The opportunity of a national low carbon transportation system

Carbon emissions from Highways Agency Corporate activities, the strategic road network Asset Base, and the Road User are presented in this graphic. The carbon emissions values illustrate the scale of emissions in 2013 and the reductions needed to enable the Highways Agency to make a meaningful contribution to the UK Government target of an 80% reduction in emissions vs. 1990 levels by 2050.

How to achieve a national low carbon transportation system

**Corporate**
The direct and indirect emissions associated with the operation of the strategic road network by the Highways Agency.

**Asset Base**
The emissions arising as a result of construction and maintenance activity of the strategic road network, and the supply chain that exists to deliver this.

**Road User**
The emissions arising from the use of the strategic road network by parties other than the Highways Agency and its partners, i.e. the public / the Agency’s customer base.

Throughout, the values shown are for 2050 unless accompanied by an up arrow (↑) or down arrow (↓), in which case they reflect the change by 2050 compared with 2013.

In the illustrated scenario it is necessary that all actions are undertaken together and that the outcomes shown are all achieved. This will enable the Highway Agency to make a meaningful contribution to the UK Government target of an 80% reduction in emissions.
Highways Agency Carbon Routemap

The challenge of influencing road user vehicle emissions

This infographic is based on the Highways Agency carbon Routemap to 2050 to which Arup has provided technical support. The Routemap has been undertaken to inform how the Highways Agency can most meaningfully contribute to the development of a national low carbon transportation system. The study supports this ambition by developing a strategic carbon model to 2050 and a Highways Agency low carbon Routemap to aid with forward planning on carbon emissions management and reduction.

The figures in this infographic refer to the carbon emissions associated with the use of the strategic road network in 2013, and the changes to the system that are necessary to achieve a significant reduction by 2050. The road user emissions model is based on traffic flow and average speed data for all 2,500 links of the strategic road network, along with statistics relating to peak time congestion for these links. The model combines this data with Department for Transport forecasts for vehicle kilometres, and allows for investigation of the effects of changing drivetrain characteristics such as engine type or fuel efficiency, average speeds achieved, speed profile normalisation, targeted improvements to congested links of the highway, and savings due to possible future uptake of autonomous vehicles.