

**Pavements** *(Including-  
Sub-Base, Aggregates, Bound and  
Surface Treatments)*

# Carbon Net Zero Plan

# Category: Pavements

## Carbon NetZero goals and key deliverables



### **Phase I:** (2022 – Q1 2023)

**Key goals:** Full implementation / switch to warm mix asphalt (WMA) and other carbon reduction initiatives (case studies and supporting materials to help promote uptake)

**Key deliverables:** Adapting/changing standards, utilise NH platform to promote the use of WMA across the wider highway industry

### **Phase II:** (2023–2025)

**Key goals:** Support uptake of revised standards (“Future SHW” and DMRB)

**Key deliverables:** Embodied and whole life carbon reductions (including operational)

### **Phase III:** (2025 and beyond)

**Key goals:** Realisation of carbon reduction innovations

**Key deliverables:** Standardised monitoring and capture of lower carbon reduction performance

National Highways is committed to achieve decarbonisation in line with the Governments decarbonation ambitions. We are developing the asphalt road map as set out within our 2030/2040/2050 plan, which will identify carbon reduction initiatives. This will be supplemented by a focus on integrated carbon thinking within the DMRB by 2025 and a renewed focus on quality.

The Asphalt Net Zero Road Map and Pavement carbon plan will continue to evolve and to enable us to achieve our ambitions we will work across the business and all our investment programmes ensure regular engagement and collaboration is held with our Supply chain and wider industry bodies.

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## Carbon Reduction Initiatives within the Asphalt Roadmap.



### Phase I: (2022 – 2023)

#### Carbon Reduction initiatives

- Encourage uptake of lower temperature asphalts (LTA)
- Increase recycled content in surface course (up to 20%), base binder (up to 40%)
- Review performance of current materials, reduction in joints/areas of weakness in surface course.
- Improve and encourage early contractor involvement to enable design optimisation.

#### Main Actions and next steps

- Published clause 908 for WMA July 2021 and promote uptake via CHE memo and industry working groups.
- Review current standards for cold recycling options
- Publication of MCHW updates for recycled content and improved durability for asphalt surfacing (942).
- Collaborate and align all findings across investment programmes (LTC, SMP, RDP and OD)



### Phase II: (2023 – 2025)

- Feasibility study completed into lower temperature asphalts (LTA) like half warm, bio binders/biogenic, long life polymers modified binders (PMB)
- Promote the efficient use of materials, including recycling.
- Reducing embodied and whole life carbon

- Publish future SHW including carbon reduction opportunities such as cold recycling .
- Whole life carbon demonstrated within pavement design and delivery.
- Continue trials & industry engagement for opportunities post the future SHW publication in 2024.



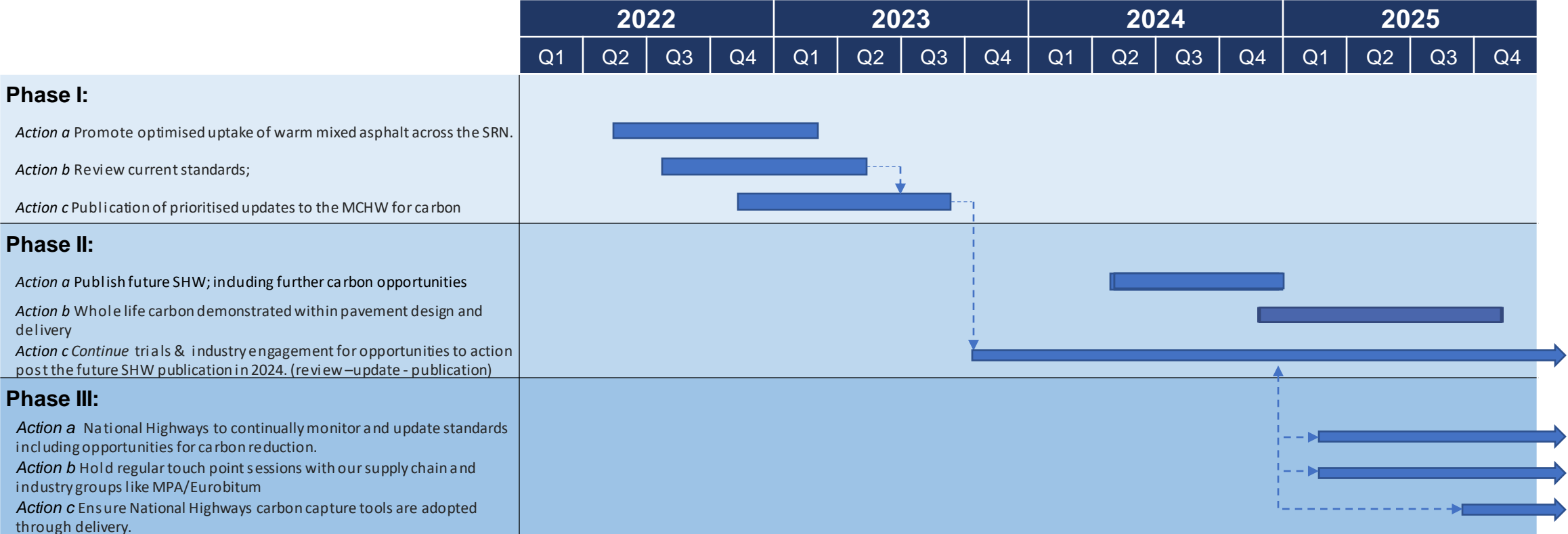
### Phase III: 2025 and beyond

- Update National Highways standards based on available information from phase II.
- Continue industry engagement and working groups to encourage uptake and realise carbon reductions.
- Actively capture and monitor carbon reduction vs our Net Zero Plan targets.

- National Highways to continually monitor and update standards including opportunities for carbon reduction.
- Continue regular touch point sessions with our supply chain that will enable trial and test opportunities on new and future technologies.
- Ensure National Highways carbon data capture tools are adopted through delivery.

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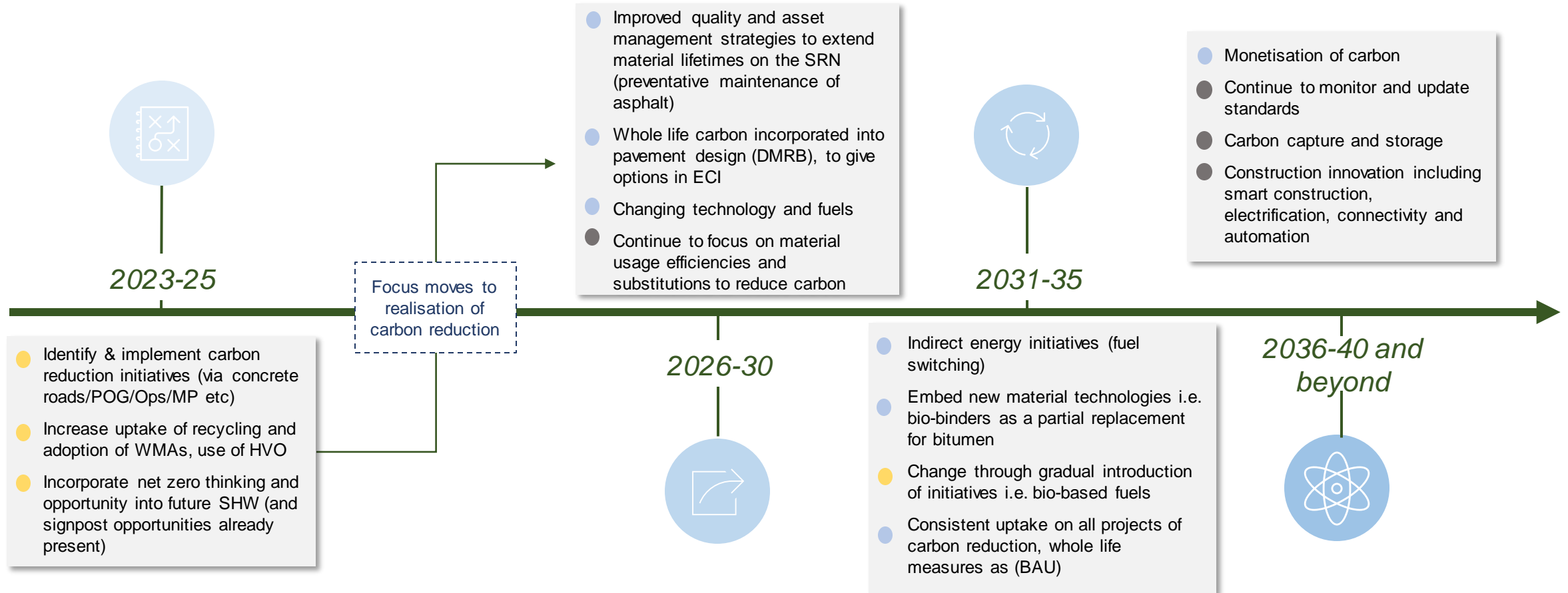
## Detailed timing plan



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## Carbon NetZero Initiatives plan

Supporting our investment programmes through our category management strategy in joint partnership with SES. Identifying key initiatives and supporting groups listed like POG/Innovation reapplied.



It is key for National Highways to work closely with the supply chain and wider industry bodies to be able to achieve net zero by 2040. Trialling net zero pavement maintenance and construction schemes on the SRN between 2023-2030. New technologies, fuel changes, a whole life carbon approach to design, delivery and materials will be key to meeting our ambitions.

### Legend:



Higher Impact



Lower Impact



Unknown Impact