



University of  
**Strathclyde**  
Glasgow

# International developments

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01.11.23

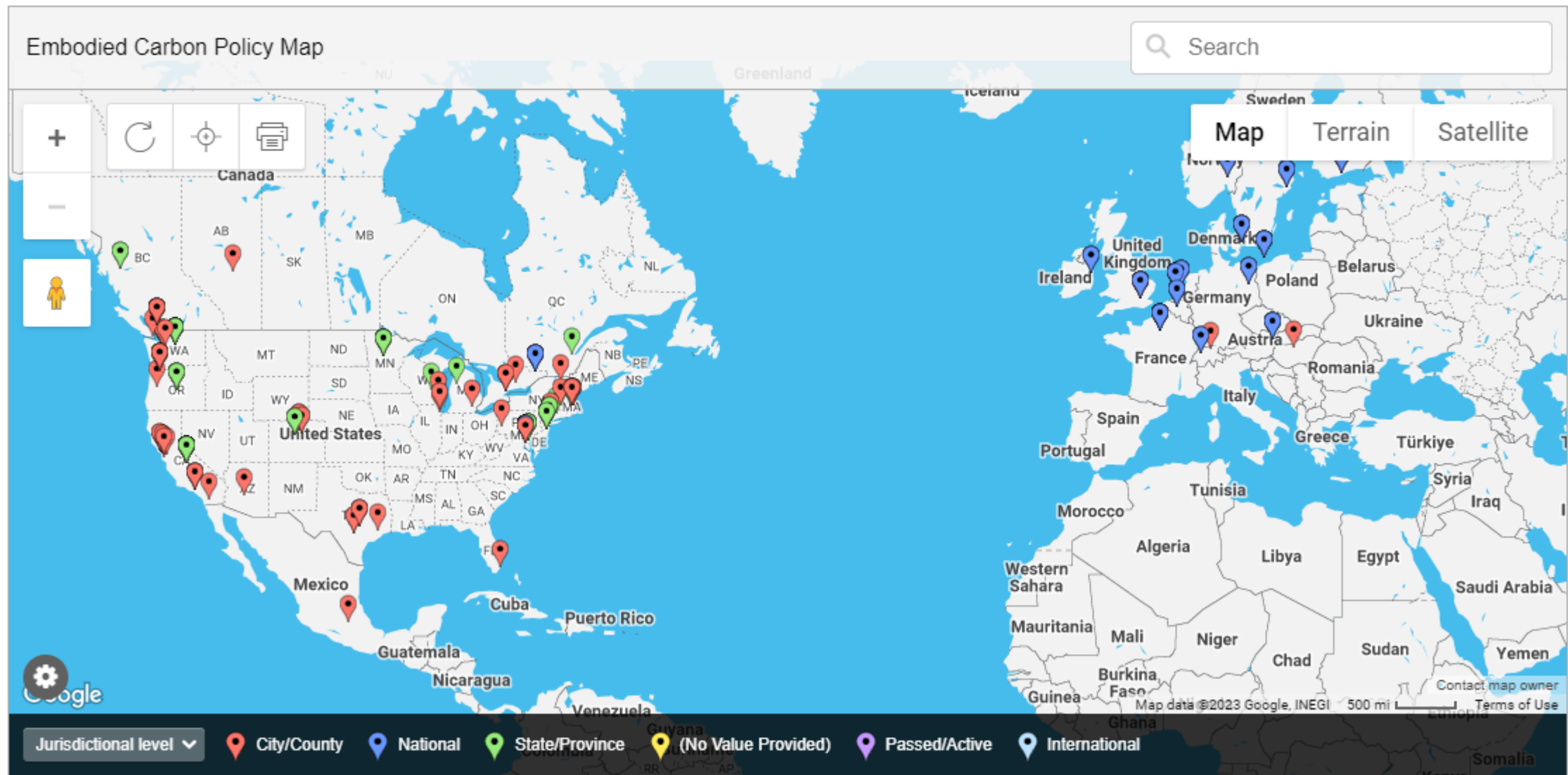
*These slides can be downloaded from [jannikgiesekam.co.uk](http://jannikgiesekam.co.uk)*

# Agenda

- What are the key international regulatory trends?
- Where can I find the details?
- How can I stay abreast of developments?
- How do the UK & Scotland compare?

*These slides can be downloaded from [jannikgiesekam.co.uk](http://jannikgiesekam.co.uk)*

Map from [Carbon Leadership Forum](#) policy toolkit - last updated in October 2023





# International policy reviews





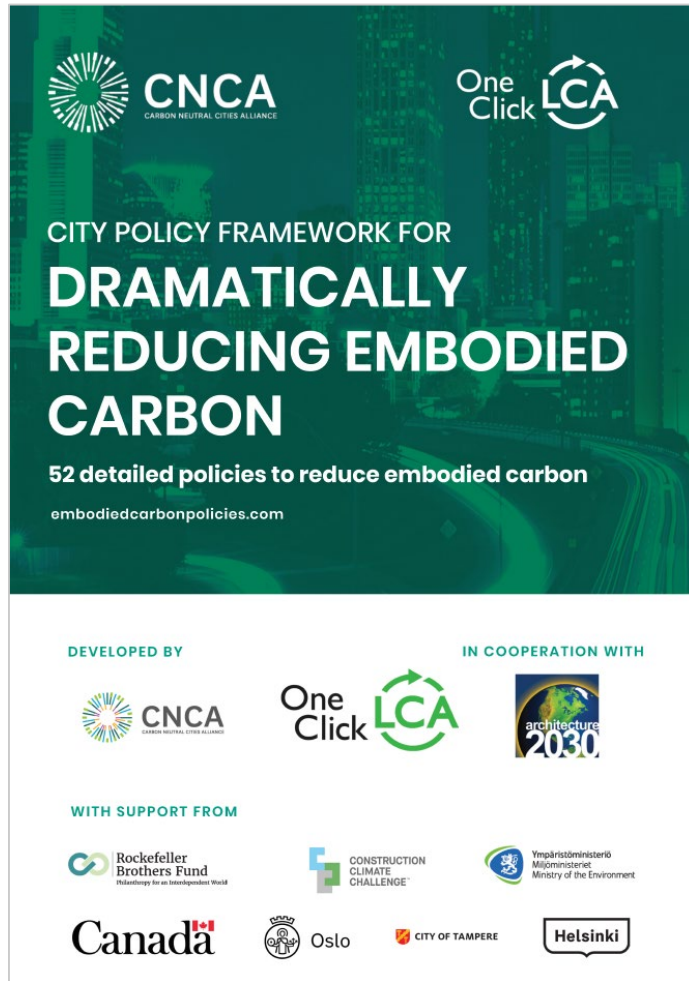
# IEA EBC Annex outputs

- Annex 72 outputs published in May (>1000 pages of comparative analysis)
- Annex 89 (2023-2027) launched this month

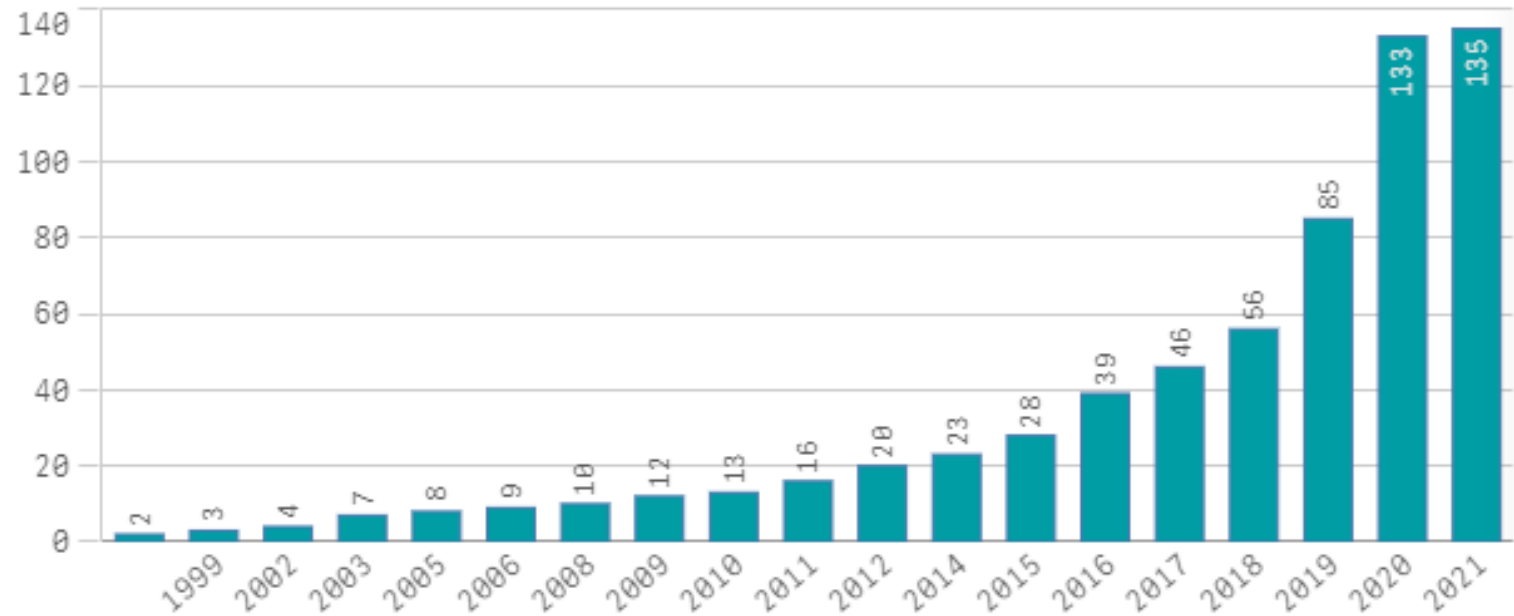


View [all outputs from Annex 72](#) and [follow Annex 89](#)

# Local policies

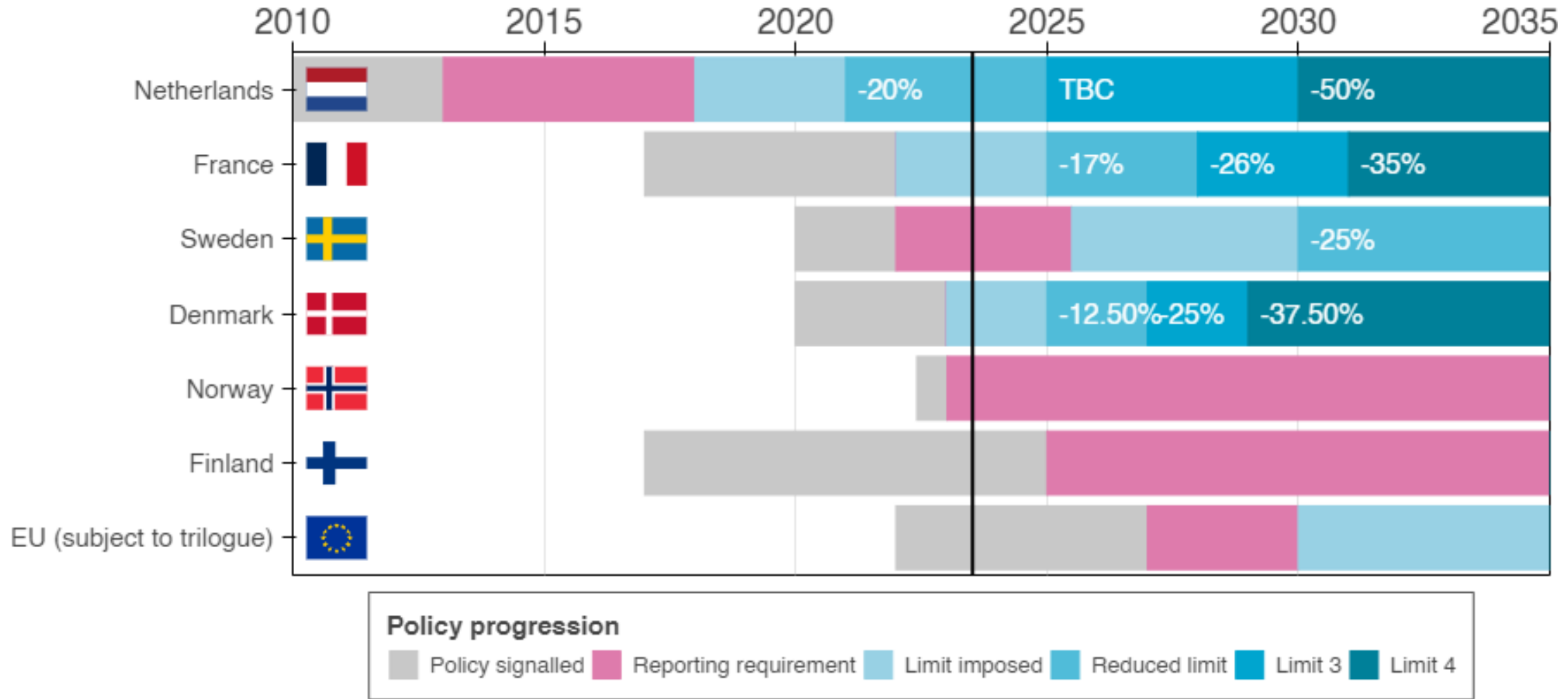


Number of policies and actions adopted over the years



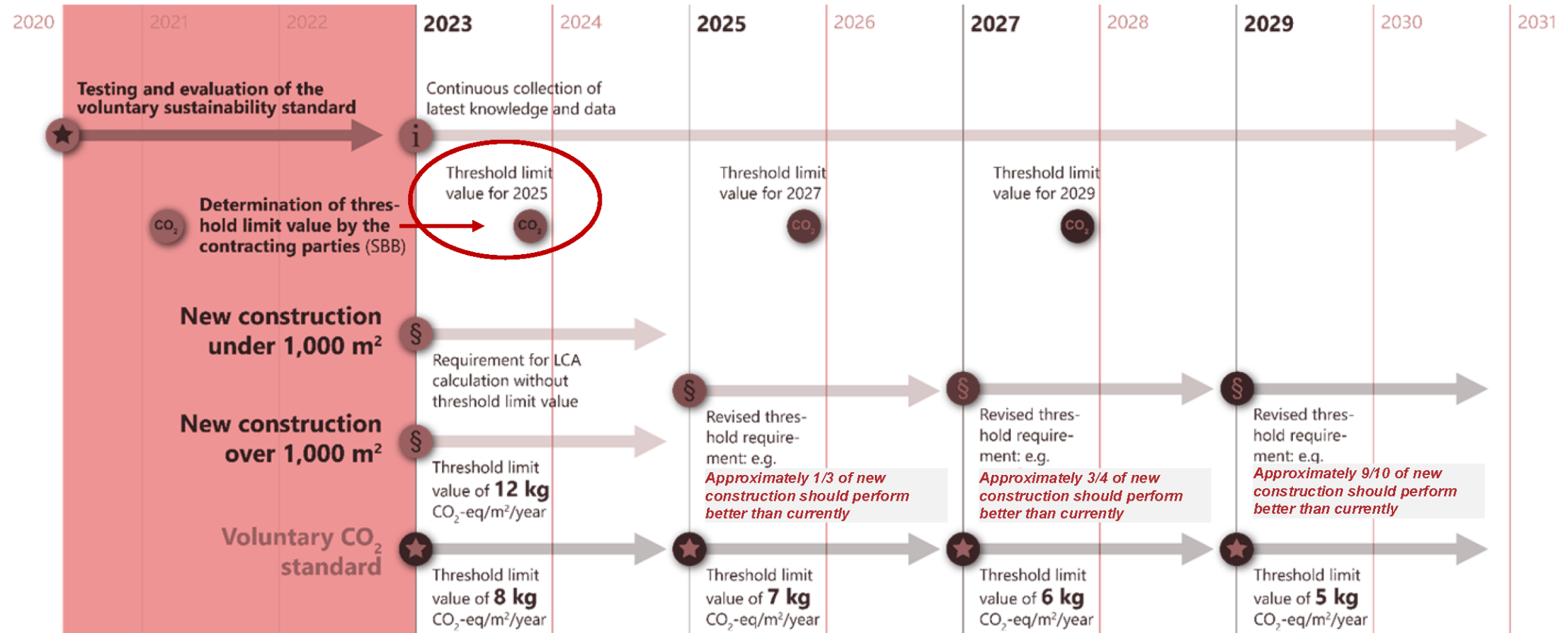
Uptake based on C40 Clean Construction Policy Explorer

# European regulatory trend



# Example – Denmark

## Staged phasing and tightening of the CO<sub>2</sub>-criteria





# Comparison within Nordic countries

| Included life cycle stages | Denmark | Estonia | Finland | Iceland | Norway | Sweden | Level(s) |
|----------------------------|---------|---------|---------|---------|--------|--------|----------|
| A1-A3                      | ✓       | ✓       | ✓       | ✓       | ✓      | ✓      | ✓        |
| A A4 Transport to site     | ✓       | ✓       | ✓       | ✓       | ✓      | ✓      | ✓        |
| A5 Construction            | ✓       | ✓       | ✓       | ✓       | ✓*     | ✓      | ✓        |
| B1 Use in building         |         |         |         |         |        |        |          |
| B2 Maintenance             |         |         |         |         |        |        |          |
| B3 Repair                  |         |         |         |         |        |        |          |
| B B4 Replacements          | ✓       |         |         |         |        |        |          |
| B5 Refurbishment           |         |         |         |         |        |        |          |
| B6 Energy                  | ✓       |         |         |         |        |        |          |
| B7 Water                   |         |         |         |         |        |        |          |
| C1 Demolition works        |         |         |         |         |        |        |          |
| C2 Transport               |         |         |         |         |        |        |          |
| C C3 Waste management      | ✓       |         |         |         |        |        |          |
| C4 Final disposal          | ✓       |         |         |         |        |        |          |
| D Additional               | ✓       |         |         |         |        |        |          |
| *Only waste included       |         |         |         |         |        |        |          |

|  | Denmark                                 | Estonia  | Finland  | Iceland  | Norway | Sweden                   | Europe   |
|--|---|--|--|--|--------|--------------------------|--|
| Included building parts                          | BR18                                    | Proposed draft method for climate declaration (2021) | Climate declaration                                | Climate declaration proposal (under development) | TEK17  | Climate declaration 2022 | Limit values 2025 Climate declaration 2027 (Boverket's proposal) |
| Site preparation                                 | -                                       | -  | soil stabilization and site reinforcement elements | -  | -      | -                        | reported separately from 2027                                    |
| Substructure                                     |   |  |  |  |        |                          |  |
| Foundations                                      | X                                       | X  | X  | X  | X      | X                        | X  |
| Piling   | X                                       | X  | X  | X  | X      | X                        | X  |
| Basement walls                                   | X                                       | X  | X  | X  | X      | X                        | X  |
| Ground floor structure                           | X                                       | X  | X  | X  | X      | X                        | X  |
| Superstructure                                   |   |  |  |  |        |                          |  |
| Frame (columns, beams)                           | X                                       | X  | X  | X  | X      | X                        | X  |
| External walls, façade                           | X                                       | X  | X  | X  | X      | X                        | X  |
| External doors, windows                          | X                                       | X  | X  | X  | X      | X                        | X  |
| Balconies  | X                                       | X  | X  | X  | X      | X                        | X  |
| Roof structures                                  | X                                       | X  | X  | X  | X      | X                        | X  |
| Internal walls, load- and non-load bearing       | X                                       | X  | X  | X  | X      | X                        | X  |
| Floor slabs                                      | X                                       | X  | X  | X  | X      | X                        | X  |
| Internal doors                                   | X                                       | X  | X  | X  | X      | X                        | X  |
| Stairs and ramps                                 | X                                       | X  | X  | X  | X      | X                        | X  |
| Wall and ceiling interior finishes and coverings | X                                       | X  | X  | X  | X      | X                        | X  |
| Flooring materials                               | X                                       | X  | X  | X  | X      | X                        | X  |
| Suspended ceilings                               | X                                       | X  | X  | X  | X      | X                        | X  |
| Internal finishes                                |   |  |  |  |        |                          |  |
| Lifts and escalators                             | X                                       | X  | X  | X  | X      | X                        | X  |
| Building services                                |   |  |  |  |        |                          |  |
| Electricity system                               | -                                       | -  | X  | X  | X      | X                        | X  |
| HVAC system                                      | X                                       | X  | X  | X  | X      | X                        | X  |
| Renewable energy systems                         | X                                       | X  | X  | X  | X      | X                        | X  |
| Water system                                     | X                                       | X  | X  | X  | X      | X                        | X  |
| Sewage system                                    | X                                       | -  | X  | X  | X      | X                        | X  |
| Other systems (e.g. firefighting)                | -                                       | -  | X  | X  | X      | X                        | X  |
| External works                                   | only if included in the area definition | -  | only external structures on yard                   | -  | -      | -                        | -  |
| Furnishing                                       |   |  |  |  |        |                          |  |
| Fixed furniture                                  | -                                       | -  | X  | -  | -      | -                        | -  |
| User furniture                                   | -                                       | -  | -  | -  | -      | -                        | -  |

| Country/Region | (in place or proposed) Regulation                                  | RSP      | Floor area definition     | external wall thickness | Primary functions  | Secondary functions (e.g. circulation areas, storage) | Internal walls and columns                   | Basement/cellar                               | Stairs                 | Common facilities (in multi-units, incl. staircase, lift, vertical voids) | Enclosed car park connected to building | Attic   | Rooftop terrace               | Plantrooms on roof                     | Balcony       | External area including car park   |
|----------------|--|----------|---------------------------|-------------------------|--------------------|---|--|---|------------------------|---|---|---|-------------------------------|--|---------------|--|
| Denmark        | Danish Building regulation (BR18) – embodied part                  | 50       | reference area            | X                       | X                  | X   | X  | If ceiling height > 1.25 m                    | X                      | counted for all floors  | included with 50%                       | Only if > 1.5 m high                          | included with 25%             | X                                      | -             | included with 25% (for external areas only when connected to the building) |
|                | Danish Building regulation (BR18) – operational part               | 50       | heated gross floor area   | X                       | Included if heated | X   | If ceiling height > 1.25 m included with 40% | -   | counted for all floors | -   | -                                       | Only if > 1.5 m high                          | -                             | -                                      | -             | -  |
| Estonia        | Proposed method for climate declaration (2021)                     | 50       | heated net floor area     | -                       | Included if heated | X   | Included if heated                           | ?   | ?                      | ?   | ?                                       | ?   | ?                             | ?                                      | ?             | ?  |
| Finland        | Proposed method for climate declaration (2021)                     | 50       | heated net floor area     | -                       | Included if heated | X   | X  | X   | X                      | -   | X                                       | X   | X                             | X                                      | X             | -  |
| Norway         | TEK17  | 50       | gross floor area          | X                       | X                  | X   | X  | Included if > 1.9m high for a width of ≥ 0.6m | -                      | -   | X                                       | Included if > 1.9m high for a width of ≥ 0.6m | Included in enclosed by glass | X                                      | -             | -  |
| Sweden         | Klimadeklaration 2022  | N/A (50) | gross floor area          | X                       | X                  | X   | X  | X   | -                      | -   | X                                       | Included if > 1.9m high for a width of ≥ 0.6m | -                             | X                                      | X             | -  |
|                | Swedish Building regulation (BBR29) Operational energy calculation | 50       | heated net floor area     | -                       | Included if heated | X   | X  | X   | Included if heated     | -   | -                                       | Included if heated                            | -                             | -                                      | -             | -  |
| Europe         | Level(s) – Office  | 50       | IPMS 3 Useful floor area  | -                       | X                  | X   | X  | If in exclusive use                           | -                      | -   | -                                       | -   | Separate item                 | -                                      | Separate item | -  |
|                | Level(s) – Residential   | 50       | IPMS 3B Useful floor area | -                       | X                  | X   | X  | Separate item                                 | Only on ground floor   | -   | Separate item                           | Separate item                                 | Separate item                 | Separate item (unless common facility) | Separate item | -  |

Follow [Nordic Sustainable Construction](#) or [read more about comparisons](#)

# Revision of the EU EPBD

- Commission proposal December 2021
- Amendments adopted by European Parliament in March 2023
- Trilogues since May 2023 with next (& potentially final) session scheduled for December



# Other EU developments



- Contractor appointed to update Level(s)
- Development of whole life carbon roadmap (consultation held over summer 2023)
- CBAM launched transitional phase on 1<sup>st</sup> October
- Extension of ETS
- European Green Deal
- Construction Products Regulation revision
- Revision of Construction & Demolition Waste Management Protocol





# BUILDINGS SECTOR SCIENCE BASED TARGET SETTING GUIDANCE

Version 1.5 - **DRAFT**

May 15, 2023

## New SBTi guidance

Draft guidance consultation in July 2023 alongside buildings target setting tool

**Launch** of final version on 21<sup>st</sup> November

# New international forum



Global Alliance  
for Buildings and  
Construction



Whole Life Cycle **Policy** Coalition for  
the built environment

- Upcoming **Carbon Footprint Policy Accelerator conference**: learning about Buy Clean and Whole Life Carbon Regulatory Standards for Buildings
- 7-8<sup>th</sup> November [in Potsdam](#) or [online](#)

# WHAT ABOUT SCOTLAND & THE UK?



# Evolution of reporting standards



BS EN 15978

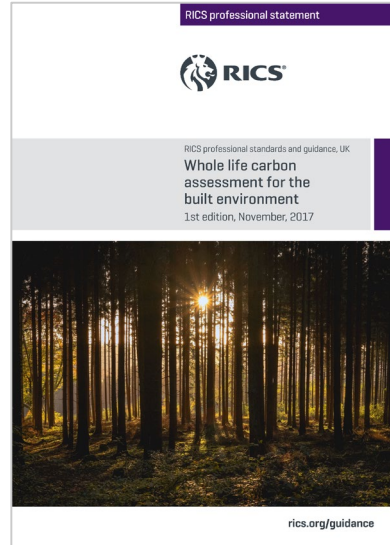


RICS PS



BECD

# RICS PS Whole life carbon assessment



1<sup>st</sup> edition published in 2017

31 pages + 3 appendices



2<sup>nd</sup> edition published in September 2023

Effective from 1<sup>st</sup> July 2024

137 pages + 17 appendices + 6 templates

# Built Environment Carbon Database

New single location for *product* data & *asset* data

(launched on 5<sup>th</sup> October)

Collaborators



Home

My Profile

Asset database

My assets

Export a sample of assessments

Export all assessments

Product database

Search product LCA

Submit new product LCA

Info



Welcome to the  
Built Environment  
Carbon Database

Version 1.0.0



June 2023

Progress in reducing  
emissions  
2023 Report to Parliament

# 2023 Progress Report

**“Overdue”** with “some but  
insufficient progress”

|           |   |  |                            |
|-----------|---|--|----------------------------|
| R2022-252 | Industry; Buildings;<br>Surface transport | <p>Set out a plan to make an assessment of whole-life carbon and material use of public and private construction projects mandatory by 2025, to enable minimum standards to be set. The whole-life carbon assessment should be sought at the planning stage to enable efforts to reduce embodied carbon and materials.</p> <p><b>Primary responsibility: DLUHC</b><br/>Supporting actors: DfT; DESNZ</p> | <p>2022</p> <p>Overdue</p> |
|-----------|---|--|----------------------------|



House of Commons  
Environmental Audit Committee

## Building to net zero: costing carbon in construction

First Report of Session 2022–23

*Report, together with formal minutes relating  
to the report*

*Ordered by the House of Commons  
to be printed 11 May 2022*

HC 103  
Published on 26 May 2022  
by authority of the House of Commons

# EAC recommendation



**the single most significant policy the Government could introduce is a mandatory requirement to undertake whole-life carbon assessments for buildings. This requirement should be set within building regulations and the planning system. Following introduction of whole-life carbon assessments, the Government should develop progressively ratcheting carbon targets for buildings, to match the pathway to net zero. A clear timeline for introducing this should be set by the end of 2022.”**



House of Commons  
Environmental Audit Committee

## Building to net zero: costing carbon in construction: Government Response to the Committee's First Report

Third Special Report of Session 2022–23

*Ordered by the House of Commons  
to be printed 7 September 2022*

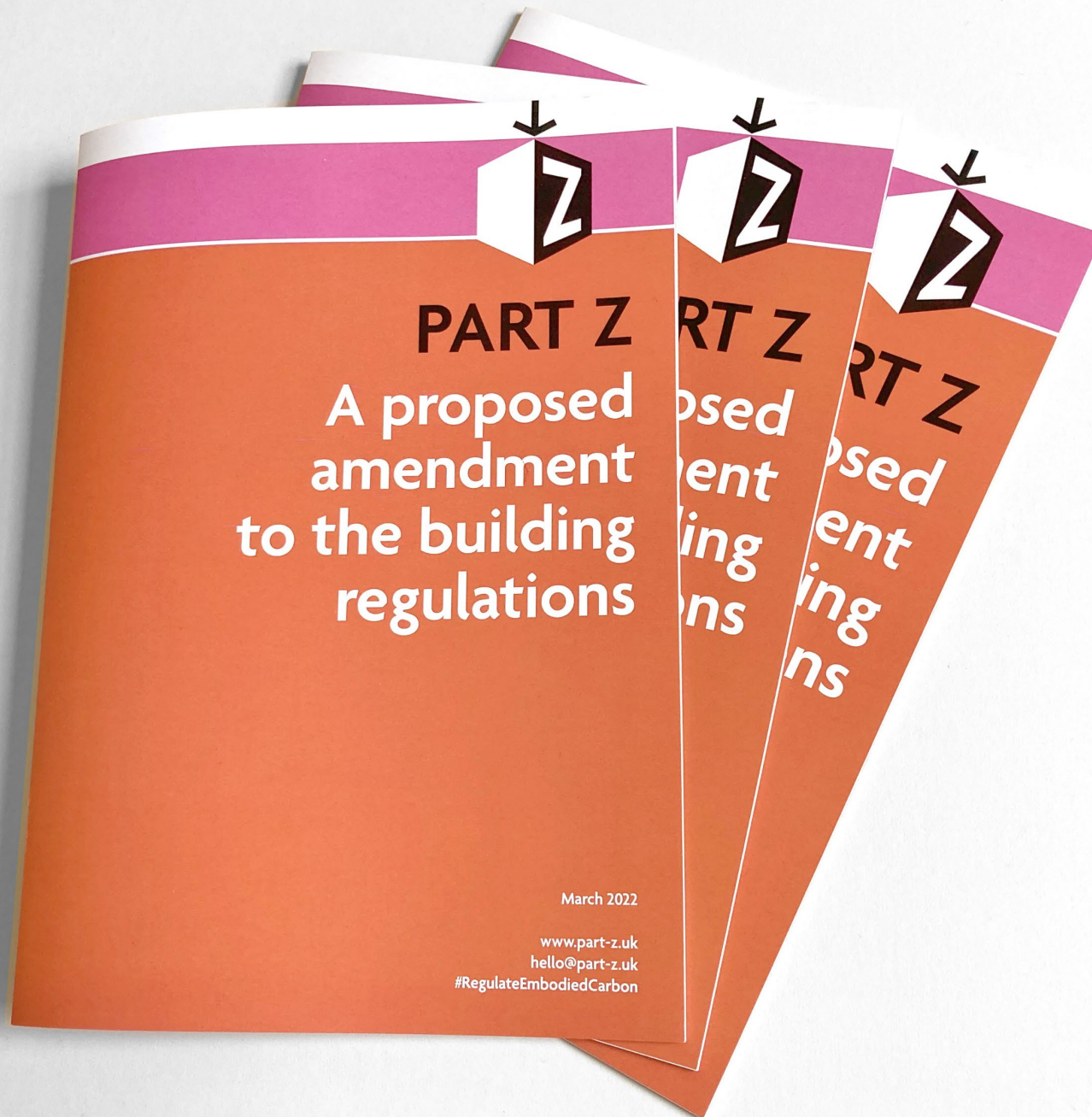
HC 643  
Published on 30 September 2022  
by authority of the House of Commons

# UK Govt response



**We agree with the Committee that whole-life carbon assessments are likely to have a significant role to play in delivering decarbonisation across the sector... Government intends to consult in 2023 on our approach and interventions to mainstream the measurement and reduction of embodied carbon in the built environment.”**





## Part Z

Industry led proposed amendment to Building Regulations in England & Wales and suggested document for approval





# Industry support for the regulation of embodied carbon

We are grateful to the following companies for sharing the statements below so far:

[abrdn Investments](#) | [AESG](#) | [Allford Hall Monaghan Morris](#) | [Allies & Morrison](#) | [Arcadis](#) | [Arup](#) | [Atelier Ten](#) | [Atkins Limited](#) | [Baily Garner](#) | [BAM Construct UK](#) | [BakerHicks](#) | [Barratt Developments](#) | [BDP](#) | [Bennetts Associates](#) | [B&K Structures Ltd](#) | [Black & White Engineering](#) | [Bouygues UK](#) | [British Land](#) | [Bruntwood](#) | [Buro Happold](#) | [Chartered Institute of Building](#) | [The Chartered Institution of Building Services Engineers](#) | [Civic Engineers](#) | [The Concrete Centre](#) | [Construction Industry Council](#) | [Cundall](#) | [dRMM Architects](#) | [Elliott Wood](#) | [Elmhurst Energy](#) | [Expedition Engineering](#) | [Feilden Clegg Bradley Studios](#) | [FMDC Ltd](#) | [Goss Structural Ltd](#) | [Greencore Construction](#) | [Grosvenor Great Britain & Ireland](#) | [Hawkins\Brown](#) | [Haworth Tompkins](#) | [Heyne Tillett Steel](#) | [Hoare Lea](#) | [Hopkins Architects](#) | [Hydrock Consultants Ltd](#) | [Igloo](#) | [JLL](#) | [The Institution of Civil Engineers](#) | [The Institution of Structural Engineers](#) | [ISG](#) | [Laing O'Rourke](#) | [Landsec](#) | [Lendlease](#) | [Levitt Bernstein](#) | [The London Energy Transformation Initiative](#) | [Mace Group](#) | [Max Fordham LLP](#) | [Morgan Sindall Group](#) | [Mott Macdonald](#) | [Multiplex Europe](#) | [The National Building Specification \(NBS\)](#) | [Natwest](#) | [Off Site Homes Alliance \(OSHA\)](#) | [Perkins & Will](#) | [Price & Myers](#) | [Ramboll](#) | [Ridge and Partners LLP](#) | [The Royal Institute of British Architects](#) | [Royal London Asset Management](#) | [The Royal Town Planning Institute](#) | [RPS Group PLC](#) | [Sheppard Robson](#) | [Sir Robert McAlpine](#) | [Skidmore, Owings & Merrill \(SOM\)](#) | [Stanhope PLC](#) | [Stanton Williams](#) | [The Steel Construction Institute](#) | [Stora Enso](#) | [The Structural Timber Association](#) | [Sweco](#) | [Thakeham Group](#) | [Thornton Tomasetti](#) | [Timber Development UK](#) | [tp bennett LLP](#) | [University College of Estate Management](#) | [Urban&Civic](#) | [Urban Splash](#) | [UKGBC](#) | [Walsh](#) | [Wagh Thistleton Architects](#) | [White Arkitekter](#) | [WilkinsonEyre](#) | [Willmott Dixon](#) | [WSP-UK](#) ...and 98 more!

# Carbon Emissions (Buildings) Bill

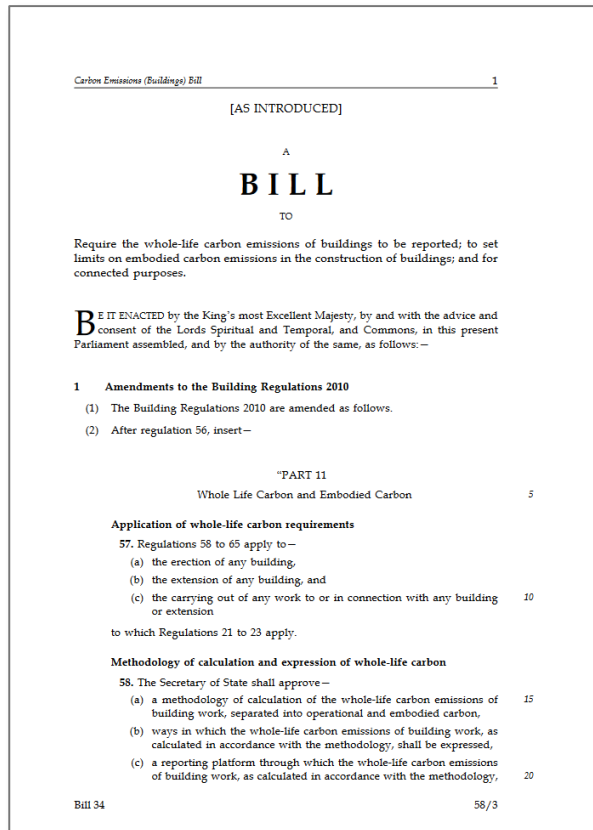
- UK Parliament Private Members' Bill *“to require the whole-life carbon emissions of buildings to be reported; to set limits on embodied carbon emissions in the construction of buildings; and for connected purposes.”*
- Private members bill with support from 4 parties introduced following Part Z proposals
- 2022 bill withdrawn before 2<sup>nd</sup> reading due to promotion of lead sponsor in DLUHC





# Carbon Emissions (Buildings) Bill – take 2

- Second take sponsored by Jerome Mayhew (Conservative)
- 2<sup>nd</sup> reading on 25/11/22



Read the [bill text and debates](#)

# Amendment 280 to the Levelling-up and Regeneration Bill

UK Parliament

Hansard

UK Parliament > Hansard > Lords: 27 March 2023 > Lords Chamber > Levelling-up and Regeneration Bill

**Levelling-up and Regeneration Bill**

Volume 829: debated on Monday 27 March 2023

Download text

**Lord Ravensdale** >  
(CB)

My Lords, I shall speak to my Amendment 484. I thank my supporters: the noble Lord, Lord Stunell, and the noble Baroness, Lady Hayman. I also declare my interest in the Planet, and as a project director working for Atkins.

It would be helpful if I started with some definitions; I hope I am not too early. There are two types of emissions from buildings: operational carbon emissions, which are those emissions from energy and water use; and embodied carbon, which is those emissions from the production of materials. Operational carbon emissions are already limited by Part L of the Building Regulations, which is a parallel regulation limiting embodied carbon emissions.

For a long time, operational carbon emissions have accounted for the majority of emissions from buildings. However, with decarbonisation of the grid, operational carbon has reduced, and is set to continue, particularly with the introduction of electric heating. As a result, emissions in construction contribute an increasing proportion of the whole. Buildings, with one study indicating that over two-thirds of a low-energy building's emissions are embodied.

UK embodied carbon emissions represent some 50 million tonnes of emissions, which is equivalent to aviation and shipping combined—a huge quantity of emissions that is continuing to increase in recent years. We think of the huge effort that is going into decarbonising aviation and shipping: we have a sustainable aviation fuels plan, jet zero, and we have emission-free shipping based on ammonia and hydrogen. But for embodied carbon, the place is sparse—although industry is making some good progress in reducing emissions.

Lord Boyce, who sat on these Benches but passed away, sadly, late last year, said something like, “There is no such thing as problems, only solutions in disguise.” I think that is a fantastic campaign, which has been under way for a number of years, to

**Levelling-up and Regeneration Bill**

EXPLANATORY NOTES

Explanatory notes to the Bill, prepared by the Department for Levelling Up, Housing & Communities, have been ordered to be published as HL Bill 84—EN.

EUROPEAN CONVENTION ON HUMAN RIGHTS

Baroness Scott of Bybrook has made the following statement under section 19(1)(a) of the Human Rights Act 1998:

In my view the provisions of the Levelling-up and Regeneration Bill are compatible with the Convention rights.

ENVIRONMENTAL STATEMENTS

Baroness Scott of Bybrook has made the following statements under section 20(2)(a) and (3) of the Environment Act 2021.

In my view—

(a) the Levelling-up and Regeneration Bill contains provision which, if enacted, would be compatible with environmental law, and

(b) the Bill will not have the effect of reducing the level of environmental protection provided for by any existing environmental law.

HL Bill 84

58/3



**Debated in the House of Lords  
on 27 March 2023  
& 4 September 2023**



# UK Net Zero Carbon Buildings Standard



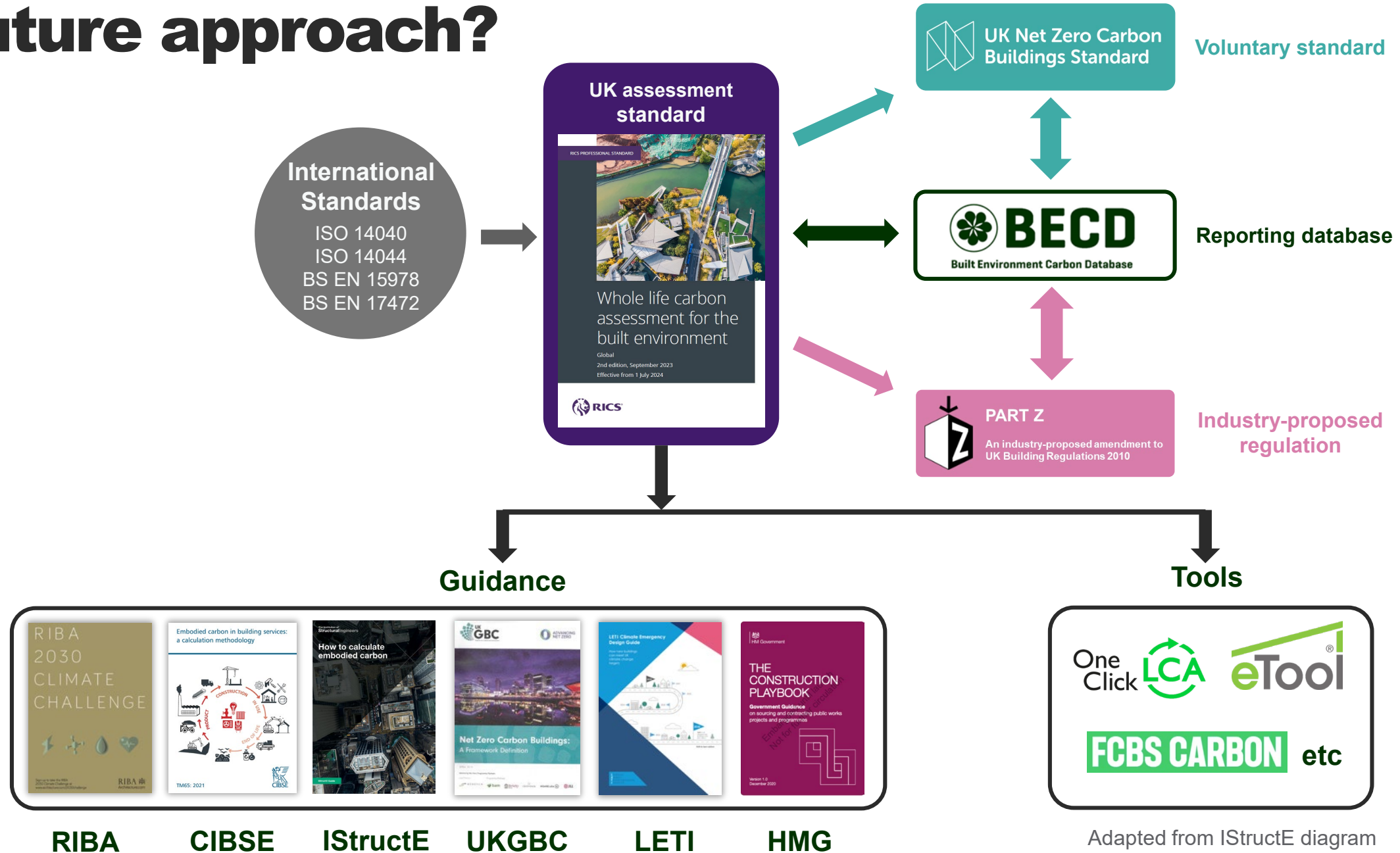
## UK Net Zero Carbon Buildings Standard

Technical Update & Consultation

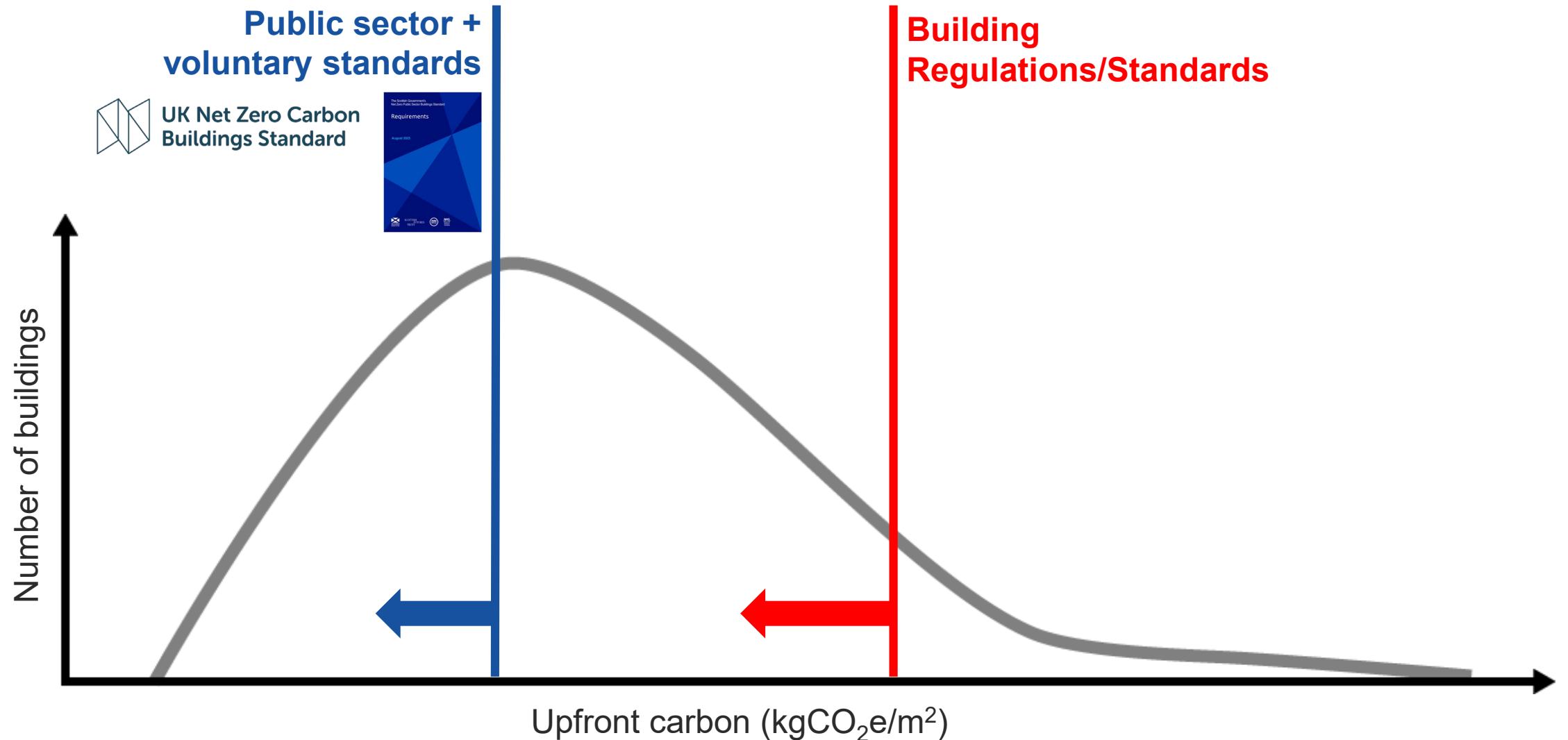
14 June 2023



# Future approach?



# Typical distribution & suggested response



# **ANY QUESTIONS?**

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