

## Framework for disaggregated assessments

### 1 Introduction

#### Context

The revised EU ETS Directive<sup>1</sup> for the period 2021-2030 aims to ensure that the EU is on track to meet its emission reduction targets for 2030, to maintain the competitiveness of the EU industry and those sectors at risk of carbon leakage will face no undue costs. The revised EU ETS Directive sets out in a detailed manner how the free allocation rules and the carbon leakage list are to be established. According to Article 10(b), paragraphs 1 to 4 of the revised Directive, a sector can be deemed to be exposed to a significant risk of carbon leakage if it fulfils the quantitative criteria (QT):

- (Art 10b (1)) (sub)sector carbon leakage indicator, defined as the product of the sector intensity of trade with third countries by the sector's emission intensity, exceeds 0.2 – "first level assessment"

In cases where the "first level assessment" leads to the establishment of borderline cases a qualitative assessment can be carried out according to the criteria outlined in Article 10b paragraph 2 of the revised Directive (abatement potential, market characteristics and profit margins). Additionally, under the criteria defined in Article 10b paragraph 2 and 3 of the revised Directive some sectors may be eligible to submit applications for a quantitative assessment at a disaggregated level. The eligibility criteria for these "second level assessments" are set in the revised Directive under Article 10b paragraph 2 and 3:

*Table 1. Overview of second level assessment eligibility criteria for qualitative assessment (as set in the EU ETS revised Directive).*

Criteria		Article	Assessment process	Sector application route	Application deadline
A	carbon leakage indicator between 0.15 and 0.2	Art 10b (2)	Qualitative assessment (QL)	to Commission	At the latest by: 8 August 2018
B	emission intensity exceeds 1.5	Art 10b (3)	Qualitative assessment (QL) OR Quantitative at Disaggregated level (QT*)	to Commission	At the latest by: 8 August 2018
C	free allocation is calculated on the basis of the refineries benchmarks	Art 10b (3)	Qualitative assessment (QL) OR Quantitative at Disaggregated level (QT*)	to Commission	At the latest by: 8 August 2018

<sup>1</sup> Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018 amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, and Decision (EU) 2015/1814).

D	listed in the EU ETS phase 3 CLL at a 6-digit or 8-digit level	Art 10b (3)	Quantitative at Disaggregated level (QT* via MS)	to one Member State before final decision by Commission (“MS route”)	by the 30 June 2018 to the Commission
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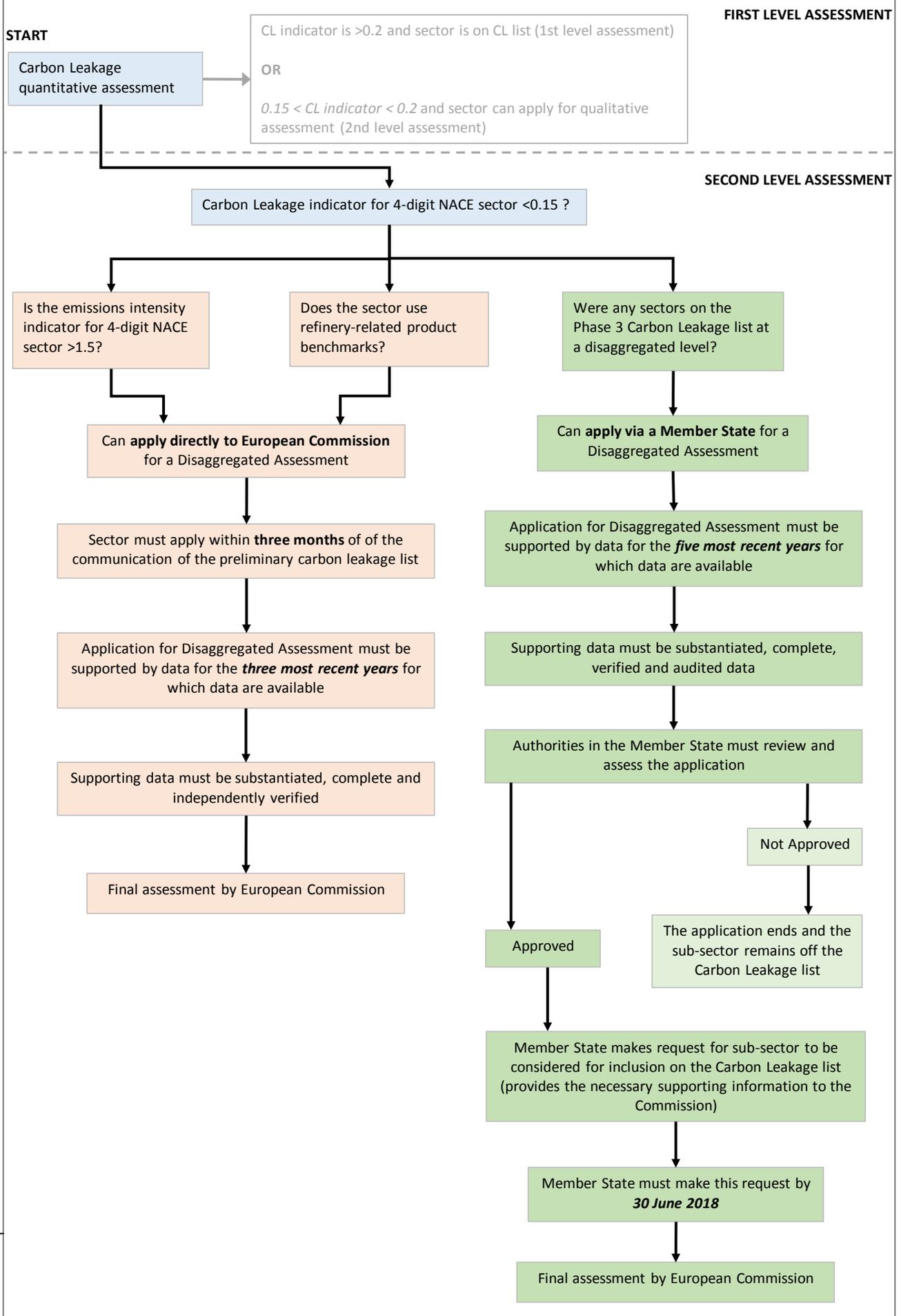
### Aim of this paper

The present paper provides an overview of the focus and framework for the Disaggregated Assessment. It provides additional guidelines and instructions on the default approach that sectors should follow when applying for a Disaggregated Assessment and on the evidence they need to provide to support their application.

## 2 Process

There are two application routes under which the eligible sectors may apply. An overview of common application elements and the specific aspects of each route is presented in Figure 1.

Figure 1 How sectors are eligible and can apply for a Disaggregated Assessment



## Applications

The (sub)sector application needs to comply with the proposed framework. The entity who submits an application on behalf of the industry (sub)sector should ensure the application completeness and representativeness in terms of geographical distribution and number of installations (refer to criteria in section 5). The applicant entity may take the form of one industry (sub)sector association, a joint application by multiple industry (sub)sector associations, a joint application by multiple companies, or a combination of the above, in all cases a single point of contact must be clearly identified. For reasons of efficiency and effectiveness, together with increased application quality, only one application by eligible (sub)sector is advised.

Where a (sub)sector applies for a disaggregated assessment, it must:

- Confirm it's NACE 4-digit code and the activities it covers
- Confirm the Prodcom codes that are covered by the NACE 4-digit code
- Confirm the subset of Prodcom codes that are presumed to have a CL indicator >0.2
- Confirm the route through which the (sub)sector is applying for the assessment (route B, C or D in Table 1)
- Provide a list of the installations in the sector that are covered by the EU ETS

Having done this, the sector must put forward its Carbon leakage indicator calculation:

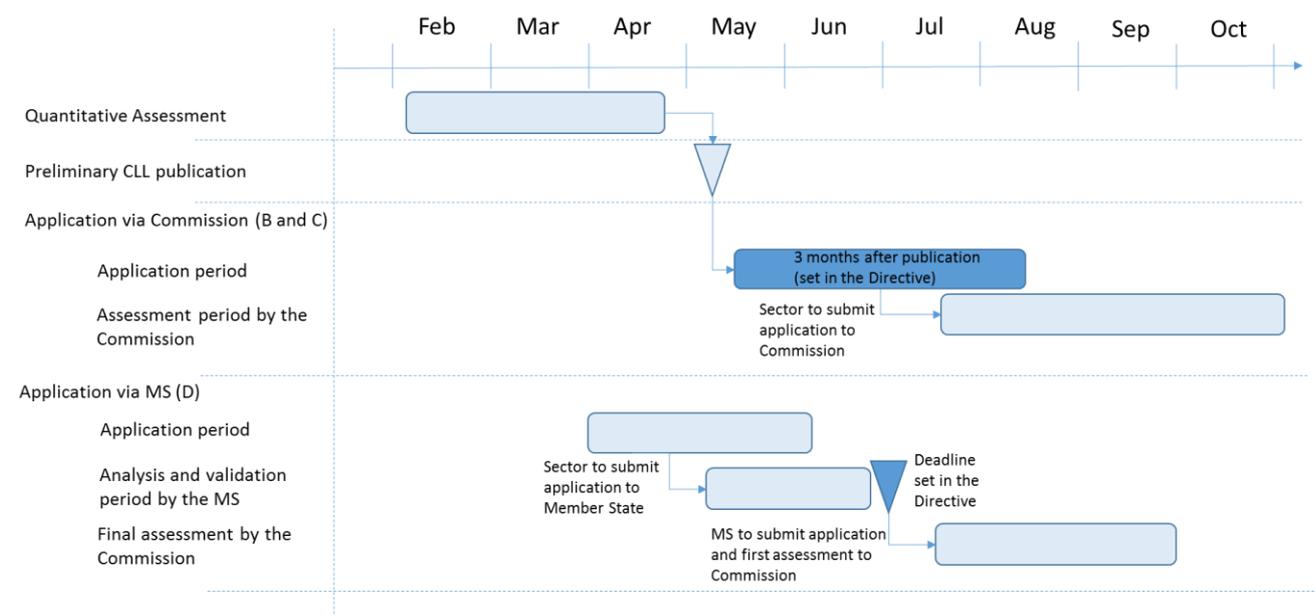
- Provide a Carbon Leakage indicator calculation for each Prodcom-defined sub-sector, including the methodology (where relevant), the underlying data and data sources

The sector must also provide supporting evidence that justifies why the sector should be placed on the CL list.

- Where the calculation has relied on non-default methods and data sources, the sector must provide a detailed description and justification of the data sources and methodology used.
- In support of its application, the sector shall submit duly substantiated, complete and independently verified (and audited for the MS route) data to enable the Commission (and the MS for route D) to carry out the assessment.
- Furthermore, complete documentation on data sets, data sources, calculations, estimates and any complementary methodologies applied must be provided.
- The period to be covered in the disaggregated assessments is three most recent years for route B and C, and five most recent years for route D.

A publishable summary has to be part of the application file.

## Indicative timeline of disaggregated carbon leakage assessment:



### Applicable to criteria B and C

After publication of the preliminary Carbon Leakage List, sectors eligible for a quantitative assessment can apply to the Commission for inclusion on the Carbon Leakage List within three months after the publication of the preliminary Carbon Leakage List.

### Verification

The applications' data have to be assessed by a competent and independent verifier. The independent third party should review and assess the information or evidence (supplied by the sector/firm) and, using its own expert knowledge, judgement and standard analytical techniques, verify if that information/evidence is true or correct. The verification covers data used, assumptions applied, calculations of indicators and the link between indicators and the disaggregated assessment as specified in section 3 of this paper. The information to be assessed can extend beyond financial information. It may relate to non-financial technical information, e.g. engineering, scientific, production process. The review itself is likely to be carried out by technical testing firms or specialist consultancy (e.g. engineering, environmental) firms, which have the appropriate qualification or accreditation to perform the verification.

A verification report containing the verification conclusions and the main findings is to be provided, together with evidence on the competence and independence of the verifier.

The independence of the verifier should be confirmed by demonstrating that, outside the work to verify the application, the verifier is not connected to, governed by or reliant on the applicant, i.e. that it is not owned, in part or full, by the applicant; that the applicant is not involved in the decision-making or running of the verifier; that there is no existing or intended contractual relationship that might constitute a conflict of interest.

The competence and independence of the verifier can be demonstrated by:

- Accreditation by National Accreditation Body
- Certified accreditation with representative industry organisations
- Certified quality standards (e.g. ISO) accreditation
- The track record of the verifier in providing similar services for other clients, including
  - past project/contract experience

- letters of satisfactory completion

Only submissions including a positive opinion from the verifier can be considered by the Commission.

### Assessment by the Commission

Applications will be assessed by the Commission, using inter-alia the quality criteria explained in section 5. On that basis, the Commission will decide on the sector's status of carbon leakage risk exposure.

### Applicable to criteria D

Sectors eligible for a disaggregated assessment based on EU ETS phase 3 CLL (Annex to Commission Decision 2014/746/EU) at a 6-digit or 8-digit level (Prodcom) classification can apply to a Member State (MS) for inclusion on the Carbon Leakage List. Considering the need to submit the application to the European Commission by 30 June 2018, eligible sectors are advised to contact the relevant Member State(s) in advance in order to confirm the Member State analytical capacity and to allow for efficient planning. Unless agreed otherwise it is recommended that (sub)sector application(s) are submitted for Member State analysis by no later than 08 June 2018 in order to allow for a sufficient analysis time.. After MS assessment, the (sub)sector application should be sent to the Commission together with the MS assessment report for final assessment to be done by the Commission.

In making its application to the Member State, the sector must include substantiated, complete, verified and audited data for the five most recent years for which data are available.

Requests from Member States will only be considered where, on the basis of the data provided, the Member State can establish that the application of the derogation is justified. In these cases, the application is forwarded to the Commission for a final assessment.

### Verification

The applications' data have to be assessed by a competent verifier and audited. The independent third party should review and assess the information or evidence (supplied by the sector/firm) and, using its own expert knowledge, judgement and standard analytical techniques, verify if that information/evidence is true or correct. The verification covers data used, assumptions applied, calculations of indicators and the link between indicators and the disaggregated assessment as specified in section 3 of this paper. The information to be verified may relate to non-financial technical information, e.g. engineering, scientific, production process. The review itself is likely to be carried out by technical testing firms or specialist consultancy (e.g. engineering, environmental) firms, which have the appropriate qualification or accreditation to perform the verification. For financial information, data should be fully audited as required under the revised Directive provisions.

A verification report containing the verification conclusions and the main findings is to be provided, together with evidence on the competence and independence of the verifier and auditor where relevant.

The independence of the verifier/auditor should be confirmed by demonstrating that, outside the work to verify the application, the verifier/auditor is not connected to, governed by or reliant on the applicant, i.e. that it is not owned, in part or full, by the applicant; that the applicant is not involved in the decision-making or running of the verifier/auditor; that there is no existing or intended contractual relationship that might constitute a conflict of interest.

The competence of the verifier/auditor can be demonstrated by:

- Accreditation by National Accreditation Body
- Certified accreditation with representative industry organisations
- Certified quality standards (e.g. ISO) accreditation

- The track record of the verifier/auditor in providing similar services for other clients, including
  - past project/contract experience
  - letters of satisfactory completion

Only submissions including a positive opinion from the verifier can be considered by the Member State and subsequently by the Commission.

#### Assessment by the Member State

Applications will be assessed by the relevant Member State, using inter alia the quality criteria explained in section 5. On that basis, the Member State will decide on the sector's application completeness and quality and submit the sector application together with an assessment report to the Commission for final decision.

#### Assessment by the Commission

Application and Member State assessment report will be assessed by the Commission, who will decide on the sector's inclusion on the Carbon Leakage List.

### 3 Analytical framework for the disaggregated assessments

#### Overview

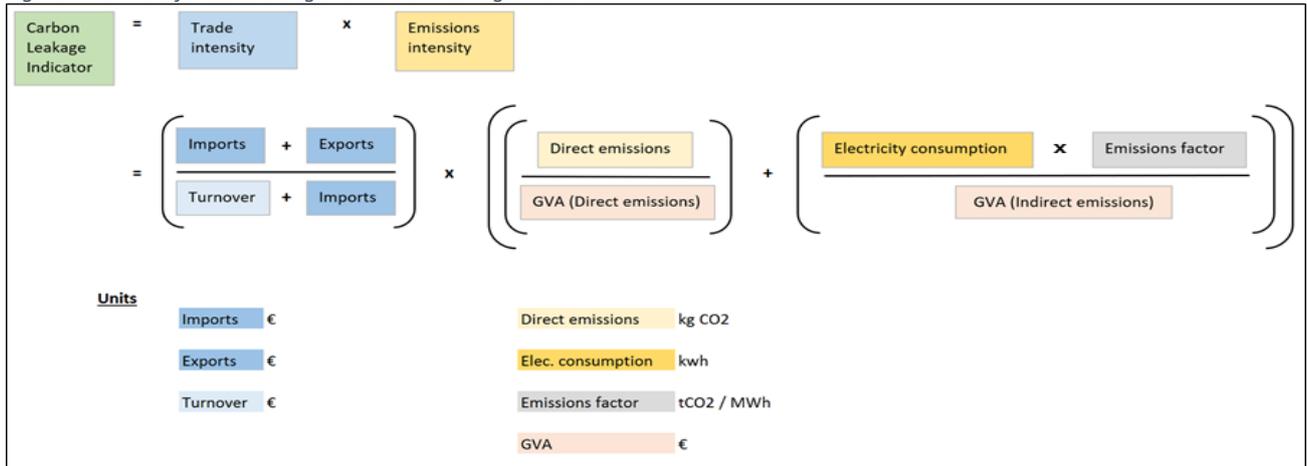
A (sub)sector may be included in the Carbon Leakage List at a disaggregated level following Criteria B, C and D, where, at Prodcom level (8-digit), the trade intensity (TI) multiplied by emission intensity (EI) exceeds 0.2. The revised Directive also defines the provisions regarding the required data quality in order to ensure equal treatment of sectors in the whole process:

- a) duly substantiated, complete and independently verified data – route B and C
- b) duly substantiated, complete, verified and audited data for the five most recent years – route D (“MS route”)

Having confirmed the Prodcom codes for which a Disaggregated Assessment is requested, the sector must (for each proposed Prodcom code) provide its own estimates for the Carbon Leakage indicator for that code (sub-sector), using the **default data sources and method** described below (formula detailed in Figure 1 and the data sources identified in Table 2).

If there is deviation from the default method and data, the application must include both the default methodology calculation and the calculation from the complementary approach, with the confirmed methodology, the underlying data and the relevant data sources, and a justification of why this approach is required and improves the estimate for the carbon leakage indicator.

Figure 1 Formula for calculating the Carbon Leakage indicator



Notes: Variables can be cross-referenced to data sources in Table 1 using their colour.

The variables for which data are required are listed in Table 2, along with the default data sources. The sector should check to ensure the data are provided in the correct units. For applications made under routes B and C, all data should cover the same three-year period. For applications made under the route D (MS route), all data should cover the same five-year period.

### Calculating indicators

#### Trade intensity indicator

The trade intensity indicator is calculated using three variables:

- Imports;
- Exports; and,
- Turnover.

using the formula:

$$\text{Trade Intensity} = \left( \frac{\text{Imports} + \text{Exports}}{\text{Turnover} + \text{Imports}} \right)$$

All the data are accessed from the same database: *Eurostat Europroms* (see Table 2 for more details).

By using this default data source, the sector should not need to make any own calculations or manipulations. It just needs to locate the data for each variable of interest and copy it into the data template. All the data are in euros, as required.

### How to deal with gaps in the data

In a few cases, there may be gaps in the turnover data (Sold production). Where this happens, the sector should access the *Eurostat Structural Business Statistics* database and use turnover data for the 4-digit NACE sector to estimate a value to fill the gap(s) in the Europroms series.

The 4-digit turnover data can be accessed by clicking on the link in the table and then clicking on 'Database' in the column down the left side of the page. Then, navigate to:

> SBS – industry and construction > Annual detailed enterprise statistics – industry and construction

and then select the database:

*Annual detailed enterprise statistics for industry (NACE Rev. 2, B-E) (sbs\_na\_ind\_r2)*

A dialogue box will appear and the dimensions can be customised:

- for geopolitical entity (GEO)– select EU28 or EU27 depending on the period being covered
- for the indicator (INDIC\_SB) – select *Turnover or gross premiums written - million euro* (code: V12110)
- for industry classification (NACE\_R2) – select the 4-digit NACE code that the Prodcom code of interest belongs to
- for time period (TIME) – go with default selection: all years from 2007 to 2016

If the gap in the Europroms turnover data is:

- *at the end of the series, e.g. data for the last year are missing,*

Use the *Eurostat Structural Business Statistics* data to estimate the growth rate for turnover in the 4-digit NACE code in that year (year t), and then apply that growth rate to the last year (year t-1) of Europroms turnover data to estimate a value for the missing year (year t)

- *one missing year between two others, e.g. data for 2013 and 2015 but missing in 2014,*

Use the *Eurostat Structural Business Statistics* data to estimate the growth rate for turnover in the 4-digit NACE code

- between the first and second year, e.g. 2013 and 2014
    - then apply that growth rate to the Europroms turnover data in the year before the gap (2013). This provides a first estimate of turnover in the missing year (2014)
  - between the second and third year, e.g. 2014 and 2015
    - subtract this growth rate (e.g. 5%) from 100 (e.g. to give 95%) to derive a scaling factor
    - apply this scaling factor to the Europroms turnover data in the year after the gap (2015). This provides a second estimate of turnover in the missing year (2014)
  - Take the average of the two estimates of turnover in the missing year (2014)
- *multiple missing years between two others, e.g. data for 2010 and 2015 but missing in 2011, 2012, 2013, 2014*

Use the *Eurostat Structural Business Statistics* data to estimate the growth rate for turnover in the 4-digit NACE code

- between each year, e.g. 2010-11, 2011-12.....2014-15

- then apply the growth rate for the first year (e.g. 2010-11) to the Europroms turnover data in the year before the gap (2010). This will provide an estimate of turnover in the first year (2011) of missing data.
    - For subsequent years, apply the growth rate derived in the first step to the estimate calculated for Europroms turnover data in the preceding year, e.g. to estimate turnover in 2012, apply the NACE 4-digit growth rate for 2011-12 to the Europroms turnover estimated for 2011.
    - Repeat for each year of missing data
    - This provides a first estimate of turnover in each missing year (2011, 2012, 2013, 2014)
  - using the growth rates calculated in the first step
    - subtract this growth rate (e.g. 5%) from 100 (e.g. to give 95%) to derive a scaling factor
    - apply the scaling factor for the last year of missing data to the Europroms turnover data in the year after the gap (2015). This provides an estimate of Europroms turnover in the last year of missing data (2014)
    - For earlier years, apply the scaling factor for that year to the estimate calculated for Europroms turnover data in the following year, e.g. to estimate turnover in 2012, apply the scaling factor for 2012 to the Europroms turnover estimated for 2013.
    - This provides a second estimate of turnover in each missing year (2011, 2012, 2013, 2014)
  - Take the average of the two estimates of turnover in the missing years

### Emissions intensity indicator

The emissions intensity indicator is calculated using five variables:

- direct emissions;
- electricity consumption;
- emissions factor;
- GVA (for direct emissions); and,
- GVA (for indirect emissions).

using the formula:

$$\left( \left( \frac{\text{Direct emissions}}{\text{GVA (Direct emissions)}} \right) + \left( \frac{\text{Electricity consumption} \times \text{Emissions factor}}{\text{GVA (Indirect emissions)}} \right) \right)$$

The data are obtained from different data sources (see Table 2 for more details). The approach set out below should be used when providing data inputs for the emissions intensity indicator:

- **Direct emissions:**
  - Identify all plant/installations involved in the NACE 4-digit sector that includes the 8-digit Prodcom good. A list of installations with EUTL identifier should be submitted.
  - For each installation, identify total EUTL verified emissions
  - Sum emissions across all installations to calculate an aggregate for the sub-sector.

- This provides a measure of total EUTL verified emissions across all installations (that produce the 8-digit Prodcom good)
  - For each installation, establish the share of that good’s production in the value of total production (where plant/installation produces several goods; if a plant produces only one good then the share is 100%), i.e. split production by Prodcom code. If this cannot be done using production values, possible alternatives may be to use production volume (assuming the same units are used for different products) or turnover/sales.
  - Aggregate for the sub-sector as a whole by:
    - summing up production of the good across all installations;
    - summing up total production across all installations;
  - and then,
  - Divide *production of the good across all installations* by *total production across all installations*.
    - This provides a measure of the good’s share of total production share across all installations
  - Apply this share (of total production) to total EUTL verified emissions for all installations involved in production of the 8-digit Prodcom good.
    - This will provide an estimate of direct emissions associated with the production of the 8-digit Prodcom good. This data can be entered in the data template for Direct Emissions. The data should be in the correct units (kg CO<sub>2</sub>)
- **Electricity consumption**
  - Electricity consumption by sector data has been requested at Member State level
  - Once that has been obtained, the sector should collect electricity consumption data by NACE 4-digit level across each Member State
    - Care should be taken not to double count the electricity generated by installations belonging to industrial sectors (self-production) and electricity sold to third parties (within or outside the same sector). At the same time, great care should be taken not to report volumes of self-produced electricity in industrial sectors when direct emissions or fuel use associated to them are also included in the relevant direct emissions. Where relevant, corrections should be explained.
    - If possible, the sector should use **net electricity consumption (including auto-production)**. If not readily available, this can be calculated as:

**Sector’s net electricity consumption =**

*Sector’s total electricity purchase*  
 + *self-production*  
 - *total sold electricity*

- As a fall back, the sector should use **net electricity purchases**, if *net electricity consumption* is not available. There are two ways to calculate this, depending on what data are available:

**Sector’s net electricity purchase =**

*Sector’s total electricity purchase*  
 - *total sold electricity*  
 OR  
*Sector’s total electricity consumption*

-self-production

- Identify all the Prodcom codes that fall under the 4-digit NACE code. Sum the value of production across all these codes to obtain a measure of the total value of production for the corresponding 4-digit NACE sector.
  - Identify the value of production for the 8-digit Prodcom good in question.
  - Divide *production for the 8-digit Prodcom good* by *total value of production* (for the corresponding 4-digit NACE sector)
    - This provides a measure of the 8-digit Prodcom good's share of total production
    - Apply this production share to the measure of electricity consumption for the NACE sector
      - This will provide a measure of electricity consumption associated with the production of the 8-digit Prodcom good. This data can be entered in the data template for Electricity Consumption. Ensure it is in the correct units (kwh).
- **Emissions factor**
    - an updated value will be published by the Commission in early May as part of the preliminary Carbon Leakage List. This is the value that shall be used in all calculations and should be entered into the data template.
- **GVA (direct emissions):**
    - GVA data does not exist at 8-digit Prodcom level. The approach set out below should be used to provide a measure of GVA at the 8-digit Prodcom level:
    - Using official data identified in Table 2:
      - estimate the production share by Prodcom product (across all Prodcom categories covered by the NACE 4-digit sector)
        - Identify all the Prodcom codes that fall under the 4-digit NACE code. Sum the value of production across all these codes to obtain a measure of the total value of production for the corresponding 4-digit NACE sector.
        - Identify the value of production for the 8-digit Prodcom good in question.
        - Divide *production for the 8-digit Prodcom good* by *total value of production* (for the corresponding 4-digit NACE sector)
          - This provides a measure of the 8-digit Prodcom good's share of total production
      - apply the Prodcom production shares to NACE 4-digit GVA data
      - this will allocate the NACE 4-digit sector GVA across the Prodcom categories that make up the NACE 4-digit sector.
        - This provides a measure of GVA by Prodcom category and can be entered into the data template for GVA (direct emission). Note, this measure will be in millions of euros and will need to be converted into euros (by multiplying by 1,000,000) before entering into the data template.
- **GVA (indirect emissions):**
    - GVA data for indirect emissions is limited to the electricity consumption of the countries that have submitted the data. The approach set out above for GVA (direct emissions) should be used to provide a measure of GVA at PRODCOM level.All other points listed under the GVA for direct emissions above apply in similar manner.

*The methods (and data sources) set out above are the default approach and should be applied, as described, where possible. If other methodologies are proposed to generate the variables used to calculate the emissions intensity (e.g. split the GVA by Prodcom) or trade intensity indicators (e.g. filling data gaps), this should be clearly described and justified. Furthermore, any such method should complement the default methodology and not replace the default methodology.*

### Completing the data template with the supporting data

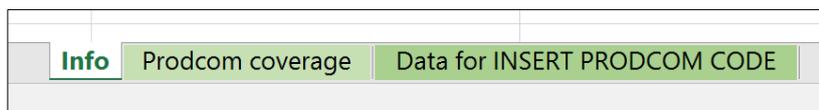
Having followed the steps outlined above for the Trade Intensity indicator and the Emissions Intensity indicator, the applicant should have all the data required to complete the data template,

- with three years of data if the application is directly to the European Commission
- with five years of data if the application is via a Member State (MS route)

The data template is an Excel file called 'CL Assessment\_supporting data for DA'. The template has three sheets (see Figure 2):

- Info
- Prodcom coverage
- Data for INSERT PRODCOM CODE

Figure 2 The three sheets in the data template



In the **Info** sheet, the sector should fill out the cells highlighted in blue to provide name and contact details and confirm the NACE 4-digit sector.

In the **Prodcom coverage** sheet, the sector should fill out the cells highlighted in blue to confirm

- all the Prodcom codes covered by the NACE 4-digit code; and
- the subset of Prodcom codes it is proposing for a Disaggregated Assessment.

The field in this sheet for the sector's NACE 4-digit code is linked to the field in the *Info* sheet for the same information. So, as long as the correct NACE 4-digit code is provided in the *Info* sheet, this field should update automatically.

In the **Data for INSERT PRODCOM CODE** sheet, the sector should fill out the cells highlighted in blue to provide values for each variable in the calculation for the Carbon Leakage indicator,

- for the three most recent years for which data are available if applying directly to the European Commission
- for the five most recent years for which data are available if applying via a Member State

The variables for which data are required are listed in Table 2, along with the default data sources. The sector should check to ensure the data provided are in the correct units. For applications made under routes B and C, all data should cover the same three-year period. For applications made under route D (MS route), all data should cover the same five-year period.

Once the sector has entered the required data into the cells highlighted in blue, the values for the Trade Intensity, Emissions Intensity and Carbon Leakage indicators are calculated automatically, in the cells highlighted in green (see Figure 3).

Figure 3 Excerpt from 'Data for INSERT PRODCOM CODE' sheet, with cells to be filled by applicant in blue

		Units	2010	2011	2012	2013	2014	2015	2016	2017
<b>SECTOR TO COMPLETE</b>	Turnover	€								
	Exports	€								
	Imports	€								
	Direct emissions	kg CO2								
	Electricity consumption	kwh								
	Emissions factor	tCO2 / MWh								
	GVA (Direct emissions)	€								
	GVA (Indirect emissions)	€								
<b>CALCULATED IN THE SHEET</b>	Trade intensity indicator	ratio or %								
	Emissions intensity indicator	kg CO2 / €								
	Carbon Leakage indicator									

Once the sector has entered the data, it should complete the metadata. For each variable in the calculation, this requires the sector to:

- confirm if the data entered are published values from default sources or calculated by the sector
- confirm the data source(s) used
- outline the calculation method used: confirm if default approach has been used or describe the approach if an alternative method has been used, and a justification for this approach
- if alternative sources are used to complement the default sources, describe these and provide an explanation of why: what is the issue with official source data; and provide an explanation as to why any estimate produced using alternative sources is more accurate.

Providing data if more than one Prodcom code has been proposed for a Disaggregated Assessment

If more than one Prodcom code has been proposed for a Disaggregated Assessment, then data for the Carbon Leakage indicator calculation needs to be provided for each Prodcom code separately.

To do this, the sector must:

- Make a copy of the 'Data for INSERT PRODCOM CODE' sheet
- Rename it by replacing 'INSERT PRODCOM CODE' in the sheet name with the Prodcom code, e.g. 'Data for 26522110' for the Watch and clock movements sub-sector.
- Using the same sources and indicators outlined above, complete the sheet by filling out the cells highlighted in blue with values for each variable in the calculation for the Carbon Leakage indicator,
  - for the three most recent years for which data are available if applying directly to the European Commission
  - for the five most recent years for which data are available if applying via a Member State
- Fill out the metadata

Once the *Info* and *Prodcom* coverage sheets have been updated with the relevant information and data sheets for each Prodcom code being proposed for a Disaggregated Assessment have been completed, the template is complete and should be submitted with the application letter.

## 4 Data sources

The EU ETS revised Directive sets the data quality parameters and the assessment should remain robust and comparable with the main quantitative assessment (first level assessment). Therefore, to the extent possible, applications have to rely on official statistics, i.e. Eurostat or EUTL data, as is the case for the first level assessments at NACE 4 level. Where necessary, reliable secondary sources and the information provided by industry can be used and should be supported with a clear reasoning.

Table 2 Indicators and data sources for disaggregated assessments

Indicator	Units	Official source	Link to source	Measure	Sector detail	Time period	Comment
Imports & Exports	euros	Eurostat Europroms database	<a href="http://epp.eurostat.ec.europa.eu/newxtweb/">http://epp.eurostat.ec.europa.eu/newxtweb/</a>	Imports by value (or volume)	8-digit Prodcom	1995-2016	See under <i>Available datasets &gt; Statistics on industrial production and international trade (prom) &gt; Annual detailed data by PRODCOM list (according to Nace Rev.2) (prodcom_n2)</i>
Turnover	euros	Eurostat Europroms database	<a href="http://epp.eurostat.ec.europa.eu/newxtweb/">http://epp.eurostat.ec.europa.eu/newxtweb/</a>	Sold production	8-digit Prodcom	1995-2016	See under <i>Available datasets &gt; Statistics on industrial production and international trade (prom) &gt; Annual detailed data by PRODCOM list (according to Nace Rev.2) (prodcom_n2)</i>  First four digits of Prodcom code provide the corresponding NACE sector
	euros	Eurostat Structural Business Statistics (SBS)	<a href="http://ec.europa.eu/eurostat/web/structural-business-statistics/overview">http://ec.europa.eu/eurostat/web/structural-business-statistics/overview</a>	Turnover	NACE 4-digit (Rev.2)	2008 – most recent year (2016 ?)  Data pre-2008 on NACE Rev. 1.1	Use SBS as fall back to help fill gaps in Prodcom data.
Installations involved in production of the 4-digit NACE sector	number	EUTL (EU ETS registry)	<a href="http://ec.europa.eu/environment/ets/welcome.do">http://ec.europa.eu/environment/ets/welcome.do</a>	Records each installation covered by EU ETS	NACE 4-digit (Rev.2)	2013-16 (Phase III (part)) 2008-12 (Phase II) 2005-07 (Phase I)	Provides details on those installations covered by the EU ETS
Direct	kg CO <sub>2</sub>	EUTL (EU ETS)	<a href="http://ec.europa.eu">http://ec.europa.eu</a>	CO <sub>2</sub> emissions per	NACE 4-digit (Rev.2)	2013-16 (Phase III)	Provides details on verified

emissions from each installation	registry)	<a href="http://environment/ets/welcome.do">/environment/ets/welcome.do</a>	installation	(part))	emissions for each installation covered by the EU ETS		
				2008-12 (Phase II) 2005-07 (Phase I)			
Electricity consumption	Kwh	Member States (e.g. NSO, environment/energy ministry, or other competent authority), sectors.	NET electricity consumption (including auto-production)	Should be NACE 4-digit (Rev.2)			
Emissions factor	tCO <sub>2</sub> /MWh	EC	n/a		The same value will be used for all assessments.		
GVA (Direct and Indirect)	euros	Eurostat Structural Business Statistics (SBS)	<a href="http://ec.europa.eu/eurostat/web/structural-business-statistics/overview">http://ec.europa.eu/eurostat/web/structural-business-statistics/overview</a>	Value added at factor cost	NACE 4-digit (Rev.2)	2008 – most recent year (2016 ?) Data pre-2008 on NACE Rev. 1.1	Official source is available at NACE 4-digit level. This will need to be scaled using (more detailed) Prodcom data.
Correspondence tables		Eurostat RAMON (Reference And Management Of Nomenclatures) database – Correspondence tables	<a href="http://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL&amp;StrLanguageCode=EN&amp;IntCurrentPage=1">http://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL&amp;StrLanguageCode=EN&amp;IntCurrentPage=1</a>	Correspondence between Prodcom and Comext codes		See pages 2-4 for correspondence tables from Combined Nomenclature to Prodcom. See pages 12-13 for correspondence tables from Prodcom to Combined Nomenclature	

## 5 Quality criteria and assessment

### Quality criteria for application

To ensure the assessments are robust, the data and methods used need to be of a high quality.

With regard to data, **official sources** (e.g. Eurostat) score highly in terms of the standard of data quality (in terms of coverage of sectors, consistency over time and coherence with national accounts aggregates) and credibility among stakeholders, and should be used where possible.

Alternative sources include industry associations, commercial databases or firms but care must be taken to ensure the robustness and completeness data from these sources.

The quality and coverage of data in commercial databases is difficult to assure: data can sometimes be inconsistent with the most relevant indicator from national accounts. The key challenges with firm level data is that no single firm is representative of the whole (sub)sector and considerable time and effort is required, through the collection, processing and summing of data from all firms in the sector, to generate an estimate for the whole (sub)sector. Where industry associations use data from their own activities, the data needs to meet the quality criteria described below as well as possible.

The overarching objective is that the data used should have as complete and comprehensive coverage of the sector as possible and provide an accurate representation of the sector.

To that end, the quality criteria for the application include:

- Representativeness of data
  - The data used should cover the whole of the 8-digit Prodcom sector being assessed, and only that sector.
    - If coverage of the whole sector is not possible, the part of the sector that is included should, as a minimum, account for 85% of turnover in the EU ETS area.
  - Furthermore, where possible, the geographical and installation profiles should be consistent with the geographical and installation profiles for the whole sector. The geographic scope of the data and calculations should be the European Economic Area (EU28 plus Iceland, Liechtenstein, Norway), which covers the same 31 countries participating in the EU ETS.
    - If coverage of the whole EEA is not possible, those countries that are included should, as a minimum, account for 85% of sector turnover in the EU ETS area and trade (exports+imports) with non-EU ETS countries.
    - Furthermore, where possible, the turnover/trade and installation profiles should be consistent with the turnover/trade and installation profiles for the whole sector.
  - All installations that are covered by the EU ETS, and their direct emissions, should be included.
    - If coverage of all installations is not possible, those installations that are included should, as a minimum, account for 85% of direct emissions from the sector.
    - Furthermore, where possible, the geographical and turnover profiles should be consistent with the geographical and turnover profiles for the whole sector.
  - For indirect emissions (calculated as electricity consumption multiplied by an emission factor), the data on electricity consumption by NACE-4 sector and Member State is not readily available and has to be obtained through a data collection exercise by the Member States. Given the short time frame to gather the data, it is uncertain if all Member States will be able to collect and gather data on electricity consumption by NACE-4 sector.

- If not all Member States are able to provide data, then ideally those that do provide data would account for a similarly high share of total electricity consumption (by NACE sections B and C at the EU level), 85%
- However, in light of the difficulties obtaining the data, a lower threshold would be for those Member States that do provide data to account for at least 70% of total electricity consumption.
- Those countries that have provided data should be a fair representation of, and spread out across, the whole EU

If the minimum thresholds described above cannot be met, the representativeness of the data risks to be undermined and so too the robustness of the estimated Carbon Leakage indicator. In case the thresholds are not met, the application needs to demonstrate the representativeness of data.

To note that, where the assessments are based on data covering a sample of the sector (rather than the whole sector), this introduces a sampling error: where the assessment for the sample is different from the assessment for the whole sector (which is unknown). The larger the sampling error the greater the risk that those left out are (more) different to those covered. In turn, this increases the chance that the assessment for the sample covered does not apply to those not covered, and the whole population. This reduces the strength of any conclusion or decision made about whether a sector qualifies for the carbon leakage list.

To minimise the sampling error and the risk of an incorrect assessment, where the sector cannot be covered in full a high coverage (85%) is requested so that the assessment for the sample of the sector is valid and representative for the whole sector.

- Robustness of data
  - Data should come from reliable and trustworthy sources, preferably official sources. Where this is not the case, the source and/or derivation of the data should be clear, transparent and easy to follow. Alternative data and methods should be verified and audited.
- Consistency of the data
  - The data should measure the concept/indicator they purport to measure, be consistent with both standard economic definitions and methods, and the other supporting data.
  - Where multiple sources are combined, ensure their geographic, sector, and installation coverage is consistent.
- Time period
  - In making its application the sector must include data for the three most recent years when applying directly to the Commission, and the five most recent years when applying to the Member State (Route D).
- Traceability of calculations
  - Where alternative methods have been used to calculate the data values for an indicator, a clear description of the method must be provided. The method must be transparent, easy to follow and replicate, and the data used must be readily accessible.

### ***Trade intensity***

The data inputs to calculate the trade intensity indicator (for turnover, exports, imports) are all official statistics from the Europroms database and should, therefore, be seen as robust and reliable. Furthermore, these data are published in the level of detail required. With the exception of when there are missing data, no manipulation or estimation is required.

If no estimations are required to fill missing data gaps, then there should be no need to audit or verify the data, unless the sector contests Prodcom data values. In which case, the Prodcom data should be validated by an independent auditor.

If estimations are required to fill data gaps (for turnover at 8-digit Prodcom level), the estimated values should be validated by an independent auditor.

### ***Emissions intensity***

The emissions factor for the Phase 4 Carbon Leakage List will be updated by the Commission and will apply to the entire assessment exercise.

GVA (Indirect emissions) comes from an official source, Eurostat Structural Business Statistics, and should, therefore, be seen as robust and reliable. Furthermore, the data are published in the level of detail required. No estimation is required.

There should be no need to verify or audit the data for the emissions factor or GVA (indirect emission).

Direct emissions, GVA (Direct emissions) and electricity consumption are estimated by applying Prodcom production share (for the 8-digit Prodcom good of interest) to total direct emissions, total GVA and total electricity consumption for the 4-digit NACE sector.

The Prodcom production share is a fundamental element in these calculations. This, and GVA (Direct emissions), should be validated by an independent auditor.

The estimations for direct emissions and electricity consumption should be validated by an independent verifier.

### **Assessment**

The initial assessment of an application will include checks of eligibility, completeness of the files, verification requirements and data sources used.

In case of satisfactory initial assessment results, for each Prodcom, the Member State (under route D) or the Commission (under routes B and C), will assess the Carbon Leakage Indicator methodology, and draw a conclusion on the extent to which the applied data and methodology is duly:

- Substantiated
- Complete
- Independently verified
- Audited (relevant for Criteria D)

Once the above elements are confirmed a decision can be taken on the calculated carbon leakage indicator confirming that it is indeed above the 0.2 value. Where an application is deemed incomplete the Member State (for route D) or the Commission (for route B and C) should communicate, within 2 weeks from the date of application submission, the missing elements of the application and allow 2 weeks for resubmission.

**Audited:**

An audit is an official examination of the accounts of a business, typically the financial accounts. Where accounts, or other information, have been audited, this means they have been reviewed and assessed to ensure they are complete, accurate and a fair representation of the financial position and performance of the business at the time. The audit is carried out by an independent third party, typically a qualified accountant/auditor that could be a (officially registered) sole practitioner or a large-scale multinational. The audit is carried out in line with International Standards on Auditing, and provides an impartial and objective opinion on whether the accounts are free from material misstatement and comply with the relevant reporting requirements.

**Independently verified:**

Where an independent third party reviews and assesses information or evidence (supplied by the sector/firm) and, using its own expert knowledge, judgement and standard analytical techniques, verifies if that information/evidence is true or correct. The information to be assessed can extend beyond financial information. It may relate to non-financial technical information, e.g. engineering, scientific, production process. The review itself is likely to be carried out by technical testing firms or specialist consultancy (e.g. engineering, environmental) firms, which have the appropriate qualification or accreditation to perform the verification. An example of independently verified data is the verified emissions published in the EU Transaction Log<sup>2</sup>. In this case, the verification has been carried out on behalf of national governments or the European Commission, and the results published, to support policy making.

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<sup>2</sup> See <http://ec.europa.eu/environment/ets/welcome.do?languageCode=en> or <https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1>

## Overview of disaggregated assessment application for route B and C:

What	By Whom	To whom	By when
1 (sub)Sector application, should include: <ul style="list-style-type: none"> <li>- NACE 4-digit code and the activities covered</li> <li>- List of relevant Prodcom codes</li> <li>- Confirm the route through which the subsector is applying for the assessment (route B, C or D)</li> <li>- List of all installations in the sector that are covered by the EU ETS</li> <li>- Carbon leakage indicator calculation and all supporting evidence (data, methodology, verification report, etc)</li> </ul>	Industry (sub)sector to apply as a single entity (e.g. Industry association)	Commission	At the latest by: 8 August 2018
2 Provide acknowledgement of receipt and initial feedback on data completeness	Commission	Industry (sub)sector	Within 2 weeks of application submission
3 Reply to Commission on data completeness enquiry and provide any relevant details	Industry (sub)sector	Commission	Within 2 weeks of EC response
4 Final Decision on Industry (sub)sector inclusion in phase 4 CLL	Commission	Industry (sub)sector	4 <sup>th</sup> quarter 2018

## Overview of disaggregated assessment application for route D

What	By Whom	To whom	By when
1 (sub)Sector application, should include: - NACE 4-digit code and the activities covered - List of relevant Prodcom codes - Confirm the route through which the subsector is applying for the assessment (route B, C or D) - List of all installations in the sector that are covered by the EU ETS - Carbon leakage indicator calculation and all supporting evidence (data, methodology, verification report, etc)	Industry (sub)sector to apply as a single entity (e.g. Industry association)	Member State	Latest by 8 June
2 Provide acknowledgement of receipt and initial feedback on data completeness	Member State	Industry (sub)sector	Within 1 week of application submission
3 Reply to Member State on data completeness enquiry and provide any relevant details	Industry (sub)sector	Member State	Within 1 week of MS response
4 Submit (sub) sector application and Member State assessment report	Member State	Commission and Industry (sub)sector (in copy)	Latest by 30 June 2018
5 Provide acknowledgement of receipt and initial feedback on application and assessment report	Commission	Industry (sub)sector and Member State	Within 2 weeks of application submission
6 Reply to Commission on application and assessment report enquiry and provide any relevant details	Industry (sub)sector	Commission	Within 2 weeks of EC response
7 Final Decision on Industry (sub)sector inclusion in phase 4 CLL	Commission	Industry (sub)sector	4 <sup>th</sup> quarter 2018

## Annex 1 Guidelines for competent assessment authorities

**Task 1:** The first task for the competent authority (the Commission for routes B and C; Member State for route D) is to check the sector's status, its eligibility to apply for a Disaggregated Assessment and the validity of the route/rationale for the application. The competent authority must check:

- if the Carbon Leakage indicator for the 4-digit NACE sector is  $<0.15$ ;
- and,
- if the Emissions Intensity indicator for the 4-digit NACE sector is  $>1.5$ ; or,
  - if the 4-digit NACE sector uses refinery-related product benchmarks; or,
  - if any of the sector was on the Phase 3 Carbon Leakage list at a disaggregated level.

If the Carbon Leakage indicator for the 4-digit NACE sector is  $<0.15$  and one of the other conditions holds, then the sector is eligible to apply for a Disaggregated Assessment.

The competent authority must then verify that the sector is eligible to apply via its chosen route (B, C or D).

The competent authority should check and confirm the 8-digit Prodcom codes that are covered by the 4-digit NACE code.

In the case of applications via route D, the Member State should then satisfy itself that one or more of these Prodcom codes were on the Carbon Leakage list for Phase 3. It should note how many, and which, codes were on the Carbon Leakage list for Phase 3. There should be supporting data for each Prodcom code that was on the Carbon Leakage list for Phase 3 (and has been proposed for a Disaggregated Assessment). If the sector was on the Phase 3 Carbon Leakage list at a disaggregated level, the application can proceed and the Member State should move to Task 2.

If the sector is not eligible to apply via the Member State route, the Member State should inform the sector of this and, assuming the sector is eligible to do so, tell the sector to apply directly to the European Commission.

The competent authority is advised to carry out the initial assessment within two weeks of receiving the application. In case an application is deemed incomplete, the applying sector will be informed accordingly and invited to provide the missing information.

**Task 2:** Assuming the sector is entitled to apply for a Disaggregated Assessment, the next task for the competent authority, once the application and detailed supporting evidence has been received, is to conduct a preliminary assessment of the application and assess if it can proceed. This task is carried out by the Member State (for applications made via route D) or the Contractor, on behalf of the Commission (for applications made via routes B and C).

This involves:

- Assessing the validity of the application and Carbon Leakage estimate put forward
  - o The competent authority should review the supporting data and metadata to confirm the completeness of the data, i.e. that the sector has:
    - Provided data for the required time period: three most recent years (routes B and C) or five most recent years (route D)
    - Data have been provided for all the variables required to calculate the carbon leakage indicator, and that these are in the correct units
    - Used the default data and methods and, if not, has provided detail description and justification for the alternative data and methods used

- Assess if the supporting data meets the quality criteria described in Section 5 with respect to representativeness, robustness and consistency of the data, and the traceability of all calculations.
  - The competent assessment authority should review the data provided and satisfy itself that the data have been independently audited and verified as required.
    - This may require asking the sector to provide documentary evidence (e.g. in the form of a letter or report from the auditor/verifier) that the data it is presenting have been reviewed and approved/verified by an independent third party.

Having validated the sector's eligibility and the application, the Member State (for applications made via route D) or the Commission (for applications made via routes B and C) verify the estimate of the carbon leakage indicator provided by the sector.

- The competent assessment authority (Member State or the Commission) should check the accuracy of the data provided to support the application.
  - Using the data sources and methods outlined in Sections 3 and 4, the assessor should:
    - check that the input data are correct (correct source, dataset, sector code, indicator, unit, year etc)
    - check that any default manipulations/calculations have been applied correctly
    - assuming the data and calculations are correct and consistent, verify that the data values provided in the data template are correct.
- If additional methods or data sources have been used to complement the default method and data, the assessor should review the data and workings (which should have been supplied with the original application). The competent assessment authority should check the data and methods have been used correctly and the calculated values are consistent with these. Any additional data and methods used by the sector should be independently audited and verified and validated in the verification report accompanying the application. The competent assessment authority must satisfy itself that such verification has been carried out satisfactorily and in line with best practice and standard theory. Only additional methods and data that have been verified and audited should be used to complement the default method and data.
- If there are gaps, errors or inconsistencies, the competent assessment authority should work with the sector (through the Commission in the case of routes B and C) to understand these and come to a resolution based on the default method and data sources.
- Once any gaps, errors and inconsistencies have been resolved, the competent assessment authority should check to make sure the data template is updated with the revised data.

*The competent assessment authority (Member State or Commission) will produce an **assessment report (analysis report for MS route)** based on Tasks 1 and 2. This will detail the authority's findings and analysis of the application. The authority will confirm or not, if the sector is eligible to apply for a Disaggregated Assessment, the routes through which it can apply. It will also confirm if all inputs have been received and are correct; use the default data sources/methods; data meet the quality criteria; and any alternative data/methods have been audited/verified and described in detail.*

*If the competent assessment authority is satisfied that:*

- *the application is valid (that the sector is eligible to apply via a Member State); and,*
- *the correct (default) data and methods have been used correctly and any additional methods have been verified/audited, the application risk of carbon leakage will be finally assessed using the evidence provided by the sector.*

*(for the MS route the MS analysis report is sent to the Commission accompanying the (sub)sector application, for final assessment by the Commission)*

#### Route D

If the Member State is satisfied that:

- the calculated values (used to populate the data template) are correct and they indicate the sector should be placed on the carbon leakage list;

and therefore,

- the application of the derogation is justified,

the Member State then forwards the application and its analysis report to the European Commission for a final assessment.

#### Routes B and C

If the Commission is satisfied that:

- the calculated values (used to populate the data template) are correct; and,
- the use of any additional data sources or methods has been properly verified/audited and is valid,

the Commission will perform the final assessment.