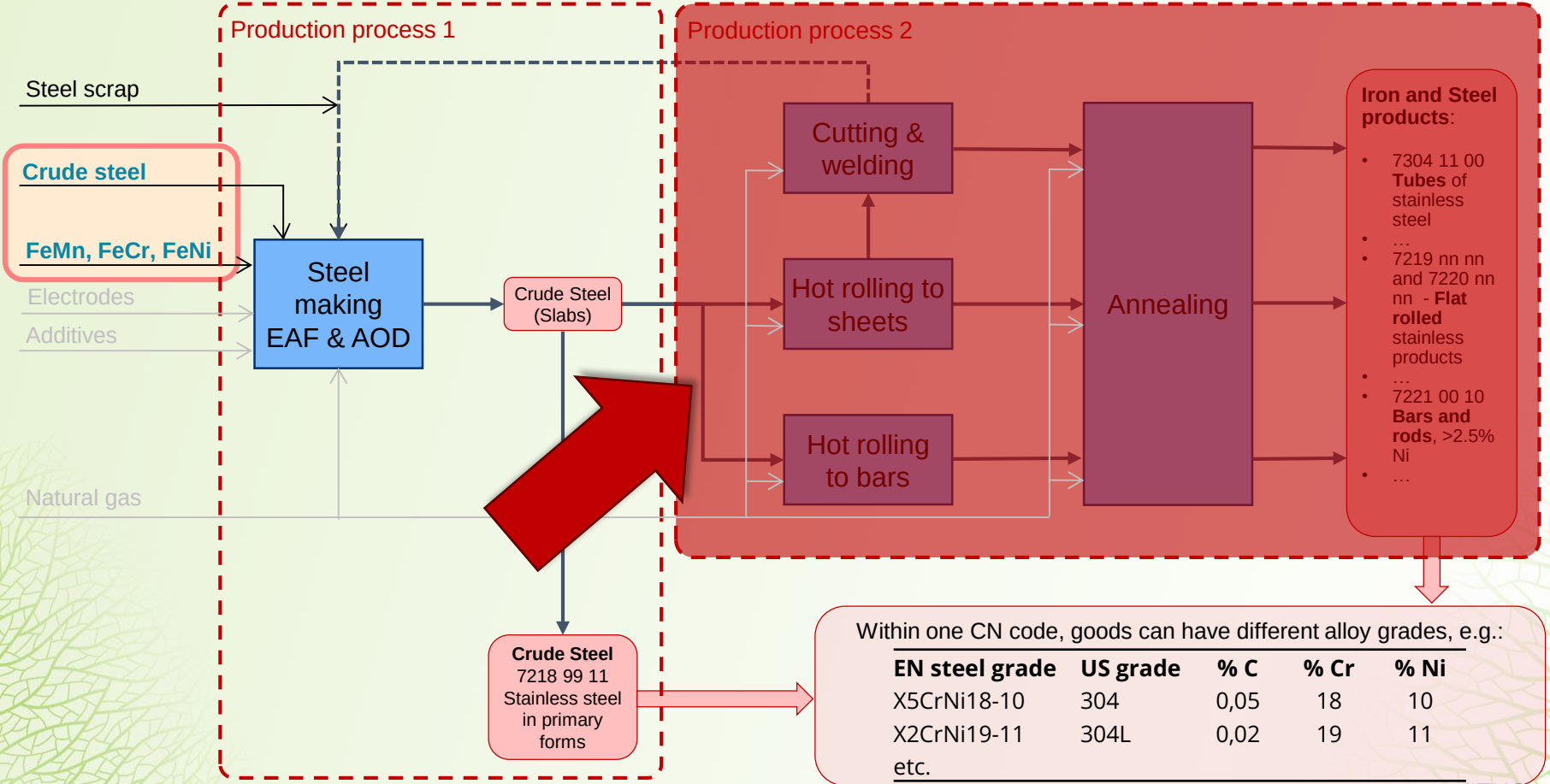


More details on this example are found in section **7.2.2.1** of the guidance document for operators of non-EU installations

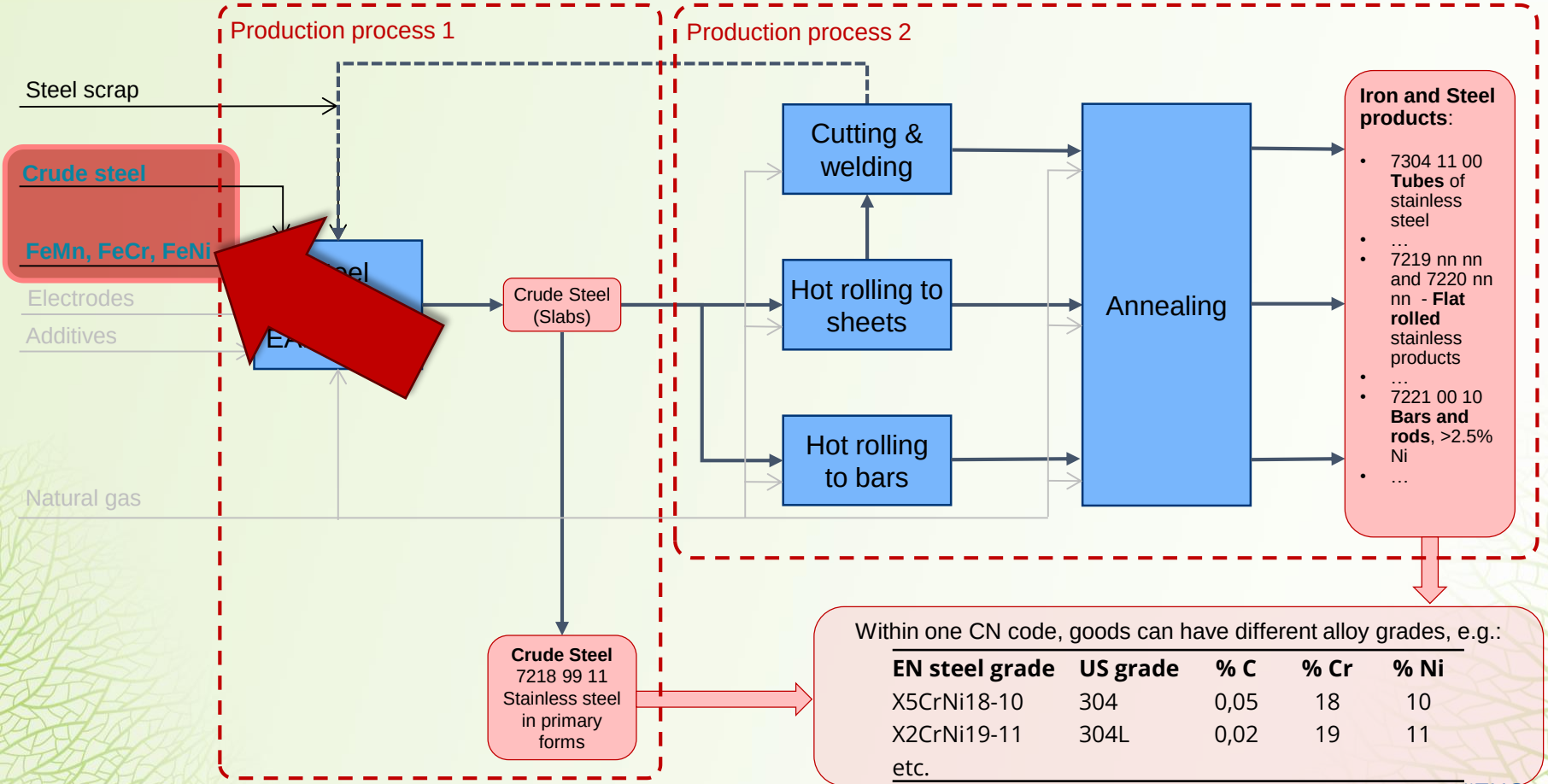
Example 2 – Overview



Example 2 – Overview



Within one CN code, goods can have different alloy grades, e.g.:

EN steel grade	US grade	% C	% Cr	% Ni
X5CrNi18-10	304	0,05	18	10
X2CrNi19-11	304L	0,02	19	11
etc.				

Example 2 – Overview