



# Launch of Low Carbon Ratings for Cement and Concrete

24<sup>th</sup> April 2025  
12:30 (LONDON)

## GCCA Host



**Paul Adeleke**

**Director**  
**Global Cement and Concrete Association**

## Introduction



**Thomas Guillot**

**CEO**  
**Global Cement and Concrete Association**

# GCCA Membership

## Our Members

Asia Cement Corporation  
Breedon Group  
BUA Cement  
Buzzi  
Cementir Holding  
Cementos Argos  
Cementos Moctezuma  
Cementos Pacasmayo  
Cementos Progreso  
CEMEX  
Cimenterie Nationale  
Çimsa Cement  
City Cement (Saudi Arabia)  
CNBM  
CRH  
Dalmia Cement  
Dangote  
Emirates Steel Arkan  
Fletcher Building  
GCC  
Heidelberg Materials  
Hima Cement  
Holcim  
Huaxin Cement

JK Cement  
JSW Cement  
Kartuli Cement Ltd  
Medcem  
Misr Cement Group  
Molins  
Nesher Israel Cement Enterprises  
Norm Cement  
Northern Region Cement Company (Saudi Arabia)  
Orient Cement  
PT Solusi Bangun Indonesia  
SCHWENK Zement  
Secil  
Siam Cement Group  
Siam City Cement  
Taiheiyo Cement  
TCC Group Holdings CO., LTD.  
TITAN Cement Group  
TPIPOLENE  
UltraTech Cement  
UNACEM  
Vassiliko Cement  
Votorantim Cimentos  
Yura Cement

## National & Regional Association Partners

Asociación de Fabricantes de Cemento Portland – Argentina  
Asociación de Productores de Cemento – Peru  
Associação Brasileira de Cimento Portland – Brazil  
Association of German Cement Manufacturers (VDZ) – Germany  
Association Professionnelle des Cimentiers – Morocco  
Azerbaijan Cement Producers Association (ACPA)  
Betonhuis – Netherlands  
BIBM – Europe  
CANACEM – Mexico  
Canadian Precast Prestressed Concrete Institute  
Cement Association of Canada  
Cement Concrete & Aggregates Australia  
Cement Industry Federation – Australia  
Cement Manufacturers Association – India  
Cement Manufacturers Ireland

China Cement Association  
Concrete NZ – New Zealand  
European Cement Association (CEMBUREAU)  
European Federation Concrete Admixtures  
European Ready Mixed Concrete Organisation  
Federación Iberoamericana del Hormigón Premezclado – LatAm  
Federación Interamericana del Cemento (FICEM) – LatAm  
Japan Cement Association  
Korea Cement Association  
Mineral Products Association – United Kingdom  
National Ready Mixed Concrete Association – USA  
Portland Cement Association – USA  
South India Cement Manufacturers Association  
Thai Cement Manufacturers Association  
The Spanish Cement Association (Oficemen)  
Turkish Cement Manufacturers Association (TürkÇimento)

## Participants



**Dr Andrew Minson**

**Concrete and Sustainable  
Construction Director  
GCCA**



**Soledad Reeve**

**Senior Green Procurement  
Specialist Industrial Deep  
Decarbonisation Initiative  
UNIDO**



**Stela Ivanova**

**Policy Advisor  
German Federal Ministry for  
Economic Affairs and  
Climate Action**



**Marlène Dance**

**R&D Innovation, Energy  
Efficiency and Sustainable  
Design Department  
Bouygues Bâtiment Int.**

# GCCA Global Low Carbon Ratings (LCR) for Cement and Concrete



**Dr Andrew Minson**

**Concrete and Sustainable Construction  
Director  
GCCA**

# Introduction

- The **Global Cement and Concrete Association (GCCA)** has launched cement and concrete ratings by carbon footprint
- This system is designed to **support low-carbon procurement, facilitate environmental reporting, and enable fair product comparison**
- A critical step towards the global goal of **net-zero emissions by 2050**, as laid out in the GCCA's global roadmap

## LCR: Purpose & Applications

- **Procurement:** Provides clients and governments globally recognised ratings to underpin low carbon procurement - ratings which are designed to be overlaid with local current average values and targets.
- **Reporting:** Allows organisations (supply or demand) to report and track progress on carbon footprint of products in a globally consistent manner.
- **Comparability:** Enables comparison of concrete products, including across different countries – For example, a "D" rating in Canada means the same level of carbon performance as a "D" rating in Thailand, even if the  $\text{ECO}_2\text{e}/\text{m}^3$  value differs due to local EPD standards and practice.

## Concrete Ratings – Overview

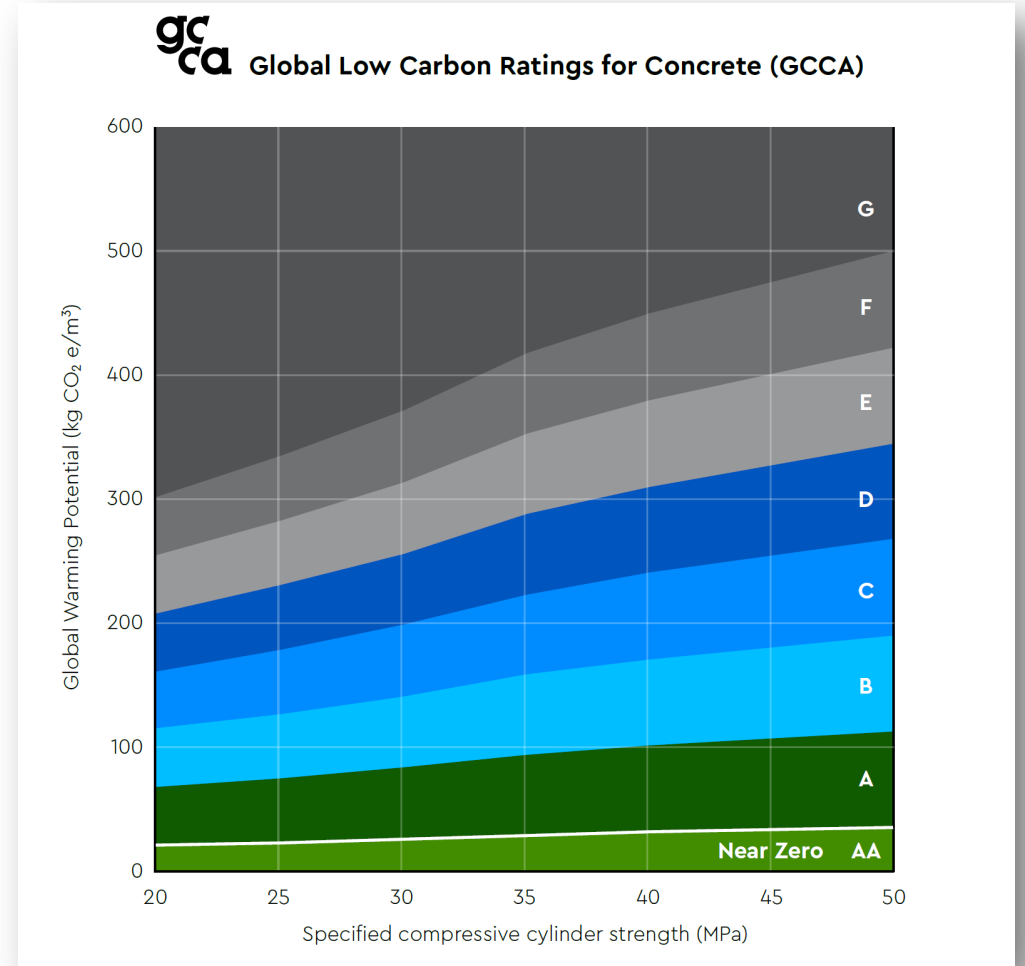
Ratings classify concrete based on:

- **Global Warming Potential (GWP):** Measured in kg CO<sub>2</sub>e per cubic meter (ECO<sub>2</sub>e/m<sup>3</sup>)
- **Specified Concrete Strength:** Higher strength generally implies more cement and hence higher emissions

The system includes **8 ratings**:

- **AA:** Near-Zero Emissions (aligned with IEA's near-zero definition)
- **A–F:** Divided into equal GWP intervals

These ratings provide a clear, **globally consistent** way to classify concrete based on carbon emissions.



# Concrete Ratings – Derivation

The ratings are based on:

Top of E band:

- **Good practice cement products**
- **Good practice concrete mix designs** to lower emissions
- **Industry data** from major cement-producing countries

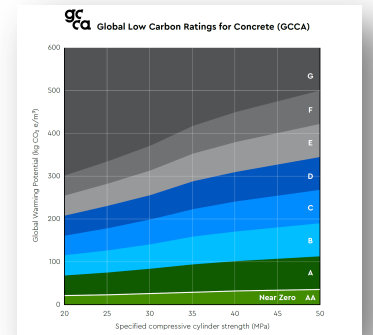
Top of AA Near Zero band:

- **Destination by 2050**

The ratings are the implementation of the [numerical definitions](#) introduced by the GCCA in COP 29 in November 2024.

Global Low Carbon Ratings for Concrete (tabulated)

(kgCO <sub>2</sub> e/m <sup>3</sup> )	Specified Concrete Cylinder Strength (MPa)					
	20	25	30	35	40	50
Top of F	302	335	372	418	450	500
Top of E	255	283	314	353	380	422
Top of D	208	231	256	288	310	345
Top of C	161	179	199	224	241	268
Top of B	115	127	141	159	171	190
Top of A	68	75	83	94	101	113
Top of AA-Near Zero Product	21	23	26	29	32	36



## Key Features and Benefits of Concrete Ratings

- **Ready for Adoption:** A rating scheme that can be readily adopted, and adapted if needed, saving countries time and effort
- **Standardised Measurement:** Uses Environmental Product Declarations (EPD), as a common reporting mechanism for evaluating the carbon footprint of concrete
- **Supports Multilateral Government Initiatives:** Designed to align with Clean Energy Ministerial Industrial Deep Decarbonisation Initiative (IDDI) and builds on a starting point of IEA definitions
- **Allows for Country Adaptation:** While the GCCA ratings are global, they allow for local adaptation, recognising that EPD practise and custom in a country may differ from the global norm
- **Global Comparability:** Enables carbon footprint comparison of concrete products through globally consistent ratings, even when country adaptation has been required/implemented to recognise local EPD practise and custom

# How to use the concrete ratings

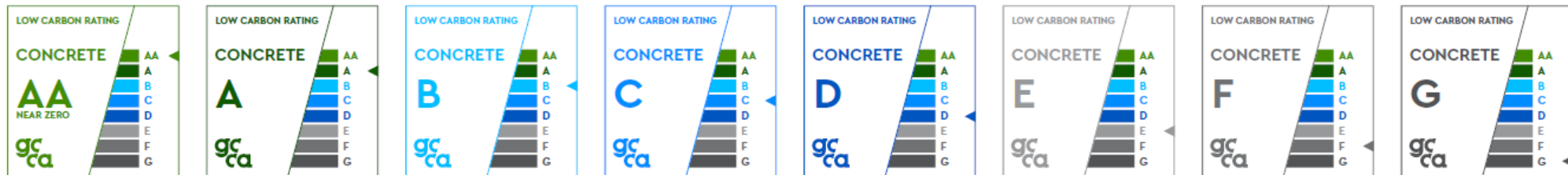
1. Calculate GWP using EPD methodology
2. Refer to GCCA global graph or table to determine rating

*If a country has a different custom and practice for EPD, then Country (cement association/government/ other) adapts ratings to national EPD custom and practice. Example already of UK.*

## EPD Methodology for Global Low Carbon Ratings

To compare against the ratings the GWP of the concrete product first needs to be calculated according to the EPD methodology , and more specifically:

- **Standards:** EN 15804+A2, PCR-001 - Cement and building lime (EN 16908), PCR-003 - Concrete and concrete elements (EN 16757)
- **Database:** ecoinvent
- **Scope:** cradle-to-gate (A1-A3)
- **"Net GWP":** Emissions from treated waste accounting as per ISO 21930 and EN 15804+A2 (some countries, contrary to the standards, choose to account for emissions from treated waste and report gross GWP)



## Country Adaptation

- GCCA ratings are designed for **global use**, and support **national adaptation** if needed, to maintain international comparability while accommodating local practices.
- **If a country has different EPD custom and practice** GCCA has already, or will, work with the national **association to develop national adapted ratings. Manufacturers** can then **calculate GWP using the country EPD custom and practice**.
- The UK has adopted the GCCA global ratings while making adjustments to reflect:
  - UK-specific EPD reporting: Uses "gross" rather than "net" emissions for waste-derived fuels.
  - Concrete strength notation: Includes both cylinder and cube strength for clarity.
  - Extended strength ranges to suit UK industry needs.

# Cement Ratings - Overview

The cement ratings are based on the GCCA Global Roadmap to net zero and builds on a starting point of the IEA methodology

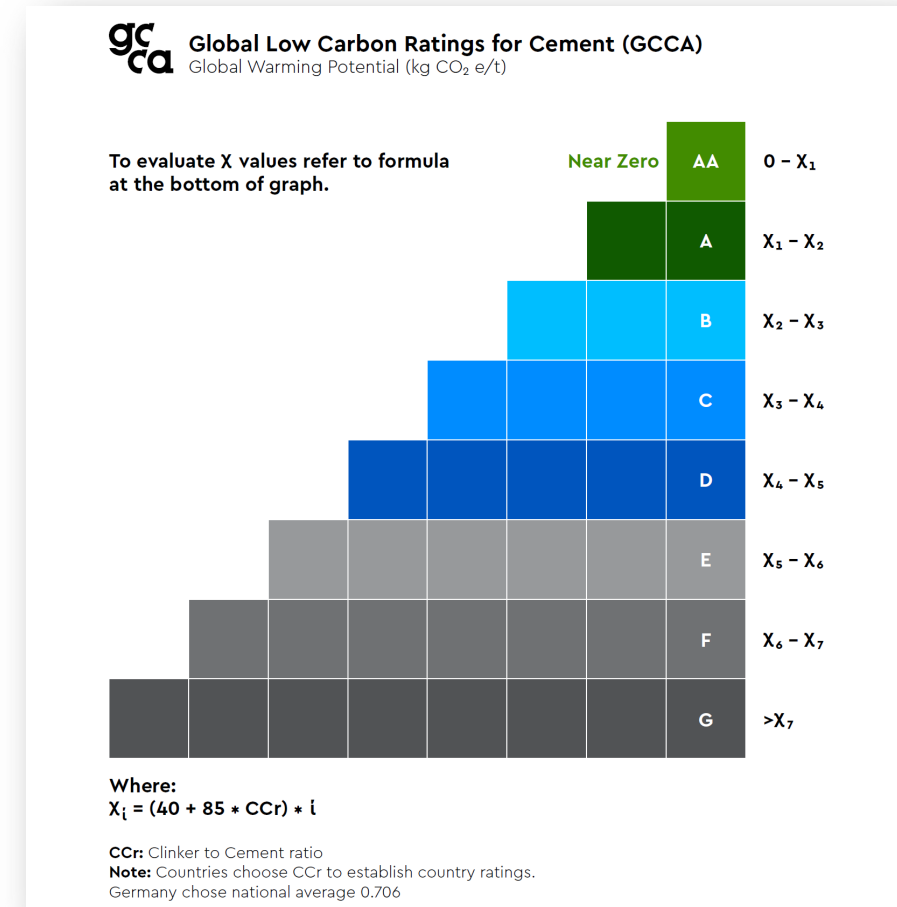
## At country level:

- A one-off choice of clinker cement ratio must be made
- This then establishes country low carbon ratings for cement

*If a country has a different custom and practice for EPD, then Country (cement association/government/ other) adapts ratings to national EPD custom and practice.*

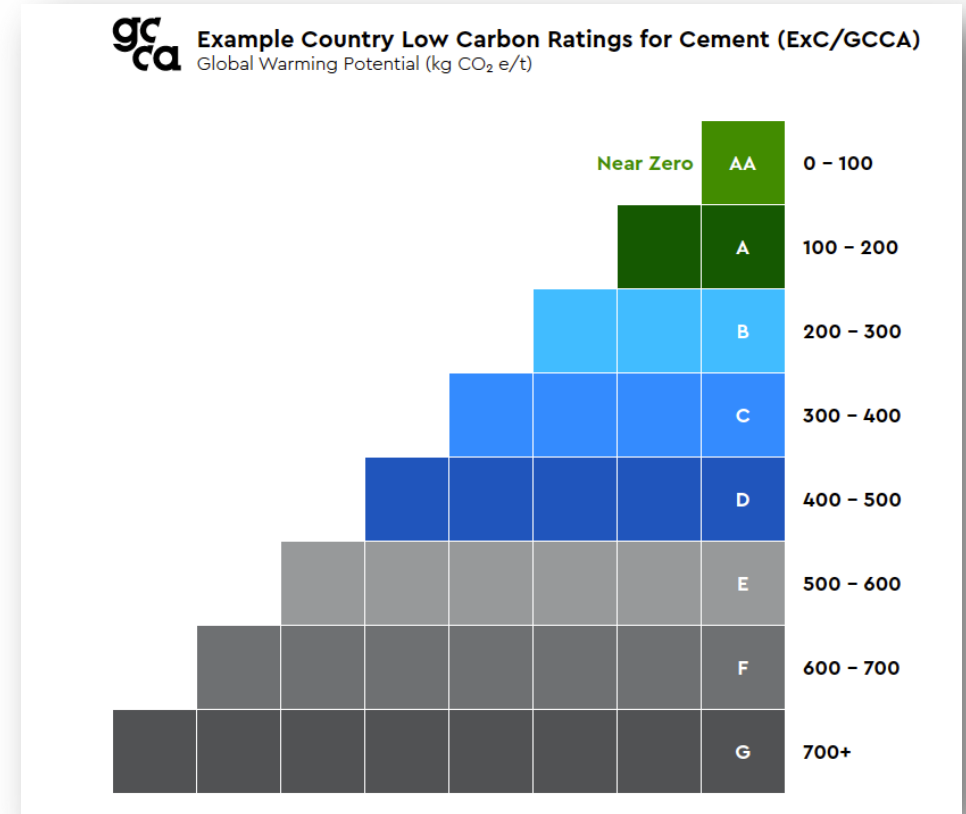
## Cement products, rated by:

- **ECO<sub>2</sub>e per tonne of cement (ECO<sub>2</sub>e/t)**
- 8 ratings: **AA (Near-Zero) to G**



# Cement Ratings – Country Application

- An example is presented here for which the country has chosen clinker/cement ratio is 0.706
- This is the value adopted by Germany who developed their VDZ carbon class in parallel with GCCA



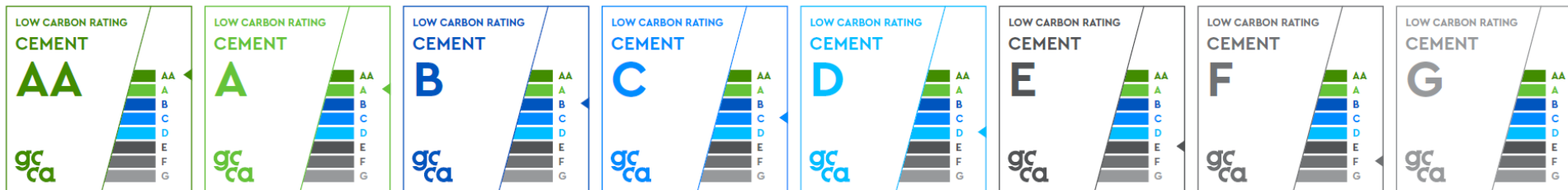
# How to use the cement ratings

1. Calculate GWP using EPD methodology
2. Refer to country graph to determine rating

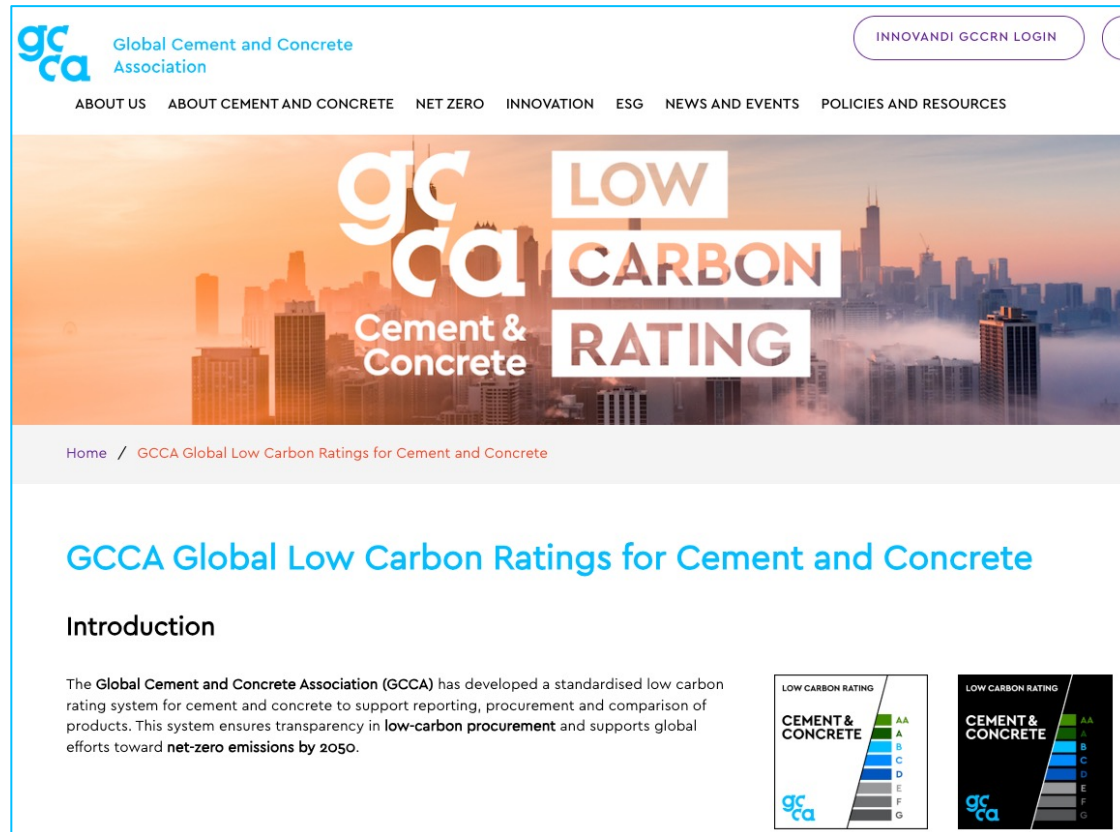
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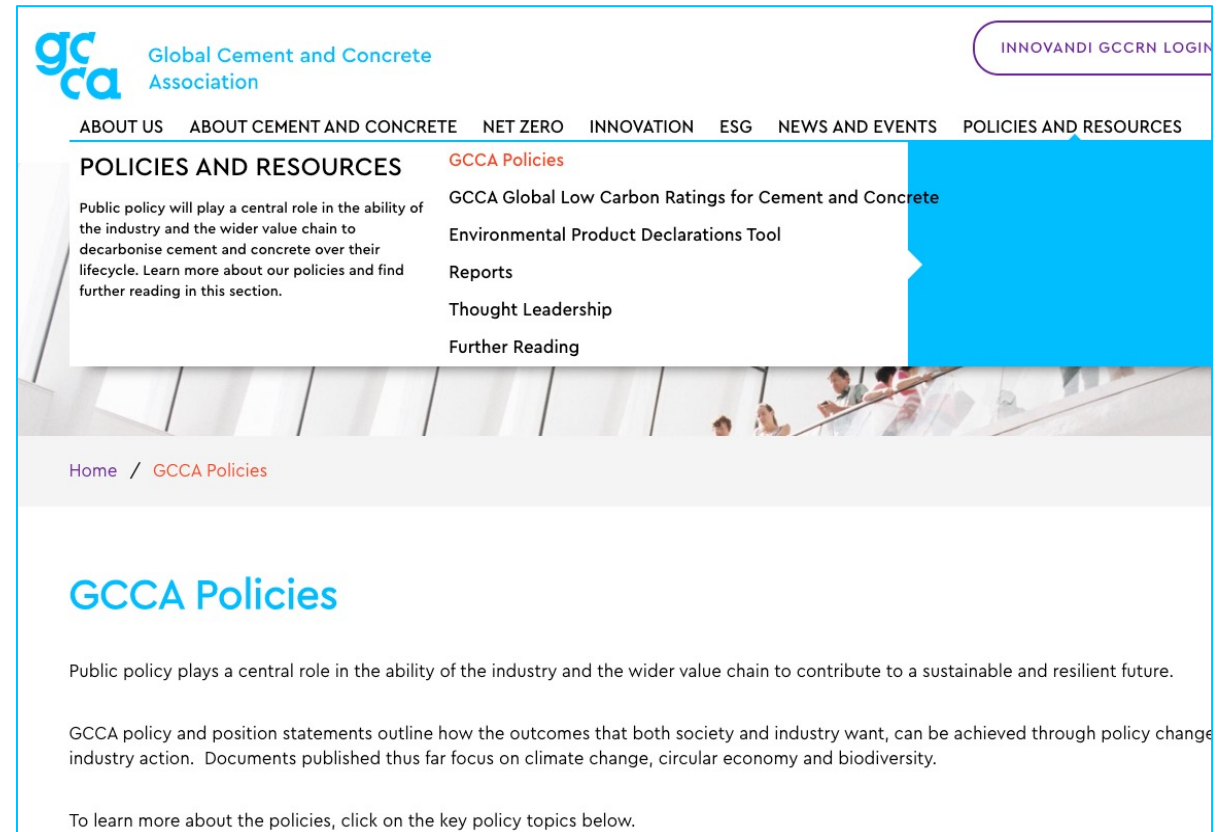


## More information:



The screenshot shows the GCCA website header with the logo and navigation links. The main banner features the text "GCCA Global Low Carbon Ratings for Cement and Concrete" over a city skyline. Below the banner, the page title "GCCA Global Low Carbon Ratings for Cement and Concrete" is displayed, followed by an "Introduction" section. The introduction text states: "The Global Cement and Concrete Association (GCCA) has developed a standardised low carbon rating system for cement and concrete to support reporting, procurement and comparison of products. This system ensures transparency in low-carbon procurement and supports global efforts toward net-zero emissions by 2050." To the right of the text are two versions of the "LOW CARBON RATING" scale, one for "CEMENT & CONCRETE" and another for "GCCA".

<https://gccassociation.org/lcr/>



The screenshot shows the GCCA website header with the logo and navigation links. The main banner features the text "GCCA Policies" over a city skyline. Below the banner, the page title "GCCA Policies" is displayed, followed by a paragraph: "Public policy plays a central role in the ability of the industry and the wider value chain to contribute to a sustainable and resilient future." Below this, another paragraph states: "GCCA policy and position statements outline how the outcomes that both society and industry want, can be achieved through policy change industry action. Documents published thus far focus on climate change, circular economy and biodiversity." To the right of the text is a list of links: "GCCA Policies", "GCCA Global Low Carbon Ratings for Cement and Concrete", "Environmental Product Declarations Tool", "Reports", "Thought Leadership", and "Further Reading".

<https://gccassociation.org/gcca-policies/>



**Soledad Reeve**

**Senior Green Procurement Specialist**  
**Industrial Deep Decarbonisation Initiative**  
**UNIDO**

# Discussion



**Dr Andrew Minson**

**Concrete and Sustainable  
Construction Director  
GCCA**



**Stela Ivanova**

**Policy Advisor  
BMWK: German Federal Ministry for Economic  
Affairs and Climate Action**



Shared innovation

**Marlène Dance**

**R&D Innovation, Energy Efficiency and  
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**Bouygues Bâtiment International**

# Q&A

**Andrew Minson**  
Concrete and Sustainable Construction Director  
[andrew.minson@gccassociation.org](mailto:andrew.minson@gccassociation.org)

**Paul Adeleke**  
Strategy, Communications and Policy Director  
[paul.adeleke@gccassociation.org](mailto:paul.adeleke@gccassociation.org)

# Thank you for joining us!

24<sup>th</sup> April 2025  
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