

A road map for greener transport

January 15 2010



The report suggests downscaling large, inefficient vehicles

(PhysOrg.com) -- An Oxford University study says the best way to reduce emissions in the short term is a 'drastic downscaling of both size and weight' of conventional petrol and diesel cars.

The research by Smith School of Enterprise and the Environment suggests that we should not rely on manufacturers <u>producing hydrogen</u> or battery-powered vehicles in the next decade.

The report 'Future of Mobility Roadmap' assesses the potential for low carbon <u>transport</u> on land, by air and sea. It finds that electric and hydrogen vehicles are likely to remain niche products for many years because of limited battery life and the high cost of platinum, which is needed for the catalysts in hydrogen fuelled cars.

The study editor Sir David King and lead author Dr Oliver Inderwildi



urge the government to impose higher taxes on drivers of large, inefficient vehicles and reinvest the money in better public transport and measures to get more people cycling and walking.

Dr Inderwildi says: 'There is ample opportunity for emissions reductions by further improvements of currently available technology combined with a change in user habits.'

Rather than rely on the manufacturers to provide the 'silver bullet' solution to cut transport emissions, the report recommends behavioural change, urging consumers to influence manufacturers through their buying power. Manufacturers are more likely to produce smaller vehicles if customers opt not to buy larger, heavier vehicles with higher <u>carbon emissions</u>.

Better technology could significantly cut emissions from aircraft and shipping but incentives and regulation will be needed to encourage users to switch to low-carbon forms of transport, says the report.

It highlights algae-based biofuels as a means of significantly cutting transport emissions in the future and points out the limitations of biofuels as an alternative because of land shortages and food security concerns. First generation biofuels, derived from food stocks, 'have proved the viability of such fuels, but remain a local solution, as in Brazil,' it says.

Dr Inderwildi sees electric and diesel rail systems as the way forward in bringing down transport emissions but says there are disadvantages in the resulting infrastructure costs and lack of flexibility in route planning. Even so, reducing the carbon footprint of cars and replacing domestic flights with high speed rail could still produce 'drastic emissions savings'.

The study warns that action must be taken immediately to have any



impact on climate change because of the long lifetime of transport fleets and subsequent delays in technological impact.

'Many technological options are already available and, in combination with infrastructure investments, [will] support the economy, reduce greenhouse gas <u>emissions</u> and provide other long-term benefits,' says the report.

Provided by Oxford University

Citation: A road map for greener transport (2010, January 15) retrieved 27 April 2024 from <u>https://phys.org/news/2010-01-road-greener.html</u>

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