Sustainable transport in the 21st century

Worldwide, demand for all modes of transport is increasing, with corresponding increases in greenhouse gas (GHG) emissions, air pollution and noise. These environmental impacts are being experienced by cities, regions and countries. Tackling these issues will involve developing innovative solutions to maintain economic growth while reducing the transport sector’s environmental impacts. These solutions will include new technologies, alternative fuels and more efficient use of transport systems.

Our experts have more than 20 years’ experience in developing solutions to deal with environmental issues facing the transport sector. Ricardo Energy & Environment’s work includes providing strategic advice to governments and businesses globally to help them develop policy frameworks to reduce transport emissions and other environmental impacts. We have a deep understanding of, and expertise in, new and forthcoming vehicle technologies and fuels. We deliver expert solutions to a wide range of clients to help them understand the full costs and benefits of measures for improving the sustainability of the transport sector. In addition, we have a long track record of developing and using a variety of modelling tools to aid this type of analysis. Our strong network of partners includes academics, original equipment manufacturers (OEMs), suppliers, research centres and associates.

As part of Ricardo plc, Ricardo Energy & Environment has access to additional engineers and consultants whose expertise includes support to OEMs and fuel suppliers in the design and development of a wide range of high efficiency, low emission, technology solutions to improve the sustainability of transport systems worldwide.
Our services

We are world leaders in the field of sustainable transport and deliver solutions through direct technical support. Our expertise covers all modes of transport in developing and industrialised countries.

Our services include:
• Transport strategy development at city, national and international levels.
• Full-spectrum assessment of transport policy and strategy, comprising environmental, economic and social impacts.
• Deep understanding of low emission transport technologies and fuels.
• Expert measurement, inventory and modelling of transport emissions (e.g. CO₂, SO₂, NOx, particulate matter).
• World-leading carbon footprint and life-cycle assessments.
• Cutting-edge regulatory compliance and strategy development.
• Practical knowledge of best practices and operational efficiency improvements for freight transport.
• Risk assessment and management related to climate change impacts and adaptation.

EU Transport GHG: Routes to 2050?

In this project for the European Commission, we supported the development of a policy framework for reducing GHG emissions from the transport sector in Europe for the period 2010 to 2050. We examined the potential levels of emissions reduction that need to be achieved across the whole of Europe – covering road transport, aviation, rail and shipping. Our work also included an assessment of the feasibility, effectiveness and costs of demand-side and supply-side options for reducing emissions. We developed a new transport scenario analysis tool, known as SULTAN, which we used to help the EC assess the potential future impacts of prospective transport sector policies for reducing GHG emissions.

Our experience

• Supporting the development of a long-term transport sector decarbonisation strategy for the European Commission (EC).
• Research for the UK Government to analyse the cost-effectiveness of options for reducing transport CO₂ emissions to support the development of the UK’s groundbreaking Climate Change Act.
• Developing transport policy options for the Indian Government with the specific objectives of reducing carbon intensity and supporting inclusive growth.
• Emissions modelling for the road transport sector to reduce uncertainties in projections scenarios and to help develop the national mitigation potential analysis for the South African Department of Environmental Affairs.
• Transport sector GHG emission inventory support for China, India, Brazil, Mexico and South Africa to help them meet international measurement, reporting and verification (MRV) requirements.
• Developing a strategy to reduce GHG emissions from the transport sector in Toyama City, Japan.
• Assessing the emissions and air quality impacts and co-benefits of sustainable urban transport plans in Tier II cities in India for the Ministry of Urban Development.

Potential means of reducing transport’s GHG emissions – all options