Method for calculating the CBAM market restriction on the NSL interconnector between Norway and Great Britain

Background

The Carbon Border Adjustment Mechanism (CBAM) is a mechanism under which goods imported from countries outside the EU/EEA are subject to a carbon price equivalent to that applicable within the EU. Its objective is to ensure a level playing field and prevent carbon leakage caused by production being relocated to countries with less stringent climate requirements.

The CBAM rules are planned to be introduced in Norway from 1 January 2027 and cover the following products:

- cement
- electricity
- fertilisers
- iron and steel
- aluminium
- hydrogen

More information about the CBAM mechanism can be found here:
CBAM: Regelverk for karbonprising av importerte varer - miljodirektoratet.no

CBAM on imports of electricity from Great Britain

For electricity imported into Norway, only imports from Great Britain are covered by the CBAM scheme. The Norwegian and British electricity markets are interconnected via the North Sea Link (NSL), a subsea interconnector between Kvilldal in Rogaland, Norway, and Blyth in England. The interconnector facilitates the import and export of electricity between Norway and Great Britain, depending on electricity prices and prevailing market conditions in the respective markets.

Electricity is exchanged with Great Britain through an implicit auction in which the entities buying and selling electricity are not known. It is therefore not possible to assign the CBAM obligation to the actual importer of electricity from Great Britain.

The Norwegian Ministry of Energy has designated Statnett as the party responsible for CBAM, acting as the CBAM declarant for electricity in Norway. Statnett is responsible for the customs declaration of all imported electricity. Although Statnett is not a direct importer of electricity, it is therefore natural for Statnett to act as the CBAM declarant for electricity.

As the CBAM declarant, Statnett will be responsible for purchasing CBAM certificates corresponding to the CO2 emissions associated with imported electricity. The certificates may be purchased only on a central trading platform managed by the European Commission. From 2027, the certificate price will be set equal to the average weekly price of allowances auctioned under the EU Emissions Trading System. The number of certificates will be adjusted to account for any CO2 price paid by the producer in Great Britain.

Statnett does not decide how much electricity is imported and incurs costs solely on the basis of the market outcome and the weekly CBAM price. The congestion income earned by the cable owners is a measure of the profitability of imports. If the congestion income does not exceed the CBAM cost, importing electricity is not economically rational. The demand should instead be met by increased production in Norway. To prevent unprofitable imports, Statnett intends to introduce a market restriction.

Method for calculating the CBAM cost for import on NSL

To ensure that electricity is imported only during periods when the congestion income exceeds the CBAM cost associated with the cable, the market restriction must at all times reflect the actual CBAM costs arising from the imports.

The total CBAM cost is determined by the CBAM certificate price and the number of certificates that must be purchased. One certificate corresponds to the emission of one tonne of CO2. The number of certificates is determined by the volume of imported electricity, the emission factor for electricity produced in Great Britain and the CO2 price paid in Great Britain. The emission factor and the CBAM certificate price are known values, but it remains uncertain how the CO2 price paid in the UK will be calculated and when it will be published. This uncertainty must be taken into account when calculating the CBAM market restriction on NSL.

The CBAM cost is calculated as follows:

$$\text{Total CBAM cost} = \text{CBAM certificate price} \times \text{Number of certificates}$$

where:

- CBAM certificate price: calculated and published weekly by the European Commission from 1 January 2027
- Number of certificates = Imported volume (MWh) × Emission factor (tCO2/MWh) - Reduction factor

To calculate the correct number of certificates, the imported volume and the emission factor must be known:

- Imported volume: the amount of imported electricity in MWh
- Emission factor: 0.43 tCO2/MWh

The emission factor is defined in Commission Implementing Regulation (EU) 2025/2621, Annex III. It will be revised during 2026/2027, with December 2027 as the final deadline for the revision.

The reduction factor represents the reduction in the number of certificates to be surrendered to account for the carbon price paid in a third country. The method for calculating the reduction factor has not yet been finally adopted in the CBAM Regulation or the associated regulations. The consultation document Draft Implementing Regulation Ares(2026)4841230, for which the consultation period ended on 10 June 2026, proposes the following:

$$\text{Reduction factor} = (\text{DCP} \times \text{SEE} / \text{RefPriceCBAM}) \times \text{Q}$$

where:

- DCP = yearly default carbon price made available by the Commission
- SEE = CO2 emissions in tCO2/MWh (emission factor)
- RefPriceCBAM = annual reference price for CBAM certificates, calculated as the average CBAM certificate price for the relevant year
- Q = imported volume (MWh)

CBAM cost per MWh (EUR/MWh):

$$\text{CBAM cost (EUR/MWh)} = \text{CBAM certificate price} \times \text{SEE} \times (1 - \text{DCP} / \text{RefPriceCBAM})$$

where:

- CBAM certificate price = certificate price published by the European Commission on the CBAM platform; from 1 January 2027, it will be published weekly
- SEE = emission factor (tCO2/MWh)

- DCP = Default Carbon Price published by the European Commission
- RefPriceCBAM = annual reference price for CBAM certificates for the year to which the imports relate, published by the European Commission

The EU rules concerning the reduction in the number of CBAM certificates to account for a CO2 price paid in a third country have not yet been finally adopted. This creates uncertainty regarding the calculation and publication of the data used to determine the reduction factor.

The CBAM restriction (Flow Tariff) is calculated using the latest weekly CBAM certificate price and default values for the emission factor, the CO2 price in Great Britain and the CBAM reference price. The calculation will be performed weekly and will apply for one week at a time.

The calculated values for the CBAM market restriction (Flow Tariff) will be reconciled daily between the cable owners and subsequently updated in Nord Pool's auction system.

If either or both of the DCP and RefPriceCBAM values are unavailable at the time of calculation, they must be estimated.

DCP

The estimate is based on the monthly averages of completed UK ETS auctions for the current year and UKA futures prices for the monthly contracts covering the remainder of the year. If the UK Carbon Price Support (CPS) is included in the basis for calculating the DCP, it must also be included in the estimate. The CPS is then added to the average of the UK ETS auction prices and UKA futures prices.

For UK ETS auctions, the clearing price for each auction is used (ICE UKA auction report).

For UKA futures, the latest recorded price for the relevant monthly contracts in the current year is used (UKA Futures Pricing). For months for which no futures contract exists, the contract with the nearest maturity is used.

As UK ETS allowances and the CPS are denominated in pounds sterling (GBP), the prices must be converted into euros. GBP-to-EUR exchange rates are obtained from the European Central Bank.

For completed auctions, the exchange rate on the auction date is used. For futures contracts and the CPS, the latest available exchange rate at the time of estimation is used.

A detailed description of the estimation methodology is provided in Appendix 1.

RefPriceCBAM

The estimate is based on the monthly averages of completed EU ETS auctions for the current year and EUA futures prices for the monthly contracts covering the remainder of the year.

For EU ETS auctions, the price for each auction is used (EEX Market Data Hub).

For EUA futures, the latest recorded price for each monthly contract is used (EEX Market Data Hub). For months for which no futures contract exists, the nearest subsequent monthly contract is used.

At the beginning of the year, the calculation will mainly be based on futures prices. As more auctions are completed, an increasing share of the calculation will be based on actual ETS auction prices.

A detailed description of the estimation methodology is provided in Appendix 1.

The calculated values for the CBAM market restriction (Flow Tariff) will be reconciled daily between the cable owners and subsequently updated in Nord Pool's auction system.

Uncertainty and risk

The final rules relating to the introduction of CBAM have not yet been adopted in either the EU or Norway. Consequently, uncertainty remains regarding how CBAM will be implemented in practice. The uncertainty mainly concerns the calculation and publication of the prices used to calculate the CBAM cost.

The methodology set out in this document is based on the information provided in the consultation document *"Draft Implementing Regulation Ares (2026)4841230"*, which was subject to public consultation in the EU in spring 2026. As the final regulation has not yet been adopted by the EU, the methodology remains subject to change. Any deviations between the final regulation and the consultation draft may necessitate amendments to the methodology described herein.

Appendix 1

Detailed method for estimating DCP and RefPriceCBAM

Estimation of the DCP (Default Carbon Price) for the UK

$$DCP\ (Euro) = \frac{\sum_{m=1}^{M}(A_m\ + \sum_{m=M+1}^{12} F_m \times FX_{today})}{12} + CPS \times FX_{today}$$

where:

- $A_m = \frac{\sum_{k=1}^{nm}(AuctionGBP_k \times FX_k)}{n_m}$, the average monthly price of UK ETS auctions in month m, in euros
- m = month (January = 1, February = 2, …, December = 12)
- k = sequential number of an auction within a month
- n_m = number of completed UK ETS auctions in month m
- $AuctionGBP_k$ =clearing price for auction k in the relevant month (GBP)
- FX_k =GBP-to-EUR exchange rate on the date of auction k
- F_m= UKA futures price for month m (GBP)
- FX_{today} = GBP-to-EUR exchange rate on the calculation date, or the latest available exchange rate
- CPS = Carbon Price Support, a fixed charge of GBP 18/tCO2
- M = current month

Estimation of RefPriceCBAM for the EU

$$RefPriceCBAM\ (Euro) = \frac{\sum_{m=1}^{M}(C_m\ + \sum_{m=M+1}^{12} H_m)}{12}$$

where:

- $C_m = \frac{\sum_{k=1}^{nm} EUA_k}{n_m}$ = the average monthly price of EU ETS auctions in month m
  - m = month (January = 1, February = 2, …, December = 12)
  - k = sequential number of an auction within a month
  - n_m =number of completed EU ETS auctions in month m
  - EUA_k= clearing price for auction k in the relevant month
- H_m= EUA futures price for month m
- M = current month

Appendix 2: UKA Auctions and Futures

ICE Futures Europe

UKA UK Auction

DOWNLOAD

Description

The ICE UKA Auction Contract is a deliverable contract where each Clearing Member who is allocated lots in the auction is obliged to take delivery of UK Allowances (UKA) from the UK Emissions Trading Registry in accordance with the ICE Futures Europe Regulations.

Market Specifications

Trading Screen Product Name
UKA UK Auction 500

Trading Screen Hub Name
UKA UK

Contract Symbol
UK5

Contract Series
Contracts are listed as per the auction calendar

Contract Size
500 Allowances

Unit of Trading
1 lot of 500 UK Allowances (UKA). Each UK Allowance being an entitlement to emit one tonne of carbon dioxide equivalent gas in the UK ETS.

Minimum Trading Size
Futures: 1 lot = 500 Allowances

Price Quotation
The contract price is in Pound Sterling and pence per metric tonne

Related Products

UKA Futures
UKA Options
CORSIA Eligible Emissions Units (2024-2026) Futures
UKA Daily Futures

Codes

Clearing Admin Name
UK Auction 500

Physical
UK5

Logical
UK5

GMI (FC)

ION A.C.N.
5D56

Symbol Code
UK5

Other Energy Products

Biofuels
Coal
Compute Futures
Crude Oil and Refined Products
Electricity
Emissions
Liquified Natural Gas
Natural Gas
Natural Gas Liquids
Petrochemicals

Energy | Emissions

ICE Futures Europe

UKA Futures

VIEW FUTURES | VIEW OPTIONS

DOWNLOAD

Description

The UKA Futures Contract is a deliverable contract where each Clearing Member with a position open at cessation of trading for a contract month is obliged to make or take delivery of UK Allowances (UKAs) to or from the UK Emissions Trading Registry in accordance with the ICE Futures Europe Regulations.

Market Specifications

Trading Screen Product Name
UKA Futures

Trading Screen Hub Name
UKA

Contract Symbol
UKA

Contract Series
Up to 3 December, up to 3 March and up to 3 monthly contracts or as otherwise determined and announced by the Exchange from time to time. Contracts will not be listed beyond 2030.

Contract Size
1000 Allowances

Unit of Trading
One lot of 1,000 UK Allowances (UKA). Each UKA being an entitlement to emit one tonne of carbon dioxide equivalent gas, as further defined in the ICE Futures Europe Regulations.

Related Products

CORSIA Eligible Emissions Units (2024-2026) Futures
UKA Daily Futures

Trading Hours

City	Trading	Pre-Open
NEW YORK	2:00 AM - 12:00 PM 02:00 - 12:00	1:45 AM 01:45
LONDON	7:00 AM - 5:00 PM 07:00 - 17:00	6:45 AM 06:45
SINGAPORE	2:00 PM - 12:00 AM* 14:00 - 00:00	1:45 PM 13:45

NOTE: DST in the US will be different than BST time. See Circular 23037, Circular 23148 and the associated attachment for temporary trading hour changes. Maintenance window hours (except Endex Spot) are locked to US Eastern local time.

Codes

Appendix 3: EU ETS Auctions and EUA Futures



EU ETS1 Auctions at EEX

Overview

Auctioned product	Contract	Delivery day	Contract size	Minimum lot size	Tick size	Fulfilment
EU allowances	EUAs	t+1	1 EUA	500 EUAs (= 500 t $CO2_{eq}$)	EUR 0.01 per allowance	Delivery versus payment

Details

Auction Mandate	**2026: CAP3 = Common Auction Platform 3** (25 EU Member States, 3 EEA EFTA States, Innovation Fund, Modernisation Fund, Recovery and Resilience Facility, Social Climate Fund) **2027: CAP4**	**Germany**	**Poland**	UK in respect of generation of electricity in **Northern Ireland**
When (details in the auction calendar)	Weekly auctions on Mondays, Tuesdays and Thursdays	Weekly auctions on Fridays	Bi-weekly auctions on Wednesdays	Once per year
Fees [€/500 allowances] = 1 lot	2.38 until 31 Aug 2026 1.73 as of 1 Sep 2026	2.00	2.38 until 31 Aug 2026 1.73 as of 1 Sep 2026	1.73
EUA Volume 2026	387,582,000	55,608,000	40,609,500	584,000
Indicative EUA Volume 2027[1]	339,476,500	77,631,500	49,770,500	896,500

EEX EUA Spot

EEX EUA Futures

Contracts	EEX EUA Future (Monthly, Quarterly and Yearly Expiries)
Underlying	EU Allowances (EUA) permitting the emission of one tonne of carbon dioxide equivalent (directive 2003/87/EC)
Delivery periods	**Month Futures** › the current and the next 2 months, if no Dec Future or Quarter Future expires at the respective maturity date **Quarter Futures** › the current and the next 11 quarters, if no Dec Future expires at the respective maturity date **July, August and December Futures** › the current and the next 2 Julys › the current and the next 2 Augusts › the current and the next 8 Decembers
Contract volume	1,000 EUA (1 lot)