



# Tarmac cementitious solutions

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# Global leader in building materials

**No.1** for **Building  
Materials** in North  
America and Europe

**Fortune 500**  
Company

Turnover  
**\$33bn**



**29** Countries  
across **4**  
Continents

**75,800**  
people globally

**3,160**  
Operating locations

THE UK&  
FAMILY

Materials, building products & PAVE



Materials supply



Infrastructure solutions



A CRH COMPANY

Cable, fibre optic & utility networks



A CRH COMPANY

Process, treat and manage water



Fixing, lifting & anchoring



A CRH COMPANY

Materials supply

IRELAND MATERIALS

Materials supply



Civil engineering



Access chambers & ducting systems



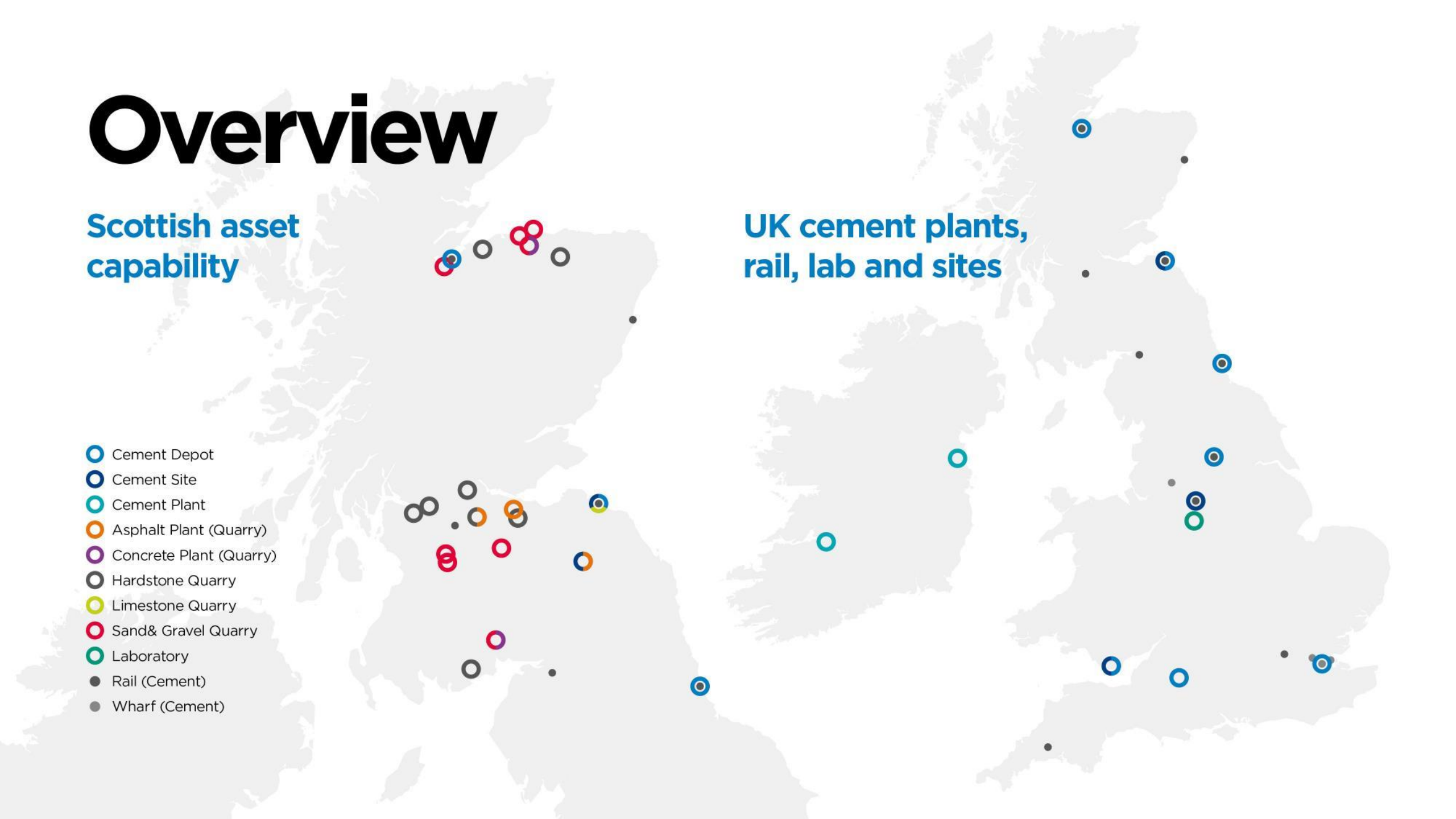
The power  
of **CRH**

# Overview

## Scottish asset capability

- Cement Depot
- Cement Site
- Cement Plant
- Asphalt Plant (Quarry)
- Concrete Plant (Quarry)
- Hardstone Quarry
- Limestone Quarry
- Sand & Gravel Quarry
- Laboratory
- Rail (Cement)
- Wharf (Cement)

## UK cement plants, rail, lab and sites



# Dunbar cement

Scotland's only cement manufacturing capability

Portland Cement Cem I

Phoenix Cement Cem II B-V

Portland Limestone Cement PLC Cem II / A-LL



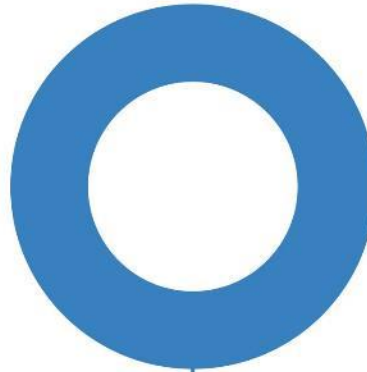
# Concrete and cement carbon journey to beyond zero

## Past

30 years of progress

38% reduction in CO<sub>2</sub> per tonne of product. How did we get there?

## Present



## Future

1990

2050

Cement process improvements

New Tunstead Cement Plant 2004

New lime kiln @Tunstead 50% energy reduction

2013 Aberthaw Cement Plant partners with Energy Plant to utilise waste ash



Concrete process improvements  
Cement replacements  
Clinker reductions  
Admixture evolution  
Cement performance improvements



2010 South Wales wind farm

- Increasing use of replacers + 56 day strengths
- Zero carbon electricity
- Process improvements for lower carbon
- Aggregate optimisation processes
- Low Carbon Concrete
  - Portland Limestone Ternary Composites
  - Alkali Activated Cementitious Materials
- Fly Ash / GGBS availability in UK
  - Calcined Clay

Admixture technology evolution (ongoing)

Cement 2 Zero Project

2024 Automation and the use of AI in cement and concrete

2025 AACM launch

2028 onwards Calcined Clay



Maximise alternative fuels and clinker factor

Exploring jet-fuel production from cement flue gas



2024 PLC launch Ternary composite concrete adoption



2025 nano/graphene, new fibres, basalt rebar



World's first carbon negative lime kiln

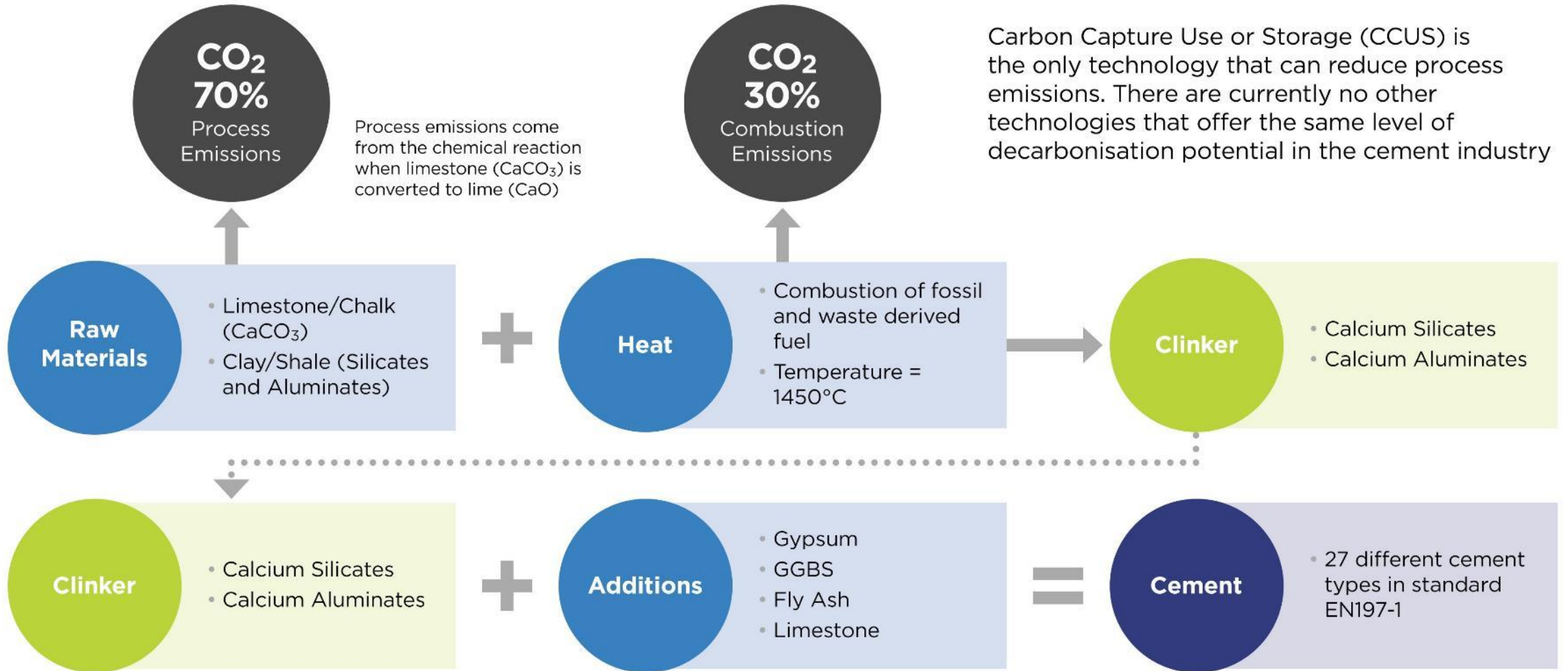


2030 onwards CCUS deployment



Lime and Cement roadmaps Beyond Net Zero

# Cement chemistry



# Tarmac strategy CO<sub>2</sub> goals

Tarmac have committed to being 'net zero' before 2050

We have set ambitious goals

We cannot achieve the goal with 'business as usual'

Decisions we make today will have commercial and operational impact now, and in the future

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30% absolute reduction in Scope 1, 2 and 3 GHG emissions by 2030

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Be at the forefront of trialling and implementing low CO<sub>2</sub> transport and logistics

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Manage climate risk at our sites and use our land assets to deploy nature-based solutions to reduce CO<sub>2</sub>

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Collaborate with policymakers, academia, industry and industrial clusters to develop net zero technologies, solutions and enabling policies

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CO<sub>2</sub> reduction to 520kg net CO<sub>2</sub>/tonne cementitious product by 2025



# What is CEM I & CEM II Bulk PLC (CEM IV/A-LL)

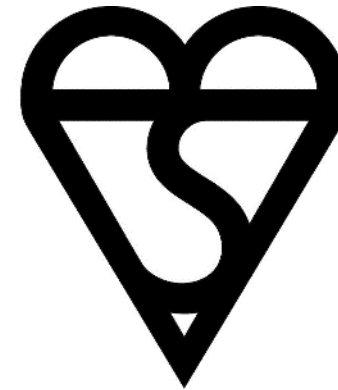
## Benefits:

- Reduced Carbon footprint per tonne of cement.
- Lower embodied Carbon M3 Concrete.
- Increased capacity.
- Potential to reduce imports.

	CEM I	CEM II*
<b>Clinker</b>	90%	80%
<b>Limestone</b>	5%	<b>10-15%</b>
<b>Gypsum</b>	5%	5%

# Imminent changes to Concrete Standards (BS 8500)

- Current standard doesn't allow CEM II / A-LL for certain concrete design and exposure classes.
- New standard recognises the use of ternary cements and removes these restrictions.



KM 648952  
BS EN 206-1:2000 &  
BS 8500:2006  
Ready-Mixed Concrete



# Net Zero is a collaborative effort

The solutions are evolving and together, through early engagement, we can drive progress

## ○ Shetland Windfarm

270,000t of CEMII/B-V Phoenix, supplied to windfarm projects in Scotland. Performance Driver - consistency and quality assurance.