

Introduction to Panel 6

Energy efficiency in transport – some new initiatives but a long way to go!

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Introduction

Despite the high oil prices in the recent past and concerns about 'peak oil', energy efficiency efforts are currently predominantly driven by climate policy. For this reason, energy efficiency is firmly on the political agenda, not the least in the transport sector where CO₂ emissions continue to increase. Nevertheless, there are relatively few major achievements to report in terms of tackling climate change in the transport sector. An agreement has been reached between the European Commission and European, Japanese, and Korean car makers to further tighten emissions of passenger cars. Various EU member countries have introduced tax schemes that favour cars with lower emissions. Germany has already introduced a scrappage bonus for old cars, and other countries seem to be about to follow suit (e.g. the Netherlands and the United Kingdom). In various European countries, newly sold cars are now smaller and more energy efficient than in preceding years. However, the total amount of emissions from passenger cars does not show any sign of a downturn in the long-term because the demand for passenger and freight transport continues to increase and is becoming increasingly reliant on energy intensive modes. The current economic situation may temporarily halt the growth of vehicle use and emissions but this is not likely to change long-term trends without additional policy measures and/or major changes in technology.

In most countries, the vehicle fleet is growing, implying that energy efficiency improvements need to keep up with the increases in the demand for transport and the expansion of the fleet to maintain emissions at current levels. There is marked interest in alternative fuels and propulsion technologies, and hybrid vehicles have recently started to enter the market. However, their contribution remains marginal. Furthermore, the

environmental benefits of hybrids are often only significant in urban areas. For other journeys, the energy saving benefits may be small. Other fuels, such as biofuels and hydrogen, have their own problems, either in terms of ecological limits or very high development costs. Consequently, both options will provide limited consolation for emission reduction in transport in the short and medium term (up to 2025), albeit for different reasons.

Overview of the papers

This year's portfolio of transport papers very much reflects the above issues and concerns. The largest thematic group of papers (6014, 6109, 6195, 6204, 6340,¹ 6360) deals with alternative fuels and vehicles. Moura and Viegas (6014) discuss the idea of the modular updating of cars. Ajanovic et al (6109) discuss penetration scenarios in Austria for cars using renewable energy sources. Jorgensen (6360) addresses a similar issue but approaches it more in terms of competition and obstacles. Uytendinck et al (6195) also focus on penetration scenarios, looking specifically at electric cars and considering the overall emission effects of such scenarios. Emmerling et al (6204) present the achievements and plans of an EU project (MADE-GASCAR) concerned with the promotion of natural gas as a transport fuel.

A second group of papers (6207, 6302, 6340) focuses on the use and purchase of cars from a behavioural perspective, which

1. Paper 6340 deals with alternative fuels and vehicles as well as the use and purchase of cars. For the purposes of scheduling it has been grouped under the second group of papers (the use and purchase of cars from a behavioural perspective).

is also very much at the heart of a number of other eceee sessions. Anable et al (6207) present the findings of a series of in-depth interviews with car purchasers, aimed at assessing their understanding of energy labelling of cars. Wickelgren et al (6302) examine decision-making processes of individuals when buying a new car and the influences of the automobile industry on these processes. Pierre (6340) focuses on the human aspects of introducing new car technologies and presents a sociological review of electric car driving.

In addition to the two themes above, we have another two groups of papers dealing with data and policy analysis. The first of these two groups is concerned with decomposition of macro trends in transport volume and energy efficiency (6001, 6053, 6143) while the second group (6081, 6233, 6399) focuses on individual mobility patterns and policy assessment in the area of transport energy efficiency. In the first group, Sorrell et al (6001) provide a decomposition analysis of factors that contribute to the growth in energy consumption in road transport. Rudolph and Böhler (6053) present a methodological paper regarding data collection for the purpose of evaluating (and monitoring) energy efficiency measures in transport. Schipper and Fulton (6143) revisit and update a decomposition analysis of the potential contribution of a shift to more diesel powered cars in Europe and call into question the rationale for such a shift. In the second group of papers, Stead and Susilo (6081) present a decomposition and comparison of trends in mobility behaviour and associated CO₂ emissions in the Netherlands and the UK. Sadeghi and Lüthi (6399) examine some of the main barriers for more energy efficient travel patterns in Swiss households and discuss how these barriers might be overcome. Rezessy et al (6233) explore the question of how tradable white certificates could be applied to the transport sector in Europe.

A final group of papers and posters focuses specifically on transport and energy issues in developing countries (6121, 6142, 6246, 6311.). The paper by Pfaffenbichler and Circella (6121) focuses on the role of motor cycles and scooters, which are often of limited importance in western transport studies but very important in developing countries. The other three papers deal with transport scenarios in large cities in South-East Asia. Tuan et al (6142) assess the likely effect of two different transport policy scenarios on atmospheric emissions in Hanoi. Rahman (6246) presents a review of the expected development of transport volumes and composition in Dhaka and the subsequent demand for fuel. Lefèvre (6311) uses an integrated land-use – transport model to assess the implications for the sustainability of transport of alternative urban developments in Bangalore.

It would have been interesting to have more contributions on transport and land use planning (urban form) in relation to energy efficiency and on freight transport, particularly in terms of trade, production, logistics and freight transport energy demand. After all, atmospheric emissions from freight transport are higher than passenger transport in many countries and, unlike passenger transport, emissions from freight transport do not currently show any signs of structural change. The transferability of policies and practices for more energy efficient transport is another area where we would have liked to have seen more contributions. Nevertheless, we believe that the papers and posters for this year's transport panel provide a solid basis for some in-depth discussions at the eceee summer study in a variety of areas related to transport and energy efficiency, both in Europe and beyond. We look forward to chairing the panel!