UK ETS Authority Free Allocation Review Carbon Leakage Consultation

Carbon Leakage List Workshop

Joint consultation of the UK Government, the Scottish Government, the Welsh Government and the Department of Agriculture, Environment and Rural Affairs for Northern Ireland

January / February 2025

UK Government

Department of Agriculture, Environment and Rural Affairs
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Workshop introduction

- The purpose of this workshop is to gather feedback on the proposals relating to the Carbon Leakage List, in the Free Allocation Review consultation launched on 16 December.
- It is hosted by the UK ETS Authority, made up of the UK Government, Welsh Government, Scottish Government and Department of Agriculture, Environment and Rural Affairs in Northern Ireland.
- This workshop will be recorded for note-taking purposes but will not be distributed to stakeholders.
- Please use the chat function to raise any clarification questions or points. We will ask some questions after the presentation to structure the discussion.
- Separate workshops will cover the proposals on free allocation for CBAM sectors.
- For an overview of the proposals in the consultation, you can watch a recording of the overview webinar in January here.

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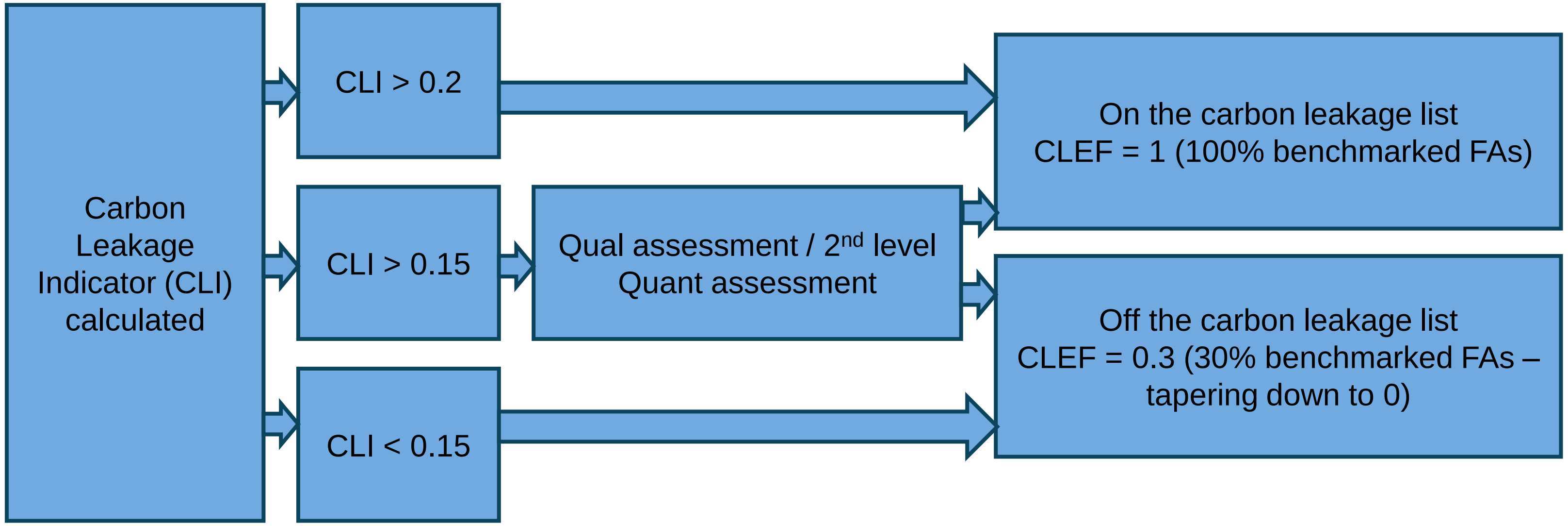
What is the Carbon Leakage List?

- The Carbon Leakage List (CLL) is a list of sectors which are deemed to be at risk of carbon leakage.
- The UK ETS Phase I list is the same as the EU ETS Phase IV list. The CLL defines the sectors at greatest risk of carbon leakage based on an assessment of their emissions intensity and trade intensity.
- Currently, those UK ETS industry sectors on the CLL, receive a provisional free allocation of 100% of their benchmarked free allocation as part of the preliminary free allocation stage (a Carbon Leakage Exposure Factor (CLEF) of 1).
- Those industry sectors not on the CLL receive a provisional allocation of 30% of their benchmarked free allocation as part of the preliminary free allocation stage (a CLEF of 0.3).

Carbon leakage refers to the movement of production and associated emissions from one country to another due to different levels of decarbonisation effort through carbon pricing and climate regulation. As a result of carbon leakage, the objective of decarbonisation efforts – to reduce global emissions – would be undermined.

What is the Carbon Leakage List?



Currently sectors and subsectors with a Carbon Leakage Indicator (CLI) exceeding the threshold of 0.2 are considered to be at risk of carbon leakage and therefore included on the CLL. Those that have a CLI between 0.15-0.2 could have applied for an additional qualitative assessment structured around three criteria:

1. Abatement potential – the extent to which it is possible for individual installations in the sector or sub-sectors concerned to reduce emission levels or electricity consumption.
2. Market characteristics – the current and projected market characteristics, including any common reference price where relevant (i.e., commodity prices)
3. Profit margins – profit margins as a potential indicator of long-run investment or relocation decisions, considering changes in costs of production relating to emission reductions.

Carbon Leakage List

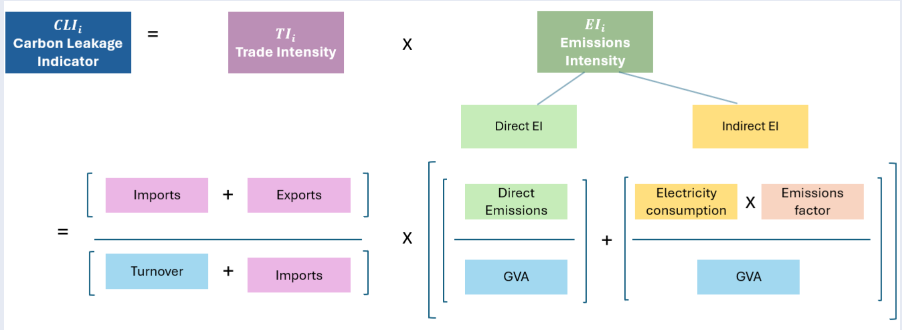
Overview of Proposals:

The consultation is seeking views on which Carbon Leakage List to use for the second allocation period. It presents two options:

- A preliminary updated Carbon Leakage List for industries across the UK, based on UK-specific data (this can be found on p.25 of the consultation document),
- The option of retaining the current list of Carbon Leakage Indicators.
  The Authority has no minded to position on which list should be implemented.

In order to develop the draft UK Carbon Leakage List, a proposed methodology including the following elements has been developed by external consultants NERA and has been presented in the consultation document and accompanying Technical Report

- Approach to the Carbon Leakage Indicator (CLI) equation;
- The data sources used to calculate the CLI;
- How to measure trade intensity and emissions intensity; and
- The CLI thresholds determining eligibility for Free Allocations.



We are seeking views on all elements of the methodology and data used to calculate the preliminary UK Carbon Leakage List, and whether the Authority should implement the new UK list of indicators or retain the current list for the next allocation period. In addition, where respondents wish to, additional data that meets specific criteria set out in the consultation may be submitted for consideration by the Authority.

Where any new data is submitted, resulting in a change in position on the Carbon Leakage List, due to additional sectors being classed as at risk of carbon leakage, the Authority is minded to take an ‘additive’ approach to the number of sectors on the Carbon Leakage List.

Approach to the Carbon Leakage Indicator (CLI) equation

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$$\underset{\text{Carbon Leakage Indicator}}{CLI_i} = \underset{\text{Trade Intensity}}{TI_i} \times \underset{\text{Emissions Intensity}}{EI_i}$$

Emissions Intensity: Direct EI + Indirect EI

$$= \frac{\left[\text{Imports} + \text{Exports}\right]}{\left[\text{Turnover} + \text{Imports}\right]} \times \left[\left[\frac{\text{Direct Emissions}}{\text{GVA}}\right] + \left[\frac{\text{Electricity consumption} \times \text{Emissions factor}}{\text{GVA}}\right] \right]$$

The **option of an updated Carbon Leakage List retains the methodological approach of the current CLIs**, while updating the data to be more up-to-date and representative of industry across the UK.

As outlined in the 2023 Free Allocation Review consultation, updating the CLI using new UK-focused data may have several benefits:

- Indicators may be more specific to, and representative of, UK ETS participants;
- Using more recent data can account for recent changes in trade or emissions; and
- The methodology offers participants continuity while allowing for potential flexibility in the approach if deemed necessary.

The UK Carbon Leakage List has in some instances had to rely on fallback approaches where there have been gaps in data, therefore it may not be a better alternative for targeting Free Allocations.

Data Sources for the CLI Equation

Alongside the consultation on CLIs, the UK Government's Department for Energy Security and Net Zero commissioned an external research project from NERA to develop CLIs based on updated UK data. This project focused on developing updated CLIs based on the criteria set out in the December 2023 Free Allocation consultation.

The following criteria were used to assess data sets:

a) Data quality and accuracy: Data reflects carbon leakage likelihood and should capture emissions intensity and trade intensity for each industry. Data is produced to robust standards, with high confidence in estimates and limited lag in publication;

b) Data coverage: Data includes all UK ETS-covered industries;

c) UK focused: Data is based on UK firms and is representative of participants;

d) Transparency: Data should be easily accessible, transparent and available for scheme participants, preferably using public data sets; and

e) Longevity: High confidence that data sets will be produced in future phases.

NB: The full Technical Report by NERA which contains details on the approach, methodology and data sets explored can be found on gov.uk

Data Sources for the CLI Equation *Trade Intensity*

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The Authority would be minded to use HMRC trade data, Office for National Statistics (ONS) Annual Business Survey (ABS) data and are minded to maintain the same approach of 4-digit NACE code classification for the calculation of CLIs if a UK list is used.

NERA have calculated trade intensity using the same equation as was used for current CLIs and current Carbon Leakage List.

$$\text{Trade intensity} = \frac{\text{Imports} + \text{Exports}}{\text{Turnover} + \text{Imports}}$$

Source: European Commission.

To calculate Trade Intensity NERA have used HMRC

trade data which includes monthly trade value by products and reports UK's trade with EU and non-EU countries separately.

This is reported at product level rather than industry level as used by the ETS. NERA has mapped the HMRC trade data to this classification for the purpose of updating CLIs.

The ONS, as part of its ABS, publishes sector Gross Value Added (GVA) and turnover data, at 4-digit SIC level, equivalent to the NACE codes used in the CLI. Therefore, NERA have used this data set as the primary source for sector output, used in both the trade and emissions intensity calculations.

Fallback Approaches:

- For 23 industries ABS data was not available therefore Inter-Departmental Business Registry (IDBR) data has been used for most cases.
- For 3 industries where HMRC, ABS and IDBR data was not available, a fallback of EU trade intensity has been used as a proxy.

Data Sources for the CLI Equation
Emissions Intensity

The Authority would be minded to use the same equations as used in the EU to calculate emissions intensity if the list was updated.

This would capture the same rate of emissions per unit of economic output as currently. To do this NERA have calculated emissions intensity as the sum of direct and indirect emissions intensity, per unit of economic output.

$$\text{Emissions intensity} = \left[\left[\frac{\text{Direct emissions}}{\text{GVA}}\right] + \left[\frac{\text{Electricity consumption} \times \text{Emissions factor}}{\text{GVA}}\right]\right]$$

Source: European Commission.

The primary source for calculating direct emissions intensity is UK ETS compliance data. Sectors who only appear at sub-installation activity level within the UK ETS, but not in the published installation-level Emissions and Surrenders Compliance data do not have ETS recorded emissions.

Where turnover data is required for part of the emissions intensity calculation, NERA have, as in the trade intensity calculation, used the ONS ABS data set which also reports GVA values by industry. To calculate indirect emissions intensity, the primary approach involves estimating expenditure on electricity at an industry level, alongside emissions intensity and industry output, to model indirect emissions intensity variables. NERA have used ONS Annual Purchases Survey data on electricity spending by 4-digit NACE code, and Green Book data on electricity prices.

Fallback Approaches:

- ONS data is used as a supplement to fill any data gaps in the direct emissions data provided by UK ETS participants through their annual compliance report.
- The fallback approach taken for sectors where accurate data for direct and indirect emissions intensity could not be calculated is to use parent-level sector codes. It is possible that these are not representative of the specific subsectors' carbon leakage risk.

Data Sources for the CLI Equation
Further Formula Considerations

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Trade Intensity

The Authority have chosen to ***include all trade (including UK-EU trade) within the trade intensity variable in this preliminary Carbon Leakage List calculation.***

Under the current CLIs, an industry's trade intensity is based on EU-wide trade data, and therefore only imports from, and exports to, non-EU countries are captured. This means that any UK-EU trade is not captured within trade intensity variables.

Calculating UK-specific CLIs would suggest that we should include trade with all trading partners including the EU.

Part of our reasoning for updating the Carbon Leakage List to be reflective of UK industry carbon leakage risk was to consider trade implications following the withdrawal of the UK from the EU, and that this was a key theme that came up in consultation responses. Inclusion of all trade is also in line with the methodological approach of the current CLIs, and applies a clear, simple approach.

Emissions Intensity

The Authority proposes continuing to include indirect emissions intensity as part of the assessment of emissions intensity in this preliminary Carbon Leakage List calculation.

The Authority is still minded to use emissions intensity as a key metric for calculating carbon leakage risk. A further consideration that was taken as part of the review conducted by NERA was to determine whether indirect emissions should continue to be included within the CLI formula.

There are other policies across the UK that seek to compensate or exempt firms from carbon pricing, however they only covers a subset of industries and firms.

CLI Thresholds Methodology

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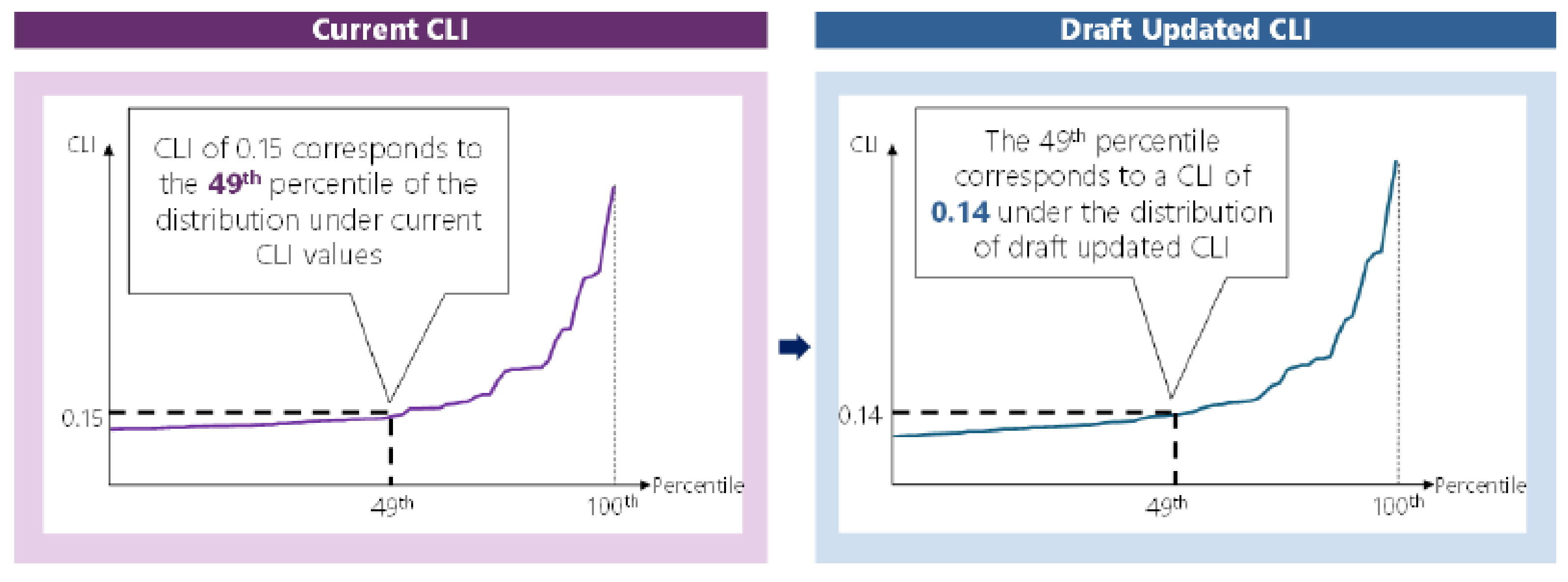
As part of the update to the Carbon Leakage List, the Authority must apply an approach to determining threshold values.

The consultation explores two approaches:
A) Retaining the same proportion of industries,

B) Using a bottom-up calculation to calculate a threshold value based on leakage risk.

The results of the two approaches are broadly consistent with each other.



Carbon Leakage Indicator Thresholds:

- If the Authority decides to put in place a new Carbon Leakage List **we would be minded to set the threshold for eligibility for Free Allocations at 0.14 for sectors who have had their CLI determined on the basis of a bottom-up direct emissions intensity** methodology.
- The Authority proposes to use a separate **CLI threshold of 0.74 for sectors using fallback direct emissions intensities**.

The Authority also remains minded to not offer a second stage qualitative assessment if the CLL is updated.

The Carbon Leakage List

Implementation of a New List:

The Authority presents no minded-to position of a new Carbon Leakage List. The alternative will be to retain the current Carbon Leakage List as used in UK ETS Phase I and EU ETS Phase IV.

Phase out of Free Allocations for sectors not at risk:

If the Authority does decide to update the Carbon Leakage List we would remain minded to bring forward the phase out date for sectors not at risk of carbon leakage, in line with the objective of the Free Allocation Review to better target support to the most at-risk sectors.

Submission of Additional Data:

The Authority would invite participants to submit any data which we have identified gaps in, both in the sections above and in the technical report as well as any other supporting evidence. Data submitted must reach a high threshold of meeting all requirements outlined in the multi-criteria assessment to be assessed for inclusion in the calculation of CLIs. We would encourage participants to explain how the data submitted meets the criteria, and where other supporting evidence is used it should be explained explicitly why the Authority should take this into consideration.

Additive approach to Additional Data:

Where any new data is submitted, resulting in a change in position on the Carbon Leakage List, due to additional sectors being classed as at risk of carbon leakage, the Authority is minded to take an ‘additive’ approach to the number of sectors on the Carbon Leakage List.

Questions for Discussion

1. Do you agree with the data sets used to calculate emissions intensity and trade intensity?

2. Do you agree with the fallback approaches which have been used where gaps have remained in the trade and emissions intensity data sets?

3. Do you agree with the methodology used to update the Carbon Leakage List threshold values?

4. Do you agree with the Authority's preliminary list of Carbon Leakage Indicator (CLI) values?

5. Are there any other facts or matters that you would like the Authority to take into account before making a final decision on the Carbon Leakage List?

Next Steps

Consultation closes: 10 March 2025

You can submit written responses to the consultation via citizen space, which is available here: https://www.gov.uk/government/consultations/uk-emissions-trading-scheme-free-allocation-review-carbon-leakage

Or you can submit via e-mail here: ukets.consultationresponses@energysecurity.gov.uk

If you have any further queries, please contact us at the following mailbox:

emissions.trading@energysecurity.gov.uk