

 / Low  
Carbon  
Materials

Building positive  
carbon negative

Combating Climate Change  
through **Material Innovation.**





# THE EARTHSHOT PRIZE





**OSTO®**



**ACLA®**

**OSTO**



The image features a dark, semi-transparent background with a photograph of construction materials. In the foreground, there is a large pile of light-colored, irregularly shaped aggregate particles. Behind it, several rectangular concrete blocks are visible, some showing a porous texture. The overall scene is dimly lit, with the text overlaid in white and orange.

**OSTO<sup>®</sup>**

# Carbon **negative** lightweight aggregate for concrete

made from waste

**strong circularity credentials**

Concrete is a major contributor to carbon emissions across the world, contributing to 8% of global carbon dioxide emissions.

After water, concrete is the most widely used substance on earth

# OSTO<sup>®</sup>

## Carbon **negative** lightweight aggregate for concrete

### Applications

- Net-zero medium dense block
- Structural and decorative concrete
- Precast and ready mix concrete
- Unbound e.g. structural backfill
- Mortars, plasters, screeds

EPD and datasheet for OSTO available on request



# ACLA<sup>®</sup>

CARBON NEGATIVE AGGREGATE TO  
ACHIEVE **NET ZERO ASPHALT**





# The Challenge

- UK asphalt market 25 million tpa
- Asphalt Emissions 30–50kg CO<sub>2</sub>e/tonne
- New carbon value for bitumen is going to push those numbers higher – how much?
- Potential to eliminate >1.25 million tpa of CO<sub>2</sub> emissions

# The Solution – **ACLA**

**Carbon-Negative**  
aggregate for asphalt

**Our Aim:**  
Net Zero Asphalt

## National Highways Accelerating Low Carbon Innovation Programme



# National Highways Trials

- Deployed in National Highways live trial in permanent works on SRN – **M11**
  - Approval via DfS
  - 20 tonnes of net-zero asphalt
  - AC 20 binder course (Tarmac)
  - Trial results positive

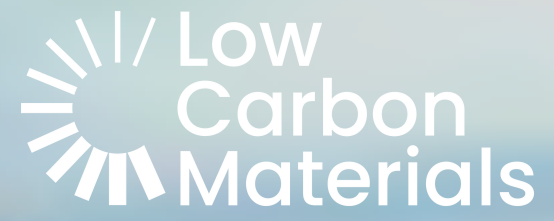


**SKANSKA**



# National Highways Trials

- Second National Highways trial on **A64/A1** as part of wider low carbon exemplar scheme
  - Test results indicate no non-conformances
  - SATS test – 5% ACLA/40% RAP – **passed!**
- **Low Carbon Opportunities Register** to include "Carbon Negative Aggregate for Asphalt"



# ACLA<sup>®</sup> – Key Benefits



**CARBON NEGATIVE**



**LOW VOLUME REQUIREMENTS**



**STACKABLE CARBON BENEFIT**



**HIGH APPLICATION POTENTIAL**



**A DROP-IN SOLUTION**



**NET ZERO WITHOUT OFFSETS**

**-798 kg CO<sub>2</sub>e per tonne**

# Journey to Market - **ACLA**<sup>®</sup>

Testing **completed** by:



Testing being **undertaken** by:



# Projects

- Local Authority schemes
  - Durham County Council (x 8 MGL)
  - Redbridge Borough Council
  - Central Bedfordshire Council
  - Redcar & Cleveland Council
  - East Riding of Yorkshire Council

To Date

**178,000 kg CO<sub>2</sub>e**

**Removed**

EQUIVALENT TO A DRIVING 27 TIMES  
AROUND THE EARTH



# Projects

- Local Authority awards

- Durham County Council

County Durham Environment Awards' 'Responding to Climate Change'

- Redbridge Borough Council

International Green Apple Environment Award





# Projects

- Planned projects from other sectors:
  - Aviation/airports
  - Water sector
  - Logistics/data centres





# The First Net Zero Road Scheme using **ACLA**®



# Impact to date

ACLA<sup>®</sup> has removed a total of **185,000 kgCO<sub>2</sub>e** since its launch in March of 2024.

The equivalent of the av. UK petrol car driving almost 1 128 000 km.

c. 0.015% of potential impact!

<https://www.lowcarbonmaterials.com/casestudies>



# Impact to date

ACLA<sup>®</sup> has removed a total of **185,000 kgCO<sub>2</sub>e** since its launch in March of 2024.

A few of our project partners:



<https://www.lowcarbonmaterials.com/casestudies>



# Next steps

- Pipeline of projects with growing number of clients (public and private sector)
- Scale up manufacture of ACLA to deliver economies of scale
- ACLA for major infrastructure projects
- Optimise carbon benefits
- More projects!!!!







**For more information**

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