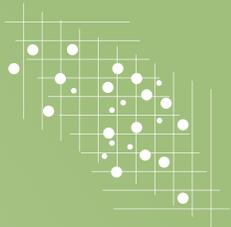carboneer

CARBON. MARKETS. STRATEGY.

Navigating CBAM 2026
Compliance and Cost Management
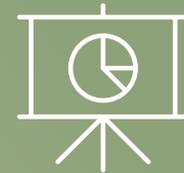
26.01.2026

Our Services

Compliance CO2-markets

Strategic advisory
Operational support
Market access

CBAMs

CBAM Representation
Data sourcing & reporting
Cost management
Supplier engagement

Climate Neutrality & Carbon Removal

Net zero strategies
Ghg accounting (Scope 1-3)
Offsetting portfolios, ´brokerage

CBAM in a nutshell
Carbon Border Adjustment Mechanism

Target

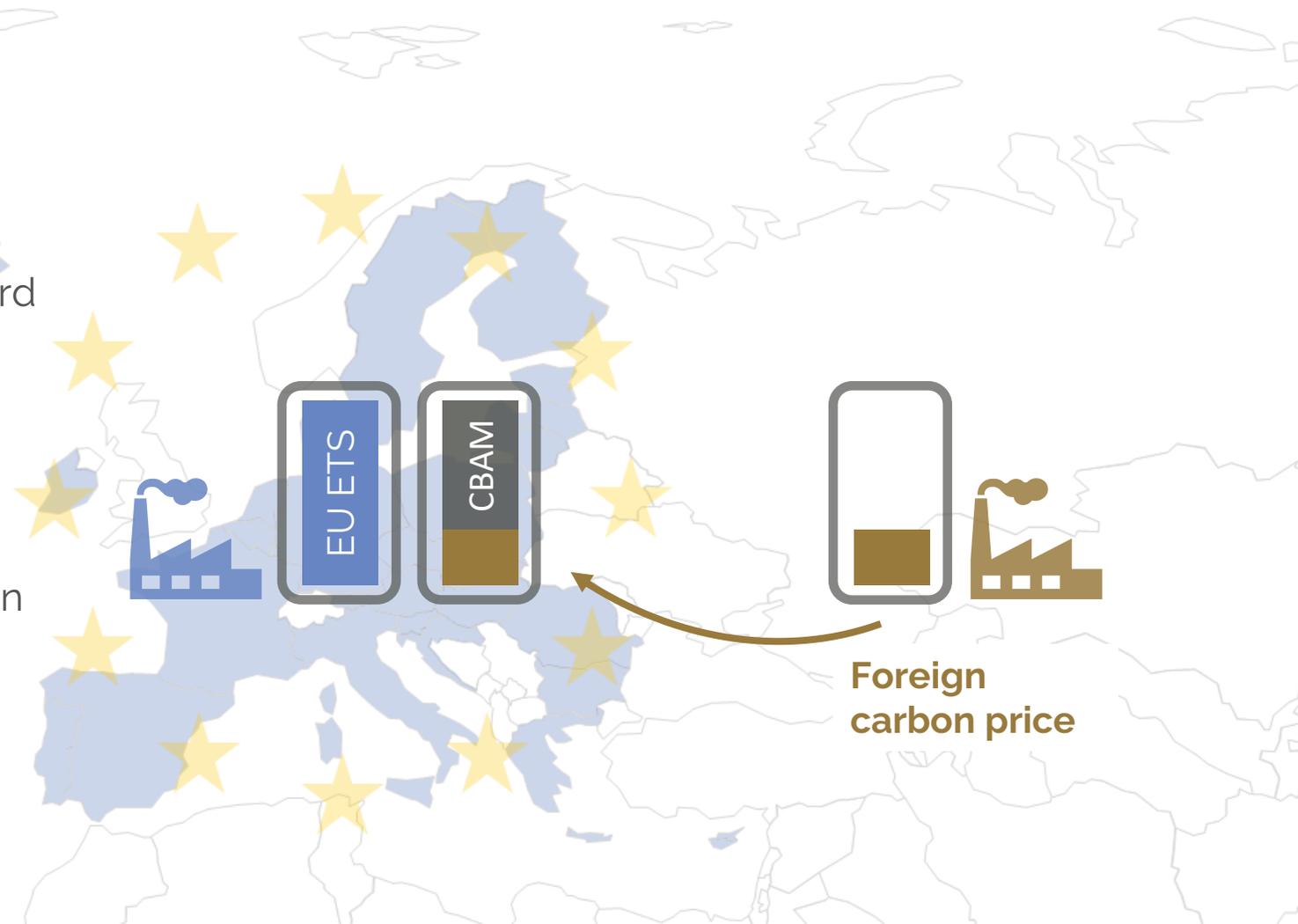› **Equality** of EU and non-EU producers with regard to **CO2 prices paid**

› Reducing **carbon leakage** and incentivising decarbonisation abroad

Mechanism

› Recording and pricing of embedded emissions in imported products

Scope

› 6 sectors accounting for more than 20% of EU emissions

EU ETS

CBAM

Foreign carbon price

| Aluminium | Cement | Electricity | Fertilizers | Hydrogen | Iron & Steel |

CBAM Legislative History
January 2026

2023   2024   2025   2026

Transitional period   Definitive period

May 2023
CBAM regulation

December 2024
IR CBAM registry

March 2025
IR Authorisation

August 2023
IR transitional period

October 2025
CBAM simplifications

17 December 2025
9 IRs and DAs taking effect January 1st 2026
2 proposals for regulations

IR: Implementing Regulation
DA: Delegated Act
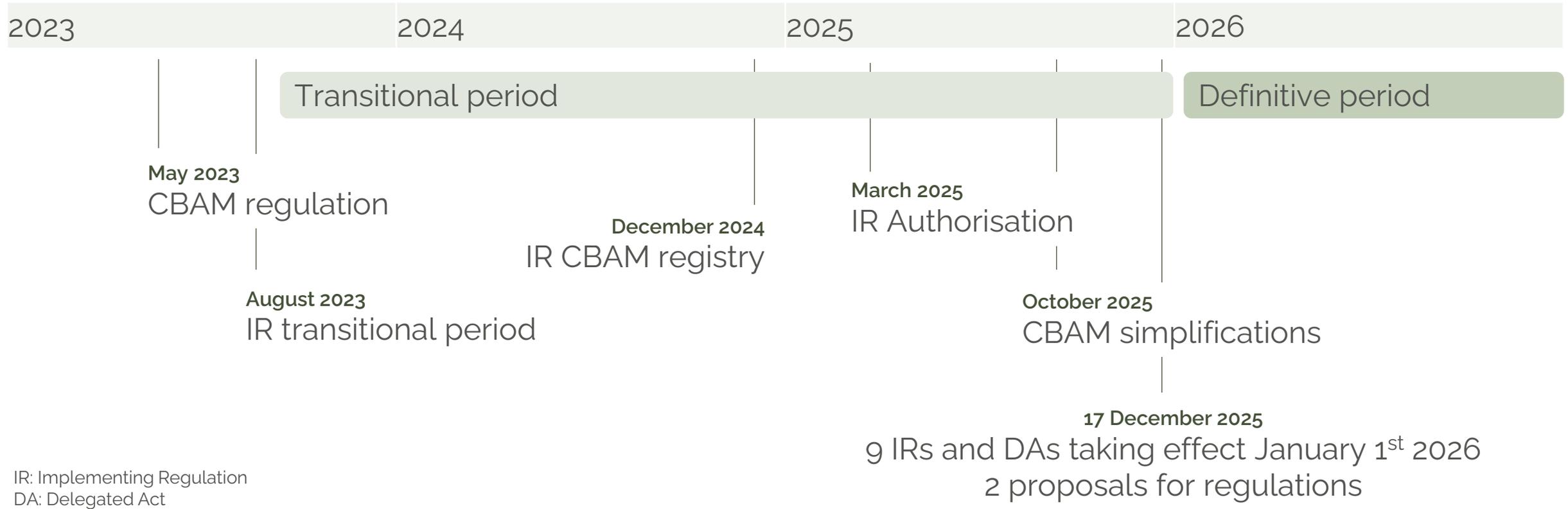
Update on CBAM Legislation

January 2026

Legislation	Content	Status	Source
IR	Calculation rules for embedded emissions	In force	Link
IR	Calculation of the free allocation adjustment to the number of CBAM certificates to be surrendered	In force	Link
IR	Information communicated by customs authorities	In force	Link
IR	Establishment of default values	In force	Link
IR	Calculation and publication of the price of CBAM certificates	In force	Link
IR	Principles for verification of declared embedded emissions	In force	Link
DA	Specifying the conditions for granting accreditation to verifiers	In force	Link
IR	Amending and correcting: authorised CBAM declarant	Amendment	Link
IR	Amending and correcting: CBAM registry	Amendment	Link
Regulation	Extension of its scope to downstream goods and anti-circumvention measures	Proposal	Link
Regulation	Establishing the Temporary Decarbonisation Fund	Proposal	Link
IR	Carbon prices paid in third countries	Q1 2026	Link
DA	Sale and repurchase of CBAM certificates	Q1 2026	Link

Benchmarks

Default Values

Render previously obtained supplier data incorrect

Impact CBAM cost

Limits probability of verified actual data for 2026 imports

Extends CBAM scope

Aims to close the scrap loophole

Supports EU producers of CBAM goods

IR: Implementing Regulation
DA: Delegated Act

Digesting the latest CBAM updates

5

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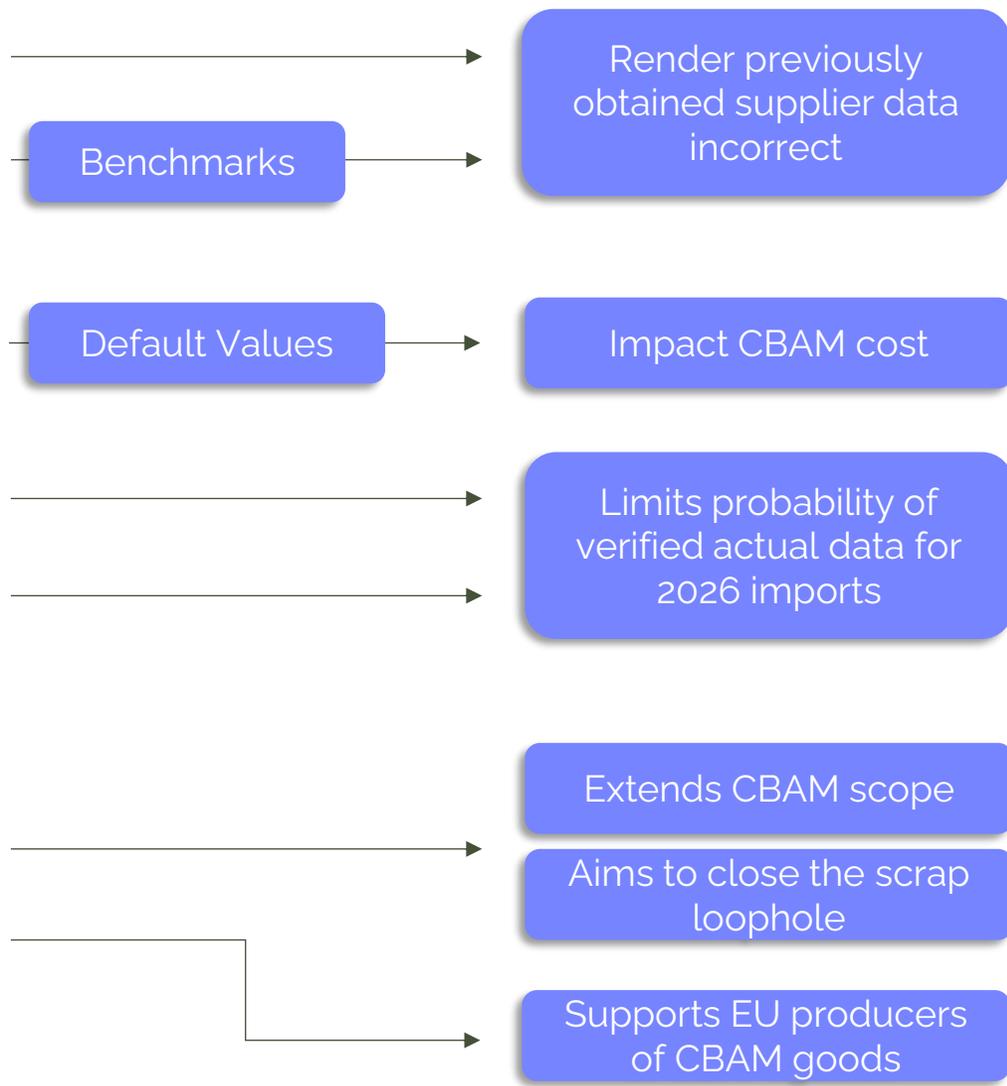
Agenda
Regulatory Update
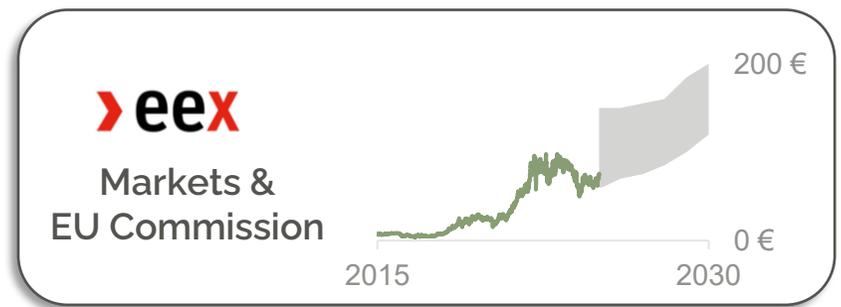
1. ## Benchmarks & Default Values
   Updating Cost Estimates

2. ## Reporting Requirements
   Actual Data and Default Values

3. ## Verified Actual Data
   Relevance & Requirements

4. ## CBAM Certificate Management
   Obligations & Implications

5. ## CBAM Scope Extension
   Overview & Implications

6. ## Supporting EU-Producers of CBAM Goods
   Temporary Decarbonisation Fund

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Benchmarks & Default Values

Updating Cost Estimates

Markets & EU Commission

200 €

0 €

2015 — 2030

PRODUCER

Emissions data & Default values

UPDATED

100%
75%
50%
25%
0%

2026 — 2030 — 2034

Data on CO2 prices

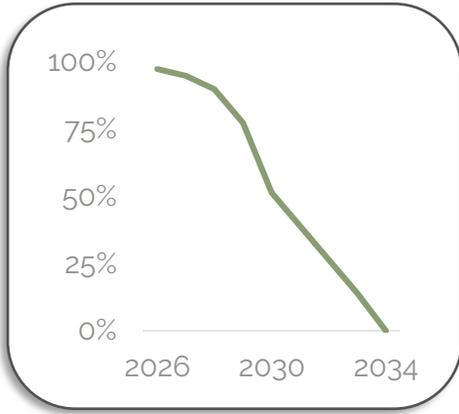| CBAM Cost [EUR] | = | CBAM Price [EUR / t product] | X | CBAM Imports [t product] | X | [| Specific Embedded Emissions [t CO2 / t Product] | − | CBAM-Benchmark Emissions [t CO2 / t Product] | X | CBAM Factor [Percent] |] |

Imports (forecast)

IMPORTER

CBAM Benchmarks

UPDATED

EU Commission

Assumption: No CO2 prices paid in the supply chain. Regulation announced for Q1 2026.

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CBAM Default Values
Updating Cost Estimates

› Default values apply equally to CBAM goods and their precursors

   › No limit on their application for precursors

› Phase-in of mark-ups from 2026 to 2028

   › Fertiliser mark-up remains static at 1%

› Default values are country-specific

   › If unavailable, apply 'Other countries and territories': average of the 10 worst-performing countries.

Algeria

Product CN Code	Description	Default Value (direct emissions)	Default Value (indirect emissions)	Default Value (total emissions)	2026 Default Value (including mark-up)	2027 Default Value (including mark-up)	2028 and onwards Default Value (including mark-up)	Underlying production route determining CBAM BM
7614	Stranded wire, cables, plaited bands and the like, of aluminium, not electrically insulated	1,140	N/A	1,140	1,254	1,368	1,482	(L)
7616 10 00	Nails, tacks, staples (other than those of heading 8305), screws, bolts, nuts, screw hooks, rivets, cotters, cotter pins, washers and similar articles	1,600	N/A	1,600	1,760	1,920	2,080	(L)
7616 91 00	Cloth, grill, netting and fencing, of aluminium wire	1,600	N/A	1,600	1,760	1,920	2,080	(L)
7616 99 10	Cast	0,920	N/A	0,920	1,012	1,104	1,196	(L)
7616 99 90	Other	1,600	N/A	1,600	1,760	1,920	2,080	(L)
Hydrogen					10% mark-up	20% mark-up	30% mark-up	
2804 10 00	Hydrogen	10,820	N/A	10,820	11,902	12,984	14,066	
Iron and steel					10% mark-up	20% mark-up	30% mark-up	
2601 12 00	Agglomerated iron ores and concentrates (excl. roasted iron pyrites)	0,180	0,030	0,210	0,231	0,252	0,273	
7201	Pig iron and spiegeleisen, in pigs, blocks or other primary forms	2,870	N/A	2,870	3,157	3,444	3,731	
7202 11	Ferro-manganese, containing by weight > 2% of carbon	–	N/A	–	–	–	–	
7202 19	Ferro-manganese, containing by weight <= 2% carbon	–	N/A	–	–	–	–	

Default values from IR 2025/2621, available for download in spreadsheet format on [carboneer website](#).

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CBAM Benchmarks
Updating Cost Estimates

› CBAM benchmarks ensure non-EU products receive equivalent CO_2 pricing exemptions as EU products

  › Higher benchmarks result in larger CBAM fee reductions

› Individual benchmarks apply to each specific production route

› Column A enables non-EU producers to calculate their individual benchmark

  › Derived from combinations of rows in the table

  › Current producer data lacks complete and accurate reflection of benchmarks

› Column B provides 'default benchmarks' for importers declaring default values

  › Distinctions outlined in the legend

CN code	CN Description	Column A BMg* [tCO₂e/t]	Column B BMg [tCO₂e/t]
7202 60 00	Ferro-nickel	2,390 (1) 2,295 (2)	2,390 (1) 2,295 (2)
7203 10 00	Ferrous products obtained by direct reduction of iron ore, in lumps, pellets or similar forms	0,295	0,397
7203 90 00	Spongy ferrous products, obtained from molten pig iron by atomisation, iron of a purity of ≥ 99,94 %, in lumps, pellets or similar forms	0,295	0,397
	s, of pig iron, spiegeleisen, iron or steel (excl. of ferro-alloys, turnings and filings of iron or tain small calibre items, defective balls for rings)	0,000	1,288 (C) 0,424 (D) 0,027 (E)
	s, of alloy steel (excl. powders of ferro-alloys oactive iron powders "isotopes")	0,000	1,460 (F)(1) 0,659 (G)(1) 0,328 (H)(1) 0,852 (J)(1) 1,298 (F)(2) 0,647 (G)(2) 0,315 (H)(2) 0,820 (J)(2)
	s, of pig iron, spiegeleisen, iron or non-alloy cl. powders of ferro-alloys and radioactive vders "isotopes")	0,000	1,288 (C) 0,424 (D) 0,027 (E)

Legend
(1) Value is to be used for production years 2026-27
(2) Value is to be used for production years 2028-30
(A) grey clinker / cement
(B) white clinker / cement
(C) Carbon Steel based on BF/BOF
(D) Carbon Steel based on DRI/EAF
(E) Carbon Steel based on Scrap/EAF
(F) Low alloy Steel based on BF/BOF
(G) Low alloy Steel based on DRI/EAF
(H) Low alloy Steel based on scrap/EAF
(J) High alloy Steel (based on EAF)
(K) primary Aluminium
(L) secondary Aluminium

Benchmark values from IR 2025/2620, available for download in spreadsheet format on carboneer website.

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CBAM Benchmarks
Updating Cost Estimates - Example

Benchmark BOF
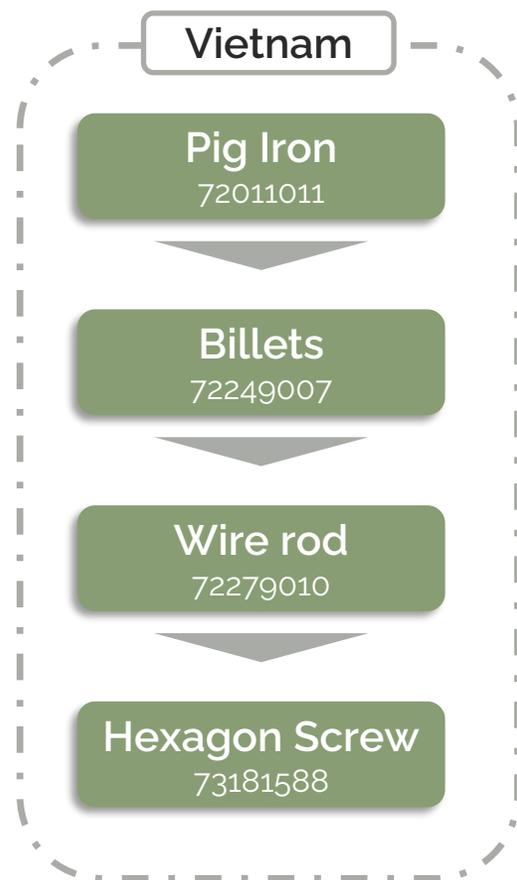
Vietnam	Actuals	Defaults
Pig Iron 72011011	1.089	
Billets 72249007	0.223	
Wire rod 72279010	0.109	
Hexagon Screw 73181588	0.038	1.364
	1,459	**1,364**

CN code	CN Description	Column A BMg* [tCO₂e/t]	Column B BMg [tCO₂e/t]
7318 15 52	Screws and bolts, of stainless steel "whether or not with their nuts and washers", with slotted or cross-recessed heads (excl. wood screws and self-tapping screws)	0,038	1,154 (1) 1,116 (2)
7318 15 58	Screws and bolts, of iron or steel other than stainless "whether or not with their nuts and washers", with slotted or cross-recessed heads (excl. wood screws and self-tapping screws)	0,038	1,364 (C) 0,475 (D) 0,066 (E)
7318 15 62	Hexagonal-socket head screws and bolts, of stainless steel "whether or not with their nuts and washers" (excl. wood screws, self-tapping screws and screws and bolts for fixing railway track construction material)	0,038	1,154 (1) 1,116 (2)
7318 15 68	Hexagonal-socket head screws and bolts, of iron or steel other than stainless "whether or not with their nuts and washers" (excl. wood screws, self-tapping screws and screws and bolts for fixing railway track construction material)	0,038	1,364 (C) 0,475 (D) 0,066 (E)
7318 15 75	Hexagon screws and bolts, of stainless steel "whether or not with their nuts and washers" (excl. with socket head, wood screws, self-tapping screws and screws and bolts for fixing railway track construction material)	0,038	1,154 (1) 1,116 (2)
7318 15 82	Hexagon screws and bolts, of iron or steel other than stainless "whether or not with their nuts and washers", with a tensile strength of < 800 MPa (excl. with socket head, wood screws, self-tapping screws and screws and bolts for fixing railway track construction material)	0,038	1,364 (C) 0,475 (D) 0,066 (E)
7318 15 88	Hexagon screws and bolts, of iron or steel other than stainless "whether or not with their nuts and washers", with a tensile strength of ≥ 800 MPa (excl. with socket head, wood screws, self-tapping screws and screws and bolts for fixing railway track construction material)	0,038	1,364 (C) 0,475 (D) 0,066 (E)

Vietnam

Product CN Code	Description	Default Value (direct emissions)	Default Value (indirect emissions)	Default Value (total emissions)	2026 Default Value (including mark-up)	2027 Default Value (including mark-up)	2028 and onwards Default Value (including mark-up)	Underlying production route determining CBAM BM
7318 14 91	Spaced-thread screws of iron or steel other than stainless	2,350	N/A	2,350	2,585	2,820	3,055	(C)
7318 14 99	Self-tapping screws of iron or steel other than stainless (excl. spaced-thread screws and wood screws)	2,350	N/A	2,350	2,585	2,820	3,055	(C)
7318 15	Threaded screws and bolts, of iron or steel, whether or not with their nuts and washers (excl. coach screws and other wood screws, screw hooks and screw rings, self-tapping screws, lag screws, stoppers, plugs and the like, threaded)	2,750	N/A	2,750	3,025	3,300	3,575	(C)
7318 16	Nuts of iron or steel	2,960	N/A	2,960	3,256	3,552	3,848	(C)

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CBAM Benchmarks
Updating Cost Estimates - Example

Vietnam
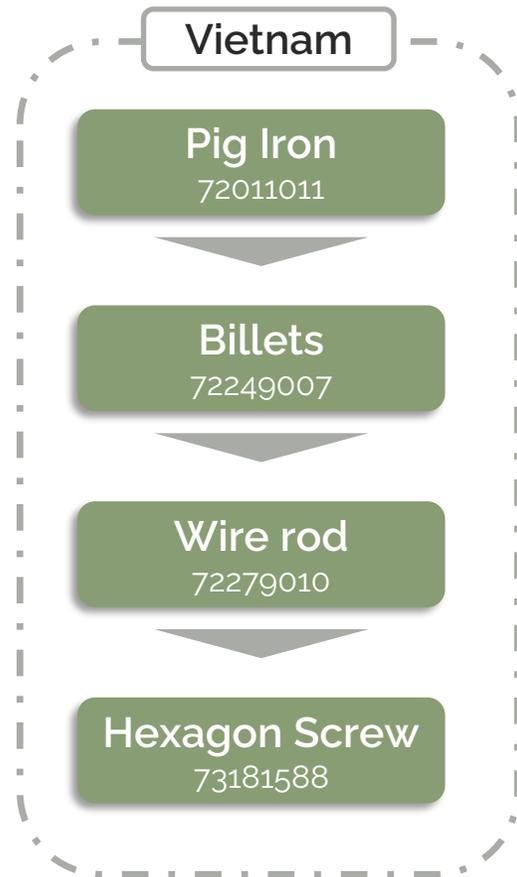
	Benchmark BOF		Benchmark EAF	
	Actuals	Defaults	Actuals	Defaults
Pig Iron 72011011	1.089		-	
Billets 72249007	0.223		0.1	
Wire rod 72279010	0.109		0.109	
Hexagon Screw 73181588	0.038	1.364	0.038	1.364
	1,459	**1,364**	**0,247**	**1,364**

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Reporting Requirements
Actual Data and Default Values

Producer determines the
CBAM benchmark value
(applicable to his goods)

Supplier CBAM
data available?

yes

no

Positive verification
report available?

no

yes

Importers must determine
appropriate benchmark values
(Possibly integrated into CBAM Registry)

Actual Values

Default Values

Producer emission report contains
producer-specific benchmark value
(Copy-paste into CBAM declaration)

CBAM Declaration

Contains the total number of CBAM
certificates to be surrendered
(accounting for benchmark deductions)

Reporting Requirements
Actual Data and Default Values

› Default rule starting 2026: Importing period = reporting period for producers
   › Special rule starting 2027 with sufficient evidence from producers: Importing period = previous reporting period for producers

	2024				2025				2026				2027				2028			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
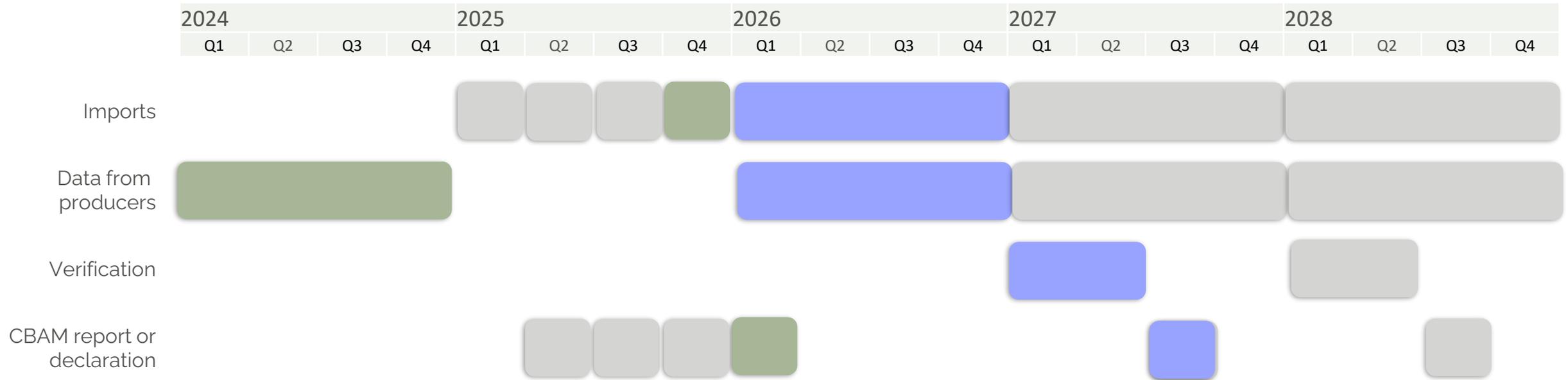
› Manageable reporting obligations during 2026
   › 2026 imports are associated with cost obligations

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CBAM Reporting
Automated Solution

cbam.hub

Ensure compliance and free resources by outsourcing and simplifying CBAM data collection and report creation.

carboneer's proprietary **cbam.hub** is an expert-backed reporting solution that collects CBAM data from the supply chain and generates compliant CBAM reports ready to upload directly to the CBAM registry.

What makes it special: You don't need to operate the application or evaluate the results. carboneer takes care of it for you.

01 **Export CBAM-data from customs- or ERP-system**
Via Excel template or programmed interface

02 **CBAM data from suppliers is queried**
Supplier portal accessible via web browser

03 **Completeness, plausibility & documentation**
Implausible data and supplier activity documented in report attachment

04 **CBAM declaration upload to the registry**
1 file – available at any time
Upload to the CBAM registry in 5 minutes

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Verified Actual Data
Relevance & Requirements

$$\text{CBAM Cost [EUR]} = \text{CBAM Price [EUR / t Product]} \times \text{CBAM Imports [t Products]} \times \left[\text{Specific Embedded Emissions [t CO2 / t Product]} - \left[\text{CBAM Benchmark Emissions [t CO2 / t Product]} \times \text{CBAM Factor [Percent]}\right]\right]$$

CBAM Price: 90 €

CBAM Imports: 1000 Tonnes screws from Vietnam 2026

Specific Embedded Emissions:
Actual data: 0.9 tCO2e / t
Default values: 3.025 tCO2e / t

CBAM Benchmark Emissions:
Actual data: 0.247 tCO2e / t
Default values: 1.364 tCO2e / t

CBAM Factor: 0.975

Actual data: ~ 60,000 €
Default values: ~ 150,000 €

Application of Verified Actual Data

Producer — CBAM Data | Monitoring report

Verified CBAM data

Importer — Accredited verifier — Verification report

Repeat annually
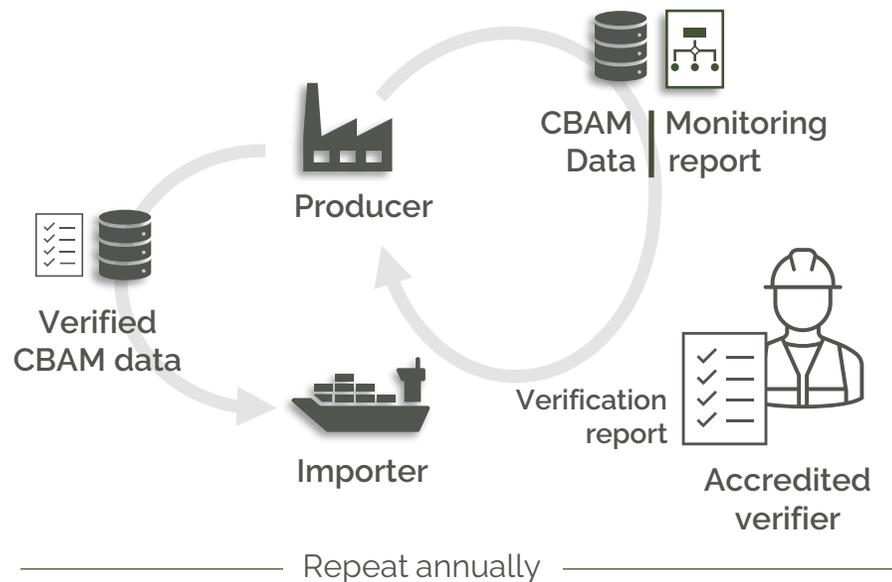
› Importers are allowed to use verified CBAM data from producers and otherwise must resort to (punitive) default values.

› **Verification possible only with implemented monitoring system**
  › When checking producers' CBAM readiness also request monitoring plan

› Bottleneck Verification 2026:
  › Availability of accredited auditors
  › Moderately prepared producers
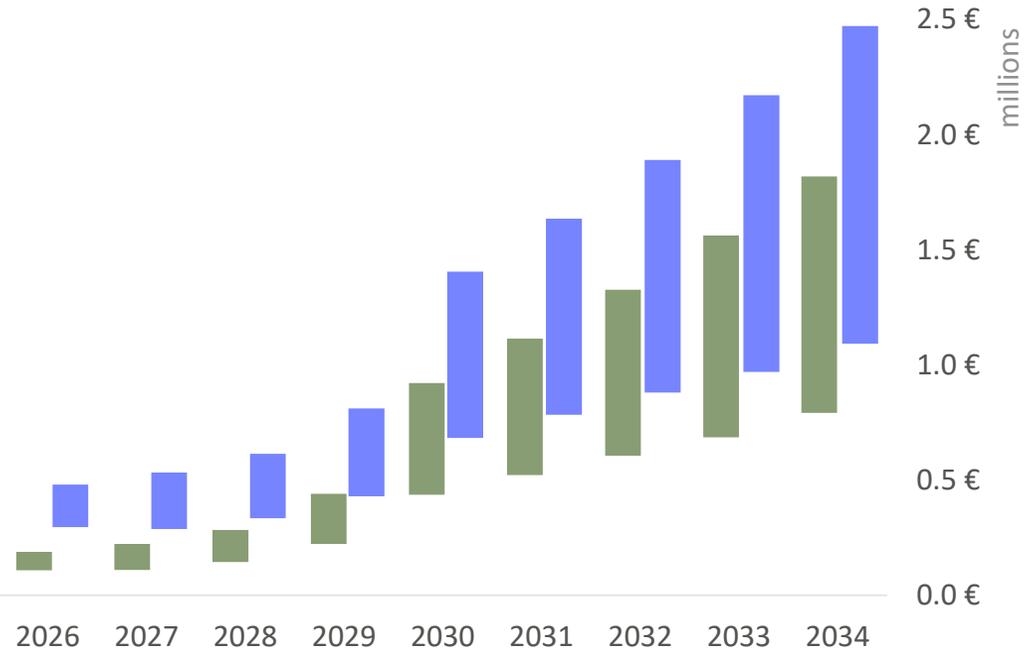 › Limited time (Jan-Sept)
  › Verification along the value chain

Only prepared producers can be verified!

Verified Actual Data
Relevance & Requirements

Total CBAM Cost

Cost incurred (exemplary) for imports of CBAM goods given actual data from producers (green) and default values (blue).

Cost Contributions

Producer 1

2026   2034

Producer 2

article A
article B
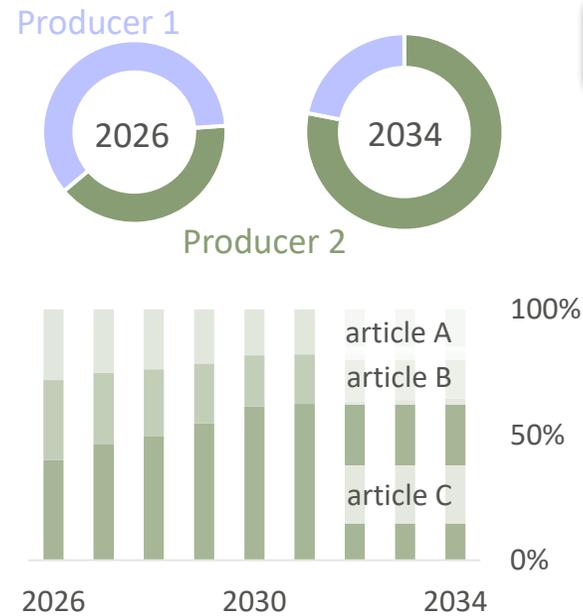
article C

Cost relevance of individual producers and imported goods.

Vulnerability

$$\text{Mark-up} = \frac{\text{CBAM Cost}}{\text{Purchase Price}}$$
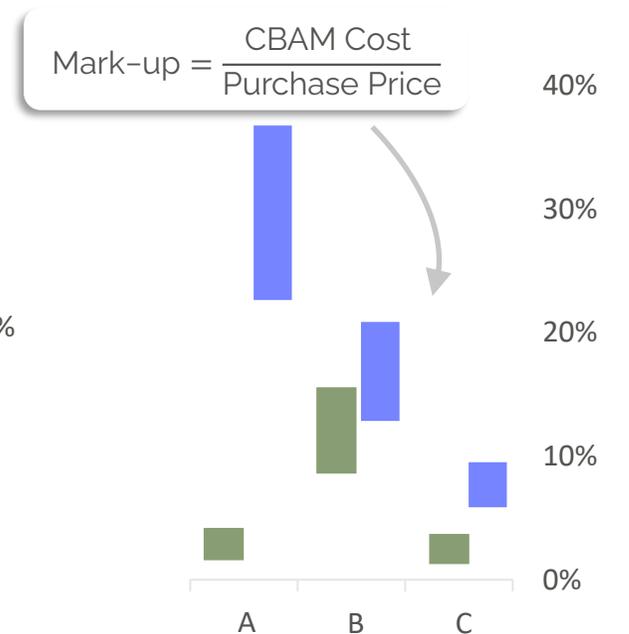
CBAM Cost Mark-ups of individual articles (actual data vs. default values)

Understanding impacts
Determine need to actively manage CBAM costs.

Adjust budgeting
Make provisions & hedge CBAM costs.

Identify hotspots
Manage cost drivers & identify alternatives.

Risk management
Assess the probability of real data, adjust supplier contracts & negotiate cost sharing.

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Verified Actual Data
Relevance & Requirements

Webinar Announcement

CBAM costs and verification

29.01.2026 | 10:00 – 11:00 CET

Agenda

- Regulatory CBAM update
- Cost implications of CBAM based on a case study
- Preserving competitiveness through actual, verified emissions data
- Verification processes under CBAM
- Relevant data points and how to prepare for verification
- Live Q&A

Simon Göß
carboneer GmbH

Roland Wollenweber
TÜV Rheinland Group (Verifier)

Register now

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CBAM Certificate Management
Obligations & Implications

› From 2026, every tonne of imported CBAM emissions must be covered by a CBAM certificate

› Unlimited supply of certificates

› Price follows the weekly average of auction prices in the EU Emissions Trading System 1

› Procurement via Common Central Platform (CCP)

› CBAM certificates cannot be traded between companies

› Return of surplus certificates possible to a limited extent

› Cancellation of expired certificates without compensation

EU Emission Trading System

CBAM

71 €
70 €
69 €
68 €
67 €
66 €
65 €
64 €
63 €
62 €

Prices for EU Allowances (EUA) and prices according to CBAM rules for November 2024. Data source: EEX.

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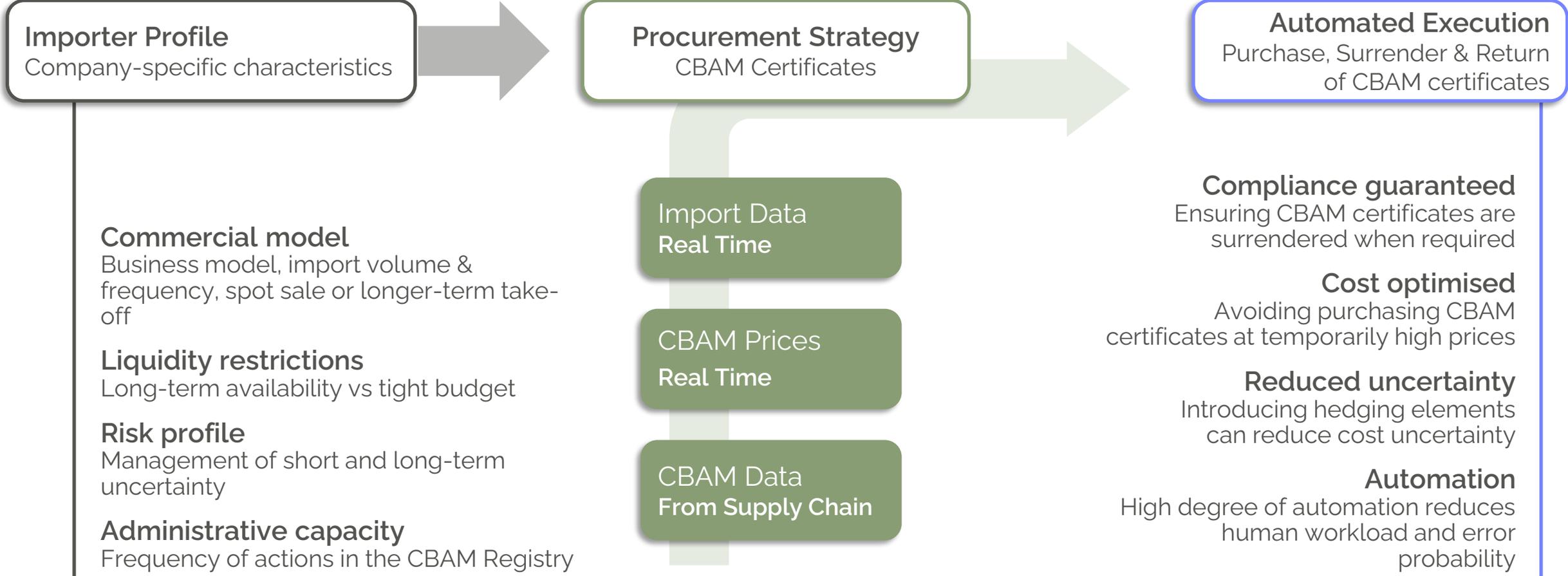
CBAM Certificate Management
Obligations & Implications

› Certificate surrender for 2026 imports due with CBAM declaration on 30 September 2027

› **Security requirement** from 2027: Hold certificates equal to 50% of year-to-date CBAM emissions for all imports, reviewed quarterly
  › Proposed: Security requirement fulfilled only with certificates matching the vintage of the imports
  › **Vintage management required for CBAM certificates**

› 2026 quarterly imports covered with certificates priced at quarterly weighted average EU ETS allowance prices
  › Temporary deviation from standard certificate pricing
  › Free **carboneer CBAM Price Tracker** available soon

CBAM Certificates

Imports		2026 Q1	Q2	Q3	Q4	2027 Q1	Q2	Q3	Q4	2028 Q1	Q2	Q3	Q4	2029 Q1	Q2	Q3	Q4
2026	Q1							■									
	Q2							■									
	Q3							■									
	Q4							■									
2027	Q1					■						■					
	Q2						■					■					
	Q3							■				■					
	Q4								■			■					
2028	Q1									■						■	
	Q2										■					■	
	Q3											■				■	
	Q4												■			■	
2029	Q1													■			
	Q2														■		
	Q3															■	
	Q4																■

Different Pricing Mechanism

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CBAM Certificate Management
Obligations & Implications

Importer Profile
Company-specific characteristics

Procurement Strategy
CBAM Certificates

Automated Execution
Purchase, Surrender & Return
of CBAM certificates

Commercial model
Business model, import volume &
frequency, spot sale or longer-term take-
off

Liquidity restrictions
Long-term availability vs tight budget

Risk profile
Management of short and long-term
uncertainty

Administrative capacity
Frequency of actions in the CBAM Registry

Import Data
Real Time

CBAM Prices
Real Time

CBAM Data
From Supply Chain

Compliance guaranteed
Ensuring CBAM certificates are
surrendered when required

Cost optimised
Avoiding purchasing CBAM
certificates at temporarily high prices

Reduced uncertainty
Introducing hedging elements
can reduce cost uncertainty

Automation
High degree of automation reduces
human workload and error
probability

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Active CBAM Cost Management
The carboneer Approach: Automated Procurement

Data on CBAM-Imports
In real time or at frequency determined by client

Procurement Strategy
Tailored to client: commercial model, risk profile, administrative capacity

✓ **(Semi-) automated procurement**

CBAM Compliance Model
OUTPUT: Requirements on CBAM certificates (volumes & dates)

CBAM Optimisation Model
OUTPUT: Real time signals to purchase, surrender, return CBAM certificates and Allowances from the EU ETS

✓ **Eased compliance**

✓ **Minimised cost**

Actionable Signals

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CBAM Scope Extension
Overview & Implications

Scope extension

› Extension proposed through an amendment to Annex I of the CBAM Regulation

› **TBC**: Entry into force proposed for 1 January 2028, with declarations in 2028 covering 2027 imports

   › **2027 imports generate CBAM cost due in 2028**

› Based on 2027 data, de-minimis threshold to be recalibrated for 2028 declarations

› **Preparation in 2026:** build internal capacity, engage suppliers, and adjust pricing models

Anti-circumvention

› Additional information in CBAM declarations requestable

› Aluminium and ferrous waste and scrap are precursor materials

Serious and unforeseen circumstances

CN Chapter	Product Scope Description
73 (Iron & Steel Articles)	Stranded wire, ropes, grill/netting, nails, castings, springs, and household articles of iron or steel.
74 & 83 (Copper & Base Metal Fittings)	Copper or mixed-metal fasteners, fittings, stoppers, hinges; and other household hardware containing steel or aluminium.
84 (Mechanical Machinery & Equipment)	Pumps, burners, engines, cooling towers, lifting machinery, washing machines, foundry equipment, industrial robots, moulds, and machine parts containing steel or aluminium.
85 (Electrical Machinery & Components)	Motors, transformers, inductors, welding machines, and insulated electrical conductors containing steel or aluminium.
87 (Vehicles & Parts)	Diesel, hybrid, and electric road vehicles, engines, chassis, bodies, gearboxes, suspension, and radiators.
90 (Medical & Measuring Instruments)	Metal-based needles, apparatus, and analytical instruments containing steel or aluminium.
94 (Furniture & Prefabricated Buildings)	Seats with metal frames, office metal furniture, and prefabricated structures containing steel or aluminium.

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Supporting EU-Producers of CBAM Goods
Temporary Decarbonisation Fund

› Member States contribute 25% of CBAM revenues

› Conditional support requires producers to demonstrate decarbonisation investments

› Applications must be submitted to the national competent authority by 31 March 2028

› Support levels are determined by the value of free allocations being phased out and prevailing EU ETS prices

› Support is granted on the basis of production, not exports

› Support disbursed by 31 Decenber 2029 latest

CN Chapter	Goods Categories Covered
76 (Aluminium)	Non-alloy aluminium plates, sheets, and strip, aluminium foil (backed or not); aluminium wire, aluminium powders and flakes; fasteners and hardware made of aluminium; aluminium composite panels
28, 31 (Fertilisers)	Mineral and chemical fertiliser; nitrates, phosphates, potash and complex nitrogen fertilisers; mixed fertilisers (NPK, NP, NK types; fertilisers of animal or vegetable origin
26, 72, 73 (Iron and Steel)	Iron ores and concentrates, pig iron and spongy ferrous products; ferro-alloys (FeMn, FeCr, FeNi); semi-finished and flat-rolled products (alloy, non-alloy, stainless); bars, rods, wire products, tubes & pipes (seamless/welded); tube fittings, flanges, bolts, screws, nuts, washers; forged and sintered steel articles

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Thank you for your Attention!

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