EU Carbon Border Adjustment Mechanism: What effective compliance looks like

Wednesday, 4 October 2023

Building a better working world

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Agenda

1. Setting the scene
2. CBAM overview
3. UK and beyond developments
4. Case studies
5. Questions and actions
6. Broader strategic considerations

If you have any questions, please use the Q&A feature

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Setting the scene

Ana Fallas

Setting the context – European Green Deal

European Green Deal objectives

- No net emissions of greenhouse gases (GHG) by 2050
- Economic growth decoupled from resource use
- No person and no place left behind


Clean energy


Sustainable mobility


Sustainable agriculture


Sustainable food industry


Building and renovating


Eliminating pollution

Climate action


Sustainable industry


Biodiversity

17 Sustainable Development Goals (and UN Global Compact) – 2015

Paris Agreement – 2016

European Green Deal – 2019

EU Climate Law | Fit for 55 legislative package (EU CBAM, Emission Trading System (ETS), Energy Tax Directive (ETD) etc.) – 2021

Circular Economy | Sustainable Products | Eco-Design – 2022

2023

2024 – EU CBAM (reporting) | ETS (maritime)

2026, 2027 – EU CBAM (operational) | | ETD

2030 – EU target: 55% reduction of GHG emissions | US target: 50% reduction of GHG emissions | UK target: 68% reduction of GHG emissions |

2050 – EU target: climate-neutral | UK target: carbon-neutral | US target: net-zero

2060 – China target: climate-neutral | Russia target: carbon-neutral

2070 – India target: climate-neutral

EU CBAM (transitional period) | | ETD | Effort Sharing Regulations

Timeline is indicative

2

CBAM overview

Richard J. Albert

Robert Seiter

Overview – CBAM

Product categories

- Cement
- Fertilizers
- Iron and steel (including some down stream products)
- Aluminium
- Electricity
- Hydrogen

Political discussions seem to favor extending CBAM further by 2030, to cover all product categories that are subject to the EU ETS if these products were manufactured in the EU. This would include polymers, diverse chemicals, mineral oil products, paper and pulp, among other categories.

Emissions covered

Direct and indirect emissions related to manufacture + electricity

Footprint calculation may at some point be extended to cover further indirect emissions, e.g., transportation

CO_2 = carbon dioxide, PFCs = perfluorocarbons, N_2O = nitrous oxide

Geographic scope

Import from non-EU, except products originating in:

- Switzerland
- Iceland
- Norway
- Liechtenstein

Other jurisdictions may also apply a type of carbon border policy (e.g., ongoing discussions in UK, Switzerland, Japan, Canada and others)

CBAM certificate requirement

- Release of goods for customs-free circulation
- Irregularities occurring to goods under customs supervision (non-Union goods)

Timeline

2030 – Potential expansion of CBAM scope

Gradual phase in of need to buy CBAM certificates

2026 – CBAM fully operational

CBAM quarterly reporting requirement for customs declarants

2023 – CBAM transitional phase starts on 1 October 2023

A simplified example for CBAM calculation

Assumption: 1,000 tons of steel, worth EUR 510/per ton

Embedded emissions In imported product (emission intensity per kilogram)	X	Actual weight of imported product	X	Price of CBAM certificates	–	Carbon price paid at origin
Assume 1.85 t of emission per tonne of steel		1,000 t of steel arriving by vessel		EUR 80 per EU-A* certificate		No carbon payment at origin

Steel purchase price	EUR 510,000
+ CBAM certificates	EUR 148,000

**EU-A = EU ETS allowance*

Areas of potential indirect and direct impact

Non-EU manufacturer → **Non-EU distributor** → **EU buyer/distributor** → **EU buyer/manufacturer**

Indirect impact – compliance

This manufacturer will be asked by its customer to calculate and provide emissions data based on EU CBAM regulations.

Indirect impact – compliance

This distributor will be asked by its customer to provide emissions data of the supplier/ manufacturer to the EU buyer.

Direct impact

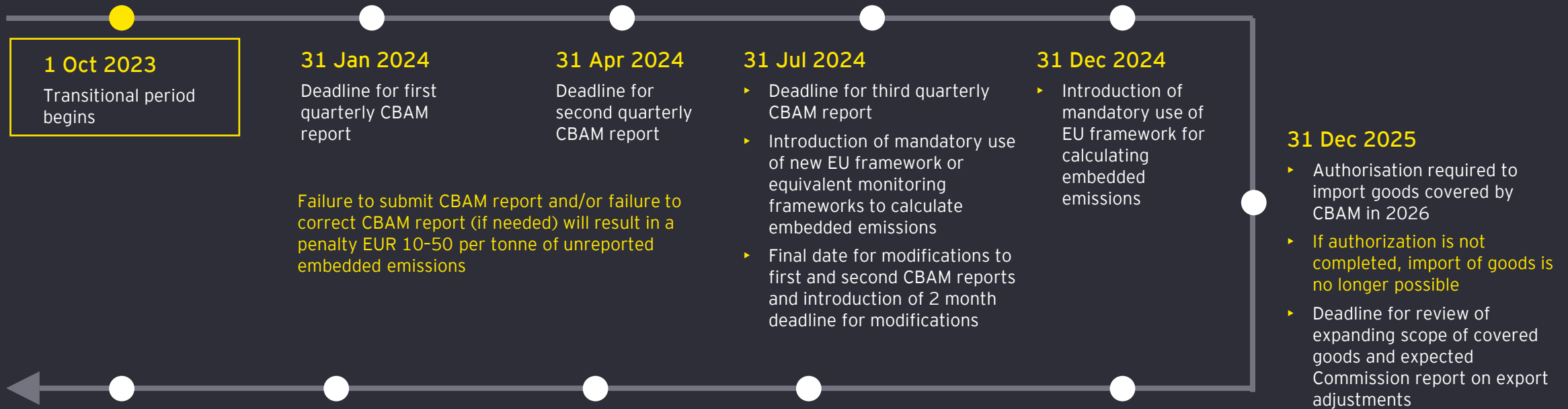
This buyer/distributor is required to report (2024) and pay for (2026) embedded emissions to the EU authorities.

Indirect impact – cost

This customer may find increased costs of materials purchased and may seek suppliers with lower embedded emissions.

Timeline: obligations and consequences of non-compliance

CBAM will be introduced in a phased approach from 1 October 2023, with gradual changes in the required approach to calculating embedded emissions. The scope of CBAM is expected to be expanded over time alongside incremental reductions in the allocation of free allowances under the ETS. It is anticipated all goods covered under ETS will be included in 2030.



1 Oct 2023
Transitional period begins

31 Jan 2024
Deadline for first quarterly CBAM report

31 Apr 2024
Deadline for second quarterly CBAM report

Failure to submit CBAM report and/or failure to correct CBAM report (if needed) will result in a penalty EUR 10–50 per tonne of unreported embedded emissions

31 Jul 2024
- Deadline for third quarterly CBAM report
- Introduction of mandatory use of new EU framework or equivalent monitoring frameworks to calculate embedded emissions
- Final date for modifications to first and second CBAM reports and introduction of 2 month deadline for modifications

31 Dec 2024
- Introduction of mandatory use of EU framework for calculating embedded emissions

31 Dec 2025
- Authorisation required to import goods covered by CBAM in 2026
- If authorization is not completed, import of goods is no longer possible
- Deadline for review of expanding scope of covered goods and expected Commission report on export adjustments

1 Jan 2026
- Fully operational period – phase out of free allowances under ETS begins

31 May 2027
- First CBAM certificate surrender deadline
- First CBAM declaration submission deadline
- Failure to surrender CBAM certificate: penalty EUR ~100* per each certificate

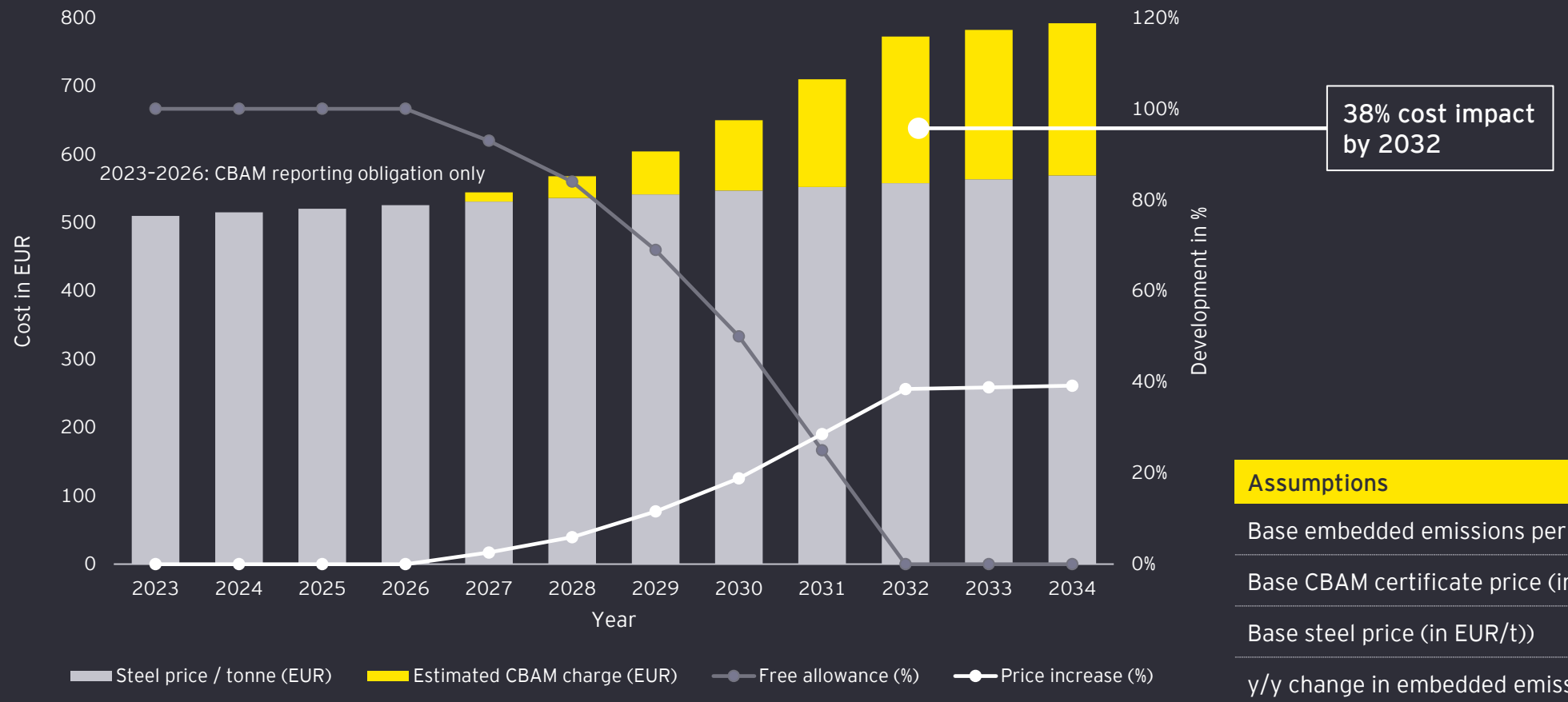
Dec 2027
Commission to complete review of impacts of CBAM

Dec 2030
Scope of CBAM expected to expand to include all goods covered by ETS

Jan 2034
Phase out of free allowances under ETS complete

*Penalty shall be identical to the EU ETS excess emissions penalty

CBAM as a cost component of steel (illustrative)*



Assumptions	
Base embedded emissions per tonne (in t/CO2)	1,8
Base CBAM certificate price (in EUR/t))	100
Base steel price (in EUR/t))	510
y/y change in embedded emissions (in %)	-0,01
y/y change in certificate price (in %)	0,03
y/y change in commodity purchase price (in %)	0,01

Note: the indication reflects current state of the legislative regulations. The figures represent a general base model for illustrative purposes. All aspects may be subject to change. In modeling projects, we typically develop a number of scenarios.

*Based upon latest European Parliament text adoption (22 June)

Act now to address short-term CBAM compliance requirements

Now

Achieve short-term CBAM reporting compliance by setting up a high-level GHG emission calculation approach that is independent of supplier-specific data.

Inform the suppliers in a timely manner on the required data and the best method of measurement as most of them are not aware of the upcoming CBAM regulation and do not collect the relevant emission data.

Next

Suppliers need time and guidance to implement monitoring systems and measure direct and indirect emissions.

If suppliers can not deliver the required data, new suppliers may still be selected in time.

Prior full scope implementation, consider a test phase for measurement methods to close data gaps and find potential for improvement.

Beyond

Compliance with regulatory requirements is mandatory to avoid sanctions and reputational damage.

Use data to better manage supply chain flows in terms of CBAM costs by engaging with suppliers to reduce emissions and considering existing carbon price schemes.

Calculation of embedded emissions during transitional period

(1) Actual embedded emissions

- Determining emissions from source streams on the basis of activity data
- Determining emissions from emission sources by means of continuous measurement

EU base method

(2) MRV and alternative methods

Methods used under monitoring, reporting and verification systems (MRV) or other methods, with any of the following applicable monitoring rules:

- A carbon pricing scheme where the installation is located
- An emission monitoring scheme at the installation which can include verification by an accredited verifier; or
- Compulsory emission monitoring schemes

Until 31 December 2024 only

(3) Standard values

(country benchmark for direct emissions)

Allowed ONLY when actual emissions "are not available" and no other method for closing data gaps is available

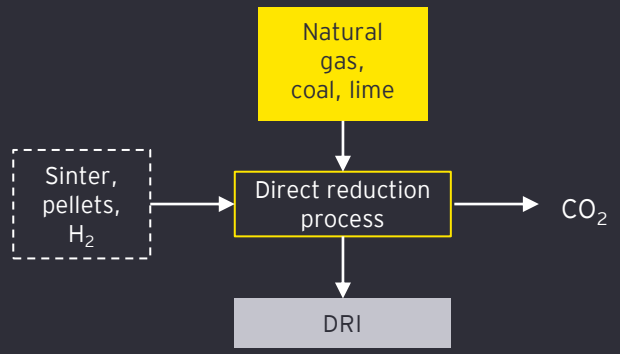
Until 31 July 2024 only

- While the EU ETS applies to certain production processes and activities, the CBAM targets corresponding imports of goods
- Requires clearly identifying imported goods by way of their classification in the Combined Nomenclature ('CN') and linking them to embedded emissions
- CBAM emissions are calculated in a different way from Scope 1, 2, 3 emissions
- CBAM reporting requirements require determination of direct and indirect embedded emissions

Determining embedded emissions – with primary data

Input material | **Database** | **Calculation** | **Reporting**

Direct reduced iron (DRI)

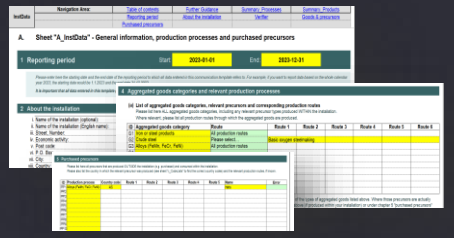


Production process | Inputs, no embedded emissions | Relevant precursors | Complex good

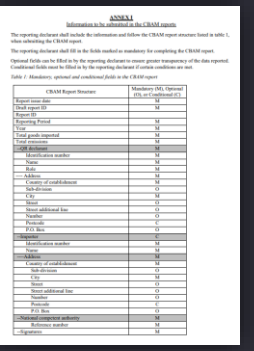
Actual data available

- Direct emissions
- Indirect emissions
- **Additional sectoral parameters**
  - Main reducing agent used
  - Mass % of Mn, Cr, Ni, total of other alloy elements
- **Relevant precursors**
  Sintered ore, hydrogen, pig iron and ferro-alloys

Calculation using templates provided by the EU



Report template provided by the EU



Quarterly CBAM reporting

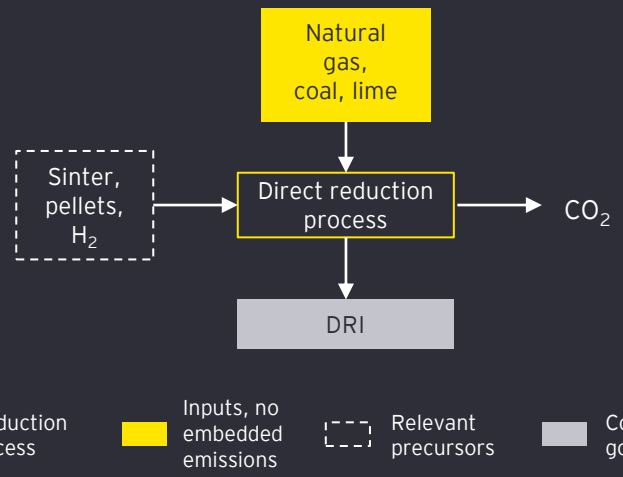
Gathering primary data for the first reporting periods is a potential challenge for importers, it is essential to:

- Set up a high-level GHG emission calculation approach that is independent of supplier-specific data to address short-term CBAM reporting compliance requirements
- Inform the suppliers on the required data and the best method of measurement on a timely basis, as most may not be aware of the upcoming CBAM regulation and do not collect the relevant emission data

Determining embedded emissions – with primary data

Input material

Direct reduced iron (DRI)



Database

Actual data available

- Direct emissions
- Indirect emissions
- **Additional sectoral parameters**
  - Main reducing agent used
  - Mass % of Mn, Cr, Ni, total of other alloy elements

Calculation

Available primary data

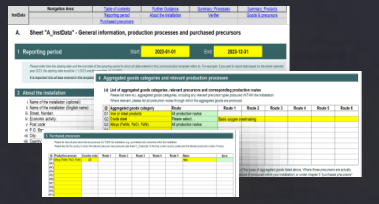
Other methods to close gaps

sphera

ecoinvent

Based on EU standard values (if applicable)

Reporting



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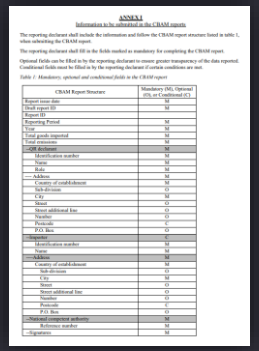


Quarterly CBAM reporting

The approach to meet compliance requirements should be based on:

- Available information for the importer
- Using other methods to address compliance needs
- Using EU standard values, if no other method is available to close the gap

After securing compliance, next steps include supplier enablement

Long-term goal: Enable suppliers to independently collect relevant data, calculate GHG emissions according to CBAM rules and report the required data to the importer.

Exemplary approach: Inclusion of key suppliers during the process to support a more tailor-made guideline and guidance when using EU templates.

In addition, supplier trainings and workshops can be held in order to convey relevant know-how in terms of measurement and documentation of CBAM relevant data.

Supplier enablement

Exemplary approach

	Role of EY teams		Outcome for importer
1	**Identify CBAM contents**	Research of CBAM frameworks and EU guideline	Identified relevant CBAM contents for supplier data collection
2	**Interviews**	Interviews with key suppliers	Identification and documentation of selected suppliers' challenges
3	**Editing of guideline and tool**	Editing of EU guideline and development of guidance for tool use	Guideline that is mainly based on EU guidance, amended for additional support and shortened to address suppliers' needs
4	**Optional: trainings and workshops**	Performing tailored supplier trainings and workshops	Trained suppliers with the know-how to measure and document CBAM relevant content for 2026 and onwards

3

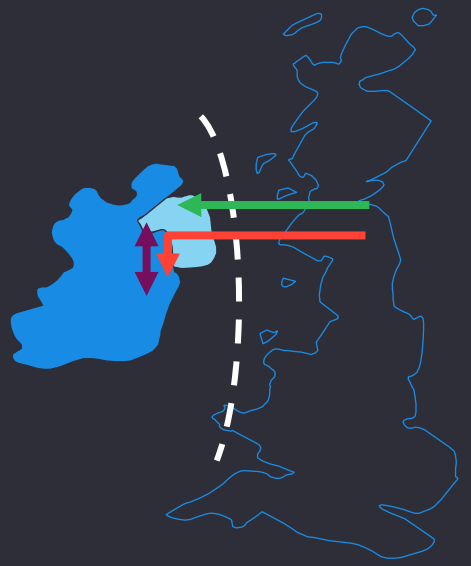
UK and beyond developments

Mark Feldman

EU CBAM – UK peculiarities: Northern Ireland trade arrangements

- CBAM is likely to add complexity to trade between Great Britain (GB) and Northern Ireland (NI)
- NI continues to apply EU customs rules on certain imports, which could be impacted by CBAM

Movement of goods between GB and NI



Key

- ‘Green lane’: streamlined customs procedures for qualifying goods
- ‘Red lane’: full customs procedures in place for goods “at risk” of entering the EU
- No customs procedures

Key CBAM issues relating to the NI trade arrangements

Exact interactions between CBAM and NI will likely be subject to discussions between the EU and UK

Key challenges:

- GB-NI trade “at risk” of entering the EU
- Electricity trade between GB-NI

Join tomorrow’s webcast to hear more about this topic and other UK aspects in more detail. Click here to register.

UK CBAM: Still a question of "if" rather than "when"?

- The UK's CBAM consultation to "address carbon leakage risk to support decarbonisation" was wide-ranging: a CBAM, mandatory product standards (MPS) and emissions reporting
- Response from Ernst & Young LLP (UK): Highlighted the importance of international alignment on the design of CBAM and streamlining processes for business

UK CBAM consultation scope

Overlap with EU CBAM:

- Cement
- Iron and steel
- Fertiliser
- Power generation
- Non-ferrous metals

Broader than EU CBAM:

- **Non-metallic minerals**
- **Paper and pulp**
- **Refining**
- **Chemicals**
- **Glass**

Note: Hydrogen is in scope of the EU CBAM but not the UK CBAM consultation.

Issues raised in UK consultation

- Potential sectoral coverage
- Application of UK CBAM to Scope 2 and Scope 3 emissions
- Use of emissions data/independent verification OR default values
- Carbon price to be used to calculate cost
- Difference between the UK effective carbon price and the effective carbon price in country of origin

Trade concerns identified within the consultation

- Treatment of developing country exports
- UK's commitments to the World Trade Organisation
- Export competitiveness of UK producers
- International alignment on methodology, default values and verification of emissions reporting
- For MPS, regulatory alignment of standards
- Addressing circumvention measures and downstream carbon leakage where intermediate products are in scope
- Potential use of voluntary carbon markets in the future towards CBAM and/or MPS costs

Snapshot of global carbon pricing activity

Canada
Consulting on the potential for a Border Carbon Adjustment

United States
Administration "considering a carbon border tax"

Switzerland
Swiss CBAM being considered, awaiting Parliament discussion

United Kingdom
Considering carbon leakage mitigations, such as a UK CBAM

South Africa
Increasing the rate of carbon tax

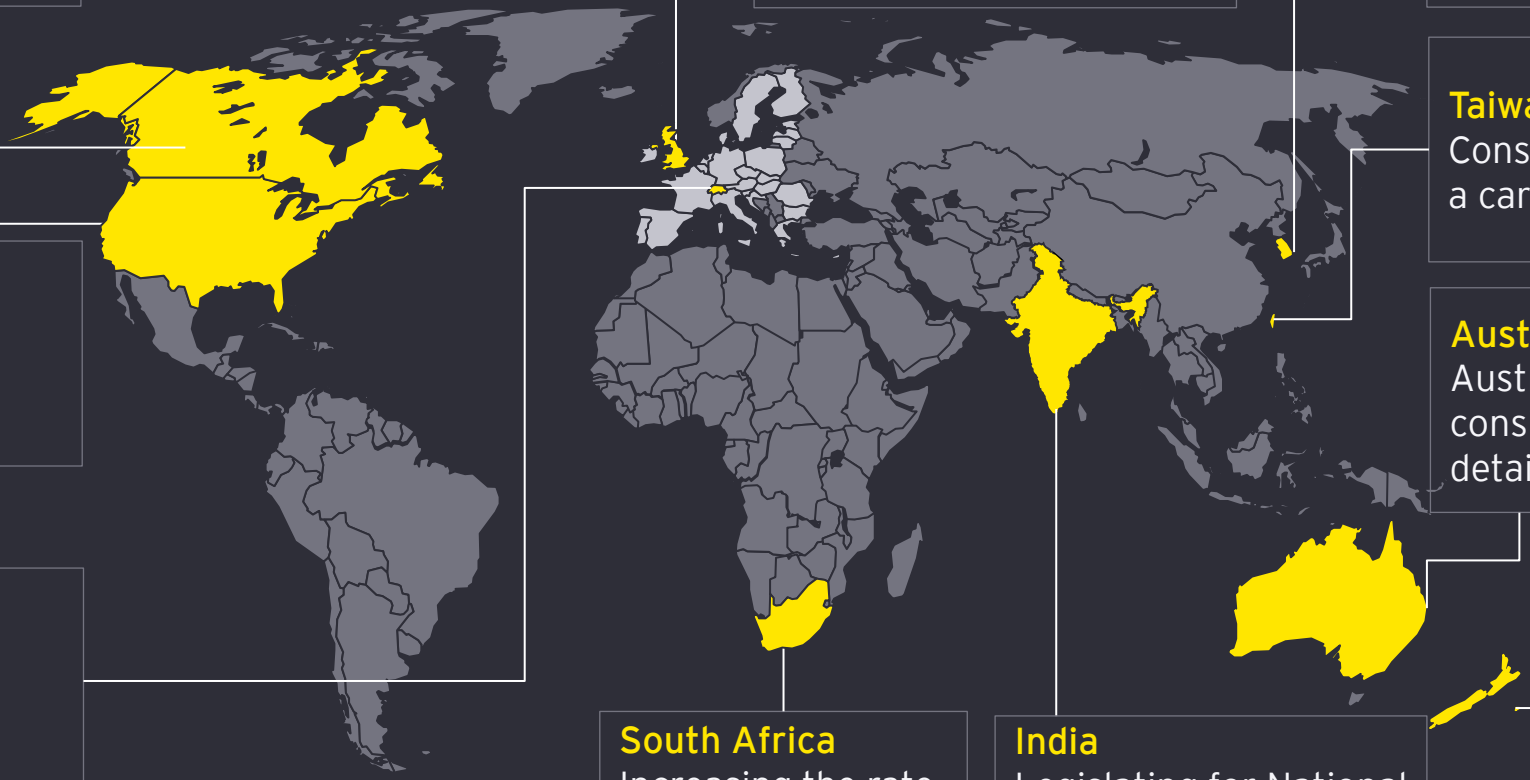
India
Legislating for National Carbon Market

South Korea
Consulting with industry on changes to the K-ETS

Taiwan
Considering implementing a carbon tax and ETS

Australia
Australian CBAM being considered, awaiting detailed policy analysis

New Zealand
Agriculture levy under consideration



Sources: Canada Government of Canada, United States White House Senate, United Kingdom gov.uk, South Korea International Carbon Action Partnership, South Africa SARS, India ICAP, New Zealand. govt.nz, Australia, ey.com

4

Case studies

Ashish Sinha

Duane Newman

Illustrative case 1 | CBAM imposes new compliance obligations for Swiss/Non-EU Principal operating models

Case study 1: Swiss Supply Chain Principal with Toller

Background

- Supply Chain Principal is based in Switzerland
- Under the toll manufacturing setup Swiss Principal owns the raw materials and imports the CBAM covered material into the EU

Key challenges

- Swiss Principal becomes liable for CBAM reporting via its indirect customs representatives
- Non-EU companies may have difficulty to control the process and access to the EU trader portal

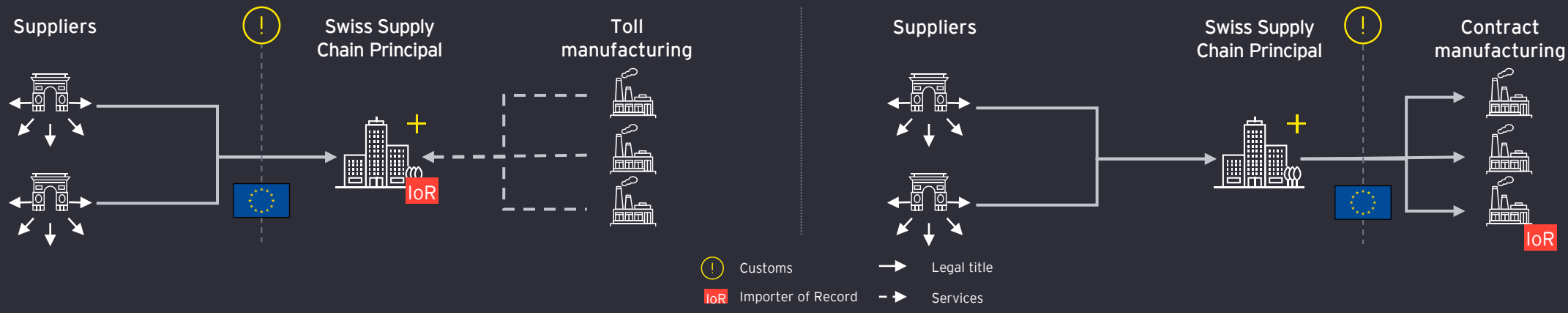
Case study 2: Swiss Supply Chain Principal with CM

Background

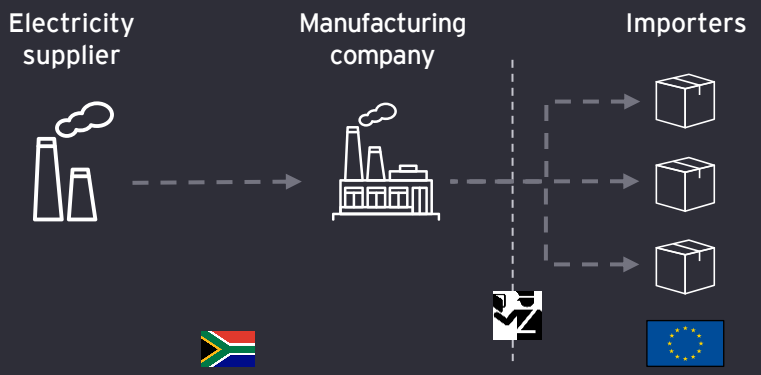
- Same as under 1, with multiple CM entities importing CBAM covered goods into the different EU member states
- Goods may be purchased from the Principal company or directly from the suppliers

Key challenges

- Duplication of data gathering efforts from (multiple) suppliers
- Multiple CBAM authorized declarants
- Lack of central coordination on reporting as well as discharge of CBAM certificates (2026 onwards)
- Comprehensive and complicated reporting



Illustrative case 2 | CBAM results in significant cost increase for African aluminum company



Project approach

Tasks completed

- Identification of CBAM covered products
- Indicative CBAM cost impact modeling based on actual embedded emissions calculation

Broader transformation

- Develop a strategy to change inputs into processes for complex products
- Develop strategy to rapidly decarbonize, especially electricity indirect emissions
- Explore other potential consumer markets

Background

- Client is major producer of primary aluminum and complex aluminum goods in South Africa
- EU is a major market for both primary aluminum and complex aluminum goods
- Embedded emissions of aluminum manufacturing are significant because the South African national grid is based on coal-fired power
- Management is concerned that CBAM will significantly reduce competitiveness of their products

Key challenges

- Regional carbon pricing mechanism will be taken into consideration, but it is expected to be immaterial in comparison with EU carbon prices
- Will reduce competitiveness of South African companies
- Need to reduce embedded emissions of aluminum manufacturing plant

5

Questions and actions

Richard J. Albert

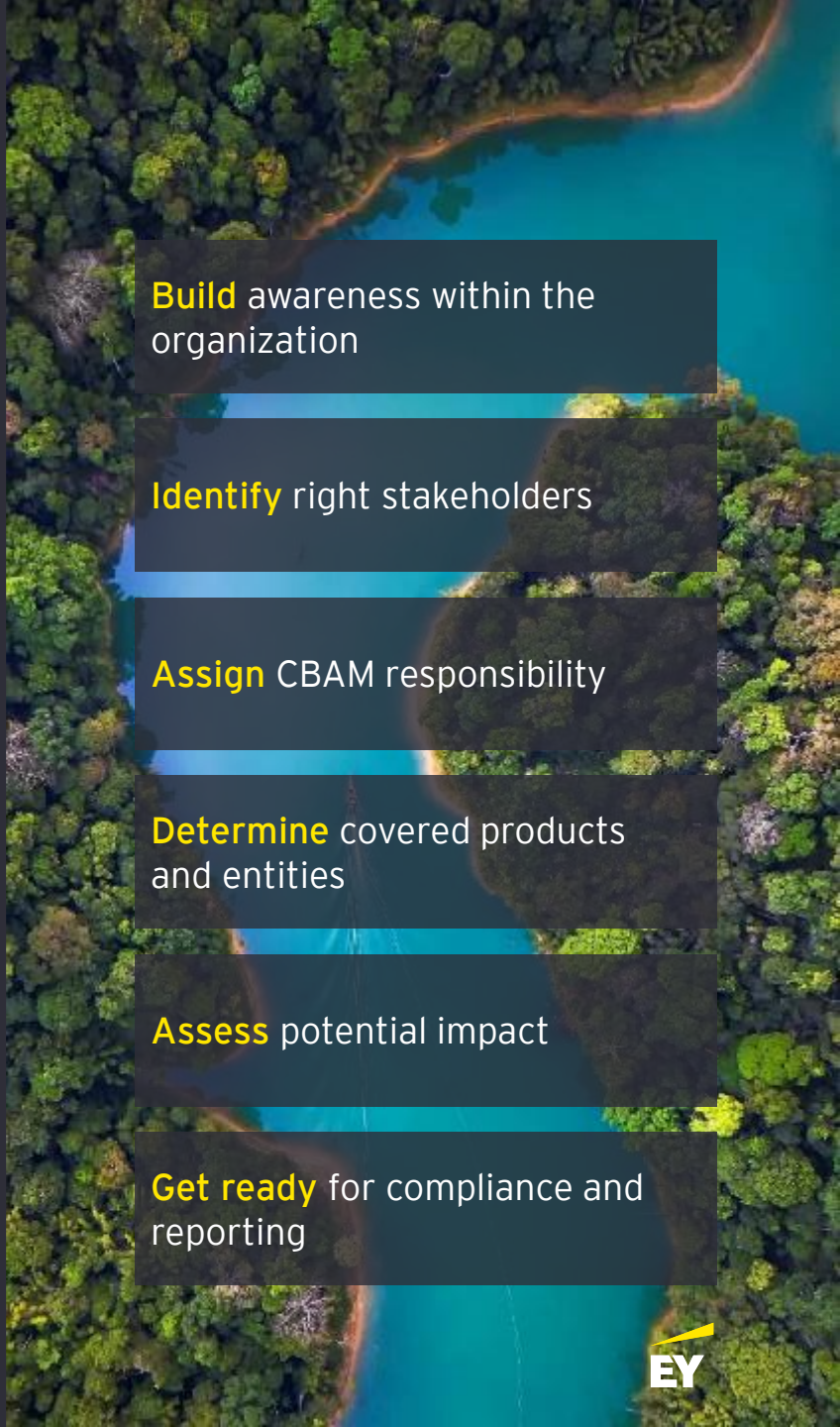
Questions to consider

- What are the levels of awareness of CBAM in the business?
- Was (no) impact of CBAM validated?
- Have key stakeholders been identified and involved?
- What are pros and cons of assigning CBAM responsibility to a particular business function?

- What is the potential impact considering default and actual values?
- What insights can be provided by scenario modeling?

- Which goods and entities are in scope of CBAM?
- Is data (customs and emissions) readily available?
- How are transaction flows impacted?

- Are systems and processes set up for reporting?
- Are functions aligned and clear of roles and responsibilities?
- Is there change needed to contractual arrangements?



6

Broader strategic considerations

Joost Vreeswijk

Beyond | Broader supply chain transformation elements

Compliance is not the end goal, but the start. Here are some potential aspects to be considered beyond compliance.

Implement sustainable reporting processes

Support with documentation, process implementation and people upskilling

Scenario modeling

- What if you change a supplier?
- What if the emission prices change?
- What if the embedded emissions change?

Scenario modeling: Provide insights to help you make informed decisions

Supplier review

- Which suppliers do you have right now?
- How much do they contribute to overall emissions?
- What are the contractual terms?

Supplier review: Analyze suppliers to identify potential opportunities

Customs process optimization

Assessment of status quo of customs processes across the organization, identification of optimization potential and implementation

Supply chain optimization

- What is shipped from where?
- Where will it be used at the end?

Supply chain optimization: Identify potential opportunities e.g., customs procedures

Strategy planning

Aligning strategies of different functions, e.g., global trade, supply chain, procurement and sustainability, helps to ensure that potential opportunities are explored and risks are properly managed


Q&A

7

Recap and takeaways

Joost Vreeswijk

Approach | From understand to transform

Understanding of CBAM

What | Align understanding of operating model and ERP/IT systems, create understanding of CBAM across relevant business functions

How | Kick-off call and workshop, including materials to be provided afterwards to relevant stakeholders

Scan for CBAM covered products

What | Identification and availability of relevant data for CBAM purposes, scan for CBAM covered products in portfolio

How | Request for information followed by analysis

CBAM impact assessment

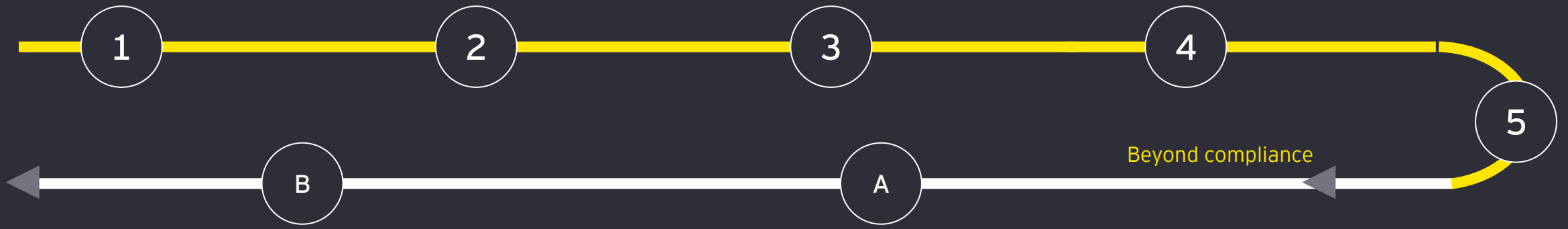
What | Impact assessment and analytics based on CO_2 benchmarks values and company's CO_2 data; evaluate materiality and identify potential transformation opportunities

How | Calculation of the expected CBAM cost

CBAM reporting assessment

What | Evaluation of the level of readiness for CBAM reporting

How | Evaluate if processes for the transitional phase are set up, data is prepared, and functions are aligned; identify gaps and build high-level roadmap for compliance readiness



Beyond: Strategic transformation

What | Assess the underlying opportunity in terms of reducing the overall carbon footprint

How | Review key drivers for carbon emissions – consider changes in supply base, supply chain footprint, logistics flows, bill of material, business model in general

Beyond: Operate

What | Run as managed service or support development of internal processes and capability

How | Identify requirements, design, customize and implement solution

CBAM reporting readiness

What | Set-up compliance processes and prepare ongoing CBAM compliance

How | Implement reporting processes, support with documentation and implementation of new processes and upskilling of people

Key steps and takeaways

1 Determine who is addressing CBAM compliance requirements – a cross functional approach is essential

2 Review EU import footprint and potential (cost and process) impacts considering CBAM scope

3 Prepare to comply under the transition reporting requirements

Could CBAM be a trigger to accelerate decarbonization efforts? Consider broader supply chain transformation elements such as supplier reviews, customs and procurement optimization, or changing product flows

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