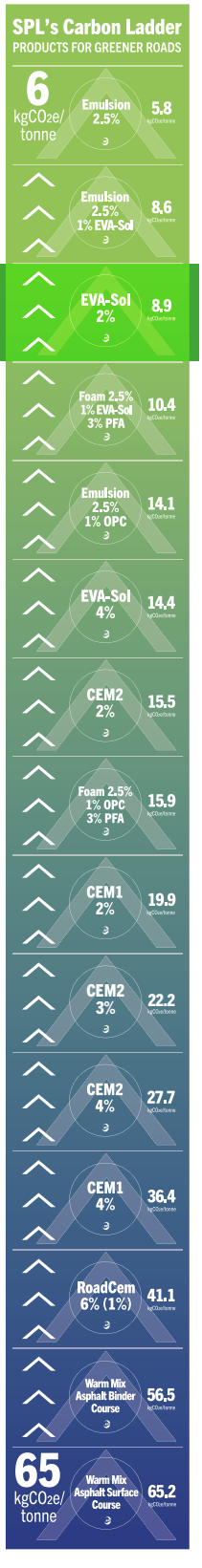
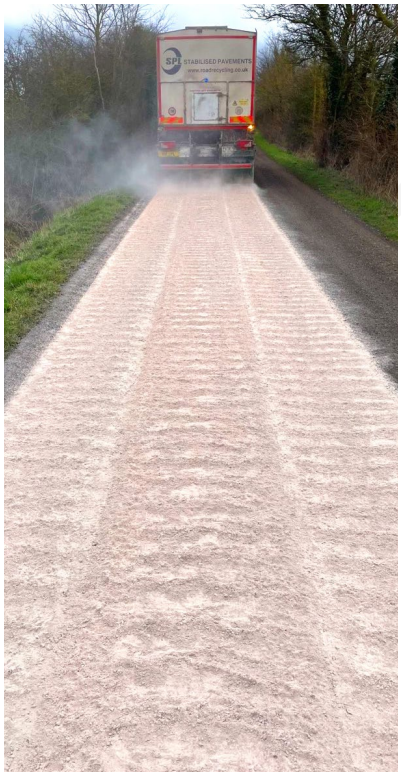
# CASE STUDY

## The UK's Largest Calcined Clay Project - Low-Carbon Road Recycling



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| **Scheme:** | The UK's Largest Calcined Clay Project; Low-Carbon Road Recycling - Stocking Drove & Garden Lane, Cambridgeshire |
| **Client:** | Cambridgeshire County Council and their Term Service Contractor M Group |
| **Date:** | March 2025 |
| **Area:** | 17,859 m² |
| **In-Situ Process:** | REGEN using Calcined Clay Binder HEVA-SOL |
| **Construction Depth:** | 150mm |
| **Surfacing:** | Double Surface Dressing (10 & 6mm Stone) |
| **$CO_2$ Saving:** | 324 tonnes (82%) |

Cambridgeshire County Council

M GROUP

In alignment with its commitment to sustainable road maintenance, Cambridgeshire County Council and their Term Maintenance Contractor, M Group, commissioned Stabilised Pavements Ltd (SPL) to deliver an **innovative In Situ Recycling solution**.

This scheme marked a groundbreaking enhancement in sustainable road rehabilitation, incorporating **H-EVA SOL**, a calcined clay binder supplied by **Cemblend UK** and produced by **Hoffman Green** in Dunkirk. Used as a direct **low-carbon alternative to cement**, this project represents the **largest use of H-EVA SOL in the UK's in-situ recycling process to date**.

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## Innovative Process and Engineering Excellence

The **REGEN Recycling** process was deployed across **Stocking Drove and Garden Lane**, reinforcing **17,859m²** of road surface. The project methodology remained consistent with traditional in-situ recycling, maintaining a **2% binder application at a 150mm depth** - except with a significant reduction in embodied carbon emissions.

Key steps in the process included:

- **Pulverisation & Material Re-engineering:** SPL's advanced equipment pulverised and reshaped the existing carriageway materials, eliminating the need for excavation and disposal.
- **H-EVA SOL Application:** The innovative **calcined clay binder** was integrated via a controlled spreader and mixed into the road structure, ensuring equivalent durability to conventional **CEM 2 blended cement** but with a **significantly lower carbon footprint**.
- **Surface Dressing:** A **double dressing of 10mm and 6mm stone** was applied as the scheme progressed, allowing road users to return to the network **in the shortest possible time**. With safety in mind, the dressing was applied using a phoenix chipper and a walking floor lorry instead of tippers due to low power cables.

## Environmental & Commercial Benefits

### Unmatched Carbon Savings

The **embodied $CO_2$ of H-EVA SOL** is just **272 kg$CO_2$e per tonne**, compared to **604 kg$CO_2$e per tonne** for CEM 2, achieving a remarkable reduction in carbon impact without compromising structural performance.

Across the **17,859m² site**, SPL's **REGEN Recycling** with H-EVA SOL achieved a total **carbon footprint of just 71 tonnes $CO_2$e**, compared to an estimated **395 tonnes $CO_2$e** for a traditional **asphalt reconstruction**. This equates to an **82% reduction**, saving **324 tonnes of $CO_2$** – equivalent to:

- **1,440,000 miles of car travel emissions**
- **£20,000 in carbon savings under the EU Emissions Trading System**

# The UK's Largest Calcined Clay Project - Low-Carbon Road Recycling

## Cost & Time Efficiency

By recycling existing materials **in situ**, the need for **quarrying, haulage, and waste disposal** was virtually eliminated, **reducing material costs and transport-related emissions**. The **one-pass recycling and dressing approach** minimised site occupation, ensuring that road users, businesses, and farmers **experienced minimal disruption**.

## Enhanced Road Performance & Longevity

The incorporation of **H-EVA SOL** in the road structure, coupled with precision re-engineering, has **enhanced the resilience and durability** of the newly shaped carriageway. This approach mitigates the impact of **historical weak subgrades** while ensuring the **long-term stability of the pavement under heavy agricultural traffic**.

## Conclusion

By integrating pioneering **low-carbon binders** and cutting-edge **in situ recycling techniques**, SPL has successfully **delivered a cost-effective, environmentally responsible, and structurally robust solution** for Cambridgeshire's rural road network.

This project exemplifies **sustainable road maintenance at scale**, setting a new benchmark for carbon reduction in UK highway infrastructure.

For more information on SPL's sustainable road solutions, contact: **j.osborne@stabilisedpavements.co.uk**