



EUROPEAN COMMISSION  
DIRECTORATE-GENERAL  
CLIMATE ACTION  
**Directorate B - European & International Carbon Markets**

Guidance Document n°7  
on the harmonized free allocation methodology for the EU-ETS  
post 2012

## **Guidance on New Entrants and Closures**

*Final version issued on 14 September 2011 and updated on 19 June 2012*

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# 1 Introduction

## 1.1 Status of the Guidance Documents

This guidance document is part of a group of documents, which are intended to support the Member States, and their Competent Authorities, in the coherent implementation throughout the Union of the new allocation methodology for Phase III of the EU ETS (post 2012) established by the Decision of the Commission 2011/278/EU on “Transitional community-wide and fully harmonised implementing measures pursuant to Article 10a(1) of the EU ETS Directive” (CIMs) and developing the National Implementation Measures (NIMs). The guidance does not represent an official position of the Commission and is not legally binding.

This guidance document is based on a draft provided by a consortium of consultants (Ecofys NL, Fraunhofer ISI, Entec). It takes into account the discussions within several meetings of the informal Technical Working Group on Benchmarking under the WGIII of the Climate Change Committee (CCC), as well as written comments received from stakeholders and experts from Member States. It was agreed that this guidance document reflects the opinion of the Climate Change Committee, at its meeting on 14 September 2011.

The guidance papers do *not* go into detail regarding the procedures that Member States apply when issuing greenhouse gas emissions permits. It is acknowledged that the approach to setting the installation boundaries laid down in GHG emissions permits differ between Member States.

## 1.2 Background of the CIM Guidance Documents

Specific topics were identified within the CIMs which deserve further explanation or guidance. The CIM guidance documents intend to address these issues as specifically and clearly as possible. The Commission considers it necessary to achieve the maximum level of harmonisation in the application of the allocation methodology for phase III.

The CIM guidance documents aim at achieving consistency in the interpretation of the CIMs, to promote harmonisation and prevent possible abuse or distortions of competition within the Community. The full list of those documents is outlined below:

In particular:

- Guidance document n. 1 – general guidance: this guidance gives a general overview of the allocation process and explains the basics of the allocation methodology.
- Guidance document n. 2 – guidance on allocation methodologies: this guidance explains how the allocation methodology works and its main features.
- Guidance document n. 3 – data collection guidance: this guidance explains which data are needed from operators to be submitted to the Competent

Authorities and how to collect them. It reflects the structure of the data collection template provided by the EC.

- Guidance document n. 4 – guidance on NIMs data verification: this guidance explains the verification process concerning the data collection for the National Implementation Measures<sup>1</sup>.
- Guidance document n. 5 – guidance on carbon leakage: it presents the carbon leakage issue and how it affects the free allocation calculation.
- Guidance document n. 6 – guidance on cross boundary heat flows: it explains how the allocation methodologies work in case of heat transfer across the 'boundaries' of an installation.
- Guidance document n. 7 – guidance on new entrants and closures: this guidance is meant to explain allocation rules concerning new entrants as well as the treatment of closures.
- Guidance document n. 8 – guidance on waste gas and process emission sub-installation: this document provides for explanation of the allocation methodology concerning process emission sub-installation, in particular, concerning the waste gas treatment.
- Guidance document n. 9 – sector specific guidance: this guidance provides for detailed description of the product benchmarks as well as the system boundaries of each of the product benchmarks listed within the CIMs.

This list of documents is intended to complement other guidance papers issued by the European Commission related to Phase III of EU ETS, in particular:

- Guidance on Interpretation of Annex I of the EU ETS Directive (excl. aviation activities), and
- Guidance paper to identify electricity generators

References to Articles within this document generally refer to the revised EU ETS Directive and to the CIMs.

### **1.3 Use of the Guidance documents**

The guidance documents give guidance on implementing the new allocation methodology for Phase III of the EU ETS, as from 2013: the Member States may use this guidance to calculate any free allocation pursuant to Articles 11(1) and 11(2) of the Directive 2003/87/EC in cases listed in section 1.5.

### **1.4 Additional guidance**

Next to the guidance documents, additional support to the Member State authorities is provided in the form of a telephone helpdesk, and the EC-website, with list of guidance documents, FAQs and useful references, [http://ec.europa.eu/clima/policies/ets/benchmarking\\_en.htm](http://ec.europa.eu/clima/policies/ets/benchmarking_en.htm) .

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<sup>1</sup> Article 11 of Directive 2003/87/EC

## **1.5 Scope of this guidance document**

This document provides guidance to Competent Authorities (CA) on how to calculate the amount of allowances in case of:

### Section 3: New entrants – new installations ('greenfields')

- New installations: installations permitted and starting their normal operation after 30 June 2011
- New sub-installations in an existing installation

### Section 4: New entrants – significant capacity extensions

- Significant extensions of capacity with a start of changed operation after 30 June 2011;
- Significant extensions of capacity with a start of changed operation before 30 June 2011, but for which the significant capacity could not been identified – in accordance with the methodology described in section 6.4 of Guidance Document 2 – before 30 September 2011;
- Incumbents that have obtained all relevant permits before 30 June 2011, but have a start of normal operation after 30 June 2011 and for which the initial installed capacity could not been identified – in accordance with the methodology described in sections 5 and 6.3 of Guidance Document 2 – before 30 September 2011. Such installations should be allocated similar to significant capacity extensions after 30 June 2011;

### Section 5: Significant capacity reductions

- Significant reductions of capacity with a start of changed operation after 30 June 2011
- Significant reductions of capacity with a start of changed operation before 30 June 2011, but for which the significant reduction of capacity could not been identified – in accordance with the methodology described in section 6.4 of Guidance Document 2 – before 30 September 2011

### Section 6: Cessation of operations

### Section 7: Partial cessation of operations

The aim of this document is to present the definitions and the way allocation rules shall be applied as well as the outline of the procedures to follow in each of these cases. Guidance in this document is predominantly based on Chapter IV of the CIMs and consistency with the other Guidance Documents was pursued.

Given the level of detail that is needed, the specific procedures for applying to the New Entrants Reserve (NER), as well as the electronic templates to be used, timelines for submission and assessment, will be specified in forthcoming support documents issued by the Commission. The access to the NER is based on a 'first come first served' principle, based on the notification date which is the date of submission of the complete and verified set of data that are required for the calculation of the allocation by the Competent Authority to the Commission. The Commission will only accept applications based on complete and verified data and any incomplete or inaccurate application will be rejected.

## 2 New entrants: general introduction

Art. 3(h) of the revised ETS Directive defines a new entrant as:

- *any installation carrying out one or more of the activities indicated in Annex I, which has obtained a greenhouse gas emissions permit for the first time after 30 June 2011,*
  - *any installation carrying out an activity which is included in the Community scheme pursuant to Article 24(1) or (2) for the first time,*
- OR
- *any installation carrying out one or more of the activities indicated in Annex I or an activity which is included in the Community scheme pursuant to Article 24(1) or (2), which has had a significant extension after 30 June 2011, only in so far as this extension is concerned.*

This means that a new entrant can be either one of the following:

- New installations, receiving a GHG permit after 30 June 2011. This category also covers installations:
  - Which enter the ETS scope for the first time, receiving a permit after 30 June 2011;
  - which re-enter the ETS after having ceased operation in according with the definition of cessation of operation, receiving the new permit after 30 June 2011 (see Section 6).
- Significant capacity extensions at existing installations after 30 June 2011. These capacity extensions can be the result of a physical change prior to 30 June 2011, but after 1 January 2005, provided that the physical change has not already been considered for calculating free allocation, i.e. has not already been taken into account by a previous significant capacity extension. Capacity extensions are discussed in Section 4.

The following sections will deal with those two cases separately.

### 3 New entrants -new installations ('greenfields')

This section provides guidance on the allocation rules applying to installations permitted and starting their normal operation after 30 June 2011. It also outlines the application procedure.

#### 3.1 Start of normal operation

The determination of the date related to the "start of normal operation" is needed to determine a specific date from which the "normal" allocation rules (based on capacity) can be applied. Also based on Article 17 (1) of the CIMs, an amount of allowances to be allocated free of charge for a new entrant can only be determined once the installation concerned has started normal operation. The date related to the "start of normal operation" therefore has no direct impact on the number of allowances to be allocated, but only an indirect impact.

The date related to the "start of normal operation" is defined as the first day of the earliest continuous 90 day period during which the activity level (AL) of the first sub-installation in the installation reaches at least 40% of the design capacity.

$$\left( \frac{AL}{C_{design}} \right)_{90 \text{ days period}} \geq 0.4$$

In this context, the activity level should be calculated by adding up the daily activity levels in a 90 day period. To assess whether the 40% threshold was reached, this number must be divided by the daily design capacity of the sub-installation multiplied by 90. This also means that the activity level does not need to be above the 40% during each day in the 90 day period.

$$\left( \frac{AL}{C_{design}} \right)_{90 \text{ days period}} = \frac{\text{Accumulated activity level over 90 days period}}{C_{design} \left( \frac{90}{365} \right)}$$

The daily design capacity needs to be determined on the basis of project build capacity based on evidence and on the guaranteed values given by the supplier. Relevant documents could be reports - the ones accompanying the project -, datasheets, and guaranteed performance values.

The continuous 90 day period is to be understood as a period of 90 consecutive days in which the sub-installation is operated each day. In case the sector's usual production cycle does not foresee such continuous 90 day periods, the sector-specific production cycles are added to a 90 day period.



Example: An installation normally operates only 5 days per week. In this case, the 90 day period is compiled of 18 cycles of 5 days.

Example: An installation normally only operates only half of the year. In this case, if the 90 day period may be a continuous period within the half year of operation or be compiled of two parts separated by a half year of inactivity.

Example: An installation produces a product benchmarked product in batches. The processing of a batch takes 2 days. After each batch, the process that produces the product needs to be cleaned and stops operation. In this case, the 90 day period is compiled of 2 day cycles.

Example: An installation contains a furnace that sometimes produces coloured glass bottles and sometimes produces non-coloured glass bottles. Both products are covered by product benchmarks. The start of normal operation of the installation is determined by the one that starts first:

- For the coloured glass bottles sub-installation taking into account only the days that the installation produced such bottles.
- For the non-coloured glass bottles sub-installation taking into account only the days that the installation produced such bottles.

The earliest start date determines the start of normal operation for the entire installation. The sub-installation that starts after the first one should be regarded as a new sub-installation which is treated as a capacity extension (see section 4).

According to requirements set out in Art. 8 of the CIMs, the start of normal operation has to be verified by an independent verifier and approved by the CA.

## 3.2 Determination of allocation

### 3.2.1 Phase before the start of normal operation

For the phase before the date related to the start of normal operation, the total preliminary allocation is based on independently verified historical emissions:

$$F_{inst}^0(k) = [Em_{Total}(k) - Em_{Elec}(k)] * CLEF(k)$$

with,

$k$  Year after 2012.

$F_{inst}^0(k)$ : Preliminary allocation to the installation in respect of the period prior to the start of normal operation in the year  $k$

$Em_{Total}(k)$  Independently verified emissions in the period prior to the start of normal operation in the year  $k$

$Em_{Elec}(k)$	Independently verified emissions due to the production of electricity in the period prior to the start of normal operation in the year $k$
$CLEF(k)$	Carbon Leakage Exposure Factor in the year $k$ of the 'first' sub-installation in the installation having passed the date of "start of normal operation"

Before any allocation in respect of the emissions in the phase before the start of normal operation can take place, the following requirements should be met:

- the installation will need to be operational
- the installation will need to have all relevant permits
- A monitoring plan will need to be in place that has been approved by the CA
- The installation's emissions will need to be monitored, independently verified and reported to the CA in accordance with the monitoring plan (This could be done independently from the AER).

Due to the deadlines in the annual compliance cycle, this can in practice imply that an installation may have to surrender allowances before it has received any free allowances.

### 3.2.2 Phase after the start of normal operation phase

Regarding the phase after the start of normal operation, the total preliminary allocation should be determined following a stepwise approach:

1. Define sub-installations
2. Determine the initial capacity of each sub-installation
3. Determine the activity level for each sub-installation
4. Determine the preliminary free allocation to each sub-installation
5. Determine the total preliminary allocation to the installation

#### *Step 1: Define sub-installations*

Section 2 of Guidance Document 2 explains how to split an incumbent installation into sub-installations. The same approach should be followed for new-entrants.

#### *Step 2: Determine the initial capacity*

Operators can base the initial capacity on the 2 highest monthly activity data levels using the continuous 90 day period following the start of normal operation in line with Art. 17 (4) of the CIMS.<sup>2</sup>

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<sup>2</sup> For sub-installations which are kept in reserve or standby and installations which are operated on a seasonal schedule, the period on which the capacity is based should only be based on months in which the sub-installation was operational. Months without operation should be ignored.

It is important to underline that the initial capacity shall be determined also taking into account the non-operating days because it needs to be consistent with the determination of initial installed capacity that is based on monthly production volumes without further corrections or adjustments (for incumbent installations see Guidance Document No. 2 Section 5).

*Example*

The start of normal operation is 15 March. The initial capacity would be based on either:

- the 2 highest 30-day activity levels in the 90 days starting and including 15 March
- the 2 highest monthly activity levels in the months April and May.

In general capacity is annualised by taking the average activity level in the two months with the highest activity levels multiplied by 12.

The table below gives an overview of different units applicable to activity levels and consequently to capacity for different types of sub-installations.

<b>Type of sub-installation</b>	<b>Applicable unit of activity level/capacity</b>
Product benchmark sub-installation	Relevant unit of production as listed in Guidance Document 9 with sector-specific guidance
Heat benchmark sub-installation	TJ of heat
Fuel benchmark sub-installation	TJ of fuel
Process emission sub-installation	tCO <sub>2</sub> -eq. process emissions <sup>1</sup>

<sup>1</sup> Process emissions sub-installations are to be understood as process emissions sub-installation as defined in Article 3(h) of the CIMs. Process emissions in this context are not defined as in the Monitoring and Reporting Guidelines for the EU ETS. See Guidance Document 8 on process emissions and waste gases for more guidance on the definition in Art. 3(h) of the CIMs.

All capacities need to be independently verified in accordance with requirements set out in Art. 8 of the CIMs. For additional guidance on verification see Guidance Document 4.

The CIMs do not foresee determination of initial capacities for the purpose of allocation according to new-entrant rules on the basis of experimental verification.

It is evident from Article 17(4) of the CIMs which states that the initial installed capacity has to be determined "...in accordance with the methodology set out in Article 7 (3) ...". The reference here is made to the methodology for determining capacity, not to the entire paragraph (including 2005-2008). Therefore, the capacity is determined by the two highest monthly production volumes in the relevant period and not on the basis of experimental verification except for cases of force majeure (when all data have been lost).

*Step 3: Determine the activity level*

The activity level of installation will be consistent with the activity level of the first sub-installation starting operations in the installation. It is determined by multiplying the

initial capacity of the relevant sub-installation by the standard or the relevant capacity utilization factor:

Type of sub-installation	Activity level
Product benchmark sub-installation	Initial capacity x Standard capacity utilisation factor (SCUF)
Heat benchmark sub-installation	Initial capacity x Relevant capacity utilisation factor (RCUF)
Fuel benchmark sub-installation	Initial capacity x Relevant capacity utilisation factor (RCUF)
Process emission sub-installation	Initial capacity x Relevant capacity utilisation factor (RCUF)

The standard capacity utilization factors (SCUF) will be calculated by the Commission based on data provided by the Member States in their NIMs. The Commission will determine a SCUF for each type of product benchmark sub-installation. The SCUFs will be based on the 80-percentile of the average annual capacity utilisation factors of all installations producing the product concerned.

The relevant capacity utilization factors (RCUF) will be determined by the CA for each sub-installation for which it is relevant. In order for the CA to be able to determine RCUFs, the operator will submit the following information:

- RCUF suggested by the operator as a percentage of the initial capacity
- Information on the installation's intended normal operation, maintenance, common production cycle
- Energy and greenhouse gas efficient techniques that may be implemented and affect the capacity utilisation.
- Typical capacity utilization in the relevant sector concerned.

All submitted data information shall be substantiated and verified. More information regarding the determination of RCUF can be found in Section 6.3 of Guidance Document 2 on allocation methodologies.

*Step 4: Determine the preliminary allocation*

The preliminary allocation is determined by multiplying the activity level (AL) by the relevant benchmark value and carbon leakage exposure factor (CLEF) in the year  $k$ .

Type of sub-installation	Preliminary allocation
Product benchmark sub-installation	Relevant product benchmark (EUA/unit of production) x AL (unit of production) x CLEF(k) <sup>1</sup>
Heat benchmark sub-installation <sup>2</sup>	Heat benchmark (62.3 EUA/TJ heat) x AL (TJ heat) x CLEF(k)
Fuel benchmark sub-installation	Fuel benchmark (56.1 EUA/TJ fuel) x AL (TJ fuel) x CLEF(k)
Process emission sub-installation	0.97 EUA/tCO <sub>2</sub> -eq. process emissions x AL (tCO <sub>2</sub> -eq. process emissions) x CLEF(k)

<sup>1</sup>For some product benchmark sub-installations, the calculation of preliminary allocation may include additional corrections. This is the case for the steam cracker sub-installation, VCM sub-installations and all product benchmark sub-installations that take into account exchangeability of fuel and electricity. In case of the latter, the correction for the exchangeability should be based on the same baseline period as the new capacity. In case of import of measurable heat from installations not covered by the ETS, a correction might be required (please consult Guidance Document No. 6 for details).

<sup>2</sup>The special methodology to calculate the allocation for heat export to private households (see Guidance Document 6) is not applicable for new entrants.

**Step 5: Determine the total preliminary allocation to the installation**

The preliminary allocation to the installation in respect of the period after the start of normal operation is the sum of the preliminary allocations to each sub-installation, if more than one sub-installation is starting operations at the same time:

$$F_{inst}^1(k) = \sum_i F_{sub-inst}^i(k)$$

with,

$k$  Year after 2012

$F_{inst}^1(k)$  Preliminary allocation to the installation in respect of the period after the start of normal operation in year  $k$

$F_{sub-inst}^i$  Allocation for sub-installation  $i$

In the calendar year in which the start of normal operation took place, the preliminary allocation in respect of the period after the start of normal operation will be:

$$F_{inst}^1(k) = \sum_i F_{sub-inst}^i(k) \times \frac{d_{StartOfNormalOperation}}{365}$$

with,

$d_{StartOfNormalOperation}$  : Number of days after the start of normal operation in the calendar year in which the start of normal operation occurred.

### 3.2.3 Total final allocation

The total preliminary allocation to the installation in each year is the sum of allowances determined according to the approaches for the periods before and after the date related to the start of normal operation.

$$F_{inst}(k) = F_{inst}^0(k) + F_{inst}^1(k)$$

with,

$F_{inst}^0(k)$  : Preliminary allocation to the installation in respect of the period prior to the start of normal operation in the year  $k$

$F_{inst}^1(k)$  Preliminary allocation to the installation in respect of the period after the start of normal operation in year  $k$

$F_{inst}(k)$  Preliminary total allocation to the installation in year  $k$

In line with Art. 19 (5) of the CIMs, the resulting allocation in year  $k$  should for each year be multiplied with the linear reduction factor to calculate the final total amount of allowances to the installation:

$$F_{inst}^{final}(k) = F_{inst}(k) * LRF(k)$$

With

$k$  Year after 2012  
 $F_{inst}^{final}(k)$  Final total amount of allocation to the installation in year  $k$   
 $F_{inst}(k)$  Preliminary total amount of allocation to the installation in year  $k$   
 $LRF(k)$  Linear Reduction Factor (see table below)

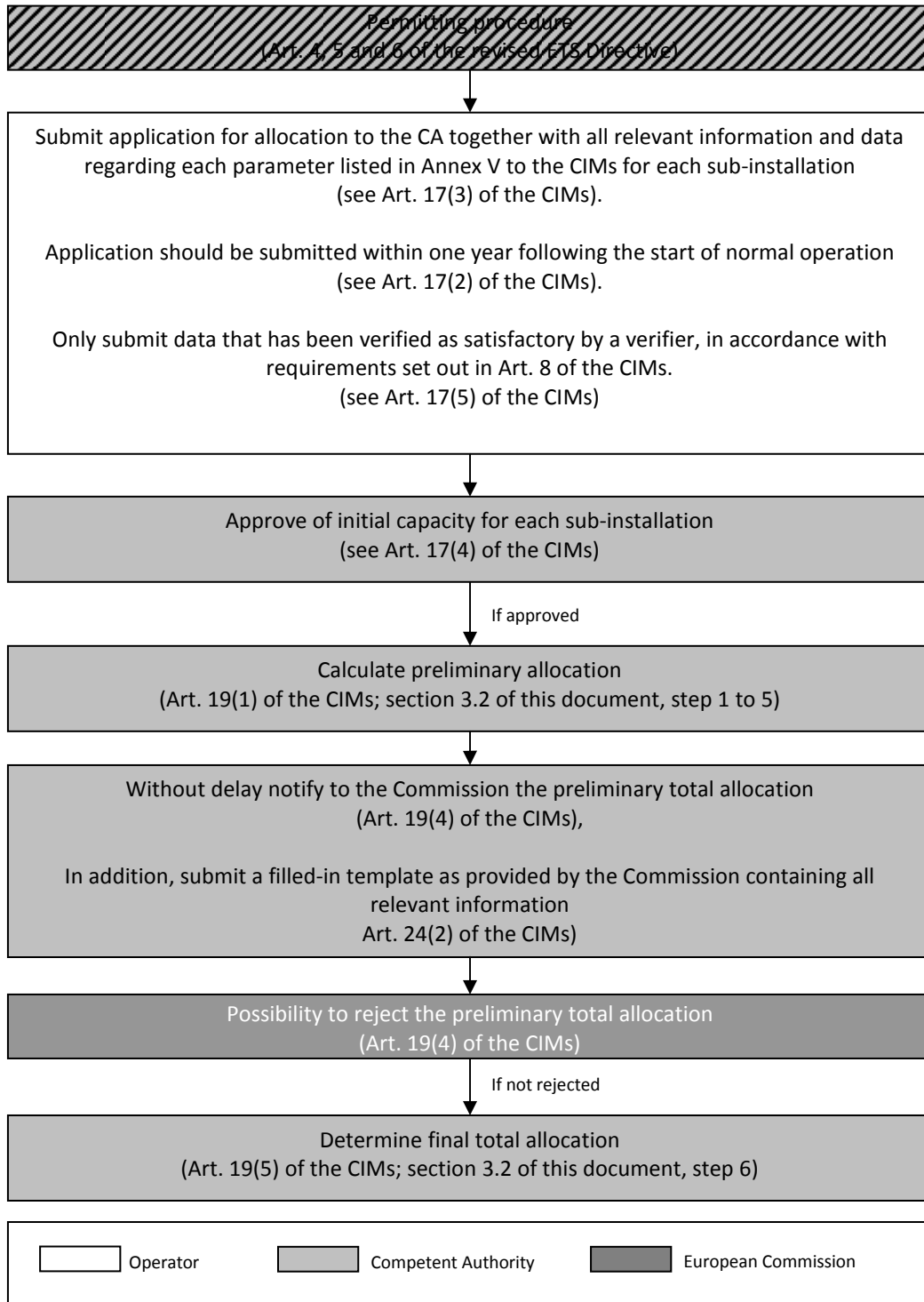
Year	Linear reduction factor
2013	1.0000
2014	0.9826
2015	0.9652
2016	0.9478
2017	0.9304
2018	0.9130
2019	0.8956
2020	0.8782

### 3.3 Procedure

Figure 1 gives a general outline of the main steps in the procedure for allocating to new entrants – new installations ('greenfields').

Further details on the timing and documentation that will be part of the application, the template to be used as well as detailed procedures on the management of the applications will be made available by the Commission.

Figure 1. Procedure for allocation for new entrants – new installations ('greenfields')



### **3.4 New sub-installations**

After the date related to the "start of normal operation", that is the first day of the earliest continuous 90 day period during which the activity level (AL) of the first sub-installation in the installation is at least 40% of the design capacity, especially in case of a 'greenfield' plant, it is possible that one or more other sub-installations will start their activities afterwards.

New sub-installations that are the result of a physical change are treated as capacity extensions of the installation (see section 4).

Given that the capacity of the sub-installation increases from '0' to a positive value, those capacity changes always meet the thresholds referred to in paragraph 4.3 to be classified as significant capacity increases, thus giving right to apply to the NER.



## 4 New-entrants -significant capacity extensions

Adjustments in allocation for significant capacity extensions according to new entrant rules can only be made if:

- The start of changed operation is after 30 June 2011

OR

- The start of changed operation is before 30 June 2011, but the added capacity could not be determined in time for the change to be taken into account before using the approach described in section 6.4 of Guidance Document 2. As a general rule, this is likely to be the case if the added capacity could not be determined before 30 September 2011.

OR

- An incumbent obtained all relevant permits before 30 June 2011, but has a start of normal operation after 30 June 2011.

### 4.1 Definition

Significant capacity extensions fall under the definition of new entrants (see section 2).

The definition of significant capacity extensions is given in Art 3(i) of the CIMs. In short, a sub-installation has a significant extension in capacity if:

- *One or more physical changes led to an increase in capacity of at least 10%*

OR

- *One or more physical changes led to an increase in allocation to the sub-installation of more than 50 000 allowances per year and the difference represents more than 5% of the amount of allowances calculated irrespective of the physical change*

As mentioned in paragraph 3.4, new sub-installations that start operation after the start of normal operation of the installation concerned and that are the result of a physical change are regarded as significant capacity extensions. New sub-installations that are not the result of a physical change cannot be regarded as significant capacity extensions.

A common feature of both cases above is the fact that a 'physical change' is made to the installation.

In the context of the definition of significant capacity extensions/reductions, such physical changes must be understood as modifications of production processes and the equipment required, and the different subparts of the definition should be interpreted as:

1. The necessary condition is the *physical nature* of the change related to the technical configuration and functioning. This excludes all types of merely organizational or operational changes (e.g. longer daily operation hours, higher

speed of rotating kiln, application of new process control software, change in major process parameters such as pressure, temperature).

2. The *impact* of the physical change on the *technical configuration and functioning* constitutes the sufficient condition. Any physical change without such impact (e.g. a repaint coating of the outer face of a kiln) does not match the definition as there needs to be a clear causality link between the physical change(s) and the change in capacity. In other words, only physical changes allowing for changes in throughputs could lead to a significant change of capacity.
3. Furthermore, the mere replacement of an existing production line cannot be considered in the context of the definition of significant capacity extensions. This includes the replacement of parts of a production line without impacts on the technical configuration and functioning (e.g. replacement of a pre-heater with the same performance). But, in case of higher maximum throughput of the production line after the replacement, this change could in principle constitute a physical change leading a significant capacity extension (provided the quantitative criteria are met).

In addition, all other elements of the interpretation of the term 'physical change' in Guidance Document No. 2, section 6.4, pages 35-36, shall apply.

Debottlenecking could also lead to a significant capacity extension if:

- The debottlenecking process involves one or more physical changes: changes to the programming of machinery or planning of production alone can never lead to significant capacity changes (see step 1a in section 6.4 of Guidance Document 2 for more guidance on physical changes).
- The physical change(s) lead to an increase in activity level of the relevant sub-installation (see step 1a in section 6.4 of Guidance Document 2 for more guidance on the necessary relation between the physical change and the change in capacity).
- The activity level of the relevant sub-installation is sufficiently increased to meet one of the two thresholds above.

Heat benchmark sub-installations can have a significant extension in capacity if

- after one or more physical changes at the heat producing facilities, the increased export of heat to non-ETS heat consumers allows the heat benchmark sub-installation concerned to match one of the two above mentioned quantitative criteria or
- after one or more physical changes at the heat consuming facilities (within the installation), the increased consumption of heat allows the heat benchmark sub-installation concerned to match one of the two above mentioned quantitative criteria.

More guidance on the definition and identification of a significant capacity extension is provided in Guidance Document 2 on Allocation Methodologies section 6.4, step 1.

*Example of a new sub-installation that is a significant change in capacity*

An installation produces a benchmarked product and has no sub-installations outside the product benchmark sub-installation. In 2016, the installation makes a physical change allowing it to provide excess heat to a nearby swimming pool. Heat delivery to the swimming pool constitutes heat export to a non-ETS entity which should be covered by a heat benchmark sub-installation. This new sub-installation is the result of a physical change and should therefore be regarded as a significant capacity extension and receive allocation accordingly.

*Example of a change that is not a significant change in capacity*

A bricks producer initially has no sub-installations outside the bricks product benchmark sub-installation. In 2014, the installation starts to produce pavers without making any physical changes to the installation. Pavers are not covered by the product definition for the bricks benchmark. The production of pavers is therefore not covered by the bricks product benchmark sub-installation. Since no significant change was involved, the start of paver production is not regarded as a significant change in capacity and receives no allocation. If the start of paver production leads to a decrease in activity level of the bricks product sub-installation in the production of bricks, it could lead to partial cessation (see section 6)

*Example of a change that is not a significant change in capacity since it is not the result of a physical change*

ETS installation A contains a heat benchmark sub-installation that covers its own heat consumption. In addition, it provides heat to ETS installation B. Both installations A and B are not deemed to be exposed to a significant risk of carbon leakage. Installation B will go out of scope of the ETS. Installation A will not receive allowances for this change. Although the activity level of its heat benchmark sub-installation would increase this is not the result of a physical change.

## 4.2 Start of changed operation

As described in Guidance Document 2, the date related to the "start of changed operation" is defined as the first day of the earliest continuous 90 day period during which the activity level related to the added capacity ( $AL_{added}$ ) reaches at least 40% of the added design capacity ( $C_{added,design}$ ).

$$\left( \frac{AL_{added}}{C_{added,design}} \right)_{90 \text{ days period}} \geq 0.4$$

The activity level should be calculated by adding up the daily activity levels in the 90 day period and dividing this by the daily capacity of the added design capacity multiplied by 90. The activity level does not need to be above the 40% during each day in the 90 day period.

$$\left( \frac{AL_{added}}{C_{added,design}} \right)_{90 \text{ days period}} = \frac{\text{Accumulated activity level of added capacity over 90 days period}}{C_{added,design} \left( \frac{90}{365} \right)}$$

For the purpose of determining the start of changed operation, the operator should determine the activity data related to the added design capacity on a daily basis:

- When possible, the activity level will be based on physically added capacity: e.g. when the capacity extension consists of a new production line, the activity level related to the added capacity is the production of the new production line.
- Some capacity extensions will be modifications to existing equipment. It may then be difficult for the operator to provide the required activity level data related to the added design capacity only. In such cases, the activity level attributed to the added capacity is determined by the total activity level of the relevant sub-installation ( $AL_{total}$ ) minus the average activity level in calendar years (not earlier than 2005) prior to the physical change.

The design capacity needs to be determined on the basis of project documentation and on the guaranteed values given by the supplier. Relevant documents could be reports -the ones accompanying the project, datasheets, guaranteed maximum performance values.

The continuous 90 day period is to be understood as a period of 90 consecutive days in which the sub-installation that has undergone a capacity change operated each day. In case the sector's usual production cycle does not foresee such continuous 90 day periods, the sector-specific production cycles are added to a 90 day period.

For incumbents that obtained all relevant permits before 30 June 2011, but have a start of normal operation after 30 June 2011, the start of normal operation (see section 3.1) should be regarded as the start of changed operation.

The start of changed operation has to be verified by an independent verifier.

Example: a sub-installation that has undergone a significant capacity change normally operates only 5 days per week. In this case, the 90 day period is compiled of 18 cycles of 5 days.

Example: a sub-installation that has undergone a significant capacity change normally only operates only half of the year. In this case, if the 90 days period may be a continuous period within the half year of operation or be compiled of two parts separated by a half year of inactivity.

### 4.3 Assessing significant changes

The definition of a significant capacity extension (see section 4.1) contains two quantitative criteria. This section describes how those criteria should be used in the assessment of whether a physical change can be considered as 'significant'. Refer to section 6.4 of Guidance Document 2 for guidance on the definition of a physical

change or the relation between the physical change and the change in capacity. New sub-installations are always regarded as significant changes.

### 10% capacity increase criterion

In respect of the 10% capacity increase criterion as mentioned in Art. 3 (i) of the CIMs<sup>3</sup>, the following requirement will need to be met in order to qualify a physical change as 'significant':

$$\frac{C_{new}}{C_{initial}} \geq 1.10$$

with,

$C_{initial}$ : The initial installed capacity is the installed capacity after the previous significant capacity change used for the calculation of the changed allocation or if this is not applicable it should be the average of the 2 highest monthly activity levels in the period from 1 January 2005 until 31 December 2008. For installations having operated less than 2 calendar years until 30 June 2011, the initial installed capacity shall be the one used for determining the historical activity level for the installation concerned (see Art. 9 (6) of the CIMs).

$C_{new}$ : The new capacity should be based on the 2 highest monthly activity levels within the 6 calendar months following the start of changed operation).

*Example*

The start of changed operation is 15 March. The new capacity would be based on the 2 highest monthly activity levels in the period April to September.

All capacities need to be independently verified in accordance with requirements set out in Art. 8 of the CIMs. For additional guidance on verification see Guidance Document 4. The initial, new and reduced capacity used for the purpose of allocation for capacity changes shall never be determined on the basis of experimental verification except for cases of force majeure (when all data have been lost).

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<sup>3</sup> “Significant capacity extension” means a significant increase in the sub-installation’s initial installed capacity whereby ... the sub-installation can be operated at a capacity at least 10% higher compared to the initial installed capacity of the sub-installation before the change.

### 50.000 allowances/5% criterion

The following requirements will need to be met for a capacity change to lead to a change in allocation to the sub-installation of more than 50 000 allowances and the difference represents at least 5% of the amount of allowances calculated irrespective of the physical change<sup>4</sup>

$$F_{added} > 50000$$

$$\frac{F_{added}}{F_{initial}} \geq 0.05$$

With,

- $F_{added}$  Preliminary allocation to the added capacity of the sub-installation not considering the carbon leakage exposure factor (see section 4.4; steps 1 to 3; in step three the CLEF should be ignored)
- $F_{initial}$  The initial preliminary allocation to the sub-installation in case the added capacity would be ignored not considering the carbon leakage exposure factor.

#### *Example of a change that is not significant*

A heat benchmark sub-installation covers the heat generated by two 30 MW steam generators. One has a steam generator has a capacity extension and generates 12% more steam which is consumed in the installation and covered by the heat benchmark sub-installation. The change in capacity would not give rise to more than 50,000 additional allowances.

In this case, despite the fact that one steam generator increases its installed capacity by 10 %, the capacity of the heat benchmark sub-installation (including the steam from both steam generators) only increases by 6 % and the additional allowances would be below 50,000 EUAs. The change in capacity is therefore not regarded as a significant change in capacity and consequently there is no change of allocation.

This example illustrates that even if for a part of a sub-installation there is a capacity increase of more than 10 %, this does not necessarily lead to an increase in allocation to the sub-installation.

## 4.4 Determination of allocation

The allocation in case of a significant capacity increase should be determined following a stepwise approach:

1. Determine the added capacity of the sub-installation
2. Determine the activity level of the added capacity of the sub-installation
3. Determine the preliminary allocation to the added capacity of the sub-installation
4. Determine the final allocation to the added capacity of the sub-installation
5. Determine the new total final allocation to the installation

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<sup>4</sup> In line with Art 3 (i): "Significant capacity extension" means a significant increase in the sub-installation's initial installed capacity whereby ... the sub-installation to which the physical change relate has a significantly higher activity level resulting in an additional allocation of emissions allowances of more than 50 000 allowances per year representing at least 5% of the preliminary annual number of emission allowances allocated free of charge for this sub-installation before the change.

*Step 1: Determine the added capacity of the sub-installation*

Following Art 3(l) of the CIMs, the added capacity is “the difference between the initial installed capacity of a sub-installation and the new installed capacity of that same sub-installation after having had a significant capacity extension [...]”; Or,

$$C_{added} = C_{new} - C_{initial}$$

where,

$C_{added}$ : the added capacity

$C_{initial}$ : The initial installed capacity is the installed capacity after the previous significant capacity change used for the calculation of the changed allocation or if this is not applicable it should be the average of the 2 highest monthly activity levels in the period from 1 January 2005 until 31 December 2008. For installations having operated less than 2 calendar years until 30 June 2011, the initial installed capacity shall be the one used for determining the historical activity level for the installation concerned (see Art. 9 (6) of the CIMs).

$C_{new}$ : The new capacity should be based on the 2 highest monthly activity levels within the 6 calendar months following the start of changed operation (see also section 3.2 (see section 4.3 for an example of the baseline period to use)).

When calculating the allocation for incumbents that obtained all relevant permits before 30 June 2011, but have a start of normal operation after 30 June 2011, the initial capacity is equal to zero and the added capacity equals to the new capacity.

It is important to underline that the added capacity shall be determined also taking into account the non-operating days, because it needs to be consistent with the determination of initial installed capacity that is based on monthly production volumes without further corrections or adjustments (for incumbent installations see Guidance Document No .2 section 5, for new installations see section 3.2). It means that the days with '0' production level shall be part of the calculation of the activity level.

All capacities need to be independently verified in accordance with requirements set out in Art. 8 of the CIMs. For additional guidance on verification see Guidance Document 4. The CIMs do not foresee determination of initial, new and added capacities for the purpose of allocation according to new-entrant rules on the basis of experimental verification.

*Step 2: Determine the activity level of the added capacity of the sub-installation*

The activity level of the added capacity ( $AL_{added}$ ) is determined by multiplying the added capacity by the standard or the relevant capacity utilization factor depending on the type of sub-installation:

Type of sub-installation	Activity level of added capacity (AL <sub>added</sub> )
Product benchmark sub-installation	Added capacity x Standard capacity utilisation factor (SCUF)
Heat benchmark sub-installation	Added capacity x Relevant capacity utilisation factor (RCUF)
Fuel benchmark sub-installation	Added capacity x Relevant capacity utilisation factor (RCUF)
Process emission sub-installation	Added capacity x Relevant capacity utilisation factor (RCUF)

Section 3.2 gives some background on the SCUF and RCUF. Section 6.3 of Guidance Document 2 on allocation methodologies provides further guidance on the determination of the RCUF.

*Step 3: Determine the preliminary allocation to the added capacity of the sub-installation*

The preliminary allocation to the added capacity of the sub-installation is determined by multiplying its activity level (AL<sub>added</sub>) by the relevant benchmark value and carbon leakage exposure factor (CLEF) in the year *k*.

Type of sub-installation	Preliminary allocation for added capacity
Product benchmark sub-installation	Relevant product benchmark (EUA/unit of production) x AL <sub>added</sub> (unit of production) x CLEF(k) <sup>1</sup>
Heat benchmark sub-installation <sup>2</sup>	Heat benchmark (62.3 EUA/TJ heat) x AL <sub>added</sub> (TJ heat) x CLEF(k)
Fuel benchmark sub-installation	Fuel benchmark (56.1 EUA/TJ fuel) x AL <sub>added</sub> (TJ fuel) x CLEF(k)
Process emission sub-installation	0.97 EUA/tCO <sub>2</sub> -eq. process emissions x AL <sub>added</sub> (tCO <sub>2</sub> -eq. process emissions) x CLEF(k)

<sup>1</sup>For some product benchmark sub-installations, the calculation of preliminary allocation may include additional corrections. This is the case for the steam cracker sub-installation, VCM sub-installations and all product benchmark sub-installations that take into account exchangeability of fuel and electricity. In case of the latter, the correction for the exchangeability should be based on the same baseline period as the new capacity. In case of import of measurable heat from installations not covered by the ETS, a correction might be required (please consult Guidance Document No. 6 for details).

<sup>2</sup> The special methodology to calculate the allocation for heat export to private households (see Guidance Document 6) is not applicable for new entrants.

*Step 4: Determine the final allocation to the added capacity of the sub-installation*

The final allocation to the added capacity is obtained by applying the linear reduction factor of 1.74% per year to the preliminary allocation to the added capacity, i.e. by multiplying with the factors as given in Section 2.3 of this Guidance Document:

$$F_{added}^{final}(k) = F_{added}(k) * LRF(k)$$

with,

<i>k</i>	Year
$F_{added}^{final}(k)$	Final amount of allocation to the added capacity of the sub-installation in year <i>k</i>
$F_{added}(k)$	Preliminary allocation to the added capacity of the sub-installation in year <i>k</i>
$LRF(k)$	Linear reduction factor according to table 1 in section 2.3.



**Step 5: Determine the new total final allocation to the installation**

The new final allocation is the sum of the initial final allocation and the additional final allocation:

$$F_{inst,new}^{final}(k) = F_{inst,initial}^{final}(k) + F_{added}^{final}(k)$$

where,

- $F_{inst,new}^{final}(k)$  The new total final allocation to the installation in the year  $k$
- $F_{inst,initial}^{final}(k)$  The final allocation related to the installation without the capacity extension in the year  $k$ . In case the installation is not an electricity generator pursuant to Art. 3(u) of the revised ETS Directive, the initial final allocation is determined by multiplying the sub-installation's initial preliminary allocation with the cross-sectoral correction factor, if applicable. In case the installation is an electricity generator pursuant to Art. 3(u) of the revised ETS Directive, the initial final allocation is determined by multiplying the sub-installation's initial preliminary allocation with the linear reduction factor as given in section 2.3.
- $F_{added}^{final}(k)$  Additional final allocation for the added capacity in the year  $k$  as determined in step 4.

The full adjustment of the amount of allocation takes place the year after the calendar year in which the start of changed operation took place. In the calendar year that the start of changed operation took place, allocation will be calculated by:

$$F_{inst,new}^{final}(k) = F_{inst,initial}^{final}(k) + \left( F_{added}^{final}(k) \times \frac{d_{StartOfChangedOperation}}{365} \right)$$

with,

- $d_{StartOfChangedOperation}$  : Number of days after the start of changed operation in the calendar year in which the start of changed operation occurred.

If the start of change operation took place before 1 January 2013, then the adjustment will be made as of 2013. If the start of changed operation took place before 1 January 2013, then the allocation will be granted as of 2013.

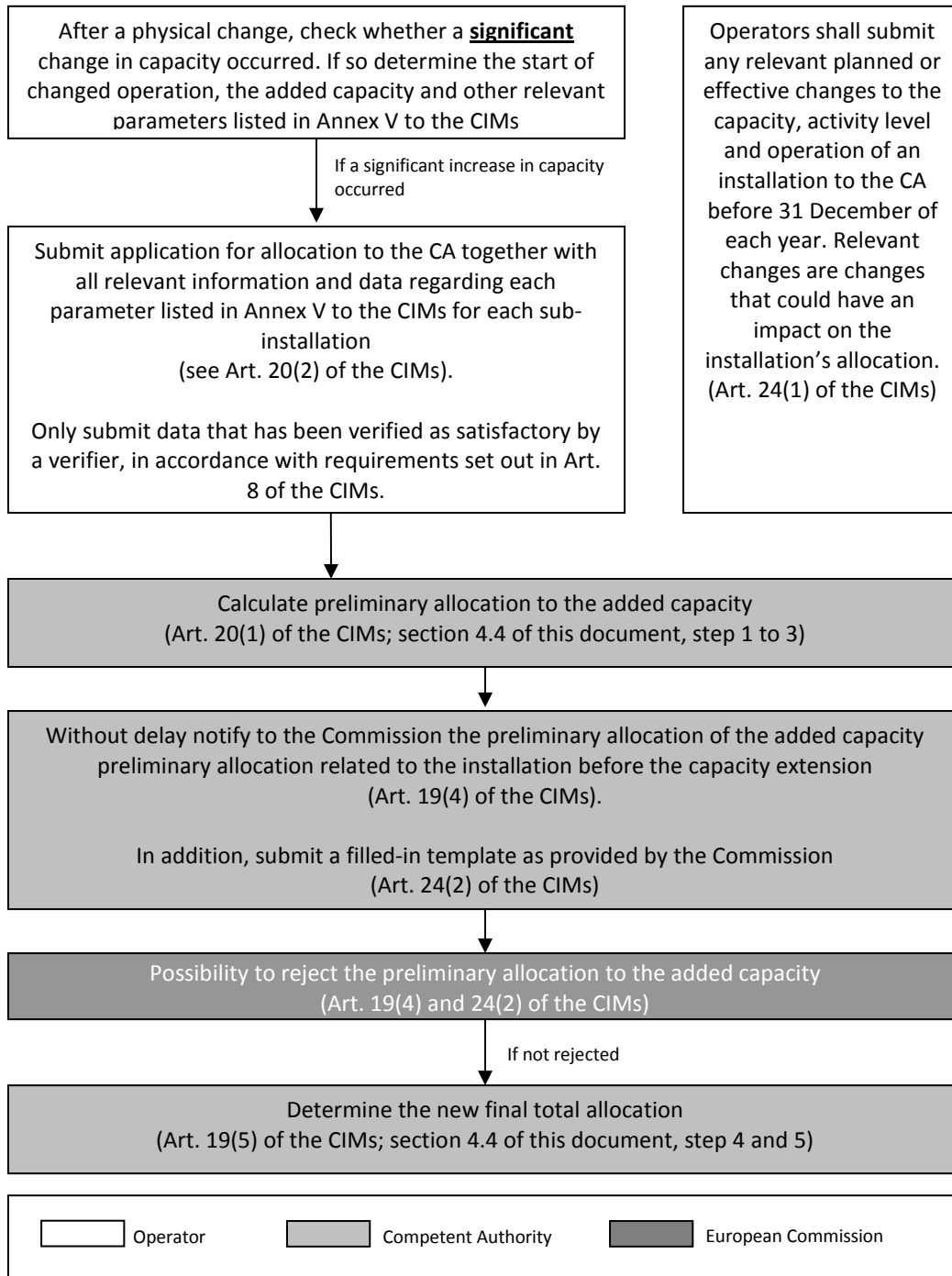
Note that for capacity extensions there will be no allocation for the period before the start of changed operation.

## 4.5 Procedure

Figure 2 gives a general outline of the main steps in the procedure for allocating for significant capacity extensions.

Further details on the timing and documentation that will be part of the application, the template to be used as well as detailed procedures on the management of the applications will be made available by the Commission.

**Figure 2. Procedure for allocation for significant capacity extensions**



## 5 Significant capacity reduction

Adjustments in allocation for significant capacity reductions according to new entrant/closure rules can only be made if:

- The start of changed operation is after 30 June 2011

OR

- The start of changed operation is before 30 June 2011, but the reduced capacity could not be determined in time for the change to be taken into account before using the approach described in section 6.4 of Guidance Document 2. As a general rule, this is likely to be the case if the reduced capacity could not be determined before 30 September 2011.

### 5.1 Definition

The definition of significant capacity reduction is given in Art 3 (j) of the CIMs. In short, a sub-installation has a significant reduction in capacity if:

- *One or more physical changes led to a decrease in capacity of at least 10%*

OR

- *One or more physical changes led to a decrease in allocation to the sub-installation of more than 50 000 allowances and the difference represents more than 5% of the amount of allowances calculated irrespective of the physical change*

Heat benchmark sub-installations can have a significant reduction in capacity if

- after one or more physical changes at the heat producing facilities, the reduced export of heat to non-ETS heat consumers allows the heat benchmark sub-installation concerned to match one of the two above mentioned quantitative criteria or
- after one or more physical changes at the heat consuming facilities, the reduced consumption of heat allows the heat benchmark sub-installation concerned to match one of the two above mentioned quantitative criteria.

Common feature of both cases above is the fact that a 'physical change' is made to the installation. For the definition of what a physical change is in the context of capacity increases or reductions, please refer to section 4.1 of this Guidance Document.

Physical changes exclusively aiming at improving the energy efficiency of a sub-installation or at improving or installing an end of pipe abatement technology to reduce process emissions should not be regarded as physical change leading to a significant capacity reduction. Nevertheless, the operator needs to report such physical changes to the Competent Authority and, where appropriate, provide detailed evidence.

More guidance on the definition and identification of a significant capacity reduction is also provided in Guidance Document 2 on Allocation Methodologies section 6.4, step 1.

## 5.2 Start of changed operation

Guidance Document 2 on Allocation Methodologies (section 6.4, step 1) explains how to identify a significant capacity reduction that occurred during the period from 1 January 2005 to 30 June 2011. The same approach should be followed for significant capacity reductions after 30 June 2011.

As described in Guidance Document 2, the starting date of changed operation is defined as the first day of the earliest continuous 90 day period during which the activity level related to the remaining capacity ( $AL_{remaining}$ ) – aggregated over the 90 day period – is at least 40% of the design capacity of the remaining capacity ( $C_{remaining,design}$ ).

$$\left( \frac{AL_{total}}{C_{remaining,design}} \right)_{90 \text{ days period}} \geq 0.4$$

The activity level should be calculated by adding up the total activity level in the 90 day period and dividing this by the daily capacity of the remaining capacity multiplied by 90. The activity level does not need to be above the 40% during each day in the 90 day period.

$$\left( \frac{AL_{Total}}{C_{remaining,designs}} \right)_{90 \text{ days period}} = \frac{\text{Accumulated activity level over 90 days period}}{C_{remaining,design} \left( \frac{90}{365} \right)}$$

The design capacity needs to be determined on the basis of project documentation and on the guaranteed values given by the supplier. Relevant documents could be reports -the ones accompanying the project-, datasheets, guaranteed performance values.

The continuous 90 day period is to be understood as a period of 90 consecutive days in which the sub-installation that has undergone a capacity change operated each day. In case the sector's usual production cycle does not foresee such continuous 90 day periods, the sector-specific production cycles are added to a 90 day period (see section 4.2 for examples regarding the 90 day period).

The start of changed operation has to be verified by an independent verifier.

### 5.3 Assessing significant changes

The definition of a significant capacity extension (see section 4.1) contains two quantitative criteria. This section describes how those criteria should be used in the evaluation of the significance of a change. Refer to section 6.4 of Guidance Document 2 for guidance on the definition of a physical change or the relation between the physical change and the change in capacity.

If none of the two criteria above is met, then no allocation reduction follows.

#### 10% Criterion

The following requirement should be met in order for the capacity decrease to be 10% or more<sup>5</sup>:

$$\frac{C_{new}}{C_{initial}} \leq 0.90$$

where,

$C_{initial}$ : The initial installed capacity is the installed capacity after the previous significant capacity change used for the calculation of the changed allocation or if this is not applicable it should be the average of the 2 highest monthly activity levels in the period from 1 January 2005 until 31 December 2008. For installations having operated less than 2 calendar years until 30 June 2011, the initial installed capacity shall be the one used for determining the historical activity level for the installation concerned (see Art. 9 (6) of the CIMs).

$C_{new}$ : The new capacity should be based on the 2 highest monthly activity levels within the 6 calendar months following the start of changed operation (see section 4.3 for an example of the baseline period to use).

All capacities need to be independently verified in accordance with requirements set out in Art. 8 of the CIMs. For additional guidance on verification see Guidance Document 4. The initial, new and reduced capacity used for the purpose of allocation for capacity extensions shall never be determined on the basis of experimental verification.

#### 50.000/5% criterion

The following requirements will need to be met for a capacity change to lead to a change in allocation to the sub-installation of more than 50 000 allowances and the difference represents at least 5% of the amount of allowances calculated irrespective of the physical change<sup>6</sup>

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<sup>5</sup> Art 3 (j): “significant capacity reduction” means one or more identifiable physical changes leading to a significant decrease in a sub-installation’s initial capacity and its activity level of the magnitude considered to constitute a significant capacity extension.

<sup>6</sup> See previous footnote

$$F_{reduced} > 50000$$

$$\frac{F_{reduced}}{F_{Initial}} \geq 0.05$$

where,

$F_{reduced}$  Preliminary allocation to the reduced capacity of the sub-installation not considering the carbon leakage exposure factor (see section 5.4; steps 1 to 3; in step three the CLEF should be ignored)

$F_{Initial}$  The initial preliminary allocation to the sub-installation in case capacity reduction would be ignored not considering the carbon leakage exposure factor.

If only one of the two criteria above (50.000 allowances, 5%) is met, then no allocation reduction follows.

#### 5.4 Determination of preliminary allocation

The allocation in case of a significant capacity reduction should be determined following a stepwise approach:

1. Determine the reduced capacity of the sub-installation
2. Determine the activity level related to the reduced capacity of the sub-installation
3. Determine the preliminary allocation related to the reduced capacity of the sub-installation
4. Determine the new preliminary allocation to each sub-installation
5. Determine the new total preliminary allocation to the installation
6. Determine the new total final allocation to the installation

##### *Step 1: Determine the reduced capacity of the sub-installation*

Following Art. 3 (m) of the CIMs, the reduced capacity is “the difference between the initial installed capacity of a sub-installation and the new installed capacity of that same sub-installation after having had a significant capacity reduction [...]”; Or,

$$C_{reduced} = C_{initial} - C_{new}$$

where,

$C_{reduced}$ : the reduced capacity

$C_{initial}$ : The initial installed capacity is the installed capacity after the previous significant capacity change used for the calculation of the changed allocation or if this is not applicable it should be the 2 highest monthly activity levels in the period from 1 Jan. 2005 until 31 December 2008. For installations having operated less than 2 calendar years until 30 June 2011, the initial installed capacity shall be the one used for determining the historical activity level for the installation concerned (see Art. 9 (6) of the CIMs).

$C_{new}$ : The new capacity should be based on the 2 highest monthly activity levels within the 6 calendar months following the start of changed operation (see section 4.3 for an example of the baseline period to use).

All capacities need to be independently verified in accordance with requirements set out in Art. 8 of the CIMs. The CIMs do not foresee determination of initial, new or reduced capacities for the purpose of allocation according to new-entrant rules on the basis of experimental verification.

*Step 2: Determine the activity level related to the reduced capacity of the sub-installation*

The activity level related to the reduced capacity ( $AL_{reduced}$ ) is determined by multiplying the reduced capacity by the standard or the relevant capacity utilization factor depending on the type of sub-installation:

Type of sub-installation	Activity level of the reduced capacity ( $AL_{reduced}$ )
Product benchmark sub-installation	Reduced capacity x Standard capacity utilisation factor (SCUF)
Heat benchmark sub-installation	Reduced capacity x Relevant capacity utilisation factor (RCUF)
Fuel benchmark sub-installation	Reduced capacity x Relevant capacity utilisation factor (RCUF)
Process emission sub-installation	Reduced capacity x Relevant capacity utilisation factor (RCUF)

Section 3.2 gives some background on the SCUF and RCUF. Section 6.3 of Guidance Document 2 on allocation methodologies provides further guidance on the determination of the RCUF.

*Step 3: Determine the preliminary allocation related to reduced capacity of the sub-installation*

The preliminary allocation related to the reduced capacity of the sub-installation is determined by multiplying the activity level related to the reduced capacity ( $AL_{reduced}$ ) by the relevant benchmark value and carbon leakage exposure factor (CLEF) in the year  $k$ .

Type of sub-installation	Preliminary allocation for reduced capacity
Product benchmark sub-installation	Relevant product benchmark (EUA/unit of production) x $AL_{reduced}$ (unit of production) x CLEF(k) <sup>1</sup>
Heat benchmark sub-installation <sup>2</sup>	Heat benchmark (62.3 EUA/TJ heat) x $AL_{reduced}$ (TJ heat) x CLEF(k)
Fuel benchmark sub-installation	Fuel benchmark (56.1 EUA/TJ fuel) x $AL_{reduced}$ (TJ fuel) x CLEF(k)
Process emission sub-installation	0.97 EUA/tCO <sub>2</sub> -eq. process emissions x $AL_{reduced}$ (tCO <sub>2</sub> -eq. process emissions) x CLEF(k)

<sup>1</sup> For some product benchmark sub-installations, the calculation of preliminary allocation may include additional corrections. This is the case for the steam cracker sub-installation, VCM sub-installations and all product benchmark sub-installations that take into account exchangeability of fuel and electricity. In case of the latter, the correction for the exchangeability should be based on the same baseline period as the new capacity. In case of import of measurable heat from installations not covered by the ETS, a correction might be required (please consult Guidance Document No. 6 for details).

<sup>2</sup> The special methodology to calculate the allocation for heat export to private households (see Guidance Document 6) is not applicable for new entrants.

*Step 4: Determine the new preliminary allocation to each sub-installation*

The new preliminary allocation to each sub-installation is obtained by subtracting the preliminary allocation related to the reduced capacity from the initial preliminary allocation.

$$F_{new}(k) = F_{initial}(k) - F_{reduced}(k)$$

where,

- $F_{new}(k)$  The new preliminary allocation to the sub-installation in the year  $k$
- $F_{initial}(k)$  The preliminary allocation to the sub-installation irrespective of the reduction in capacity in the year  $k$
- $F_{reduced}(k)$  The preliminary allocation related to the reduced capacity of the sub-installation as determined in step 3.

Due to differences in the methodologies to calculate the preliminary allocation before the reduction and the allocation related to the reduced capacity, theoretically, the equation above could in a limited number of cases result in a negative value. In such cases the preliminary allocation should be limited to zero.

*Step 5: Determine the new total preliminary allocation to the installation*

The new preliminary total annual allocation to the installation is the sum of the preliminary allocation to each sub-installation as determined in step 4:

$$F_{inst}(k) = \sum_i F_{sub-inst}^i(k)$$

with,

- $F_{inst}(k)$  Preliminary total allocation to the installation in year  $k$
- $F_{sub-inst}^i$  Allocation for sub-installation  $i$

*Step 6: Determine the new final total allocation to the installation*

For installations not classified as “electricity generator” the new final total annual amount of allowances is

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

with,

- $F_{inst,new}^{final}(k)$  The new final total amount of allocation to the installation in year  $k$
- $F_{inst,new}(k)$  The new total preliminary allocation to the installation in the year  $k$
- $CSF(k)$  Cross-sectoral correction factor in year  $k$  (if necessary)



For installations classified as “electricity generator” the final allocation is obtained by applying the linear reduction factor of 1.74% per year to the preliminary allocation to the added capacity, i.e. by multiplying with the factors as given in Section 2.3 of this Guidance Document, as follows:

$$F_{inst,new}^{final}(k) = F_{inst,new}(k) * LRF(k)$$

with,

$k$	Year
$F_{inst,new}^{final}(k)$	The new final total amount of allocation to the installation in year $k$
$F_{inst,new}(k)$	The new total preliminary allocation to the installation in the year $k$
$LRF(k)$	Linear reduction factor (see section 2.3)

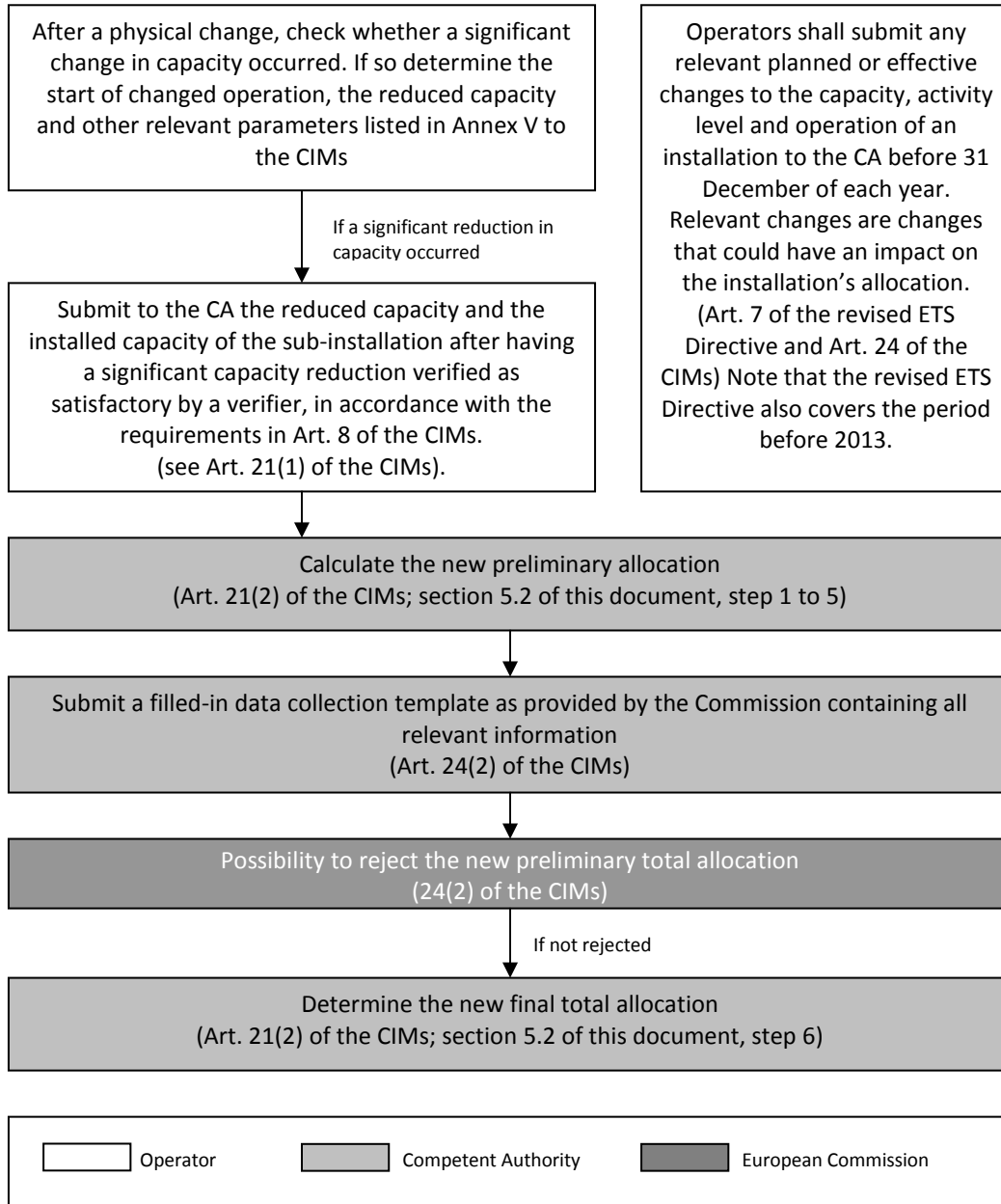
The adjustment of the allocation takes place the year after the calendar year in which the start of change operation took place. If the start of changed operation took place before 1 January 2013, then the allocation will be granted as of 2013.

## 5.5 Procedure

Figure 3 gives a general outline of the main steps in the procedure for allocating for significant capacity reductions.

Further details on the timing and documentation that will be part of the application, the template to be used as well as detailed procedures on the management of the applications will be made available by the Commission.

**Figure 3. Procedure for adjustment of allocation in case of significant capacity reductions**



## 6 Cessation of operations (closure)

### 6.1 Definition

According to Art. 22(1) of the CIMs:

*“An installation is deemed to have ceased operations, where any of the following is met:*

- a) The greenhouse gas emissions permit, the permit in force in accordance with Directive 2008/1/EC or any other relevant environmental permit has expired*
- b) The permits referred to under point (a) have been withdrawn;*
- c) Operation of the installation is technically impossible;*
- d) The installation is not operating, but has been operating before and it is technically impossible to resume operation;*
- e) The installation is not operating, but has been operating before and the operator cannot prove that operation can resume within 6 months after having ceased operations. Member States may extend this period up to a maximum of 18 months if the operator can prove that this situation is due to exceptional and unforeseeable circumstances that could not have been avoided even if all due care had been exercised and that are beyond the control of the operator of the installation concerned, in particular because of circumstances such as natural disasters, war, threats of war, terrorist acts, revolution, riot, sabotage or acts of vandalism.”*

This means that as a general rule, an installation which is not operating anymore as an ETS installation because of technical or legal reasons, and is not able to start operation again within 6 months, is considered to have ceased operation (closed). This includes installations which do not fall anymore within the scope of the ETS.

Following Art. 22 (2) of the CIMs, item e) is not applicable for installations which are kept in reserve or standby and installations which are operated on a seasonal schedule. Therefore such installations are not considered to be closed if:

- a) the operator holds a greenhouse gas emissions permit and all other relevant permits;*
- b) it is technically possible to start operations without making physical changes to the installation;*
- c) regular maintenance is carried out.*

### 6.2 Determination of allocation

Where an installation has ceased operation, the CA shall not issue emission allowances to this installation as of the year following the cessation of operation (see Art. 23 (3) of the CIMs).

Member States may suspend the issuance of the emission allowances as long as it is not established that the installation will resume operations (see Art. 23 (4) of the CIMs).

*Example of cessation of operation following by reopening*

An installation has ceased production in June 2013. It resumes operation in October 2014. It is assumed that there is a start-up phase with normal operation starting 6 months later.

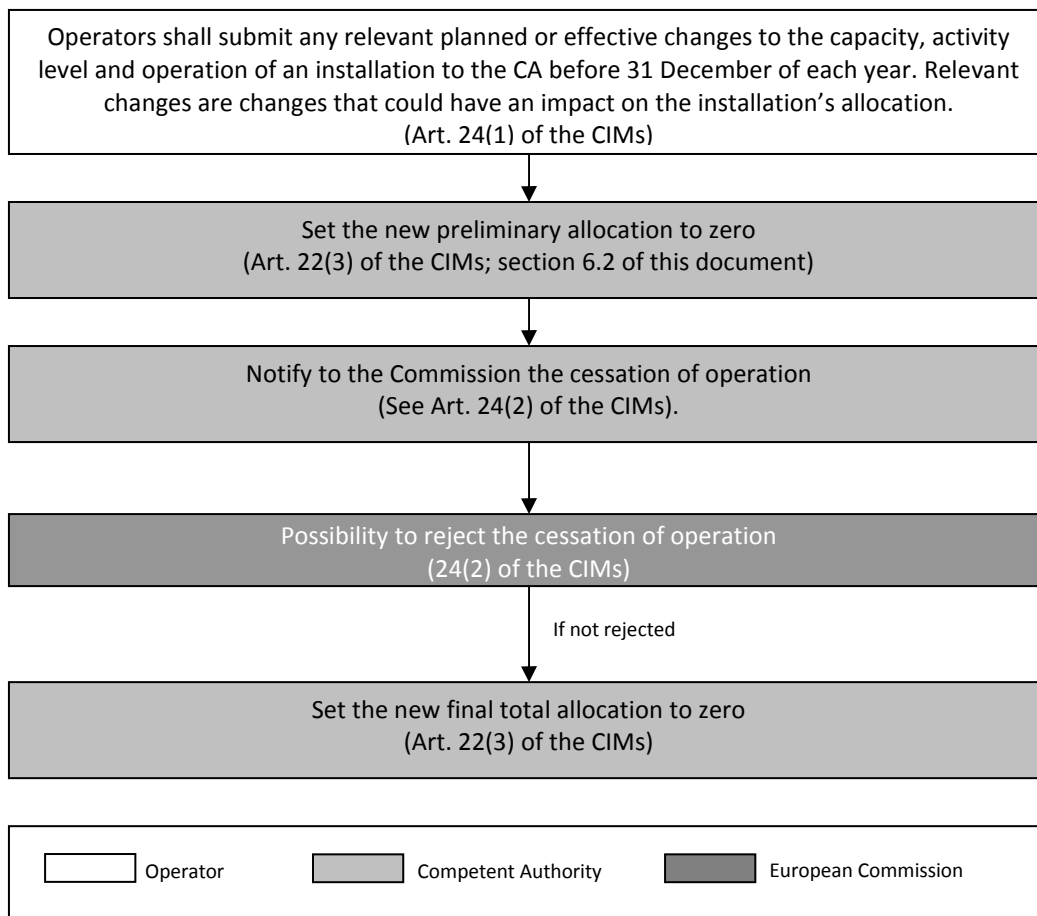
This example illustrates a cessation of operation. At reopening the installation is considered as a new entrant. Only in exceptional cases the Member States could interpret this as an interruption of 18 months without having to use the new entrant allocation (see definition of cessation of operation in section 6.1).

As the installation is a new entrant, there may be emissions before the start of normal operation. Allowances will be granted in respect of those emissions. In the phase after the start of normal operation, the installation will receive an allocation based on the initial capacity and the standard capacity utilization factor (product benchmarks) or the relevant capacity utilization factor (other sub-installations), (see section 3.2).

### **6.3 Procedure**

Figure 4 shows the main steps in the procedure for allocation in case of cessation of operation. This table is only valid for installations that still have a greenhouse gas emissions permit. Installations that do no longer have a greenhouse gas emissions permit are excluded from the EU ETS.

**Figure 4. Procedure for adjustment of allocation in case of cessation of operation**



## 7 Partial cessation of operations

### 7.1 Definition

Following Art 23(1) of the CIMs, an installation is considered to have partially ceased operations if:

*“...one of its sub-installations has reduced its annual activity level in a given calendar year by at least 50% compared to the [initial] activity level...”*

AND if this sub-installation contributes:

- *“...to at least to 30% of the installation’s final annual amount of emission allowances allocated free of charge*

*OR*

- *to more than 50 000 allowances [per year]...”*

The initial activity level should be understood as the activity level used for calculating the sub-installation’s allocation in accordance with Art. 9 of the CIMs, or, where applicable, Art. 18 of the CIMs. This is the historical activity level used to determine the allocation in the NIMs, or where applicable, the activity level used to calculate the allocation for new installations (new entrants). If applicable and if not done so already, to determine the initial activity level, these activity levels should be corrected for any significant changes in capacity prior to the partial cessation in operation (see section 6.4 of Guidance Document 2 for the determination of the HAL related to significant capacity changes prior to 30 June 2011; see sections 3 and 4 of this document for determination of the activity level related to significant capacity changes after 30 June 2011).

Changes to the carbon leakage exposure status of one or more sub-installations of an installation cannot be regarded as partial cessations of operations as this does not affect the activity levels.

Example 1: An operator chose 2005-2008 as the baseline period for the activity level. The installation operated in each year in that period. The sub-installation concerned did not significantly change its capacity in the period after 1 Jan. 2005. The initial activity level is the median of the annual activity levels in the baseline period 2005-2008.

Example 2: An operator chose 2005-2008 as the baseline period for the activity level. The installation operated in each year in that period. The product benchmark sub-installation concerned had significant capacity extensions with starts of changed operation on 15 March 2009 and on 30 August 2014. The initial activity level is the median of the annual activity levels (AL) in the baseline period 2005-2008 corrected for the significant capacity extensions.

For the capacity extensions before 30 June 2011, the activity level is the product of the added capacity ( $C_{added,1}$ ) and the historical capacity utilization factor ( $HCUF$ ) (see section 6.4 of Guidance Document 2). For the capacity extension after 30 June 2011, the activity level is the product of the added capacity ( $C_{added,2}$ ) and the standard capacity utilization factor ( $SCUF$ ) in case of a product benchmark sub-installation (see section 3).

**1. The initial activity level ( $AL_{initial}$ ) in the year 2013 would be:**

$$AL_{initial}(2013) = Median_{2005-2008}(AL) + C_{added,1} \times HCUF$$

**2. The initial activity level ( $AL_{initial}$ ) in the year 2014 would be:**

$$AL_{initial}(2014) = \frac{AL_{BeforeChange,2} \times d_{BeforeChange,2} + AL_{AfterChange,2} \times d_{AfterChange,2}}{365}$$

With:

$d_{BeforeChange,2}$  The number of days in 2014 before the start of changed operation

$d_{Afterchange,2}$  The number of days in 2014 after the start of changed operation

$AL_{BeforeChange,2}$  The initial activity level before the change in 2014

$$AL_{BeforeChange,2} = AL_{initial}(2013) = Median_{2005-2008}(AL) + C_{added,1} \times HCUF$$

$AL_{Afterchange,2}$  The initial activity level after the change in 2014

$$AL_{AfterChange,2} = AL_{initial}(> 2014) = Median_{2005-2008}(AL) + C_{added,1} \times HCUF + C_{added,2} \times SCUF$$

**3. The initial activity level ( $AL_{initial}$ ) in the years after 2014 would be:**

$$AL_{initial}(> 2014) = Median_{2005-2008}(AL) + C_{added,1} \times HCUF + C_{added,2} \times SCUF$$

Contrary to a significant capacity reduction, a partial cessation is not related to physical changes to the installation. A physical change could however lead to a change that meets both the definitions of a significant reduction in capacity (see section 4) and the definition of a partial cessation of operation (see above): it anyway does not happen at the same time. After a significant capacity decrease, the allocation is revised according to the new capacity and related activity level. This new activity level will become the reference for any future capacity change or partial cessation.

A possible further decrease of the activity level may always occur: partial cessation thresholds shall be evaluated in comparison with the new activity level.

Example:

Initial activity level in the NIMs : 1000 (median 2005-2008)

Initial capacity : 1200

A capacity decrease occurs on 1st July 2014.

$C_{new} = 400$

The allocation is adjusted on the basis of the new capacity. Under the hypothesis that the  $RCUF=0.83$ , the activity level for 2014 would be 667. From 2015 onward the activity level as a basis for the allocation would be 333.

Case A: Assume the production in 2014 is equal to 400. This is 40% of the original initial activity level, but still about 60% of the re-calculated activity level for 2014. Conclusion: only the capacity reduction rule applies, but the partial cessation rule does not apply

Case B: Assume the production in 2014 is equal to 200. This is about 30 % of the recalculated activity level. In this case the partial cessation rule applies (assuming that the sub-installation concerned contributed to at least 30% of the allocation to the installation).

The allocation which was first reduced due to the physical change (application of capacity reduction rule), is reduced again due to the partial cessation meaning that in this case, 50% of the already adjusted allocation is granted).

The definition of partial cessations of operations refers to activity levels. Section 3.2 gives an overview of units of activity levels for different types of sub-installation.

The year in which the allocation of emission allowances to an installation that partially ceases operations shall be adjusted, is the calendar year following the calendar year during which it partially ceased operations (e.g. reduced activity levels in 2015, leading to adjustment of allowances in 2016), or as of 2013, if the partial cessation took place before 1 January 2013 (e.g. reduced activity levels in 2012, leading to adjustment of allowances in 2013).

Example: A bricks producer chose 2005-2008 as the baseline period for the calculation of its allocation. Following Art. 9(1) of the CIMs, the historical activity level in this period is the median of the annual activity levels in the baseline period. Suppose this median is 100 tonnes of bricks per year. From 2009 onwards (and therefore also in 2012), the bricks production was reduced to 20 tonnes of bricks per year. Although the actual reduction in production took place before 2012, the relevant sub-installation has a reduced activity level in that year and is therefore considered to be partially closed. The allocation will be corrected accordingly as of 2013.

The draft Regulation on Monitoring and Reporting contains provisions that Member States may require elements to be included in the monitoring plan of installations relevant for meeting reporting requirements related to planned or effective changes in activity levels. Also, in case a major change in the activity level occurs, it could probably result in a change of the tier level of at least some of the source streams of the installations, resulting in a requirement to update the monitoring plan (which



would have to be notified immediately or at the end of the year, in accordance with the CA's requirements).

Also in relation to verification, the draft Regulation on Verification and Accreditation contains provisions that verifiers shall assess whether the reporting requirement included in the monitoring plan has been applied and implemented correctly, whether the information submitted to the Competent Authority is correct and complete and – where they have observed changes to activity levels which might have an impact on the installation's allocation of emission allowances which have not been reported to the Competent Authority by 31 December – should describe these changes and the observations made.

The activity level of the heat benchmark sub-installation does not cover heat export to another ETS installation or heat import from a non-ETS entity or installation.

Example: an installation used to consume heat from an in-house boiler, but in 2015 changes its heat supply so that it now imports heat from a geothermal power plant that is not part of the ETS. This change could lead to a partial cessation of operation.

Example: an installation exports heat to a dairy plant that is not part of the ETS. However, due to capacity extensions at the dairy plant which begins producing its own heat, it becomes part of the ETS in 2016. This change could lead to a partial cessation of operation at the installation previously exporting the heat.

In exceptional cases, where the application of the partial cessation rule would lead to unintended results, i.e. changes in the types of products produced using the same physical production line without any physical change, Member States may decide not to apply this rule after having consulted the European Commission on the individual case. The Commission will inform Member States regularly on such cases.

## 7.2 Determination of allocation

In the case of partial cessation of operation, the allocation will be reduced. The reduction depends on the remaining activity level, following the thresholds given in Table 1. In the right column, the table also shows adjustment factors that are used in the determination of allocation:

**Table 1** Thresholds for adjusting the allocation of installations which have partially ceased operation pursuant to Article 23 of the CIMs, together with adjustment factors

If the remaining annual activity level of the sub-installation is...	...then the final allocation to that sub-installation...	Corresponding adjustment factor
more than 50% of the initial activity level <sup>1</sup> ,	is not adjusted.	1
equal to or less than 50% but more than 25% of the initial activity level,	is adjusted to 50 % of the initial final allocation. <sup>2</sup>	0.5
equal to or less than 25% but more than 10% of the initial activity level,	is adjusted to 25 % of the initial final allocation.	0.25
equal to or less than 10% of the initial activity level.	is zero (adjusted to 0% of the initial final allocation).	0

<sup>1</sup> See section 6.1 for the definition of initial activity level

<sup>2</sup> The allocation that the installation would receive if it would not have a partial cessation of operation

The adjusted final total allocation to the installation is determined in two steps.

*Step 1: Determine the adjusted final allocation to the sub-installation that reduced its activity level*

For installations not classified as “electricity generator”, the adjusted final allocation to each of its sub-installations is:

$$F_{sub-inst,new}^{final}(k) = F_{sub-inst,initial}(k) \times CSF(k) \times AdjustmentFactor$$

with,

$F_{sub-inst,new}^{final}(k)$  The adjusted final amount of allocation to the sub-installation in year  $k$

$F_{sub-instal,initial}(k)$  The initial preliminary allocation to the sub-installation in the year  $k$ . This preliminary allocation is part of the NIMs or where applicable, part of the calculation of the allocation to new entrants. This preliminary allocation should take into account the carbon leakage exposed factor (CLEF)

$CSF(k)$  Cross-sectoral correction factor in year  $k$  (if necessary)

*Adjustment Factor* The appropriate adjustment factor according to Table 1.

For installations classified as “electricity generator” the final allocation is obtained by applying the linear reduction factor of 1.74% per year to the preliminary allocation to the added capacity, i.e. by multiplying with the factors as given in Section 2.3 of this Guidance Document:

$$F_{sub-inst,new}^{final}(k) = F_{sub-inst,initial}(k) \times LRF(k) \times AdjustmentFactor$$

with,

$k$	Year
$F_{sub-inst,new}^{final}(k)$	The adjusted final amount of allocation to the sub-installation in year $k$
$F_{sub-instal,initial}(k)$	The initial preliminary allocation to the sub-installation in the year $k$ . This preliminary allocation is part of the NIMs or where applicable, part of the calculation of the allocation to new entrants. This preliminary allocation should take into account the carbon leakage exposed factor (CLEF)
$LRF(k)$	Linear Reduction Factor (see section 2.3)
$AdjustmentFactor$	The appropriate adjustment factor according to Table 1.

*Step 2: Determine the adjusted total final allocation to the installation*

The adjusted total final allocation to the installation is the sum of the final allocation to each sub-installation:

$$F_{inst,new}^{final}(k) = \sum_i F_{sub-inst}^{i,final}(k)$$

with,

$F_{inst,new}^{final}(k)$	Adjusted total final allocation to the installation in year $k$
$F_{sub-inst}^{i,final}(k)$	Adjusted final allocation to sub-installation $i$

The adjustment of the allocation takes place the year after the calendar year in which the partial cessation took place. If 2012 was a year with a reduced activity level, then the adjustment will be made as of 2013.

Article 23 of the CIMs foresees that in case a sub-installation that was affected by a fall in the activity level leading to the application of the partial cessation rule recovers their previous activity level, or part of it, the allocation may be adjusted again upwards as follows:

- if the sub-installation recovers production volumes and the resulting annual activity level is more than 50% of initial activity level, the full allocation shall be restored at the value before the partial cessation
- if the sub-installation recovers production volumes and the resulting annual activity level is more than 25% of initial activity level, the allocation should be corrected

upwards and the final allocation would result in the 50% of the original allocation before the partial cessation.

The adjustment of the allocation takes place in the year after the calendar year during which the activity level exceeded the threshold.

*Example of application of Art. 23 (4) of the CIMs on "recovering" allowances after an installation recovers initial activity levels*

An installation is allocated allowances based on a carbon leakage product benchmark sub-installation, having an initial activity level of 20 000 tons. Its allocation decision led to following final allocation decision:

2013	2014	2015	2016	2017	2018	2019	2020
20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000

In the year 2015 its annual activity level dropped by 60% compared to the initial activity level, thereby reducing (via a decision taken in the beginning of 2016) the allocation for the remaining years with 50%:

2013	2014	2015	2016	2017	2018	2019	2020
20 000	20 000	20 000	10 000	10 000	10 000	10 000	10 000

In the year 2016, the installation reaches again an activity level of 18 000 tons, thereby giving the installation the right to again receive the allowances initially allocated to him. A decision taken in the beginning of 2017, will thereby decide the following allocation:

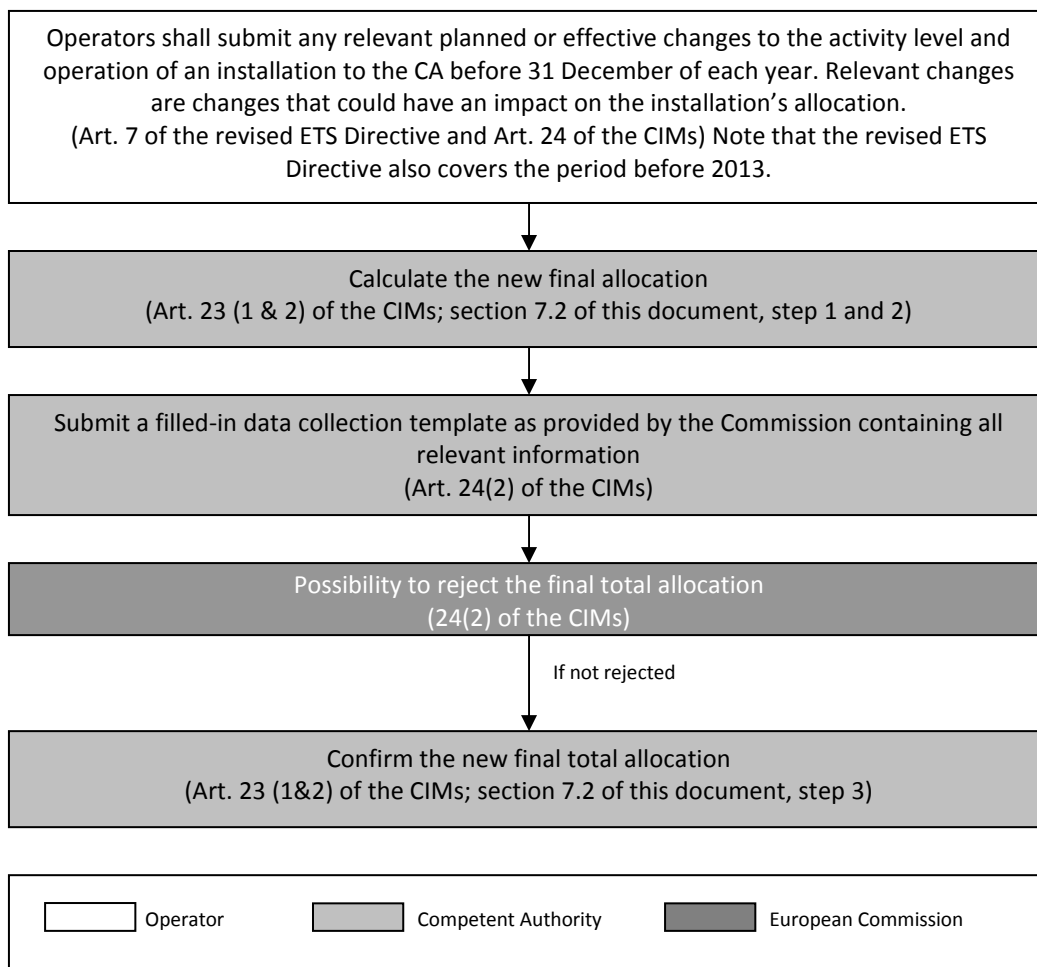
2013	2014	2015	2016	2017	2018	2019	2020
20 000	20 000	20 000	10 000	20 000	20 000	20 000	20 000

The Competent Authority is informed of the changes to the activity levels through obligations under Article 7 of the ETS Directive and Art. 24 of the CIMs.

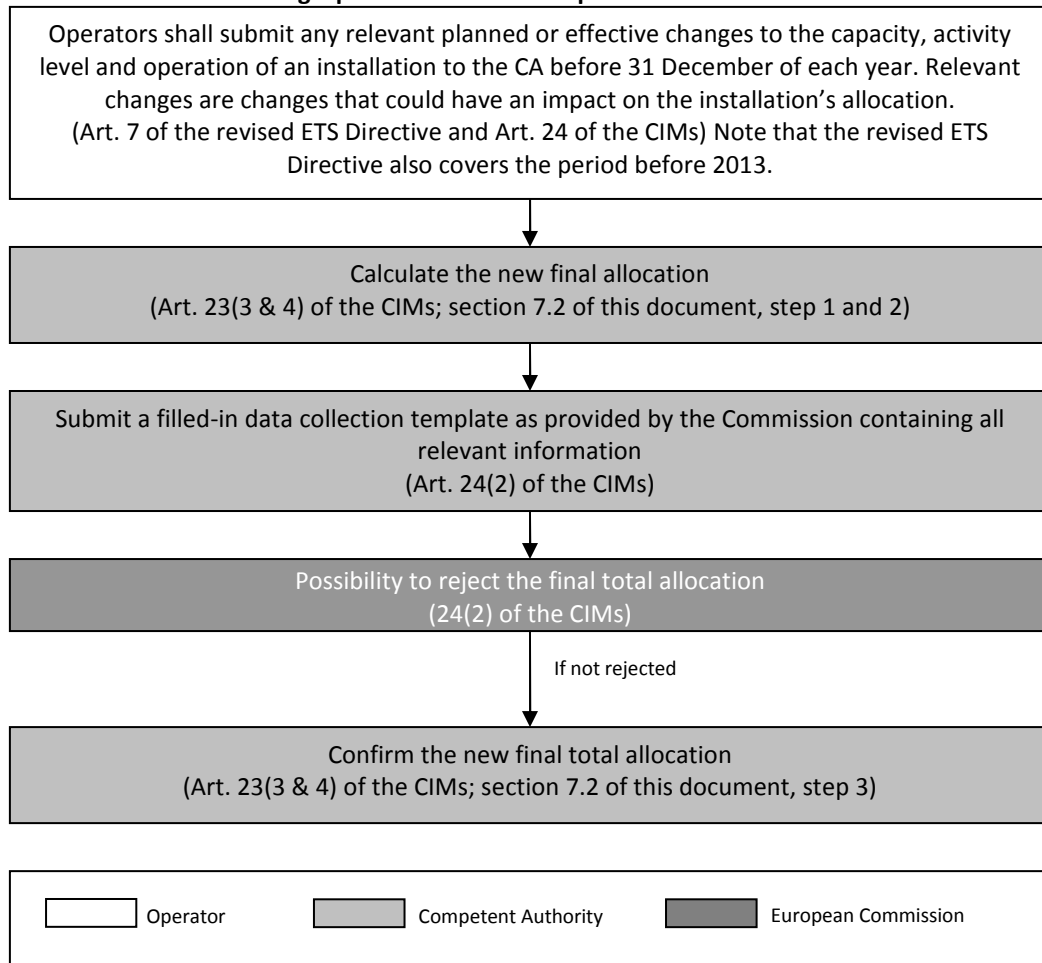
### 7.3 Procedure

Figure 5 shows the main steps in the procedure for allocation in case of partial cessations of operation. Figure 6 shows the main steps in the procedure for allocation in case of an increase in activity levels to a level above a threshold value following partial cessation.

**Figure 5. Procedure for adjustment of allocation in case of partial cessations of operation**



**Figure 6. Procedure for adjustment of allocation in case of an increase in activity level to a level above a threshold value following a partial cessations of operation**



## ANNEX 1

This annex to Guidance Document 7 supports the determination of allocation to new entrants, and for cases of significant capacity reductions, cessations and partial cessations of operation. The data collection template endorsed by the Climate change Committee on 7 June 2012 applies the factors the way they're described in this annex.

In particular, this document provides guidance to Competent Authorities (CA) on how to take into account any relevant correction factors for the calculation of the amount of allowances when determining the allocation to new entrants and for significant capacity reductions in case of some specific product-benchmark sub-installations:

- Allocation in respect of steam cracking (Article 11, see section 3 of this Annex)
- Allocation in respect of vinyl chloride monomer (Article 12, see section 4)
- Heat flows between installations (Article 13, see section 5)
- Exchangeability of fuel and electricity (Article 14, see section 6)
- Pulp & paper (Article 10(7), see section 7)

This Annex to Guidance Document 7 is based on a draft provided by consultants (Umweltbundesamt GmbH). It takes into account the discussions within several meetings of the informal Technical Working Group on Benchmarking under the WGIII of the Climate Change Committee (CCC), as basis for the data collection template for new entrants and closures mentioned above.

It was agreed that this annex reflects the opinion of the Climate Change Committee, at its meeting on[...].

### 1 Outline of the issues

In accordance with second sub-paragraph of Article 19 of the CIMs for the allocation to new entrants “Articles 10(4) to (6) and (8), **11, 12, 13 and 14** of this Decision shall apply **mutatis mutandis** to the calculation of the preliminary annual number of emission allowances allocated free of charge”. Furthermore the last sentence of Article 19(3) requires that “the second sentence of **Article 10(7)** shall apply”. The highlighted Articles 10(7), 11, 12, 13 and 14 deal with the correction factors listed in chapters 543 to 7.

For new entrants following a significant capacity extension, Article 20(1) of the CIMs adds that Member States shall “determine on the basis of the methodology set out in Article 19 the number of free emission allowances to be allocated, **in so far as the extension is concerned**.” Article 21(2) of the CIMs requires that Member States shall calculate the new allocation “in accordance with Article 19(1) insofar as the significant capacity reduction is concerned”.

The term “mutatis mutandis” generally means “change what needs to be changed” or “apply rules as appropriate”. This annex to GD 7 has been developed for clarifying how the required corrections to the preliminary allocation to new entrants and for other

cases of allocation changes should be applied. It also explores the meaning of “in so far as the significant capacity extension/reduction is concerned.”

In general, the new allocation will be calculated as follows:

Case 1:  $Allocation_{new,preliminary} = BM * AL_{relevant} * CorrF$

Case 2:  $Allocation_{new,preliminary} = BM * AL_{relevant} - CorrF$

where:  $AL = (C_{new} - C_{old}) * SCUF$

*AL<sub>relevant</sub>*: ..... The “relevant” activity level. In cases of greenfield plants this activity level is the total activity level (*AL<sub>new</sub>*). In cases of significant capacity changes this activity level means the added (*AL<sub>add</sub>*) or reduced (*AL<sub>red</sub>*) activity level, as applicable.

*C<sub>new</sub>*: ..... The new capacity. In any case this is the total new capacity after the start of normal or changed operation, as applicable.

*C<sub>old</sub>*: ..... The old capacity. In cases of greenfield plants or new sub-installations this capacity is zero. In cases of significant capacity changes this capacity refers to the total capacity determined for the latest significant capacity change. If no further significant capacity changes occurred after 30 June 2011, it is the initial installed capacity determined for the NIMs.

*CorrF*: ..... The correction factor discussed within this annex to guidance paper. It can be distinguished between

- Case 1: corrections that are to be applied as a multiplication:
  - Exchangeability of fuel and electricity (Article 14)
  - Vinyl chloride monomer (Article 12)
  - Pulp & paper (Article 10(7) )
- Case 2: corrections that are to be applied as a subtraction:
  - Steam cracking (Article 11)
  - Heat flows between installations (Article 13).

*SCUF*: ..... The standard capacity utilisation factor to be applied for the relevant product benchmark sub-installation in accordance with Article 18(2) of the CIMs.



For illustration Figure 7 shows how a correction factor has to be applied in the case of allocation to a greenfield plant.

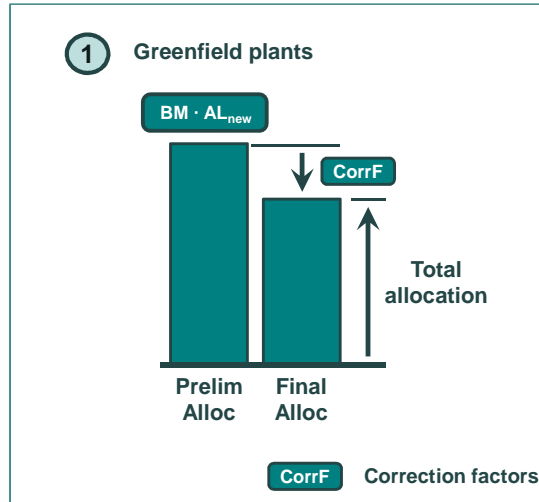


Figure 7: Allocation for greenfield plants taking into any correction factors  $CorrF$ .

Figure 8 and Figure 9 describe in a similar way how significant capacity changes should be treated. The detailed description for each correction factor is given in chapters 3 to 7. Note that HAL refers to the median annual activity level during the baseline period of the NIMs application.

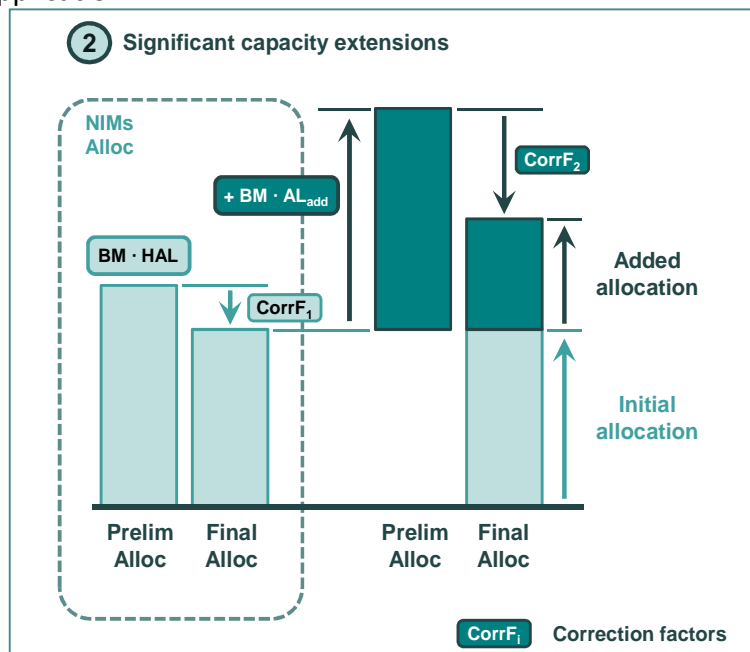


Figure 8: Allocation for significant capacity extensions taking into account any correction factors ( $CorrF$ )

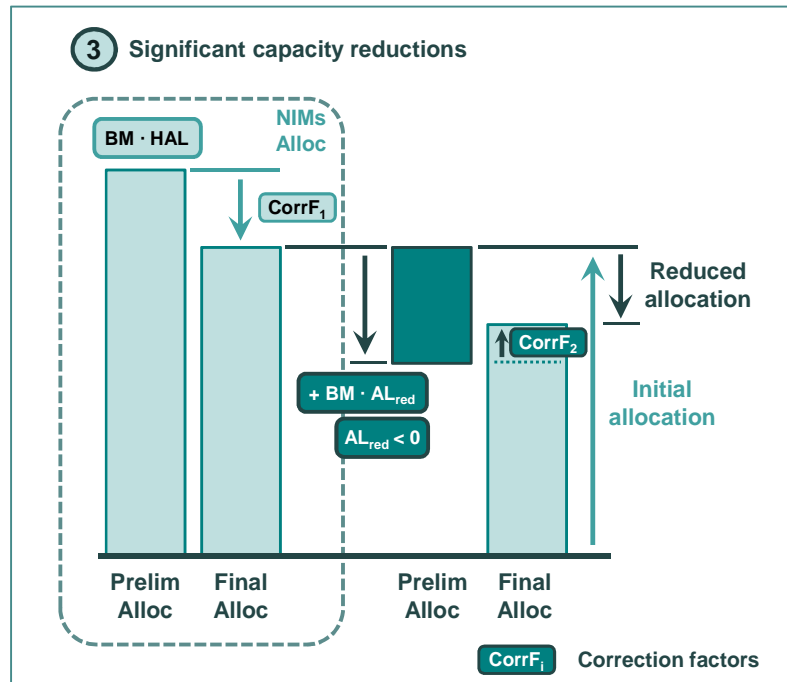


Figure 9: Allocation for significant capacity reductions taking into account any correction factors ( $CorrF$ ).

## 2 How to determine correction factors

This section explains for each type of application, i.e. greenfield plants of significant capacity changes, what “relevant” data for determination of the correction factor is required and to what reference period these data should relate. Specific guidance how to calculate the correction factors is provided in chapters 3 to 7

### 2.1 New installations (‘Greenfield plants’)

#### Reference period for Case 1 and Case 2

For the first sub-installation of a greenfield plant to start normal operation, each parameter should be determined as the average of monthly data of each parameter during the 90 day period after the start of normal operation, i.e. the three 30 day periods or the 2 calendar months, whatever chosen<sup>7</sup> (see Guidance Document 7).

#### Determination of the “relevant” data for Case 1 and Case 2

Data for each parameter will always be related to the total capacity.

<sup>7</sup> The period chosen shall be consistent for each parameter and with the reference period chosen for activity data.

## 2.2 Significant capacity changes

### *Reference period for Case 1 and Case 2*

Each parameter should be determined as the average of monthly amount of measurable heat imported during the six months period after the start of changed operation.

### *Determination of the “relevant” data for Case 1*

- When possible, each parameter will be based on the physically added or reduced capacity: e.g. when the capacity extension consists of a new production line or the capacity reduction is the result a removal of a production line, data should be related to that production line.
- Some capacity changes will be modifications to existing equipment. It may then be difficult for the operator to provide the required “relevant” data for each parameter related to the changed capacity only. In such cases, data attributed to the changed capacity is determined by the total values, i.e. “relevant” data for each parameter will be related to the total (new) capacity.

*The method applied should be consistent for each parameter.*

*Please note that for significant capacity reductions the first approach for determination of the “relevant” data might be difficult even in cases of a removal of a production line. For these cases the latter method might be applied.*

### *Determination of the “relevant” data for Case 2*

- When possible, each parameter will be based on the physically added or reduced capacity: e.g. when the capacity extension consists of a new production line or the capacity reduction is the result a removal of a production line, data should be related to that production line.
- Some capacity changes will be modifications to existing equipment. It may then be difficult for the operator to provide the required “relevant” data for each parameter related to the changed capacity only. In such cases, data attributed to the changed capacity is determined by the total amount minus the historic amount. For detailed guidance on how to determine those amounts please see the correction factor-specific chapters 3 to 7.

*The method applied should be consistent for each parameter.*

*Please note that for significant capacity reductions the first approach for determination of the “relevant” data might be difficult even in cases of a removal of a production line.*

For these cases the latter method might be applied. For significant capacity reductions the “relevant” amount used for calculation might be a negative value.

### 3 Allocation in respect of steam cracking (Article 11)

This section is relevant if a product-benchmark sub-installation is covered by the steam cracking benchmark of Annex I of the CIMs. Further guidance can be found in Guidance document 9 on sector-specific guidance.

The preliminary allocation is to be corrected by subtracting (Case 2) the factor  $CorrF$  (see Figure 7) or  $CorrF_2$  (see Figure 8 and Figure 9) which is determined by:

$$CorrF_{HVC} = 1.78 * H_2 + 0.24 * C_2H_4 + 0.16 * other\ HVC$$

The relevant parameters are hydrogen, ethylene and all other HVC. For explanation of each parameter see Guidance Document 9. The determination of each parameter is based on the “relevant” data. These “relevant” data depend on the type of application in accordance with chapter 2.

In case of significant capacity changes as a result of modifications to existing equipment data attributed to the changed capacity is determined by the total amount of each parameter from supplemental feed minus the historic amount. This historic amount should be taken from previous application, i.e. from the NIMs application calculated as the average over the chosen baseline period in case this is the first significant change of the sub-installation after 30 June 2011.

$$H_{2,historic} = average(H_{2,annual})_{baseline\ period}$$

$$C_2H_{4,historic} = average(C_2H_{4,annual})_{baseline\ period}$$

$$other\ HVC_{historic} = average(other\ HVC_{annual})_{baseline\ period}$$

Please note that the parameters  $H_2$ , ethylene and all other HVC are also relevant for the determination of the capacity, i.e. the initial installed capacity and the new capacity in accordance with Annex III of the CIMs. For this purpose those parameters will always relate to the total capacity. The method to be applied in order to fulfil the requirements for further allocation correction in accordance with Article 11 is explained in the following sub-chapters.

### 4 Allocation in respect of vinyl chloride monomer (Article 12)

This section is relevant if a product-benchmark sub-installation is covered by the vinyl chloride benchmark of Annex I of the CIMs. Further guidance can be found in Guidance document 9 on sector-specific guidance.

The preliminary allocation is to be corrected by multiplying (Case 1) by the factor  $CorrF$  (see Figure 7) or  $CorrF_2$  (see Figure 8 and Figure 9) which is determined by:

$$CorrF_{VCM} = \frac{Em_{direct} + Em_{NetHeatImport}}{Em_{direct} + Em_{NetHeatImport} + Em_{hydrogen}}$$

The relevant parameters are  $Em_{direct}$ ,  $Em_{NetImportedHeat}$  and  $Em_{hydrogen}$ . For explanation of each parameter see Guidance Document 9.

The determination of each parameter is based on the “relevant” data. These “relevant” data depend on the type of application in accordance with chapter 2.

## 5 Heat flows between installations (Article 13)

This section is relevant if a product-benchmark sub-installation encompasses the import of measurable heat from non-ETS installations or entities within the system boundaries of the product-benchmark. The consumption of heat produced either by a non-ETS installation or by a sub-installation producing products covered by the nitric acid benchmark is not eligible for free allocation<sup>8</sup>. Therefore, when a product benchmark sub-installation imports heat produced by a non-ETS installation, the allocation relating to this amount of heat should be subtracted from the total allocation (see Guidance Document 6 on cross-boundary heat flows for more guidance on this topic). Further guidance can be found in section 3.1 of Guidance Document 2. Guidance document 9 on sector-specific guidance provides additional guidance on the system boundaries of each product benchmark.

The preliminary allocation is to be corrected by subtracting (Case 2) the “relevant” amount of measurable heat imported from non-ETS installations or entities and consumed within the system boundaries of a product benchmark sub-installation (see parameter “CorrF” in Figure 7 or  $CorrF_2$  in Figure 8 and Figure 9):

$$CorrF_{nonETS\ heat} = BM_{heat} * nonETS\ heat$$

The relevant parameter is the amount of measurable heat imported from non-ETS installations or entities and consumed within the system boundaries of a product benchmark sub-installation. The determination of this parameter is based on the “relevant” data. These “relevant” data depend on the type of application in accordance with chapter 2.

In case of significant capacity changes as a result of modifications to existing equipment data attributed to the changed capacity is determined by the total amount of heat from non-ETS sources imported by the relevant sub-installation minus the historic amount. This historic amount should be taken from previous applications, i.e. from the NIMs application in case this is the first significant change of the sub-installation after 30 June 2011, as the average of the annual amount of heat consumed during the baseline period.

- $nonETS\ heat_{historic} = average(nonETS\ heat_{annual})_{baseline\ period}$

<sup>8</sup> For simplicity reasons, heat from nitric acid production is not mentioned separately throughout this section. It is implied as “heat from non-ETS entities”.

## 6 Exchangeability of fuel and electricity (Article 14)

This section is relevant if a product-benchmark sub-installation is covered by section 2 of Annex I of the CIMs. Further guidance can be found in section 3.2 of Guidance Document 2. Guidance document 9 on sector-specific guidance provides additional guidance on sectors for which this rule applies.

The preliminary allocation is to be corrected by multiplying (Case 1) by the factor  $CorrF$  (see Figure 7) or  $CorrF_2$  (see Figure 8 and Figure 9) which is determined by:

$$CorrF_{ELEX} = \frac{Em_{direct} + Em_{NetHeatImport}}{Em_{direct} + Em_{NetHeatImport} + Em_{electricity}}$$

The relevant parameters are  $Em_{direct}$ ,  $Em_{NetImportedHeat}$  and  $Em_{electricity}$ . The determination of each parameter is based on the “relevant” data. These “relevant” data depend on the type of application and calculation should be done in accordance with chapter 2.

## 7 Pulp & paper (Article 10(7) )

This section is relevant if an installation encompasses sub-installations producing pulp (short fibre kraft pulp, long fibre kraft pulp, thermo-mechanical pulp and mechanical pulp, sulphite pulp or other pulp not covered by a product benchmark) and is exporting measurable heat to other technically connected sub-installations. In this case only the amount of pulp products placed on the market and not processed into paper are eligible for free allocation. Further guidance can be found in Guidance document 9 on sector-specific on sectors for which this rule applies.

The preliminary allocation is to be corrected by multiplying (Case 1) by the factor  $CorrF$  (see Figure 7) or  $CorrF_2$  (see Figure 8 and Figure 9) which is determined by:

$$CorrF_{pulp} = \frac{Pulp_{placed\ on\ market}}{Pulp_{total\ produced}}$$

The relevant parameters are the amount of pulp placed on the market and the total amount of pulp produced.

The determination of each parameter is based on the “relevant” data. These “relevant” data depend on the type of application and calculation should be done in accordance with chapter 2.