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Guidance Document n°2
on the harmonised free allocation methodology for the EU ETS – 2024 revision

Guidance on determining the allocation at installation level

Final version issued on 26 February 2024

Disclaimer: this Guidance Document is valid for the calculation of the free allocation for incumbent installations from 2026 onwards and for new entrants submitting their application for allocation from 2024 onwards.

The guidance does not represent an official position of the Commission and is not legally binding. However, this guidance aims to clarify the requirements established in the EU ETS Directive and the FAR and is essential to understanding those legally binding rules.

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1 Introduction

1.1 Scope of this guidance document

This guidance document is part of a group of documents, which are intended to support Member States, and their Competent Authorities, in the consistent implementation throughout the Union of the allocation methodology for the second allocation period of Phase 4 of the EU ETS, established by the Delegated Regulation of the Commission (EU) 2019/331 on "Transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of the EU ETS Directive" (FAR)[1], and the subsequent implementing acts. Guidance Document 1 on General Guidance to the Allocation Methodology provides an overview of the legislative background to the group of guidance documents. It also explains how the different Guidance Documents relate to each other and provides a glossary of terminology used throughout the guidance[2].

The current Guidance Document elaborates the general harmonised free allocation methodology under Article 10a described in Guidance Document 1 by explaining how the allocation methodology is applied at the *installation level*, including the impact of the provisions designed to address the exposure to a significant risk of carbon leakage, as well as including conditionalities, and the Carbon Border Adjustment Mechanism (CBAM). It describes the different types of sub-installations distinguished in the methodology for that purpose, as well as the approach to determining the allocation for each type of sub-installation.

Note that this guidance document does not specify sector-specific elements of the methodology or special provisions for e.g., waste gases or cross-sectoral heat flows. For more details on these aspects, we refer you to other Guidance Documents as outlined in Section 1.2 of Guidance Document 1.

References to articles within this document refer to the EU ETS Directive and the FAR in the version in force at the time of publication of the guidance[3]. Among others, this means this guidance applies as of 1 January 2026 for incumbents and for new entrants whose applications were submitted from 2024 onwards.

Note on outstanding issues in this version of the Guidance Document
As decision-making on the allocation methodology is not yet finalised, certain elements of this Guidance Document are as yet undefined. This especially includes issues related to the

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0331
[2] All Guidance Documents can be found at: https://ec.europa.eu/clima/policies/ets/allowances_en#tab-0-1
[3] i.e., http://data.europa.eu/eli/dir/2003/87/2023-06-05 for the Directive, and FAR: https://ec.europa.eu/transparency/documents-register/detail?ref=C(2024)441&lang=en (the latter is not yet in force, but has been adopted on 31 January 2024 and the scrutiny period is still on-going at the time of publication of this guidance).

update of the FAR, and the update of the benchmark values. In addition, it can also apply to references to the outstanding legislation itself or to accompanying Guidance Documents that are still to be prepared or finalised.

1.2 Structure of this guidance document

Section 2 describes the different approaches to establishing the free allocation at the installation level, including the impact of a sub-installation's carbon leakage status and whether its products are covered by the Carbon Border Adjustment Mechanism (CBAM). Subsequently, Section 3 explains how to split installations into sub-installations, with Section 4 detailing each approach using simple examples. The final steps to determine the allocation are then explained in Section 5. Section 6 focuses on the determination of historical activity levels. Additional examples of how to determine the allocation at installation level are given in Section 7. Annex A provides a current list of the CBAM goods covered by the CBAM Regulation[4]. An overview of the main changes in this guidance document compared to the 2019 version developed for Phase 3 for the first period of Phase 4 is included in Annex B.

1.3 Where to find Guidance Documents

All the Commission's guidance documents, FAQs and templates in relation to the free allocation rules can be found under:
https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/free-allocation_en#documentation

In addition, the Commission has provided an extensive suite of guidance material in relation to MRVA (Monitoring, Reporting, Verification and Accreditation) under the EU ETS[5]. The user of the current document is assumed to be familiar with at least the basic principles of MRVA.

[4] Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism, http://data.europa.eu/eli/reg/2023/956/oj

[5] https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/monitoring-reporting-and-verification-eu-ets-emissions_en – see in particular the section "Quick guides"

2 Overview of allocation approaches

This section explains the different approaches to calculating the allocation at the sub-installation level for different types of installations, and the conditions under which each of them is to be applied (Section 2.1). Subsequently, Section 2.2 explains how a sub-installation's carbon leakage status influences its allocation, and Section 2.3 explains how the CBAM regulation impacts the sub-installation split and allocation.

2.1 When to apply which (sub-)installation-level allocation approach?

The free allocation of allowances is based to the extent feasible on Union-wide ex-ante product benchmarks. However, product benchmarks cannot be defined in all cases, e.g., because of a too diverse or changing product mix. In these cases, so-called 'fall-back' approaches using the heat benchmark, the fuel benchmark or the process emissions approach are used.

In general, the allocation to individual installations is established according to the following steps, as discussed in more detail in *Guidance Document 1 on the general allocation methodology*:

- The installation is split into sub-installations to which the different types of benchmarks apply and depending on whether or not their products are deemed to be exposed to a significant risk of carbon leakage, and, when they are exposed, whether they fall under the CBAM regulation or not;
- The allocation at sub-installation level is determined by multiplying the sub-installation's Historical Activity Level (HAL) by the applicable benchmark value and the relevant correction factors, including the carbon leakage exposure factor (CLEF, see section 2.2) and the CBAM factor (see section 2.3);
- The respective sub-installation allocations are summed to the installation level. This amount is referred to as the 'preliminary free allocation';
- The updated Art.10a(1) of the ETS Directive introduces a number of cases of conditional free allocation, i.e., situations in which certain conditions need to be met before the final amount of free allowances can be issued. Three such conditionalities are defined in the Directive:
    - The allocation of emission allowances to installations that are required to conduct an energy audit or implement a certified energy management system under Article 8 of the Energy Efficiency Directive will be reduced by 20% if those installations cannot demonstrate that they have implemented recommendations from those energy audits or certified management systems[6];

[6] *For more information, see Guidance Document 12 on conditionality of free allocation on implementation of energy efficiency improvement measures.*

    - The free allocation to eligible installations will be reduced by 20% if a sub-installation's specific emissions are higher than the 80th percentile of emission levels for the relevant product benchmarks in their benchmark curve, unless they have a compliant climate-neutrality plan (CNP) in place[7];
    - District Heating (DH) operators in Member States with relatively high DH emissions can obtain an additional 30% of free allowances on the condition that they have a compliant CNP in place and they make sufficient investments in the implementation of the included emission reduction measures by 2030[7];
- To arrive at the final allocation, a Cross-Sectoral Correction Factor (CSCF) can be applied in the case where the sum of the preliminary free allocations exceeds the amount of free allowances available. Until 31 December 2025, for electricity generators that are eligible for free allocation, such as high efficiency CHP and district heating, the Linear Reduction Factor is applied in the years that no CSCF is applied[8].

Four approaches are used in order to calculate the allocation of free allowances for the different sub-installations. The approaches have the following strict order of applicability, as required by Article 10(2) of the FAR:

- The product benchmark approach;
- The heat benchmark approach;
- The fuel benchmark approach;
- The process emissions approach.

Table 1 provides an overview of the conditions relating to each approach.

[7] This provision is not applicable where the relevant product benchmark sub-installation does not contribute to more than 20% of the sum of all sub-installations' preliminary annual numbers of emission allowances allocated free of charge in respect of the period from 2021 to 2025.

[8] This will no longer be the case as of 2026, when the concept of 'electricity generator' will no longer be applicable in the context of the EU ETS, in line with the updated version of the ETS Directive.

Please note that the heat benchmark approach mentioned above is applied to two different types of sub-installations, the heat benchmark sub-installation and the district heating sub-installation, introduced in Phase 4. Please see the Text Box below for an explanation of district heating related concepts and definitions for Phase 4, as well as the separate information in Sections 3 and 4.

District heating concepts for Phase 4

District heating is referred to in different ways in relation to the EU ETS and its free allocation rules for Phase 4. A distinction can be made between:

- District heating as an **activity**, defined in Article 2(4) of the FAR as:
  "the distribution of measurable heat for the purpose of heating or cooling of space or of production of domestic hot water, through a network, to buildings or sites not covered by EU ETS with the exception of measurable heat used for the production of products and related activities or the production of electricity"
- A district heating **installation**, an installation producing heat for district heating, which can be an ETS installation or a non-ETS installation, depending on the type and capacity of the installation used;
- A district heating **distributor**, distributing the heat through a district heating network, which can either be produced by the distributor itself or purchased from third parties;
- A district heating **network,** the grid of pipelines and equipment used to distribute the heat for the purpose of district heating;
- A district heating **sub-installation**, a sub-installation defined in an ETS installation for the purpose of determining the allocation for the installation related to measurable heat exported for the purpose of district heating, as defined in Article 3 (d) of the FAR;
- District heating **purpose,** to distinguish exported heat eligible for free allocation ('measurable heat exported for the purpose of district heating') from non-eligible exported heat (for other purposes, such as for electricity production).
- A **district heating company,** used in the context of a Climate Neutrality Plan and not for the definition of sub-installations. For more information, see Guidance Document 11 on Climate Neutrality Plans as a condition for free allocation.

Table 1: Conditions under which each of the four approaches applies

Approach	Value	Conditions
Product benchmark	See list in Commission Implementing Regulation (EU) 2021/447[9] for final values[11]	Product benchmark are listed in Annex I of the FAR. Products meet the detailed criteria given in Annex I of the FAR, as further explained in Guidance Document No. 9.
Heat benchmark[10]	47.3[11] Allowances / TJ of net measurable heat	**For heat benchmark sub-installations:** Heat should meet all six conditions below in order to be covered by a heat benchmark sub-installation (Article 2(3)): 1. The heat is measurable (transported through identifiable pipelines or ducts using a transfer medium, a heat meter[12] is or could be installed) (Article 2(7-8)); 2. The heat is used for a purpose (production of products, mechanical energy, heating, cooling); 3. The heat is not used for the production of electricity; 4. The heat is not produced within the boundaries of a nitric acid product benchmark (Article 16(5)); 5. The heat is not consumed within the system boundaries of a product benchmark; 6. The heat is: ▪ Consumed within the ETS installation's boundary and produced by an ETS installation which is not covered by the EU ETS only for the purposes of Articles 14 and 15 of Directive 2003/87/EC; OR ▪ Produced within the ETS installation's boundary and consumed by a non-ETS installation or other entity for a purpose other than: ○ Electricity production; ○ District heating. **For district heating sub-installations:** Heat should meet condition 1-4 above, be produced by an ETS installation which is not covered by the EU ETS only for the purposes of Articles 14 and 15 of Directive 2003/87/EC AND it must be exported for the purpose of district heating (Article 2(5)). *Heat produced outside of the EU ETS is not eligible for free allocation.* *More information regarding cross-boundary heat flow is provided in Guidance Document 6.*
Fuel benchmark	42.6[11] Allowances / TJ of fuel used	Energy input[13] should meet all four conditions below in order to be covered by a fuel benchmark sub-installation (Article (2(6)): 1. The energy is not consumed within the boundaries of a product or heat benchmark sub-installation; 2. The energy is not consumed for the production of electricity;

[9] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R0447&qid=1697457643329

[10] Including if applied to district heating sub-installations, see Section 3.3 for more details

[11] Value(s) for 2021-2025, to be updated for 2026-2030.

[12] For more information, *see Guidance Document 5 on Monitoring & Reporting.*

[13] In this case "energy" corresponds to fuel combustion or electricity and will – where applicable – include the part of waste gases which is attributed to the *consumption* of the waste gas, if outside a product benchmark sub-installation. For more details see Guidance Document No. 8 on waste gases and process emission sub-installation.

Approach	Value	Conditions
		3. Fuel is not flared, except in the case of safety flaring; 4. The energy is consumed for the primary purpose of the generation of heat; 5. The energy is consumed for: ▪ production of direct heating or cooling, without a heat transfer medium (heat cannot be measured); OR ▪ production of mechanical energy which is not used for the production of electricity; OR ▪ the production of products.
Process Emissions Approach	0.97[14] Allowances/t of process emissions	Process emissions should meet both conditions below in order to be covered by a process emissions benchmark sub-installation (Article 2(10)): 1. The emissions are not covered by a product benchmark or by any of the other fall-back approaches; 2. The emissions considered "process emissions" are one of the following: ▪ non-CO_2 greenhouse gas emissions listed in Annex I of Directive 2003/87/EC occurring outside of the system boundaries of a product benchmark listed in Annex I of the FAR. ▪ CO_2 emissions as a result of any of the processes listed below. Only CO_2 as a direct and immediate result of the production process or chemical reaction can be considered. CO_2 from the oxidation of CO or other incompletely oxidized carbon is not covered regardless of whether this oxidation takes place in the same or a separate technical unit. Example: CO_2 from the oxidation of CO in an open furnace cannot be regarded as process emission under this category (but may fall under the third category if the criteria are met – *see Guidance Document 8 on waste gases and process emissions sub-installation for additional guidance on combustion of waste gases in an open furnace*). ▪ Emissions originating from the combustion of waste gases for the purpose of production of measurable heat, non-measurable heat or electricity MINUS the equivalent emissions resulting from the combustion of an amount of natural gas with equal energy content as those gases, taking into account differences in energy conversions efficiencies *(see Guidance Document 8 on waste gases and process emissions sub-installation for additional information on the definition of waste gases and corresponding allocation)*. Relevant processes (provided they serve a primary purpose other than the generation of heat) include: ○ The chemical or electrolytic reduction of metal compounds in ores, concentrates and secondary materials; ○ The removal of impurities from metals and metal compounds; ○ The thermal decomposition of carbonates, excluding those for the flue gas scrubbing; ○ Chemical synthesis where the carbon bearing material participates in the reaction; ○ The use of carbon containing additives or raw materials;

[14] Until 2027, and 0.91 for the years 2028-2030.

Approach	Value	Conditions
		○ The chemical or electrolytic reduction of metalloid oxides or non-metal oxides such as silicon oxides and phosphates.

2.2 Impact of carbon leakage status on (sub-) installation level allocation

Sectors or sub-sectors deemed exposed to a significant risk of carbon leakage are those that may suffer a material competitive disadvantage against competitors located in areas outside the EU which do not have similar emission constraints. The Commission's delegated act determining a list of sectors and sub-sectors deemed to be exposed to a significant risk of carbon leakage was adopted on 15 February 2019, based on the criteria laid down in Article 10b of the EU ETS Directive[15]. It identifies 63 (sub-)sectors deemed to be exposed to a significant risk of carbon leakage. Under current legislation, no update of this list is envisaged. It will be referred to in this document as the "carbon leakage list" (or CLL). Sectors and sub-sectors included in the list are also referred to herein as "carbon leakage" (or CL) (sub-)sectors, while (sub-)sectors not included in the list are referred to as "non-carbon leakage" (or non-CL) (sub-)sectors.

NACE and PRODCOM codes

In principle, the eligibility assessment of (sub-)sectors included in the list is based on their NACE classification codes, though for a number of sub-sectors it is based on the more disaggregated PRODCOM classification codes.

NACE codes are 4-digit codes used to classify which specific sector an installation belongs to, based on the activities carried out. The codes are taken from the Classification of Economic Activities in the European Community. The PRODCOM code is an 8-digit code and stands for the PRODucts of the European COMmunity Inquiry. It is a survey of manufactured products governed by an EU Regulation (3924/91). The product definitions are standardised across the EU to give comparability between Member States' data and the production of European aggregates at product level. There is a direct relationship between the NACE and PRODCOM codes and the first 4 digits of the PRODCOM code match the 4 digits of the NACE.

Installations in (sub-)sectors on the CLL are eligible for carbon leakage mitigation measures as follows: Until the end of 2025, sub-installations in CL sectors receive up to 100% of the allowances at the level of a benchmark free of charge. From 2026 onwards, the CBAM will be phased-in as the CL measure for certain sectors. Details are given in section 2.3. For the sectors covered by the CBAM, free allocation will decrease every year applying the decreasing "CBAM factor", while importers of CBAM goods (i.e., goods covered by Annex I of the CBAM Regulation) will have to cover increasing parts of the "embedded emissions" of such goods with CBAM certificates. Only for sectors on the CLL, but not covered by the CBAM, will free allocation remain at 100% of the allocation at benchmark level.

[15] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D0708&from=EN

Installations in sectors not on the CLL will receive only 30% of their allowances at the level of a benchmark free of charge, with this proportion decreasing after 2026 to 0% in 2030. An exception is made for district heating sub-installations, for which the proportion of allowances received free of charge remains at 30% after 2026. These proportions are expressed in the so-called Carbon Leakage Exposure Factor (CLEF), which is set at 1 for carbon leakage sectors and 0.300 at the start of Phase 4 for non-carbon leakage sectors. Table 2 shows the development of these CLEFs over time for the different categories distinguished.

Table 2. Overview of carbon leakage exposure factors (CLEF) for carbon leakage (CL) (sub-) sectors, non-carbon leakage (non-CL) (sub-) sectors and district heating sub-installations[16]. For more information on the CBAM factor see section 2.3.

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CLEF for CL (sub-) sectors	1	1	1	1	1	1	1	1	1	1
CLEF for non-CL (sub-) sectors	0.300	0.300	0.300	0.300	0.300	0.300	0.225	0.150	0.075	0
CLEF for district heating sub-installations	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300
CBAM factor for CBAM goods	1	1	1	1	1	0.975	0.950	0.900	0.775	0.515

The preliminary free allocation is determined by multiplying the benchmark value by the historical activity level and the appropriate CLEF and CBAM factors. However, as for many sectors the CBAM factor is 1, it is omitted for simplicity reasons in the equation below. It will be introduced in section 2.3. As benchmarks are applicable to sub-installations, the CLEF is also applied at sub-installation level. The generic equation for the calculation of the preliminary amount needed for the subsequent calculation of the CSCF is as follows:

$$F_{i,k} = BM_i \times HAL_i \times CLEF_{i,k}$$

Where:

$F_{i,k}$ Annual preliminary allocation for sub-installation i in year k (allowances per year);

BM_i Applicable benchmark value (allowances per unit of activity[17]);

HAL_i Sub-installation's Historic Activity level (unit of activity per year);

[16] Subject to review in accordance with Article 30 of the Directive for the decline after 2026 for the CLEFs when no significant risk of carbon leakage exists and non-CL cases and for district heating.

[17] tonne of product (or CWT) for product benchmark sub-installations, GJ of heat for heat benchmark (and district heating) sub-installations, GJ of fuel for fuel benchmark sub-installations or tonne of CO_2 for process emission sub-installations.

$CLEF_{i,k}$ Applicable Carbon Leakage Exposure Factor (unit-less).

The final free allocation is determined after the calculation of the CSCF, when applicable, at installation level, as described in Section 5.1.

For product benchmark sub-installations
When calculating the amount of allowances for benchmarked products, the CLL is used to determine the applicable CLEF. When the product produced by the product BM sub-installation is on the list (i.e., its NACE code or the PRODCOM code is on the list) the CLEF used is 1. If this is not the case, the declining factor given in Table 2 is used (CLEF for non-CL (sub-) sectors). The CLL is based on NACE revision 2, with the corresponding PRODCOM 2010 version. See Section 4.1 for more details.

For fall-back sub-installations
When heat and fuel benchmarks, and/or the process emissions approach are involved, the CLEF used depends on whether or not the heat, fuel or process emissions are associated with a process manufacturing a product included on the Carbon Leakage List. When the product manufactured is on the CLL, the CLEF used is 1 across all years, otherwise the declining CLEF is used. Please note that it is possible for installations to produce different products, with some exposed to a significant risk of carbon leakage and some not. In such cases two sub-installations are relevant (e.g., heat CL and heat non-CL) and all products and PRODCOMs should be assigned to one or the other sub-installation.

When an installation exports heat to another installation, more attention is needed. When a sub-installation exports heat to an ETS plant, the carbon leakage status of the sub-installation in which the imported heat is used applies. This is because under the FAR allowances are given to heat consumers, unless the heat importing installation is not in the EU ETS. In the latter case the allowances are given to the producer of the heat. For more information about the allocation procedure in the case of cross-boundary heat flows, please *see Guidance Document 6.*

The carbon leakage status of the heat importer can be derived from the CLL based on the product(s) that the heat importing plant manufactures, as described above. If an installation exports heat to a non-ETS plant, the carbon leakage status of the importing installation is assumed to be not at risk by default, unless the “at risk” status of the products for which the exported heat is used can be proven. The relevant documentation to evidence this must be included in the data collection report. The Competent Authorities need to review these documents and accept them before the CL status can be changed. When an installation exports heat to district heating, the exporting sub-installation will always be considered non-CL.

It should be noted that as of 1 January 2026, the so-called “de-minimis rule”[18] no longer applies.

At installation level

The preliminary allocation at the installation level is determined by summing up the allocations for each of the sub-installations within its system boundaries. Section 3 explains in further detail how an installation is to be split into separate sub-installations for the purpose of determining the free allocation.

Example: Installation without product benchmarks and different Carbon Leakage status

In the example shown here, the installation produces three products: A, B, and C. The NACE code or PRODCOM code (these are more disaggregated than the NACE codes) of each product is then checked against the list of sectors on the CLL.

To put this into a practical example, it is assumed that the installation produces 1 000 t of vegetable oil per year. It produces 600t crude soy bean oil (Product A, PRODCOM 15411210), 370t crude rape seed oil (Product B, PRODCOM code 15411260) and 30t refined soy bean oil (Product C, PRODCOM code 15421110). The first 4 digits of the codes are 1541 for the crude oils and 1542 for the refined oil. By checking these digits against the CLL, it is revealed that the 1541 NACE code is on the list whereas 1542 is not. Furthermore, PRODCOM codes under 1542 are not listed under "1.4. Beyond NACE-4 Level Based on the Quantitative Criteria Set out in Paragraphs 15 and 16 of Article 10a of Directive 2003/87/EC". This means that the products associated with the 1541 code are deemed to be exposed to a significant risk of carbon leakage (these are crude soy bean oil and crude rape seed oil), but not the product associated with code 1542 (refined soy bean oil).

It then needs to be checked whether any of the products produced are listed in Annex I of the CBAM Regulation (see Section 2.3), which is not the case for this example.

This is summarised in the figure below where products A and B are deemed to be exposed to a significant risk of carbon leakage, and product C is not.

[18] I.e., the rule that in case either of the activity levels of CL or non-CL sub-installations of the same type relates to less than 5% of that sub-installation type, no distinction between CL and non-CL is necessary (Article 10(3) of the FAR before the 2024 amendment).

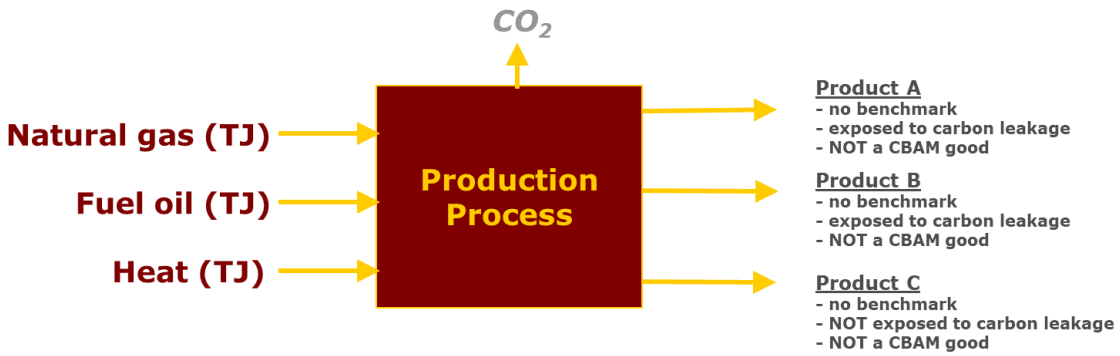


Figure 1 Installation producing both products deemed to be exposed and not exposed to carbon leakage

Since no product benchmark is applicable to products A, B, and C, the fall-back approaches are to be used. Since no process emissions occur, only heat and fuel benchmarks are relevant. Products A and B make up 97% of the installation's total production and both products can be attributed to the same sub-installations as both are exposed to CL and not CBAM goods. Product C makes up only 3% of the total production. However, since it is not exposed to CL, separate sub-installations have to be assigned. Accordingly, there will be four sub-installations in total, as listed below:

- Sub-installation 1: A heat benchmark for non-CBAM products deemed exposed to a significant risk of carbon leakage (products A and B);
- Sub-installation 2: A heat benchmark for products not deemed exposed to a significant risk of carbon leakage (product C);
- Sub-installation 3: A fuel benchmark for non-CBAM products deemed exposed to a significant risk of carbon leakage (products A and B);
- Sub-installation 4: A fuel benchmark for products not deemed exposed to a significant risk of carbon leakage (product C).

Only fuel not used to produce measurable heat will be included in sub-installations 3 and 4.

Explanatory box:

If the data are not available to determine what proportion of measurable heat, fuel or emissions is attributed to products deemed and not deemed to be exposed to a significant risk of carbon leakage, the outputs, inputs and emissions will be attributed to the relevant product proportionally to the amount of product produced. Where there is a lack of data, proxy data and estimates (e.g., % values, as allowed by the data collection template) may be used, these must always be supported by evidence provided by the operator.

This means that where a product is deemed to be exposed to a significant risk of carbon leakage (e.g., casein) but:

- the manufacturing process for the product includes the manufacture of intermediate products not deemed to be exposed to a significant risk of carbon leakage (e.g., fresh skim milk); or
- there are by-products that are not deemed to be exposed to a significant risk of carbon leakage

- relevant data shall be split in order to assign the correct carbon leakage status to the process concerned.

When calculating the allowances to be allocated for free, the following formulae shall be used for each sub-installation:

- Sub-installation 1: Preliminary Allocation = BM_h x HAL_h(A+B) x $CLEF_{CL}$;
- Sub-installation 2: Preliminary Allocation = BM_h x HAL_h(C) x $CLEF_{non\text{-}CL,k}$;
- Sub-installation 3: Preliminary Allocation = BM_f x HAL_f(A+B) x $CLEF_{CL}$;
- Sub-installation 4: Preliminary Allocation = BM_f x HAL_f(C) x $CLEF_{non\text{-}CL,k}$.

Where:

BM_h	Benchmark value for heat (EUAs/TJ);
HAL_h(A+B)	Historical Activity Level of the CL heat sub-installation = measurable net heat consumption for production of A and B (TJ/yr);
HAL_h(C)	Historical Activity Level of the non-CL heat sub-installation = measurable net heat consumption for the production of C (TJ/yr);
BM_f	Fuel benchmark value (EUAs/TJ);
HAL_f(A+B)	Historical Activity Level of the CL fuel sub-installation = consumption of fuel for the production of A and B (TJ/yr);
HAL_f(C)	Historical Activity Level of the non-CL fuel sub-installation = consumption of fuel for the production of C (TJ/yr);
CLEF	Carbon leakage exposure factor (unitless, see Table 2 for CL/non-CL CLEFs for individual years k).

Therefore, the preliminary allocation for sub-installations 1 and 3 will for all years be:

- Sub-installation 1: Preliminary Allocation = BM_h x HAL_h(A+B) x 1
- Sub-installation 3: Preliminary Allocation = BM_f x HAL_f(A+B) x 1

And the preliminary allocation for sub-installations 2 and 4 will be:

In 2026:

- Sub-installation 2: Preliminary Allocation = BM_h x HAL_h(C) x 0.300
- Sub-installation 4: Preliminary Allocation = BM_f x HAL_f(C) x 0.300

In 2027:

- Sub-installation 2: Preliminary Allocation = BM_h x HAL_h(C) x 0.225
- Sub-installation 4: Preliminary Allocation = BM_f x HAL_f(C) x 0.225

With non-CL CLEFs further reducing until 2030, when the preliminary allocation for sub-installations 2 and 4 will be:

- Sub-installation 2: Preliminary Allocation = BM_h x HAL_h(C) x 0 = 0
- Sub-installation 4: Preliminary Allocation = BM_f x HAL_f(C) x 0 = 0

2.3 Impact of the CBAM on (sub-)installation level allocation

The Regulation on the Carbon Border Adjustment Mechanism (CBAM Regulation)[4] addresses greenhouse gas emissions embedded in goods of specific sectors imported into the European Union, thereby establishing a carbon price on selected products produced outside the EU ETS so that their importers face a similar incentive to reduce GHG emissions as those under the EU ETS. This thereby mitigates the risk of carbon leakage in the relevant sectors and needs to be accompanied by a reduction in free allocation under the EU ETS in those sectors in order to avoid double support which would be incompatible with WTO rules. The CBAM will be phased in gradually and will initially apply to imports of goods from specific sectors (here-after "CBAM goods") defined in Annex I of the CBAM Regulation and summarised in Annex A of this guidance document. The goods included are identified using the Combined Nomenclature (CN) codes set for all customs declarations in the EU, as defined under Regulation (EEC) 2658/87[19].

The tables in Annex A list the products to which the CBAM applies, including their corresponding CN codes and an indicative list of corresponding PRODCOM codes, which are used by the carbon leakage list[20]. CN codes usually consist of 8 digits; where fewer digits are indicated, it means that all CN codes starting with those digits are covered, as is the case with PRODCOM codes. Where possible, some correspondence to the product benchmark has been added, if relevant, although this correspondence is only indicative, and the identification of the products should never solely rely on PRODCOM codes reported in statistics[21].

For more information on the CBAM, please consult the Commission's website[22] where you will find the legislative texts, guidance documents, FAQs etc.

With the introduction of the CBAM, free allocation in the EU ETS is gradually being phased out as the CBAM is gradually phased in. Installations in (sub-)sectors producing CBAM goods will see their free allocation decrease starting in 2026, down to 0 in 2034. The decrease is taken into account in the calculation of the free allocation by using a "CBAM factor" applied to sub-installations that produce CBAM goods, in accordance with Table 3.

Table 3. Values of the CBAM factor[23],

Year	2026	2027	2028	2029	2030	2031	2032	2033	2034
CBAM factor for CBAM goods	0.975	0.950	0.900	0.775	0.515	0.390	0.265	0.140	0
For other goods	1	1	1	1	1	1	1	1	1

[19] Consolidated version of the text dated 17/06/2023: http://data.europa.eu/eli/reg/1987/2658/2023-06-17
[20] Note that the CBAM only covers CL exposed sectors.
[21] *For more information on the definition of the product benchmarks, see Guidance Document 9 on Sector-specific guidance*.
[22] https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en
[23] See Article 10a(1a) of the EU ETS Directive.

The preliminary free allocation of sub-installations that produce CBAM goods is multiplied by this CBAM factor. The generic equation for the calculation of the preliminary amount of free allocation is therefore extended compared to the equation presented in section 2.2:

$$F_{i,k} = BM_i \times HAL_i \times CLEF_{i,k} \times CBAM_{i,k}$$

Where:

$F_{i,k}$	Annual preliminary allocation for sub-installation i in year k (allowances per year);
BM_i	Applicable benchmark value (allowances per unit of activity[24]);
HAL_i	Sub-installation's Historic Activity level (unit of activity per year);
$CLEF_{i,k}$	Applicable Carbon Leakage Exposure Factor (unit-less);
$CBAM_{i,k}$	Carbon Border Adjustment Mechanism factor (unit-less).

The final free allocation is determined after the calculation of the CSCF, when applicable, at installation level, as described in Section 5.3.

For product benchmark sub-installations

CBAM goods are defined based on the CN codes of the products, and therefore this reference[25] should be used to identify whether a specific product falls under the CBAM or not. The Commission's baseline data reporting template will take the CBAM factor automatically into account where all goods from a product benchmark are covered by the CBAM. There may, however, be few cases where CBAM and non-CBAM goods will both have the same product benchmark. This can be the case where the trade classification (the CN code) does not fully correspond to technical production processes, which are sometimes better reflected by the PRODCOM codes. For these cases, a split of the sub-installation has to be manually made in the baseline data report template, as appropriate. At the time of publication of this guidance, only the product benchmark "iron casting" requires such a split.

For fall-back sub-installations

When the heat benchmark, fuel benchmark, and/or the process emissions approach are involved, the application of the CBAM factor will depend on whether or not the heat, fuel or process emissions are associated with a process manufacturing CBAM goods. Heat exported to a non-ETS installation, where it is used for the production of a CBAM good, will be included in a CBAM sub-installation.

Therefore, the respective CL sub-installations for these three approaches may require an additional split to be made, to provide separate allocation calculations for CBAM goods and

[24] tonne of product (or CWT) for product benchmark sub-installations, GJ of heat for heat benchmark (and district heating) sub-installations, GJ of fuel for fuel benchmark sub-installations or t of CO_2 for process emission sub-installations

[25] To ensure consistency with CBAM, the CN codes version should be consistent with Annex I of the CBAM Regulation (EU) 2023/956, which refers to the CN codes under Regulation (EEC) No 2658/87.

non-CBAM goods. This will lead to additional sub-installations, i.e., resulting in up to 3 heat sub-installations ("CL_CBAM" [26], "CL, non-CBAM" and "non-CL"), and similarly up to 3 fuel sub-installations and up to 3 process emissions sub-installations. The district heating sub-installation will not be impacted by the CBAM and will therefore remain unchanged. Consequently, an installation can now have up to ten different "fall-back" sub-installations.

Example: Installation producing a CBAM good, as well as a non-CBAM product

In this example, the installation produces high alloy steel, which is then processed into hot rolled bars. The high alloy steel produced falls under PRODCOM 24.10.22.10 ("Flat semi-finished products (slabs) (of stainless steel)"), the hot rolled bars fall under PRODCOM 24.10.64.10 ("Hot-rolled round bars, of stainless steel"), .

This installation will have 2 sub-installations:

- Sub-installation 1: EAF high alloy steel product benchmark sub-installation. The produced slabs are identified by the operator to fall under the CN code 7218 99 11[27], which is listed as a CBAM good in Annex A. NACE code 2410 is listed in the CLL, so this sub-installation is deemed exposed to a significant risk of carbon leakage;
- Sub-installation 2: CL CBAM fuel sub-installation, covering the non-measurable heat needed for hot rolling, i.e., used outside the perimeter of the product benchmark. The products falling under PRODCOM 24.10.64.10 are included in the CLL. The corresponding CN code is found to be 7222 11 ("Bars and rods of stainless steel, only hot-rolled, only hot-drawn or only hot-extruded, of circular cross-section") and is considered a CBAM good.

When calculating the allocation, the formulae to be used for each sub-installation would be the following:

- Sub-installation 1: Preliminary Allocation = BM_p x HAL_p x $CLEF_{CL}$ x $CBAM_k$;
- Sub-installation 2: Preliminary Allocation = BM_f x HAL_f x $CLEF_{CL,k}$ x $CBAM_k$.

Where:

BM_p	Benchmark value for the product benchmark (EUAs/t);
HAL_p	Historical Activity Level for the product benchmark sub-installation (t/yr)
BM_f	Fuel benchmark value (EUAs/TJ);
HAL_f	Historical Activity Level for the fuel benchmark sub-installation (TJ/yr);
CLEF	Carbon leakage exposure factor (unitless, see Table 2 for CL/non-CL CLEFs for individual years k).
CBAM	Carbon Border Adjustment Mechanism factor (unitless, see Table 3 for values for individual years k).

[26] As the CBAM is designed to cover only CL sectors, CBAM goods are always from sectors on the CL List.

[27] https://showvoc.op.europa.eu/#/datasets/ESTAT_PRODCOM_List_2023/data?resId=http:%2F%2Fdata.europa.eu%2Fqw1%2Fprodcom2023%2F24102210

3 Splitting installations into sub-installations

The first step in calculating the allocation of an installation is to define the sub-installations. A sub-installation means all inputs, outputs and corresponding emissions related to a specific allocation approach. Note that the boundaries of a sub-installation are not necessarily defined by boundaries of physical process units. They should be understood as system boundaries of a mass and energy balance for the specific purpose of the FAR.

As described in Guidance Document 1 on the general allocation methodology, an installation can be split into a maximum number of n+10 sub-installations, n being the number of product benchmarks applicable within the installation, complemented by 3 heat benchmark sub-installations (CBAM, CL non-CBAM, and non-CL), 3 fuel benchmark sub-installations (CBAM, CL non-CBAM, and non-CL), 3 process emissions sub-installations (CBAM, CL non-CBAM, and non-CL) and a district heating sub-installation[28]. See *Guidance Document 1 for more guidance on the types of sub-installations distinguished, and Annex B of Guidance Document 1 for the respective definitions of the different types of sub-installations.* It should be noted that PRODCOM 2010 codes should be used to determine which sub-installations to define, even if a more recent PRODCOM code with a different code value for the actual product is available and needs to be reported for statistical purposes.

All inputs, outputs and corresponding emissions in an installation must be attributed to a sub-installation, unless they relate to any process not eligible for free allocation. Examples of this are the production of electricity at the installation, flaring other than safety flaring which is not covered by a product benchmark sub-installation, or the production of measurable heat exported to other EU ETS installations[29].

Care should be taken that sub-installations do not overlap. Inputs, outputs and corresponding emissions should not be covered by more than one sub-installation and each sub-installation will receive allocation according to one and only one allocation approach. (*See Guidance Document 3 on Data Collection for more guidance on the attribution of inputs and outputs, including emissions.)*

Installations are split into sub-installations through the steps described in section 3.1 to 3.5.

It should be noted that an operator can choose not to apply for allowances for a very small sub-installation, where it is deemed that the administrative burden outweighs the benefit. The data relating to such a sub-installation should however be included in the BDR to ensure completeness of energy and emission balance. For example, if the fuel benchmark sub-installation's activity level is only made up of fuel consumption in laboratory Bunsen burners

[28] In the FAR, formal definitions are provided for the product benchmark sub-installation in Art. 3(b), the heat benchmark sub-installation in (Art. 3(c), the district heating sub-installation in Art. 3(d), the fuel benchmark sub-installation in Art. 3(f) and the process emissions sub-installation in Art. 3(j).
[29] Article 10.5 of the FAR

or diesel fire pumps, the operator can decide not to include the fuel benchmark sub-installation. The corresponding fuel will thus not receive any free allocation, but will nevertheless be included in the BDR as fuel consumption not attributed to any sub-installation. *See Guidance Document 3 on Data collection guidance, for more information on how to report the corresponding data.*

3.1 Establishing product benchmark sub-installations

Step 1a Define one or more product benchmark sub-installations (if applicable)

First, it should be established whether one or more product benchmarks, as defined in Annex I of the FAR, applies to the installation. For each product benchmark that applies, a product benchmark sub-installation should be defined.
For each product benchmark sub-installation:

- Identify the system boundaries (*see Guidance Document 9 on sector specific guidance for details on boundaries);*
- Look up the relevant product benchmark values;
- Look up the carbon leakage status in the CLL[30].

Note that product benchmark values BM_p are constant over the years within the same allocation period (2021-2025 and 2026-2030 respectively), while the Carbon Leakage Exposure Factor *CLEF* may change over the years (in the second allocation period) depending on the carbon-leakage status (if the product is deemed to be exposed to a significant risk of carbon leakage, it will in principle remain constant, if it is not it will decline over the years, as described in Section 2.2).

Step 1b Attribute relevant inputs and outputs

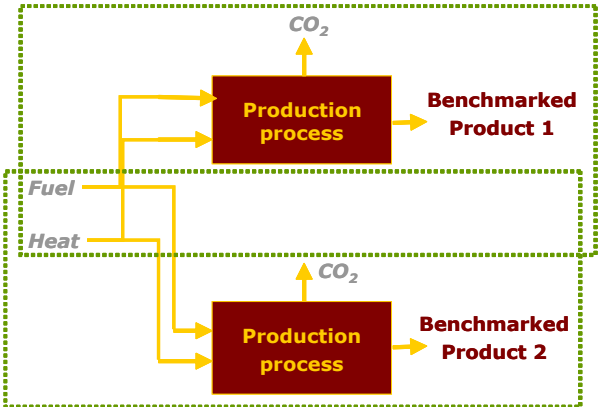
Attribute all relevant inputs *(e.g., raw materials, fuel, heat, and electricity input required for making the product)* and outputs *(e.g., production activity, heat, process emissions, waste gases)* to the sub-installation for each year in 2019 to 2023 that the installation has been operating.

If there is more than one product benchmark applicable to one installation, the operator should make sure that inputs and outputs of each sub-installation are not attributed twice (and that none are missing). When there are only product benchmark sub-installations in an installation, the amount of fuel and heat attributed to each sub-installation also needs to be calculated for the purpose of updating the benchmark values (as the data collection for

[30] Commission Decision of 15 February 2019 on Carbon Leakage List: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D0708&from=EN

updating the benchmark values is combined with the data collection for providing the basis for the calculation of allowances).

Example: installation with two product benchmarks
In the example below, the incoming flows of heat and fuel are split between the two sub-installations; the sum of the energy content attributed to each sub-installation should not exceed the total energy content of the heat and fuel consumed within the installation, taking into account losses.



3.2 Establishing heat benchmark sub-installations

No distinction between different origins of heat
No distinction is made between heat from different sources (e.g., produced from different fuels, produced by boilers or CHP, heat as a by-product of a benchmarked production process, etc.), as long as the heat is eligible for free allocation.

In principle, heat is eligible for free allocation if it can be regarded as covered by the EU ETS. In particular, this is likely to be the case for measurable heat directly linked (combustion process or exothermic production process) to source streams which are contained in the monitoring plan (MP) of an installation covered by the EU ETS.

Heat is not eligible for free allocation in the following cases:

- Export or consumption of heat produced in a nitric acid production process as this heat is already taken into account by the nitric acid benchmark.
- Consumption of heat produced by a non-ETS installation (not covered by a GHG permit).
- Consumption of heat produced by an installation covered by the EU ETS only for the purposes of Articles 14 and 15 of Directive 2003/87/EC).
- Consumption of heat used for electricity generation.

Note that heat exported for the purpose of district heating is not considered as part of the heat benchmark sub-installation, instead a separate district heating sub-installation is defined for this purpose, see Section 3.3.

Eligible heat may in particular include heat produced from biofuels, bioliquids (both sustainable and not), solid biomass, biogas, other renewable sources (e.g., solar thermal, geothermal), exothermic heat, electricity, and heat retrieved using a heat pump or heat exchange.

Heat recovered from an eligible process or physical unit (covered under a product, heat or fuel benchmark, or process emissions sub-installation) is in principle eligible. If a physical unit from which heat is recovered is not explicitly listed in the GHG permit (e.g., because it is not a combustion unit, such as a heat pump), it should be considered as covered by the permit if it is operated by the installation to serve the Annex I activities carried out.

Consumption of heat
The eligibility for free allocation is determined by the purpose for which the heat is used, with eligible heat being used for any of the purposes listed in Article 2(3) of the FAR: production of products, production of mechanical energy other than that used for the production of electricity, and (space) heating or cooling.

Examples of heat use that is not eligible under the heat benchmark include:
- Pre-heating of fuels
- Heat or fuel used for waste water treatment
- Fuels combusted directly for the purpose of flue gas treatment without recovery of measurable heat
- Steam used to obtain smokeless flaring.

Heating of offices
When an installation includes at least one product benchmark sub-installation, emissions relating to heating of offices are already included within the perimeter of the product benchmark. When an installation produces only products that are not covered by a product benchmark sub-installation, heat used for the heating of offices can be included in the relevant heat benchmark sub-installation (i.e., with the carbon leakage exposure consistent with the main product produced on-site).

Production of cooling
Pursuant to the last sentence of Annex VII, section 7.1 of the FAR, a cooling process itself shall be considered as the heat consuming process[31]. Where the cold is used for district cooling, the heat consumed for that cooling should therefore be covered by the district heating sub-installation.

<u>Step 2a Define up to three heat benchmark sub-installations[32]</u> (if applicable)

[31] See also Guidance Document 5 on Monitoring and Reporting in relation to the Free Allocation Rules, p.36.
[32] Subject to the production of CBAM goods and to the carbon leakage status, see Sections 2.2 and 2.3.

Heat benchmark sub-installations need to be defined if either or both of the following apply:

- The installation consumes measurable heat outside the boundaries of a product benchmark sub-installation, provided that the heat is not:
  - produced by a non-ETS installation;
  - produced by an installation covered by the EU ETS only for the purposes of Articles 14 and 15 of Directive 2003/87/EC;
  - produced within the boundaries of a nitric acid product benchmark;
  - used to produce electricity;

AND/OR

- The installation exports measurable heat to a non-ETS installation or entity other than for the purpose of district heating[33], provided that the heat is not:
  - produced within the boundaries of a nitric acid product benchmark
  - used to produce electricity.

Measurable heat flows *have all of the following characteristics:*

- *They are **net** meaning that the heat content in the condensate or transfer medium returning to the heat supplier is subtracted[34]. For determination of measurable heat data see Guidance Document 3 on data Collection.*
  - *The heat flows **are transported through identifiable pipelines or ducts***

  AND
  - *The heat flows **are transported using a heat transfer medium**, e.g., steam, hot air, water, oil, liquid metals or salts*

  AND
  - *The heat flows **are or could be measured by a heat meter[35]** (where a heat meter is any device that can measure the amount of energy produced based upon flow volumes and temperatures).*

The number of heat benchmark sub-installations that needs to be defined depends on whether the installation consuming the heat produces CBAM goods as well as on the carbon leakage status of the products for which the heat is consumed. Heat consumed within the production process of a CBAM good must be included in a specific CBAM sub-installation. Heat consumed within the production process of non-CBAM goods needs to be distinguished between CL and non-CL: heat consumed within the production process of a product on the CLL must be included in a different sub-installation than heat consumed within the production process of a product not on the CLL. *See Sections 2.2 and 2.3 on carbon leakage and on CBAM for more details on these topics*.

[33] See Section 3.3 for a discussion of heat exported for the purpose of district heating.

[34] Even if not all condensate is returned to the supplier, net measurable heat should be calculated assuming a 100% return of the condensate to ensure the calculation is conservative.

[35] 'Heat meter' means a thermal energy meter (MI-004) within the meaning of Annex VI of Directive 2014/32/EC of the European Parliament and of the Council [OJ L 135, 30.4.2004, p. 1.] or any other device to measure and record the amount of thermal energy produced based upon flow volumes and temperatures" (FAR, Art. 2(h8)). *For guidance if no heat meter is installed, see Guidance Document 5 on Monitoring & Reporting.*

Step 2b Attribute relevant inputs and outputs (if applicable)
Attribute all relevant inputs *(like heat)* and outputs *(like emissions relating to the heat production)* to each sub-installation for each year in the period 2019 to 2023 that the installation has been operating.

Where measurable heat is used for heating offices and canteens, this heat is included within the system boundaries of the product benchmark. If no product benchmark sub-installation can be listed within the installation, then inputs, outputs and emissions related to those purposes shall be accounted for within the heat benchmark sub-installation. The carbon leakage exposure status of this heat is based on the most relevant production process within the installation. Note that for offices and canteens on industrial sites, this cannot be considered as a form of district heating. The consideration of heating needs to be in line with the permit of the installation. For a definition of district heating, see Section 3.3.

Heat consumed by a heat benchmark sub-installation is measured at the heat consuming production lines, and not at the heat producing facilities. For heat exported from a heat benchmark sub-installation to a non-ETS entity the point of measurement is however at the exit of the heat producing facilities.

3.3 Establishing a district heating sub-installation

Step 3a Define one district heating sub-installations (if applicable)
Only one district heating sub-installation is defined, if both of the following apply:

- The installation produces measurable heat outside the boundaries of a nitric acid product benchmark sub-installation;

OR

- Imports measurable heat from an EU ETS installation, provided that the heat is not produced within the boundaries of a nitric acid product benchmark or within an installation covered by the EU ETS only for the purposes of Articles 14 and 15 of Directive 2003/87/EC;

AND

- The heat is exported for the purpose of district heating.

District heating is characterised as follows:

- It concerns the distribution of **measurable heat** through a network;
- For the purpose of **heating or cooling of space** or of production of **domestic hot water**;
- To buildings or sites **not covered by the EU ETS;**
- Excluding measurable heat used for the production of products and related activities or electricity.

Note: for a district heating sub-installation, no distinction is made based on carbon leakage status, as all heat is by definition used for the purpose of district heating, which is not exposed to a risk of carbon leakage. Similarly, no distinction is needed in relation to the CBAM status of produced goods. Therefore, a maximum of one DH sub-installation can be defined. To reward the efficient use of excess heat for district heating purposes, district heating sub-installations are not subject to a decrease in Carbon Leakage Exposure Factor (CLEF) in the calculation of the amount of free allowances as other non-carbon leakage sub-installations are[36]. Instead, a CLEF of 0.3 continues to be applied for district heating sub-installations after 2025. See for further details Section 2.2 on carbon leakage.

The entity to which the heat is exported needs to meet the definition of district heating as defined in FAR Article 2(4). Evidence needs to be provided that the heat considered as delivered to district heating is used for the purposes of heating or cooling of space or the production of domestic hot water.

- In cases of low temperature heat[37] delivered to a district heating network, it can be assumed that the conditions of the definition of district heating are fulfilled.
- In case of a design temperature of 130°C and more, the heat will only be considered as delivered to district heating where the heat producer provides appropriate evidence, e.g., via annual sales figures (for the entire baseline period), clearly indicating the amount of heat sold for the purposes of heating or cooling of space or the production of domestic hot water.

In both cases the heat producer has to confirm that heat reported as district heating is not subject to free allocation to other ETS installations.

Space heating of a non-ETS installation is in principle within the definition of district heating, as defined in FAR Article 2(4).

Step 3b Attribute relevant inputs and outputs (if applicable)
Attribute all relevant inputs *(like energy and/or heat)* and outputs *(like heat exported and emissions relating to the heat production)* to each sub-installation for each year in the period 2019 to 2023 that the installation has been operating.

Heat exported for the purpose of district heating is measured at the exit of the heat exporting facilities, or at the entrance of the heat importing ones. Where heat is exported for the purpose of district heating as well as for other purposes, the heat for the purpose of district heating may need to be measured at the entrance of the heat importing facility, depending on the layout of the heat distribution system.

[36] Subject to a potential review in accordance with Article 30 of the EU ETS Directive.
[37] With a design temperature below 130°C at the heat producer's entry point to the district heating network.

3.4 Establishing fuel benchmark sub-installations

Step 4a Define up to three fuel benchmark sub-installations[38] (if applicable)
As indicated in Table 1, the fuel benchmark approach should be used where the installation combusts fuel or uses electricity outside the boundaries of a product benchmark for:

- Direct heating or cooling without a heat transfer medium (i.e., when heat cannot be measured); or
- The production of products; or
- The production of mechanical energy, which is not used for the production of electricity;

Provided that:

- The fuel is not consumed for the production of electricity; and
- The fuel and/or electricity is consumed for the primary purpose of heat generation,[39] including the use of fuel to generate heat for the production of mechanical energy other than for the production of electricity; and
- The fuel is not flared, unless it is for safety flaring.
  Safety flaring refers to the combustion of pilot fuels and highly fluctuating amounts of process or residual gases in a unit open to atmospheric disturbances which is explicitly required for safety reasons by relevant permits for the installation. *Please consult Guidance Document No. 8 on waste gases for further explanations of this definition;* and

Note: Fuel combusted directly for the purpose of waste treatment (without recovery of measurable heat) cannot be considered eligible as a fuel benchmark sub-installation as it does not relate to any of the three production activities listed above (direct heating/cooling, production of products, production of mechanical energy).

The number of fuel benchmark sub-installations that needs to be defined, depends on whether the installation produces CBAM goods, as well as on the carbon leakage status of the products for which the energy is used: energy used within the production process of a CBAM good must be included in a specific CBAM sub-installation. Energy used within the production process of non-CBAM goods needs to be distinguished between CL and non-CL: energy used within the production process of a product on the CLL must be included in a different sub-installation than energy used within the production process of a product not on the CLL. *See Sections 2.2 and 2.3 on carbon leakage and on CBAM for more details on these topics*.

Step 4b Attribute relevant inputs and outputs (if applicable)

[38] Subject to the production of CBAM goods and to the carbon leakage status, see Sections 2.2 and 2.3..
[39] Although the primary purpose is to be heat generation, safety flaring remains eligible for free allocation. Furthermore, fuels used in fire-fighting systems necessary on-site for safety reasons are also eligible for free allocation.

Attribute all relevant inputs *(energy used)* and outputs *(emissions relating to the energy used)* to each sub-installation for each year in the period 2019 to 2023 that the installation has been operating.

3.5 Establishing process emissions sub-installations

Step 5a Define up to three process emissions sub-installations[40] *(if applicable)*

Up to three process emissions sub-installations need to be defined if the installation has process emissions outside the boundary of a product benchmark, with process emissions defined as:

- Type a: Non-CO_2 greenhouse gas emissions listed in Annex I of Directive 2003/87/EC; N_2O is currently the only non-CO_2 greenhouse gas included in EU ETS for non-benchmarked products (only for emissions from the production of glyoxal and glyoxylic acid, and for further activities potentially opted-in pursuant to Article 24 of the Directive, such as e.g., caprolactam production). N_2O has a Global Warming Potential of 298 t CO_2eq/t N_2O[41].
- Type b: CO_2 emissions[42] as a direct result of any of the activities listed in Table 4 (and *not* as a result from the combustion of incompletely oxidized carbon produced in these activities; as such 'indirect CO_2 emissions' are in principle covered by type c);
- Type c: Emissions arising from the combustion of waste gases for the purpose of the production of measurable heat, non-measurable heat or electricity MINUS the equivalent emissions resulting from the combustion of an amount of natural gas with equal energy content to those gases[43]; *See Guidance Document 8 on Waste Gases and process emissions sub-installation for additional information on the definition of waste gases, the distinction between emissions of type b and c and the corresponding allocation.*

The number of sub-installations based on the process emissions approach that need to be defined, depends on whether the installation produces CBAM goods as well as on the carbon leakage status of the products whose production process emits the process emissions: emissions from the production process of a CBAM good must be included in a specific CBAM sub-installation. Process emissions emitted within the production process of non-CBAM goods need to be distinguished between CL and non-CL: process emissions emitted within the production process of a product on the CLL must be included in a different sub-installation

[40] Subject to the production of CBAM goods and to the carbon leakage status, see Sections 2.2 and 2.3.

[41] As per Commission Regulation (EU) No 206/2014 amending Regulation (EU) No 601/2012 as regards global warming potentials for non-CO_2 greenhouse gases of 4 March 2014, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0206&from=EN)

[42] CO_2 emissions have to be determined in line with the rules in the MRR. This means that emissions from any biomass that meet sustainability and greenhouse gas savings criteria that are laid down in the relevant Articles of the Renewable Energy Directive II, or where those criteria do not apply, are rated as zero.

[43] A specific rule applies where waste gases occurring outside the boundaries of product benchmarks are not used, mainly in cases of open furnaces, as the further oxidation of incompletely oxidised carbon is difficult to control. *See Guidance Document 8 on process emissions and process emissions sub-installation for further guidance on this topic.*

than emissions from the production process of a product not on the CLL. *See Sections 2.2 and 2.3 on carbon leakage and on CBAM for more details on these topics.*

For the processes in Table 4 below – only if not part of a product benchmark sub-installation – it needs to be assessed whether there is a purpose for the use of carbon containing material other than the production of heat, and if yes, which is to be regarded as the primary purpose. Only if heat production is not considered the primary purpose of the process does it comprises a process emissions sub-installation.

Table 4. Definitions and examples of activities covered by the process emissions sub-installations definition (Article 2(10) of the FAR)

Definition of activity[44]	**Example**
Chemical, electrolytic or pyrometallurgical reduction of metal compounds in ores, concentrates and secondary materials	Production of copper from copper carbonate minerals
Removal of impurities from metals and metal compounds	Emissions from the oxidation of impurities of scrap metal emitted as part of a recycling process
Decomposition of carbonates, excluding those for the flue gas scrubbing	Production of magnesia
Chemical synthesis where the carbon bearing material participates in the reaction	Acrylic acid production, acetylene production (partial oxidation), acrylonitrile production (ammoxidation), formaldehyde production (partial oxidation/dehydrogenation)
Use of carbon containing additives or raw materials	Emissions from the oxidation of organic additives to increase the porosity of ceramics products
Chemical or electrolytic reduction of metalloid oxides or non-metal oxides such as silicon oxides and phosphates	Production of silicon, reduction of phosphate ore

Step 5b Attribute relevant inputs and outputs

Attribute all relevant inputs *(all material from which the process emissions originate, if applicable)* and outputs *(e.g., process emissions, data relating to the use of the waste gases including emissions from their combustion)* to each sub-installation for each year in the period 2019 to 2023 that the installation has been operating.

[44] All for a primary purpose other than the production of heat

4 Determination of allocation per sub-installation

After definition of the relevant sub-installations, the allocation to each sub-installation can be calculated, based on the historical activity levels (HAL) and the (updated) benchmark values. Each sub-installation will make use of one, and only one, approach. This section describes the application of the different allocation approaches for each of the sub-installations.

4.1 Product benchmark sub-installation

Figure 2 shows a product benchmark sub-installation. The dotted line shows the system boundary of the sub-installation. The allocation is determined based on the production of the benchmarked product.

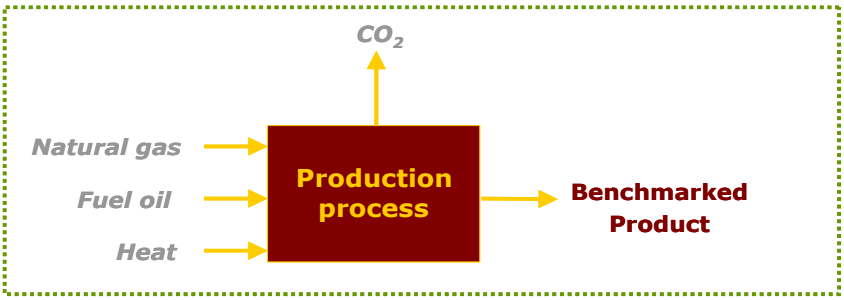


Figure 2 Example of product benchmark sub-installation

Following steps 1a and 1b for product benchmark sub-installations described in Section 2.1, subsequent steps include the following:

Step 1c Determine historical activity level

The historical activity levels (HAL_p) of each product benchmark sub-installation p are expressed as the median annual production volumes of the benchmarked product. Product definitions and units of production are defined in the FAR, and explained in *Guidance Document 9 on sector-specific guidance*.

Step 1d Calculate preliminary free allocation

The preliminary annual amount of allocation for each product benchmark sub-installation is:

$$F_{p,k} = BM_p \times HAL_p \times CLEF_{p,k} \times CBAM_{p,k}$$

Where:

$F_{p,k}$	Annual preliminary allocation for product p in year k (expressed in EUAs/yr);
BM_p	Product benchmark value for product p (expressed in EUAs / unit of product);

HAL_p	Historical activity level of product p, i.e., the median of the annual production in the baseline period as determined and verified in the baseline data collection (expressed in unit of product). *See Guidance Document 9 with Sector Specific Guidance for the unit of production to be used for different products;*
$CLEF_{p,k}$	Carbon Leakage Exposure Factor for product p in year k.
$CBAM_{p,k}$	Carbon Border Adjustment Mechanism Factor for product p in year k, if relevant.

Exchangeability between fuel and electricity
In line with the updated FAR, exchangeability between fuel and electricity will no longer apply as of 1 January 2026 for incumbents and for new entrants whose applications were submitted from 2024 onwards. For other cases, please refer to the 2019 version of this guidance document.

Import of heat from non-ETS installations
The consumption of heat produced either by a non-ETS installation, by an installation only included for the purpose of Articles 14 and 15 of Directive 2003/87/EC, or by a sub-installation producing products covered by the nitric acid benchmark is not eligible for free allocation. Therefore, when a product benchmark sub-installation imports such heat, the allocation relating to this amount of heat shall be subtracted from the total allocation. *See Guidance Document 6 on cross-boundary heat flows for more guidance on this topic.*

4.2 Heat benchmark sub-installation

Figure 3 shows a heat benchmark sub-installation. The allocation is determined based on the net measurable heat consumption.

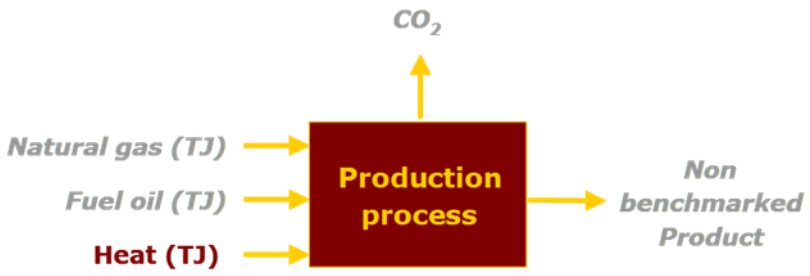


Figure 3 Example of a heat benchmark sub-installation.

Following steps 2a and 2b for heat benchmark sub-installations described in section 2.2, subsequent steps include the following.

Step 2c Determine historical activity level

The annual historical activity level of a heat benchmark sub-installation (HAL_h) is expressed in TJ/yr and is the sum of:

- Consumption of net measurable heat outside the boundaries of a product benchmark that is produced by the installation itself or another ETS installation provided that the heat is not produced within an installation only included for the purposes of Articles 14 and 15 of Directive 2003/87/EU or within the boundaries of a nitric acid product benchmark or used to produce electricity.
- Net measurable heat production exported to non-ETS consumers (other than for the purpose of district heating) provided that the heat is not produced within the boundaries of a nitric acid product benchmark or used to produce electricity. *See Guidance Document 6 on cross-boundary heat flows for more details on this topic.*

In principle, no distinction is made between heat from different sources (see Section 3, step 2a for further explanations).

The applicable methodologies as to which type of data should be used to calculate the historical activity level are described in *Annex B of Guidance Document 3 on Data Collection.*

Step 2d Calculate preliminary free allocation

Calculate the preliminary annual allocation for each heat benchmark sub-installation using the following equation:

$$F_{h,k} = BM_h \text{ X } HAL_h \text{ X } CLEF_{h,k} \text{ X } CBAM_{h,k}$$

Where:

$F_{h,k}$	Preliminary annual allocation for sub-installation based on the heat benchmark in year k (expressed in EUAs/yr);
BM_h	Heat benchmark; set at XX EUAs / TJ;
HAL_h	Historical activity level, i.e., the median annual consumption of net eligible heat (measured as production + import from ETS installations – export to non-ETS for the purpose of district heating) in the baseline period as determined and verified in the baseline data collection (expressed in TJ/yr) for the heat BM sub-installation;
$CLEF_{h,k}$	Carbon Leakage Exposure Factor for the heat sub-installation in year k.
$CBAM_{h,k}$	Carbon Border Adjustment Mechanism Factor for the heat sub-installation in year k, if relevant.

Only net heat flows are of relevance, meaning that the heat content in the condensate or transfer medium returning to the heat supplier is subtracted[45]. Own heat consumption that is part of the heat production process (e.g., for the deaerator and fuel pre-heating) is taken into account in the value of the heat benchmark and, for the purpose of free allocation, shall not be covered by a heat benchmark sub-installation. The value

[45] Even if not all condensate is returned to the supplied, net measurable heat should be calculated assuming a 100% return of the condensate.

of the heat benchmark (in EUAs/TJ) covers all emissions related to the heat production but can only cover net heat flows that can be consumed outside the heat production system, so that losses within the installation are not covered.

Where heat is exported to non-ETS consumers (other than for the purpose of district heating), the net heat export will be used instead of the net heat consumption, and the allocation will be distributed to the heat producer. As a general rule, a non-ETS plant is not deemed to be exposed to a risk of carbon leakage. Where the operator has reason to believe that the non-ETS heat consumer is deemed to be exposed to a risk of carbon leakage, it must provide sufficient proof of this to the Competent Authorities. *See Guidance Document 6 on cross-boundary heat flows for more details on this topic.*

4.3 District heating sub-installation

Figure 4 shows a district heating sub-installation. The allocation is determined based on the measurable heat exported for district heating purposes.

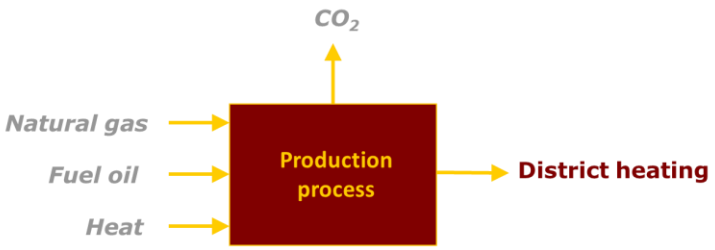


Figure 4 Example of a district heating sub-installation.

Following steps 3a and 3b for district heating sub-installations described in Section 2.3, subsequent steps include the following.

Step 3c Determine historical activity level

The annual historical activity level of a district heating sub-installation (HAL_h) is expressed in TJ/yr and is the net measurable heat exported for the purpose of district heating.

Step 3d Calculate preliminary free allocation

Calculate the preliminary annual allocation for the district heating sub-installation using the following equation:

$$F_{DH,k} = BM_h \times HAL_{DH} \times CLEF_{DH}$$

Where:

$F_{DH,k}$	Preliminary annual allocation for the district heating sub-installation in year (expressed in EUAs/yr);
BM_h	Heat benchmark; set at XX EUAs / TJ;

HAL_{DH} Historical activity level, i.e., the median annual export of measurable heat, either imported or produced on-site, by an EU ETS installation for the purpose of district heating in the baseline period as determined and verified in the baseline data collection (expressed in TJ/yr);

$CLEF_{DH}$ Carbon Leakage Exposure Factor for the DH sub-installation (=0.300).

Only net heat flows are of relevance meaning that the heat content in the condensate or transfer medium returning to the heat supplier is subtracted.

4.4 Fuel benchmark sub-installation

Figure 5 shows a fuel benchmark sub-installation. The allocation is determined based on the energy consumption.

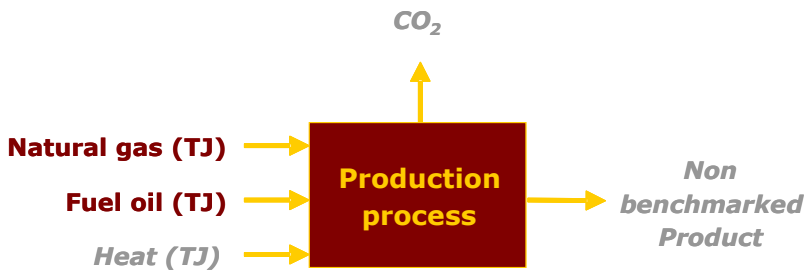


Figure 5 Fuel benchmark sub-installation

Following steps 4a and 4b for fuel benchmark sub-installations described in Section 2.4, subsequent steps include the following.

Step 4c Determine historical activity level

The annual historical activity level (HAL_f) of a fuel benchmark sub-installation is the consumption of energy outside the boundaries of a product benchmark (expressed in TJ/yr), provided that the fuel combusted or the electricity is used for the primary purpose of the generation of heat consumed for the production of products, mechanical energy or heating/ cooling and not for the production of electricity or measurable heat production. The annual historical activity level includes the amount of fuel used for safety flaring. Energy used for other purposes (e.g., waste treatment outside the boundaries of a product benchmark) is not considered.

If a fuel is not primarily used for a combustion process to produce non-measurable heat[46] this amount of fuel must not be considered for the determination of the historical consumption of fuels by the fuel sub-installation(s). *For more guidance on this topic, see Guidance Document 8 on waste gases.*

[46] as it is used for other chemical reactions producing waste gases (e.g., chemical reduction of metal ores, chemical syntheses, etc.),

Step 4d Calculate preliminary free allocation

Calculate the preliminary annual amount of allocation for each fuel benchmark sub-installation using the following equation:

$$F_{f,k} = BM_f \text{ X } HAL_f \text{ X } CLEF_{f,k} \text{ X } CBAM_{f,k}$$

Where:

$F_{f,k}$	Preliminary annual allocation for the sub-installation in year k (expressed in EUAs/yr);
BM_f	Fuel benchmark; set at XX EUAs / TJ;
HAL_f	Historical activity level, i.e., the median annual consumption of energy of the sub-installation in the baseline period as determined and verified in the baseline data collection (expressed in TJ/yr);
$CLEF_{f,k}$	Carbon Leakage Exposure Factor for the fuel sub-installation in year k.
$CBAM_{f,k}$	Carbon Border Adjustment Mechanism Factor for the fuel sub-installation in year k, if relevant.

4.5 Process emissions sub-installation

Figure 6 shows a process emissions sub-installation. The allocation is determined based on the historical process emissions.

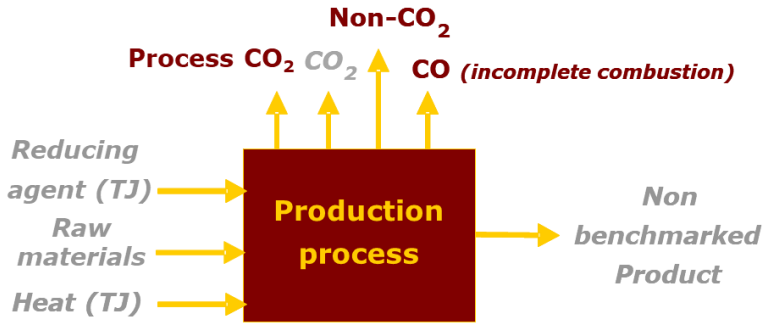


Figure 6 Process emissions sub-installation

Following steps 5a and 5b for process emissions sub-installations as described in Section 2.5, subsequent steps include the following.

Step 5c Determine historical activity level

The historical activity level (HAL_e) (expressed as t CO_2e/yr) of a process emission sub-installation is the sum of:

- non-CO_2 greenhouse gas emissions listed in Annex I of Directive 2003/87/EC which are not covered by a product benchmark or by any other fall back approaches (type a, see Section 3.5);
- CO_2 emissions as a result of any of the activities listed in step 5.a (type b, see Section 3.5);
- Emissions arising from the combustion of incompletely oxidized carbon produced as a result of any of the activities listed in step 5.a (see Section 3.5) for the purpose of production of measurable heat, non-measurable heat or electricity MINUS emissions from the combustion of an amount of natural gas with equal energy content as those gases, taking into account differences in energy conversions efficiencies. The allocation for incompletely oxidized carbon constitutes the allocation for waste gases (type c).

For additional guidance on process emissions sub-installations and waste gases, please refer to Guidance Document 8.

Step 5d Calculate preliminary free allocation

Calculate the allocation for each sub-installation for which a historical emissions approach is applicable using the following equation:

$$F_{e,k} = PRF \times HAL_e \times CLEF_{e,k} \times CBAM_{e,k}$$

Where:

$F_{e,k}$	Preliminary annual allocation for the sub-installation in year k (expressed in EUAs/yr);
PRF	Process Emissions Reduction factor, which is set at 0.97[14] (dimensionless);
HAL_e	Historical activity level, i.e., the median of the "process emissions" of the sub-installation in the baseline period as determined and verified in the baseline data collection (expressed in t CO_2eq/yr);
$CLEF_{e,k}$	Carbon Leakage Exposure Factor for the process emissions sub-installation in year k.
$CBAM_{e,k}$	Carbon Border Adjustment Mechanism Factor for the process emissions sub-installation in year k, if relevant.

For type b process emissions sub-installations, the historical activity level is based on the CO_2 emissions for the baseline period.

In case of combustion of waste gases not for the purpose of the production of measurable heat, non-measurable heat or electricity, the historical activity level should be based on the assumption that 75% of the carbon content of the gas-mix is fully oxidised (to CO_2). For further guidance on process emissions resulting from the combustion of waste gases[47], see *Guidance Document 8 on waste gases and process emissions sub-installation*.

[47] Including waste gases occurring outside the boundaries of product benchmarks in open furnaces.

5 Preliminary and final allocation per installation

5.1 Preliminary allocation

The preliminary total annual amount of emission allowances per installation (including the CLEF and if relevant the CBAM factor, as per the equation in Sections2.2 and 2.3) is calculated by summing the allowances of all sub-installations.

$$F_{inst,k} = \sum_i F_{i,k}$$

Where:

$F_{inst,k}$ Preliminary total allocation to the installation in year k;
$F_{i,k}$ Preliminary allocation for sub-installation i in year k.

5.2 Conditionality of free allocation

In the second allocation period of Phase 4, new rules may impact the amount of free allocation that is granted to an installation.
Three separate cases of such conditionality are defined in the Directive:

1. The free allocation to eligible installations will be reduced by 20% if operators have not implemented certain energy efficiency recommendations from energy audits or energy management systems as required under the EU Energy Efficiency Directive.
2. The free allocation to eligible installations will be reduced by 20% if a sub-installation's specific emissions are higher than the 80th percentile of emission levels for the relevant product benchmarks in their benchmark curve, unless they have a compliant climate-neutrality plan (CNP) in place.[48]
3. District Heating (DH) operators in Member States with relatively high DH emissions can obtain an additional 30% of free allowances on the condition that they have a compliant CNP in place *and* they make sufficient investments in the implementation of the included emission reduction measures by 2030.

These conditionality rules are not covered by this guidance document. For more information on these rules, please refer to:

- Guidance Document 11 on Climate-neutrality plans as a condition to free allocation;
- Guidance Document 12 on conditionality of free allocation on implementation of energy efficiency improvement measures.

[48] This provision is not applicable where the relevant product benchmark sub-installation does not contribute more than 20% of the sum of all sub-installations' preliminary annual numbers of emission allowances allocated free of charge in respect of the period from 2021 to 2025.

5.3 Final allocation

Article 10a(5) of the EU ETS Directive, and Article 16(8) of the updated FAR, allow for an exemption from the CSCF for "best performers". This applies to installations that have one or more sub-installations with GHG emission levels below the average of the 10% most efficient sub-installations in the relevant benchmark in the period. The total amount of free allocation received by sub-installations reaching these emission levels must cover over 60% of the preliminary amount of emission allowances allocated free of charge to the installation.

Example: installation A with two product benchmark sub-installations A_{P1} and A_{P2}

Preliminary allocation of installation A in year 2027, calculated in line with Section 5.1 of this guidance document: $F_{A,2027}$ = 100 EUA
Preliminary allocation for sub-installation A_{P1} = 70 EUA/year
Emission intensity of sub-installation A_{P1} = 0.094 tCO_2equivalent/t
Average value of the 10% most efficient installations in 2021 and 2022 for product benchmark P1 = 0.100 tCO_2equivalent/t

As the allocation attributed to sub-installation A_{P1} represents more than 60% of $F_{A,2027}$, and the emission intensity of this sub-installation is lower than the average value of the 10% most efficient installations for the relevant benchmark, if in year 2027 the CSCF is needed to ensure that the total amount of free allocation does not exceed the maximum amount, the CSCF will not apply to the installation A. Thus, the final free allocation for installation A will be equal to its preliminary allocation.

$$F_A^{final}(2027) = F_{A,2027}$$

The average values of the 10% most efficient installations for the relevant benchmarks will be published in the Commission Implementing Regulation determining revised benchmark values for free allocation of emission allowances for the period from 2026 to 2030.

The list of "best performer" can only be determined once the revised benchmark values for 2026 to 2030 are final.

For all other installations (<u>not</u> classified as an "electricity generator"[49]) the final total annual amount of allowances is determined by:

$$F_{inst}^{final}(k) = F_{inst,k} \times CSCF_k$$

[49] Distinction valid until end of 2025.

Where:

$F_{inst}^{final}(k)$	Final total amount of allocation to the installation in year k;
$CSCF_k$	Cross-sectoral correction factor[50] in year k (if necessary).

Up to and including 2025, if the CSCF applies in any year[51], the final total annual amount of allowances for installations classified as an "electricity generator" is determined in the same way as above. However, for years the CSCF does not apply the final total annual amount of allowances is determined by:

$$F_{inst}^{final}(k) = F_{inst,k} \times LRF_k$$

Where:

k	Year k;
$F_{inst}^{final}(k)$	Final total amount of allocation to the installation in year *k;*
$F_{inst,k}$	Final preliminary amount of allocation to the installation in year *k;*
LRF_k	Linear Reduction Factor (see the table in Guidance Document 1).

From 1 January 2026 onwards, installations that were considered 'electricity generators' will be treated the same as all other EU ETS installations.

[50] For more information on the Cross-sectoral correction factor, see Guidance Document 1 on General Guidance to the allocation methodology.

[51] The CSCF applies means that the CSCF value is below 1 in any year leading to downwards adjustments of the allocation.

6 Determination of the historical activity level

6.1 Default approach to determining the historical activity level

As indicated in the steps described in the previous section, the default way to determine the historical activity level of a sub-installation is to take the median value of the annual activity levels of the sub-installation in the baseline period 2019-2023, so:

$$HAL = median_{2019\text{-}2023}\,(Annual\ activity\ levels)$$

All years in the baseline period in which the *installation* has been operating for at least 1 day should be taken into account (See Article 15(7) of the FAR).

Consequently, in some cases years of zero activity levels for a sub-installation have to be considered if at least one other sub-installation has been operating. This is particularly relevant for installations that have produced different benchmarked products in the same production line. The following examples demonstrate that the standard methodology also works for such cases.

Example 1
A glass factory has a glass production line in which both coloured and colourless glass bottles can be produced. The two types of products are covered by two different product benchmarks. The following activity levels were realised in 2019-2023.

Table 5: Historical activity levels of a glass-producing installation

	2019	**2020**	**2021**	**2022**	**2023**
Coloured glass bottles	800	800	0	0	800
Colourless glass bottles	0[52]	0	800	800	0

The installation is covered by two product benchmarks, hence two sub-installations should be assigned. In order to determine the HAL, the median of the annual production over the baseline period in which the **installation** (i.e., the whole installation needs to be looked at, not each individual sub-installation) has been operating for at least one day should be taken for each product benchmark, following Article 15(7):

$$HAL_{coloured\ glass} = median_{2019\text{-}2023}\,(800, 800, 0, 0, 800) = 800$$
$$HAL_{colourless\ glass} = median_{2019\text{-}2023}\,(0, 0, 800, 800, 0) = 0$$

[52] In this case, the Activity Level value of 0 is considered in the calculation of the HAL because the sub-installation has been operating in previous years. If the sub-installation had started operating in 2021, then years 2019 and 2020 would not have been considered in the calculation of the HAL. See Section 6.2 for guidance on such cases.

The sum of the HALs for the whole installation is 800 and reflects the historical activities of the glass factory.

Example 2
A paper mill has a production line in which 3 types of paper can be produced: newsprint, uncoated fine paper and coated fine paper. The three types of product are covered by three different product benchmarks. The following activity levels were realised in 2019-2023.

Table 6: Historical activity levels of a paper-producing installation

	2019	**2020**	**2021**	**2022**	**2023**
Newsprint	800	0	500	700	0
Uncoated fine paper	200	600	0	300	500
Coated fine paper	0[53]	400	500	0	500

The installation is covered by three product benchmarks, hence three sub-installations should be assigned. In order to determine the HAL, the median of the annual production over the baseline period in which the **installation** (i.e., the whole installation needs to be looked at, not each individual sub-installation) has been operating for at least one day should be taken for each product benchmark, following Article15(7):

$HAL_{newsprint} = median_{2019\text{-}2023}(800, 0, 500, 700, 0) = 500$
$HAL_{uncoated\ fine} = median_{2019\text{-}2023}(200, 600, 0, 300, 500) = 300$
$HAL_{coated\ fine} = median_{2019\text{-}2023}(0, 400, 500, 0, 500) = 400$

The sum of the HALs for the whole installation is 1200. As in the first example, the results reflect the production levels very well.

6.2 Determination of historical activity level when not operating for the full baseline period

Special provisions apply in situations where the HAL is not available for the entire baseline period. In this respect, the FAR distinguishes two situations:

- A sub-installation has been operating for less than two calendar years;
- A sub-installation has not been operating for a full calendar year since the start of normal operations.

If a sub-installation has been **operating for less than two calendar years** during the relevant baseline period, the historical activity level is determined as the activity level of the first

[53] As previously, in this case the Activity Level value of 0 is considered in the calculation of the HAL because the sub-installation has been operating in previous years. If the sub-installation had started operating in 2020, then year 2019 would not have been considered in the calculation of the HAL. See Section 6.2 for guidance on such cases.

calendar year of operation after the start of normal operation of this sub-installation. This approach is valid for all sub-installations within the installation with their first start of normal operation after 01/01/2022 respectively. If a sub-installation has not **been operating for a full calendar year** after the start of normal operation during the baseline period, the historical activity level shall be determined when the activity level report after the first full calendar year of operation is submitted[54].

No specific approach is necessary to take into account the possible closing of operation of a (sub-)installation, or a possible change in production during the baseline period. Any such change will automatically be regulated by the activity level change rules. *For more guidance on this, please see the Guidance Document 7 on new entrants and closures.*

For Phase 4, the 'start of normal operation' is defined as the first day of operation (Article 2(12) of the FAR)[55]. The 'first day of operation' is defined as the first day the activity level is higher than 0.

The text Box below shows a number of examples of how to take into account operation of sub-installations during the baseline period in the determination of HAL.

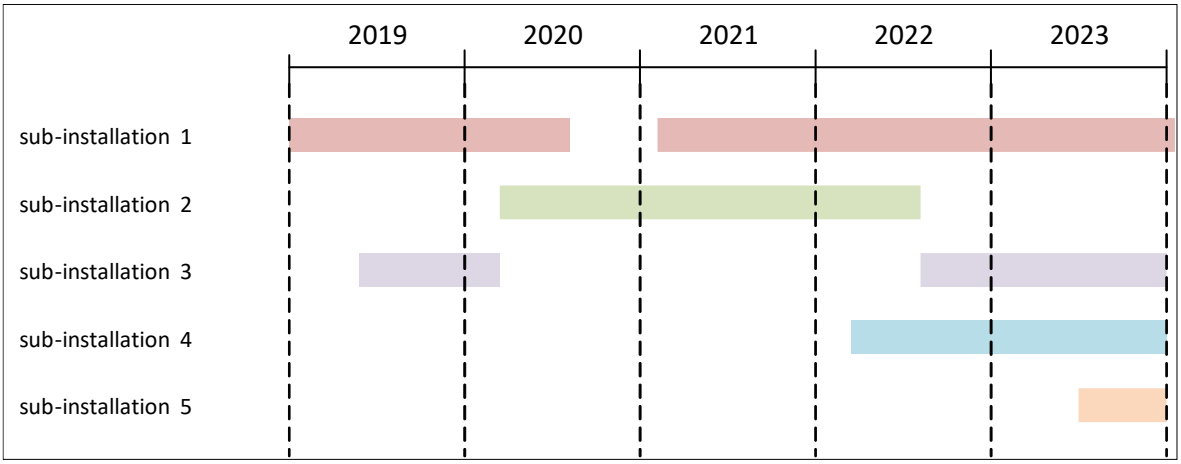
[54] This will be the case for (sub-) installations starting after January 1st 2023. In those cases, the HAL will not be available in time to be included in the NIMs, but it will be known before the start of Phase 4. The same also applies to installations that fall within the scope of emissions trading from 1 January 2024 due to the amended Annex I.

[55] Different than for Phase 3.

Text Box Examples of calculating HAL not operating during the entire baseline period

The following example illustrates how different sub-installations are to be taken into account for the determination of HAL, depending on the year when they start operating, and on how they operate in the subsequent years during the baseline period.

In this example, several sub-installations are presented, with an indication of the years in which they were operating during the baseline period. It is assumed that sub-installations 2, 4 and 5 have their start of normal operation during the baseline period, i.e., they have never operated before. Several examples of installations are then given, consisting of one or more of the listed sub-installations.



Installation	Consisting of	Years to be taken into account for HAL for each sub-installation					Sub-installation operating < 2 calendar years?	If yes, year relevant for HAL
		2019	2020	2021	2022	2023		
A	Sub-inst 1	X	X	X	X	X	No	N.A.
B	Sub-inst 2		X	X	X		No	N.A.
C	Sub-inst 3	X	X		X	X	No	N.A.
D	Sub-inst 4				X	X	Yes	2018
E	Sub-inst 5					X	Yes	2019
F	Sub-inst 1	X	X	X	X	X	No	N.A.
	Sub-inst 2		X	X	X	X	No	N.A.
G	Sub-inst 1	X	X	X	X	X	No	N.A.
	Sub-inst 3	X	X	X	X	X	No	N.A.
H	Sub-inst 2		X	X	X	X	No	N.A.
	Sub-inst 3	X	X	X	X	X	No	N.A.
I	Sub-inst 4				X	X	Yes	2018
	Sub-inst 5					X	Yes	2019
J	Sub-inst 3	X	X		X	X	No	N.A.
	Sub-inst 4				X	X	Yes	2018

Text box Examples continued

To summarise:

- If sub-installation A starts operating during the baseline period in year Y, it can only be taken into account from year Y (i.e., in case several sub-installations are included in the installation, this sub-installation will NOT have an AL of 0 in year Y-1). This, for example, is the case for sub-installation 2, which starts operating in 2020, and therefore never has year 2019 taken into account in the calculation of its HAL;
- With the exception of situations described in the previous bullet point, for the calculation of HAL all years during the baseline for which AT LEAST ONE sub-installation has been operating need to be taken into account (if a sub-installation does not operate during one or more of the years of the baseline, but another sub-installation does, these years are to be counted with an AL of 0 – see examples in Section 6.1). In this example, for installation C, year 2021 is not taken into account in HAL, as the sub-installation is not operating that year, and installation C has no other sub-installation. However, year 2021 is taken into account for HAL of sub-installation 3 in installation H, even though its AL is 0 for that year, as installation H has been operating at least one day that year (with sub-installation 2);
- If a sub-installation operates less than 1 full calendar year during the baseline period, its HAL will be based on the AL of the first full calendar year of operation, i.e., on the AL of year 2024. In this example, this is the case for sub-installation 5.

For **new entrants**, basically the same approach applies to calculating the amount of free allowances as for incumbents, i.e., multiplying HAL by the benchmark value[56]. For the first two years of operation of the new entrant, the calculation of the preliminary annual number of emission allowances will use the new entrant's actual activity level for the respective year.[57]

For more detailed guidance on the allocation to new entrants, see Guidance Document 7.

More detailed rules on how to determine the change in allocation as a result of changes in activity level are laid down in the Activity Level Change Implementing act (ALC)[58]. *For more detailed guidance, see the Guidance Document in Activity Level Changes.*

[56] And other correction factors (such as CLEF) as applicable.
[57] Note that this is different from Phase 3, where activity levels for new entrants were determined by multiplying each sub-installation's capacity with a capacity utilisation factor (RCUF or SCUF).
[58] Ref to Implementing act.

7 Additional examples

This chapter provides some additional examples to illustrate the calculation of allocation for installations.

7.1 Example 1: Installation without product benchmarks and with different carbon leakage statuses

Consider the following installation which produces three products (A, B, and C) of which A and B are deemed to be exposed to a significant risk of carbon leakage, and C is not.

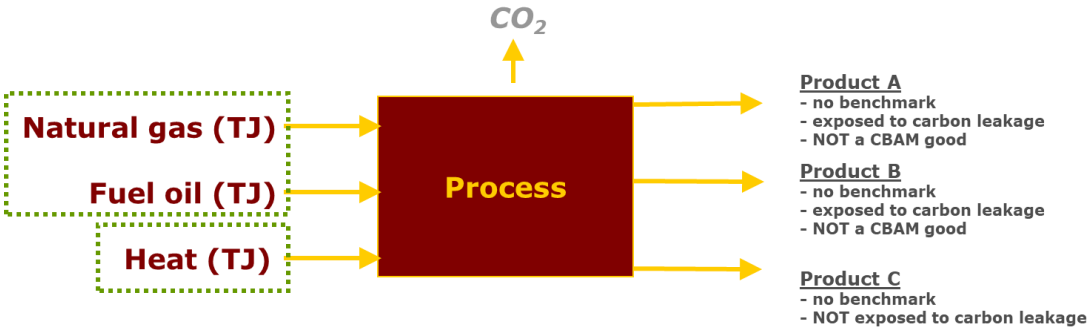


Figure 7 How many sub-installations are present in this installation?

Since products A, B, and C do not have an applicable product benchmark, the fall-back approaches shall be used. Where no eligible process emissions arise, then only heat and fuel benchmarks should be used. As the Carbon Leakage status is not the same for all the products, and none of the products are CBAM goods, there will be four sub-installations in total.

1. Heat benchmark for products deemed exposed to Carbon Leakage (A and B);
2. Heat benchmark for products not deemed exposed to Carbon Leakage©);
3. Fuel benchmark for products deemed exposed to Carbon Leakage (A and B);
4. Fuel benchmark for products not deemed exposed to Carbon Leak© (C).

To calculate HAL for each installation, only the share of heat (respectively energy) necessary to produce the relevant product(s) should be taken into account:

- HAL of sub-installation 1 should be based only on the measurable heat consumed to produce products A and B;
- HAL of sub-installation 2 should be based only on the measurable heat consumed to produce product C;
- HAL of sub-installation 3 should be based only on the energy consumed to produce products A and B excluding fuel combustion or electricity consumption for the production of measurable heat
- HAL of sub-installation 4 should be based only on the energy consumed to produce product C, excluding fuel combustion or electricity consumption for the production of measurable heat.

For guidance on data to be used, see *Guidance Document 3 on data collection*.

7.2 Example 2: Combined heat and power (CHP)

In the case of a CHP installation (see Figure 8), the installation produces both heat and electricity:

- The production of electricity is not eligible for free allocation.
- The production of heat is eligible for free allocation:
  - The CHP installation will not receive any free allocation for the part of the heat that goes to another **ETS consumer**, as the other ETS heat consumer will receive the free allowances for the heat it consumes.
  - The CHP installation will receive free allocation according to the heat benchmark for the heat exported to **non-ETS consumers**, and for the heat consumed at the installation, when this heat is not used to produce electricity. Only this part of the heat should be taken into account when determining the historical activity level relevant for the heat benchmark sub-installation of the CHP.

By default, non-ETS consumers are assumed to be producing products that are NOT on the CLL, and there also non-CBAM goods. Where the CHP operator is able to prove that one of its non-ETS heat consumers is consuming the heat for the production of a product on the CLL, it may need to split the sub-installation into up to three heat benchmark sub-installations: one for the non-ETS heat consumers producing non-CL products, one for the non-ETS consumers producing CL products which are not CBAM goods, and one for the non-ETS consumers producing CBAM goods.

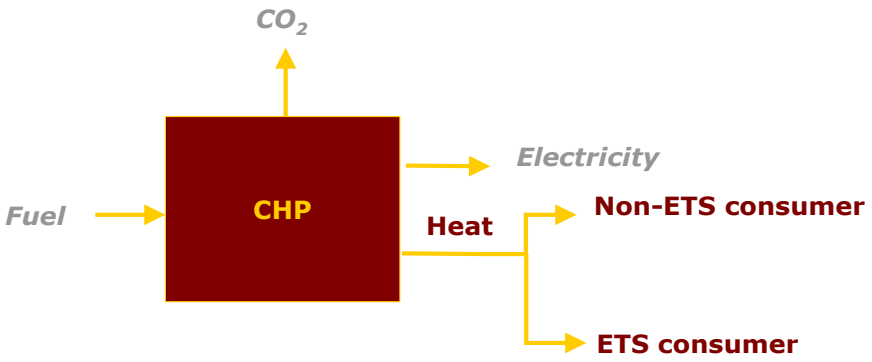
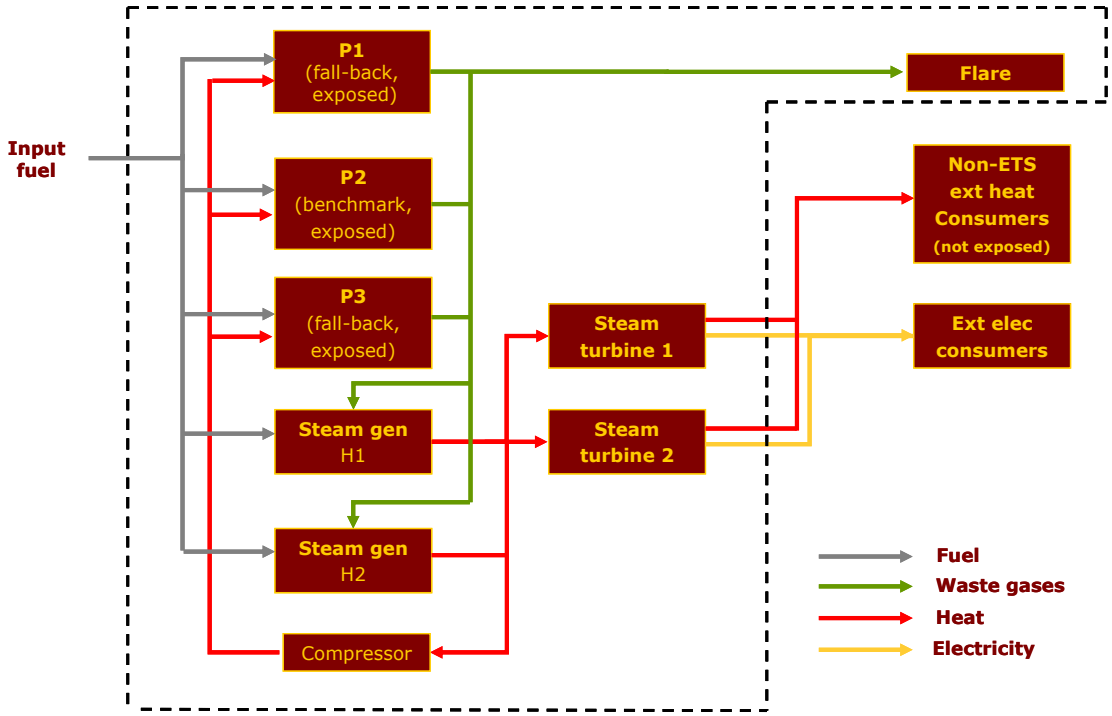


Figure 8 Schematic diagram of CHP installation

7.3 Example 3: Complex example

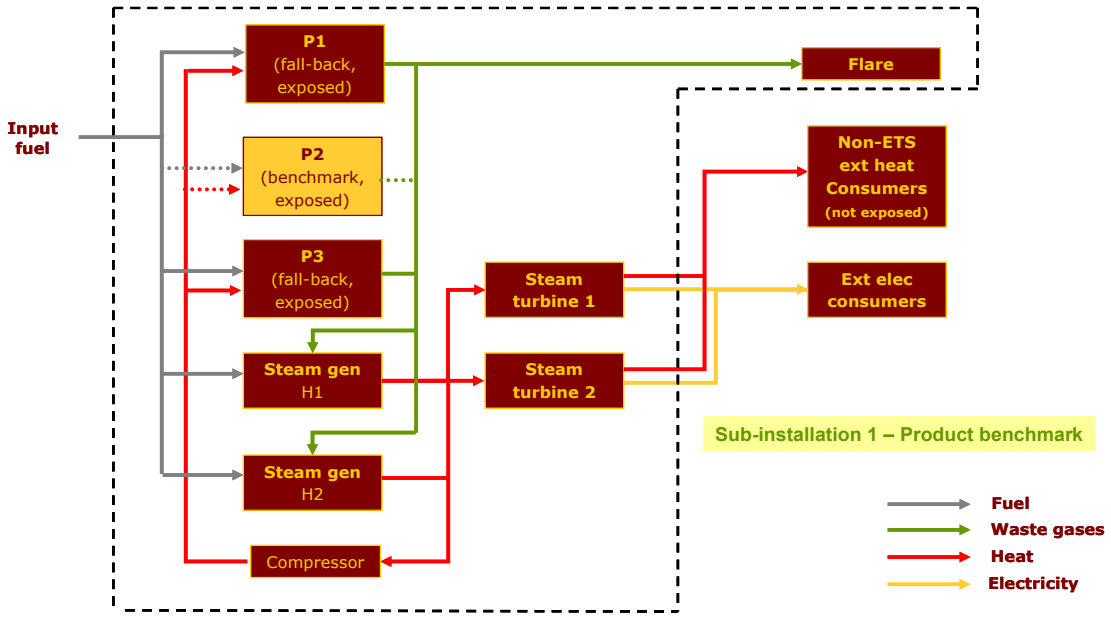
Frame 1 – combining all methodologies



- The installation's permit boundary is shown as a dashed line.
- Each box depicts a physical unit where one or more industrial processes take place
- To avoid a crowded figure, GHG emissions are not shown in this example, but are relevant for and should be attributed to each process unit.
- The colored lines depict energy flows to and from process units.

- P1, P2, and P3 refer to three process-units in which a product is made:
  - For P2 a benchmarked product is available.
  - For P1 and P3 no product benchmark is available.
- Carbon leakage
  - P1, P2 and P3 are subject to a significant risk of carbon leakage.
  - The external heat consumers are not.
- CBAM
  - None of the products produced are CBAM goods.
- No safety flaring occurs.

Frame 2 – product benchmark

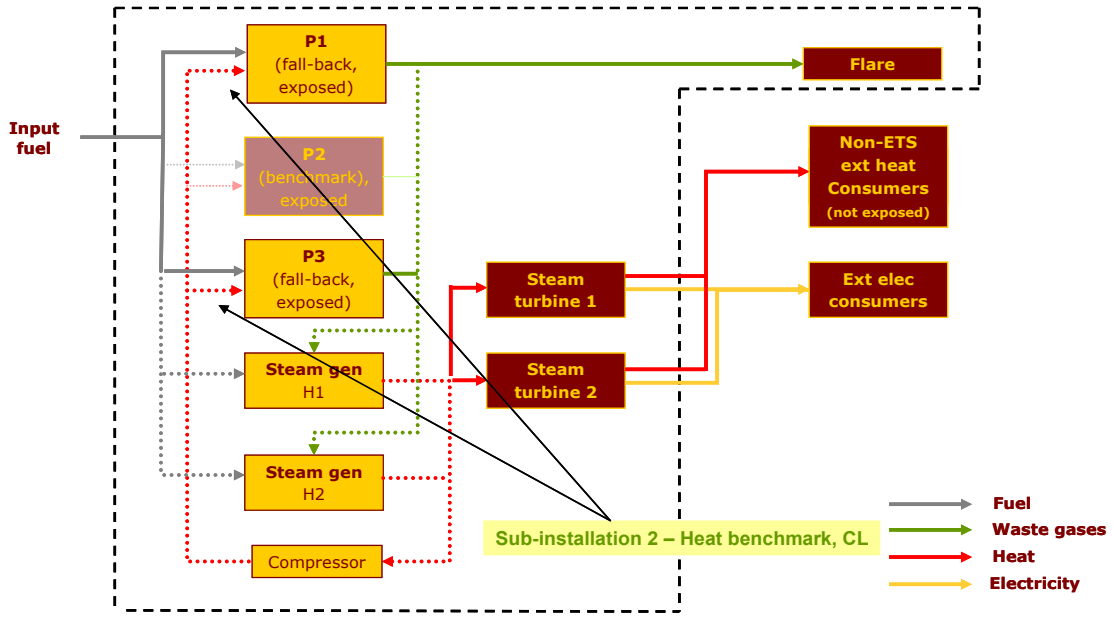


Step 1a: Define one or more product benchmark sub-installations
The installation has one product with a product benchmark (hence, n=1). For the manufacture of this product, process unit P2 is identified.

Step 1b: Attribute relevant inputs and outputs
- The relevant energy flows for sub-installation 1 are shown as dashed arrows.
- In sub-installation 1 (P2) fuel and heat go in, waste gases and emissions (not shown) go out, and are attributed to the sub-installation.
- The amount of fuel and heat input (in units of energy) do not influence the amount of free allocation to sub-installation 1, but are relevant to know because they should not be attributed to other sub-installations.

Step 1c: Determine historical activity level
- Determination of HAL of sub-installation 1 is based on the historical production levels of product P2.

Frame 3 – heat benchmark; carbon leakage exposed



Step 2a Define up to three heat benchmark sub-installations

- The installation consumes measurable heat outside the boundaries of a product benchmark (P1 and P3) and exports heat to non-ETS consumers.
- The process units (P1 and P3) are exposed to a significant risk of carbon leakage, whereas the non-ETS consumers are not. Two heat benchmark sub-installations therefore need to be defined.

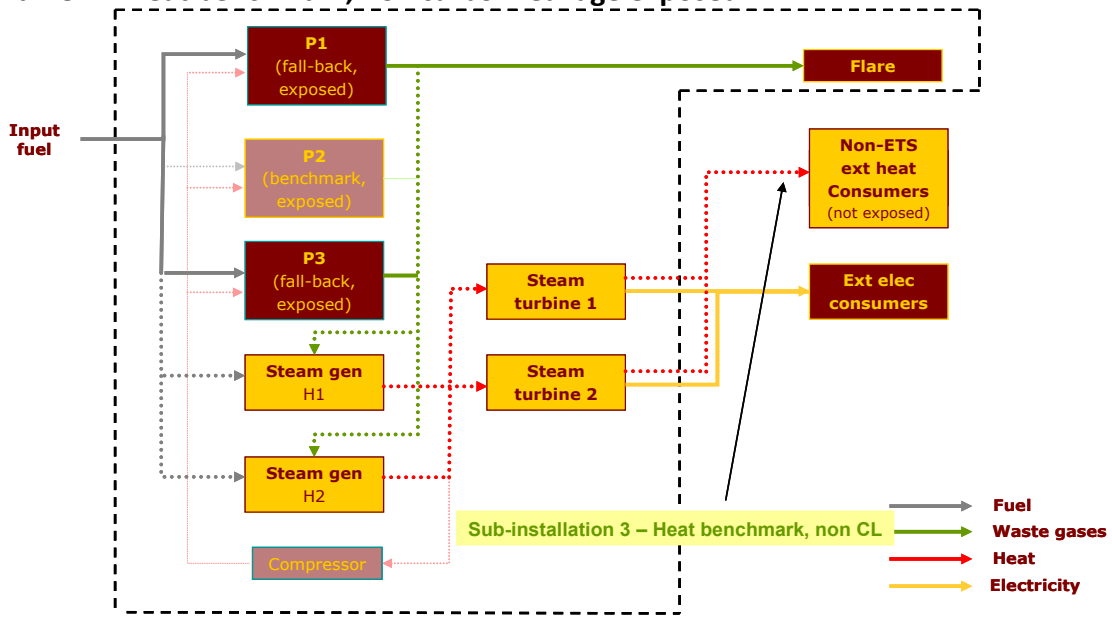
Step 2a and 2b, Attribute relevant inputs and outputs (Sub-installation 2)

- Sub-installation 2 accounts for the heat consumed by P1 and P3, for the emissions linked to the production of this heat and for the energy flows used to produce this heat.
- The heat is produced by the combustion of waste gases and fuel in the two steam generators; part of the produced heat is also consumed by other consumers. Sub-installation 2 therefore accounts for part of the waste gases and fuel combusted in the steam generators, and for part of the corresponding emissions.

Step 2c Determine historical activity level (Sub-installation 2)

- HAL of sub-installation 2 is based on the sum of the heat consumed by P1 and P3.

Frame 4 – heat benchmark; non carbon leakage exposed



Step 2a and 2b, Attribute relevant inputs and outputs (Sub-installation 3)

- Sub-installation 3 will be defined for the production of measurable heat, consumed for the production of products *not* deemed exposed to a significant risk of carbon leakage. In this example the consumers are non-ETS, and the allocation is therefore given to the producer of the heat (as no allocation can be given to a non-ETS plant).

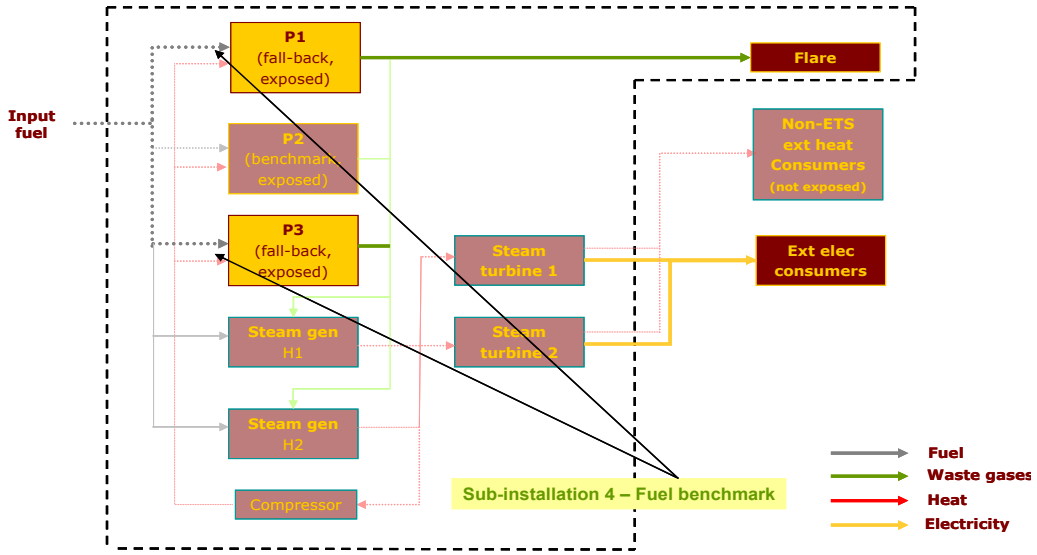
If the external heat consumer was another ETS-installation, the free allocation would be given to the heat consumer, and therefore this sub-installation would not be part of the example installation.

- As for sub-installation 2, sub-installation 3 accounts for part of the waste gases and fuel combusted in the steam generators, and for part of the corresponding emissions (looking only at the "consumer part" of the emissions from the waste gases – see Guidance Document 8 for additional guidance). Sub-installations 2 and 3 together cover the total amount of fuels used to generate the measurable heat and the corresponding emissions.

Step 2c Determine historical activity level (Sub-installation 3)

HAL of sub-installation 3 is based on the amount of heat exported to the non-ETS consumers.

Frame 5 – fuel benchmark



Step 4a Define up to three fuel benchmark sub-installations

- The example installation contains two process units (P1 and P3) where fuel is combusted for direct heating purposes. Both units produce products which are deemed exposed to carbon leakage and are therefore covered by the same sub-installation (sub-installation 4).

Step 4b Attribute relevant inputs and outputs (Sub-installation 4)

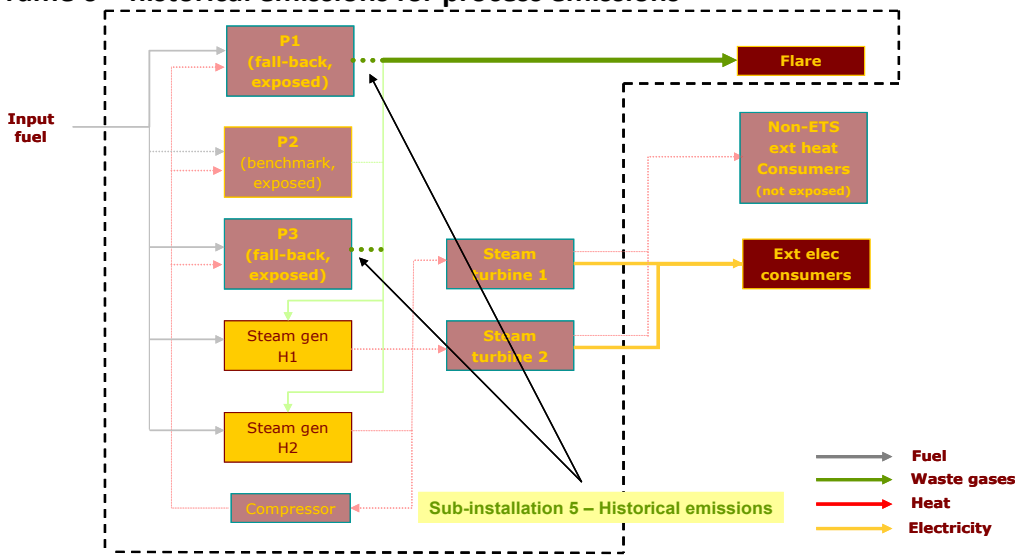
- Relevant inputs are fuel use, relevant outputs are emissions.

If safety flaring had occurred (in this example no flaring is done for safety reasons) the fuel and/or waste gases consumed for safety flaring would also be a relevant input.

Step 4c Determine historical activity level (Sub-installation 4)

- In this case, as part of the fuel is converted into waste gases, care must be taken in the calculation of HAL of sub-installation 4: HAL must exclude the part of the fuel which is converted into waste gases (*see Guidance Document 8 on details on how to do this; guidance is given based on this same example*).

Frame 6 – historical emissions for process emissions



Step 5a Define up to three process emissions sub-installations

- In our example plant, waste gases produced by P1 and P3 can be either flared (not for safety reasons) or used for combustion in the steam generators.
- Flaring (other than safety flaring) is not eligible for free allocation, and the use of waste gases in the steam generators has been covered by the two heat benchmarks (frames 3 and 4).
- Hence, sub-installation 5 is defined using the historical emissions approach for the production of the waste gases from P1 and P3, and the relevant stream to attribute is the stream of waste gases produced.

Step 5b Attribute relevant inputs and outputs (Sub-installation 5)

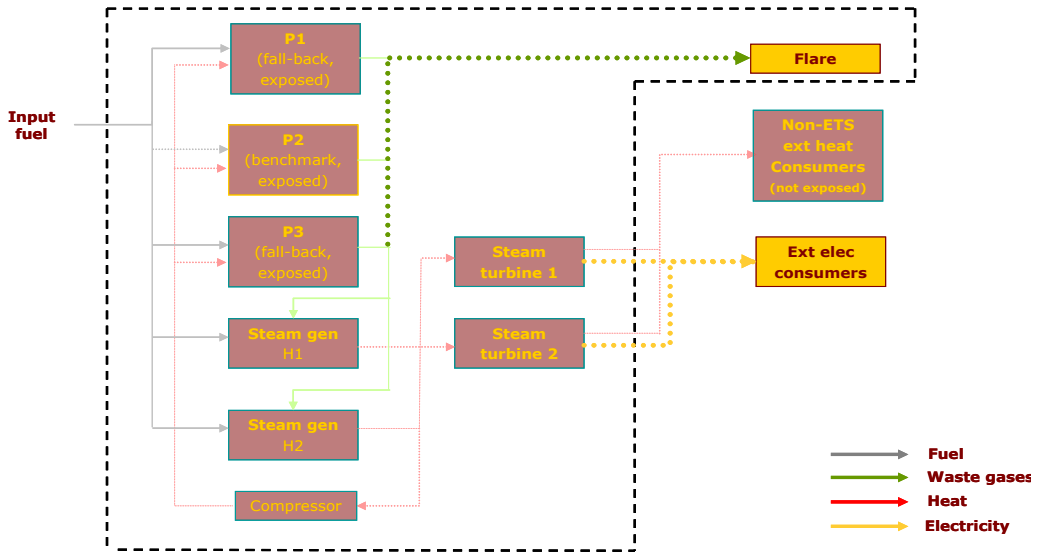
Relevant inputs and outputs are:

- The amount of CO_2 in the waste gas
- The amount of incompletely combusted carbon in the waste gas that is not flared
- The energy content of the waste gas that is not flared
- The fuel needed to produce the waste gas.

Step 5c Determine historical activity level (Sub-installation 5)

HAL is the CO_2 contained in the waste gases (completely oxidised carbon contained in the waste gases) plus the emissions originating from the combustion of incompletely combusted carbon in the waste gases that are not flared MINUS the emissions from the combustion of an amount of natural gas with the same energy content. Note that the allocation for waste gas use goes to the consumer of the waste gas and not to the producer. This is not relevant in this example as the waste gas is both produced and consumed in the same installation. *For additional guidance on allocation for emissions from waste gases, see Guidance Document 8.*

Frame 7 – non-eligible emissions



The last part of the sub-installation exercise is to attribute non-eligible emissions, i.e., emissions caused by electricity production or flaring other than safety flaring. As these emissions are not eligible for free allocation, there is no sub-installation needed for these emissions. Rather they are attributed as memo items in the full list of activities and emissions to ensure there is a balance and nothing is double counted etc.

At this stage, the operator should check that all identified sources (such as energy inputs and emissions) have been either attributed to a sub-installation or are listed in the non-eligible section; each (part of a) source can only be attributed once.

Annex A: List of CBAM goods

The following tables list the "Aggregated CBAM goods categories" as defined by section 2 of Annex II of the "CBAM Implementing act"[59] and the relevant CN codes as given in the CBAM Regulation[60] - as at the date of publication of this guidance document. Where possible, a correspondence with a product benchmark is given where relevant. It should be noted, however, that this correspondence is only indicative as the identification of the products should never solely rely on PRODCOM codes reported in statistics[61]. As indicated on the Taxation and Customs Union website in the section on the Combined Nomenclature[62], "every year, Annex I to the basic CN Regulation (Council Regulation (EEC) No 2658/87 on the tariff and statistical nomenclature and on the Common Customs Tariff) is updated and published as a stand-alone Regulation in the EU's Official Journal. Such updates take into account any changes that have been agreed at international level, either at the World Customs Organization (WCO) with regard to the Harmonised System (HS) nomenclature or within the framework of the World Trade Organization (WTO) with regard to conventional duty rates. Other changes may be required to reflect the evolution of, for example, commercial policy, technological or statistical requirements."[63]

Note that it is only the CN code that defines whether a good is covered by the CBAM, not whether the good is actually linked to the sector under which it is listed[64]. For example, hydrogen or Ammonia fall under the CBAM independently of their use (they may also be a fuel).

Where the tables below indicate that no product benchmark is applicable, it refers only to the final production step of the good, which may still be covered by fall-back sub-installations. For example, the table indicates "none" as product benchmark for the goods category "cement". This is to be read as follows:

- Where an installation produces cement (using cement clinker and other input materials), this production step is covered by "CL, CBAM" fall-back sub-installations, if applicable. For

[59] Commission Implementing Regulation (EU) 2023/1773 of 17 August 2023 laying down the rules for the application of Regulation (EU) 2023/956 of the European Parliament and of the Council as regards reporting obligations for the purposes of the carbon border adjustment mechanism during the transitional period, http://data.europa.eu/eli/reg_impl/2023/1773/oj

[60] Electricity is also listed as a CBAM good in Annex I of the CBAM Regulation only, but free allocation is not relevant in this case.

[61] For more information on the definition of the product benchmarks, see Guidance Document 9 on Sector-specific guidance.

[62] https://taxation-customs.ec.europa.eu/customs-4/calculation-customs-duties/customs-tariff/combined-nomenclature_en

[63] The latest published version at the time of publication of this Guidance is the 2024 version, which can be found via this webpage: https://taxation-customs.ec.europa.eu/news/commission-publishes-2024-version-combined-nomenclature-2023-10-31_en

[64] Only in exceptional cases (Kaolinic clays / calcined clays) is a further qualifier required as not all goods covered by the specific CN code would be deemed covered by the CBAM.

example, there may be a dryer for raw materials which may fall under the heat or fuel BM sub-installation.

- The production of clinker is covered by one of the product benchmarks for grey or white clinker.
- If calcined clay is used as precursor for the clinker, again its production will be falling under one or more of the fall-back sub-installations, as appropriate (e.g., fuel benchmark and process emissions).

Note: Whether a good is a 'precursor'[65] within the meaning of the CBAM legislation is not relevant for free allocation in the EU ETS.

Cement sector

CBAM aggregated goods category	CN code	PRODCOM code	Product BM if relevant
Calcined clay	2507 00 80 – Other kaolinic clays[66]	08.12.21.60	None
Cement clinker	2523 10 00 – Cement clinkers	23.51.11.00	BM10 – Grey cement clinker BM11 – White cement clinker
Cement	2523 21 00 – White Portland cement, whether or not artificially coloured	23.51.12.10	None
	2523 29 00 – Other Portland cement	23.51.12.10	None
	2523 90 00 – Other hydraulic cements	23.51.12.90	None
Aluminous cement	2523 30 00 – Aluminous cement	23.51.12.90	None

Fertilizers sector

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
Nitric acid	2808 00 00 – Nitric acid; sulphonic acids	20.15.10.50	BM39 – Nitric acid
Ammonia		20.15.10.75[67]	BM41 – Ammonia

[65] A precursor is an input material which contributes to the "embedded emissions" of the CBAM good as the emissions of their production are added. Only CBAM goods are taken into account as precursors.

[66] This CN code is covered only if the clay has actually been calcined.

[67] Anhydrous ammonia

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
	2814 – Ammonia, anhydrous or in aqueous solution	20.15.10.77	None
Mixed fertilizers	2834 21 00 – Nitrates of potassium	20.15.76.00	None
	3102 – Mineral or chemical fertilisers, nitrogenous	20.15.3-.--	None
	3105 – Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this chapter in tables 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*	20.15.7-.-- *except 20.15.76.00*	None

Iron and steel sector

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
Sintered Ore	2601 12 00 – Agglomerated iron ores and concentrates, other than roasted iron pyrites	07.10.10.00	BM3 – Sintered ore
Pig iron	7201	24.10.11.00	BM4 – Hot metal[68]
	7205	24.10.14.10	BM4 Hot metal[68]
Ferro-alloys	7202 1 – FeMn	24.10.12.15	None
	7202 4 – FeCr	24.10.12.60	None

[68] The hot metal benchmark covers in principle the whole process up to the continuous casting of crude steel. However, if an installation produces pig iron, it would be covered, too.

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
	7202 6 – FeNi	24.10.12.90 *!! PRODCOM code also corresponds to other CN codes*	None
DRI[69]	7203	24.10.13.00	BM 4 – Hot metal
Crude steel	7206, 7207	24.10.21.Z0, 24.10.21.10	BM4 – Hot metal BM5 – EAF carbon steel (depending on production route)
	7218	24.10.22.Z0, 24.10.22.10	BM6 – EAF high alloy steel
	7224	24.10.23.Z0, 24.10.23.10	BM6 – EAF high alloy steel
Iron or steel products	7205	24.10.14.10	None
	7208 to 7217 7219 to 7223 7225	24.10.31.--, 24.10.41.--, 24.10.51.--, 24.10.32.--, 24.32.10.--, 24.32.20.--, 24.10.T3.30, 24.10.61.--, 24.10.62.--, 24.31.10.--, 24.10.71.--, 24.33.11.--, 24.33.20.00, 24.31.10.60, 24.34.11.--, 24.10.33.--, 24.10.42.00, 24.10.34.--, 24.32.10.Z2, 24.10.63.00, 24.10.64.--, 24.31.30.00, 24.10.72.--, 24.33.12.00, 24.34.12.00, 24.10.53.--, 24.10.35.--, 24.10.43.00, 24.10.52.--,	
	7226 to 7229 7301 to 7311 7318 7326	24.10.54.--, 24.10.55.--, 24.10.36.00, 24.32.10.Z1 (*PRODCOM code also corresponds to another CN code), 24.32.10.30, 24.32.10.40, 24.32.10.50,*	BM7 – Iron casting[70] (for part of these codes)

[69] Direct Reduced Iron, also known as HBI (Hot Briquetted Iron)

[70] Some of the PRODCOMs associated to this product benchmark are non-CBAM.

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
		24.10.65.--, 24.10.66.--; 24.31.20.--, 24.10.73.00, 24.10.67.00, 24.34.13.00, 24.10.74.--, 24.10.75.00, 24.51.20.00, 24.20.11.--, 24.20.12.--, 24.20.13.--, 24.20.14.--, 24.20.2-.--, 24.20.3-.--, 24.20.4-.--, 24.51.3-.--, 24.52.3-.--, 25.11.21.00, 25.11.22.00, 25.11.23.10, 25.11.23.30, 25.11.23.50, 25.11.23.60, 25.12.10.30, 24.33.30.00, 25.29.11.10, 25.29.11.20, 25.29.11.30, 25.29.11.50, 25.91.--.--, 25.92.11.--, 25.29.12.00 (*PRODCOM code also corresponds to another CN code), 25.94.11.--, 25.94.12.--, 25.99.29.22, 25.99.29.25, 25.99.29.27, 25.99.29.3-, 25.99.29.4-*	

Aluminium sector

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
Unwrought aluminium	7601 – Unwrought aluminium	24.42.11.--	24.42.11.30 relates to BM9 – Aluminium, if produced via primary smelting None for secondary Aluminium production
Aluminium products, except unwrought	7603 – Aluminium powders and flakes	24.42.21.--	None
	7604 – Aluminium bars, rods and profiles	24.42.22.--	None
	7605 – Aluminium wire	24.42.23.--	None
	7606 – Aluminium plates, sheets and strip, of a thickness exceeding 0.2 mm	24.42.24.--	None

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
	7607 – Aluminium foil (whether or not printed or backed with paper, paper-board, plastics or similar backing materials) of a thickness (excluding any backing) not exceeding 0.2 mm	24.42.25.00	None
	7608 – Aluminium tubes and pipes	24.42.26.30 24.42.26.50	None
	7609 00 00 – Aluminium tube or pipe fittings (for examples, couplings, elbows, sleeves)	24.42.26.70	None
	7610– Aluminium structures (excluding prefabricated buildings of heading 9406) and parts of structures (for example, bridges and bridge-sections, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, balustrades, pillars and columns); aluminium plates, rods, profiles, tubes and the like, prepared for use in structures	25.12.10.50 25.11.23.70	None
	7611 00 00– Aluminium reservoirs, tanks, vats and similar containers, for any material (other than compressed or liquefied gas), of a capacity exceeding 300 litres, whether or not lined or heat-insulated,	25.29.11.70	None

CBAM aggregated goods category	CN code	PRODCOM code	Prod BM if relevant
	but not fitted with mechanical or thermal equipment		
	7612– Aluminium casks, drums, cans, boxes and similar containers (including rigid or collapsible tubular containers), for any material (other than compressed or liquefied gas), of a capacity not exceeding 300 litres, whether or not lined or heat- insulated, but not fitted with mechanical or thermal equipment	25.92.12.--	None
	7613 00 00– Aluminium containers for compressed or liquefied gas	25.29.12.00 *!! PRODCOM code also corresponds to other CN codes*	None
	7614– Stranded wire, cables, plaited bands and the like, of aluminium, not electrically insulated	25.93.12.70	None
	7616 – Other articles of aluminium	25.93.14.80 *!! PRODCOM code also corresponds to other CN codes* 25.99.29.55	None

Chemicals sector

CN code	PRODCOM code	Prod BM if relevant
2804 10 00 – Hydrogen	20.11.11.50	BM50 – Hydrogen[71]

[71] The code 'BM51 – Synthesis gas' is currently not affected, if the hydrogen contained in the gas is used for producing non-CBAM goods such as Methanol. (Annex II of the CBAM Implementing act, Section 3.6.1 clarifies: "*Only the production of pure hydrogen or mixtures of hydrogen with nitrogen usable in ammonia production shall be considered. Not covered are the production of synthesis gas or of hydrogen within refineries or organic chemical installations, where hydrogen is exclusively used within those plants and not used for the production of goods listed in Annex I to Regulation (EU) 2023/956* [the CBAM Regulation]."

Annex B: Comparison with the 2019 version of Guidance Document 2

The table below shows how the sections of the 2019 version of Guidance Document 2 correlate to the sections in the current, 2024 version, and where the main topics are covered. Please note that the contents of corresponding sections in the different versions can be significantly changed as a result of new rules in the revised ETS Directive or the FAR regulation. '-' in a column indicates that the topic was not included in the corresponding GD.

Content	**2019 GD2**	**2024 GD2**	**Comments**
Introduction	-, in GD1	1	2024 GD2 harmonises the introduction with other guidance documents.
Status of the Guidance Documents	-, in GD1	-, in GD1	
Background of the CIM Guidance Documents	-, in GD1	-, in GD1	
Use of the Guidance documents	-, in GD1	-, in GD1	
Additional guidance	-, in GD1	-, in GD1	
Scope of this guidance document	1	1.1	2024 content of previous introduction
Structure of this guidance document	1	1.2	2024 paragraph moved from previous introduction and updated
Where to find Guidance Documents	-	1.3	2024 harmonised with other guidance documents
Overview of allocation approaches	2	2	
When to apply which installation-level approach	2.1	2.1	
Impact of carbon leakage	2.2	2.2	
Impact of carbon border adjustment mechanism	-	2.3	2024 New section providing guidance on new legislation
Split installation into sub-installations	3	3	
Establishing product benchmark sub-installations	3.1	3.1	

Content	2019 GD2	2024 GD2	Comments
Establishing heat benchmark sub-installations	3.2	3.2	2024 Input from FAQ incorporated
Establishing district heating sub-installations	3.3	3.3	2024 Input from FAQ incorporated
Establishing fuel benchmark sub-installations	3.4	3.4	
Establishing process emissions sub-installations	3.5	3.5	
Determination of allocation per sub-installation	4	4	2024 update of equations and examples to median instead of arithmetic mean for HALs
Product benchmark sub-installation	4.1	4.1	
Heat benchmark sub-installation	4.2	4.2	
District heating sub-installation	4.3	4.3	
Fuel benchmark sub-installation	4.4	4.4	
Process emissions sub-installation	4.5	4.5	
Preliminary and final allocation per installation	5	5	
Preliminary allocation	5.1	5.1	
Final allocation	5.2	5.2	
Determination of historical activity level	6	6	
Default approach	6.1	6.1	
Determination of historical activity level when not operating the full baseline period	6.2	6.2	
Additional examples	7	7	
List of CBAM goods	-	Annex A	2024 Added for further information on new legislation
Comparison with 2019 version of Guidance Document 2	Annex A	Annex B	2024 Updated