

European ETTAR Project Aims to Break Down Barriers to Greener Freight Transport Technologies

Experts at Gothenburg workshop acknowledge the need for logistics industry to clean up its act

A workshop in Gothenburg on 25-26 October, run by the EU-funded ETTAR (Environmental Technologies Training and Awareness Raising project (under the 6th EU Framework Programme), focused on the main barriers to companies buying and selling road, rail, sea and air freight transport adopting environmentally friendly technologies available.

The lead partner in the ETTAR project is Ecologic - the Berlin-based Institute for International and European Environmental Policy. Their key partners include Deutsche Bahn, Chalmers University of Technology in Gothenburg, Ireland's Clean Technology Centre Cork, Prague-based consultancy Enviros, and University of Cambridge Programme for Industry.

For many expert speakers at the project's first event, a major hurdle for greener transport technologies proved to be the apparent lack of a conventional business case for environmental investment in the logistics sector, although several opportunities are already available or under development.

The seminar sought to find out whether investments in the best available vehicle/engine or fuel technologies are being held up mainly for cost reasons, for lack of awareness of the options available, or lack of awareness of the potential long-term benefits of specific CO₂-reducing technologies.

Different reasons for low environmental freight investment were cited by expert delegates from the logistics, transport procurement and academic fields representing road, rail, shipping and air freight. Among these reasons are insufficient policy instruments, a highly competitive, low-margin, short-term, cost-focused logistics market, energy prices and freight transport costs too low to force change, ignorance of environmental issues and solutions, rail infrastructure problems inhibiting modal shifts, and a lack of reliable information on the costs and impacts of alternative fuels and technologies.

During the two day event, working Group sessions examining the barriers and drivers for the up-take of environmental technologies took place, delivering inter alia the following results:

- Consumers of end products as part of the society are interested in climate change and sustainability. However, as customers they are not willing to pay higher transport prices for more environmentally adapted transport solutions nor are they often aware of the transport emissions linked to the production and distribution of goods.

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- The responsibility of the supply chain members is to offer environmentally friendly choices and alternatives, from which customers can choose freely, and
- not to wait until customers demand certain solutions. Structural or personified bottlenecks in the companies impeding the adoption of environmental solutions have to be identified and neutralised.
- Mandatory performance targets for freight transport vehicles are needed and not an artificial rise in transport prices – here policy makers can support the industry. This would prevent freight companies from using very cheap and environmentally unfriendly technologies and thereby ruining any business case.
- Apart from environmental standards, individual solutions fostering environmental technologies are called for. These solutions need to be adapted to a company, the concrete transport mode and the specific regional circumstances.

Delegates expected the tipping point for fuel costs to serve as a catalyst for change to be high, since the logistics market shows little price elasticity, although *comparative* price advantages are crucial to suppliers' survival.

Several technology solutions and best practice examples described in the workshop – encompassing alternative fuels and new technologies - illustrated barriers to rapid or widespread take-up, but also showed that real progress *could* be achieved by suppliers and customers committed to testing options among a wide choice of new fuels and technologies, often on an initially small or micro scale.

- **Anders Røj** of Volvo Technology AB expected heavy trucks' fuel consumption to come down also in future at roughly an historical pace, which would mean by 15% between 2005 and 2020. By 2030, the EU's biofuels advisory council (BIOFRAC) projects that biofuels could account for 25% of EU road fuel consumption. Mr Røj said that while EU policy was not yet looking at the well-to-wheels emissions, overall energy-efficiency and land resources for biofuels in an integrated way, the European Commission is due to publish biofuels sustainability criteria later this month.
- For **Uta Maria Pfeiffer** of Siemens Transportation, trains are better than trucks and thus a modal shift would be the best solution, according to energy and emission calculations of different routes. The prospects of a marked increase in modal shift from long-haul trucks to rail were still held up by 30-year rolling stock investment cycles, and the lack of rapid EU-wide investments in standardised rail gauges and train control systems. Intra-EU rail freight speeds are just 18 kph which could be largely improved by the EU levelling national barriers.

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- However, the potential for new rolling stock to facilitate a shift from trunk road freight to rail was described by **Per Stribek of FlexiWaggon AB**, a Swedish start-up currently building a prototype onto which drivers can load trucks from either side of the rail track without an expensive terminal.
- **Hulda Winnes** of Chalmers University of Technology suggested raising shipping customers' awareness that the emissions-lowering potential of slower-speed voyages could be crucial. Although fuel oil could represent half of a ship's total costs, a current lack of global shipping capacity makes speed more important to operators than fuel cost.
- **Helge Hafstad**, environmental manager for **SAS Norway**, told delegates that new turbofan engines likely to be available from 2015-2020 could cut plane CO₂ emissions by around 30%, but warned: "There will be no single solution, but many small solutions" to reducing aviation's climate impact.
- **Dr Magnus Blinge** of the Swedish agency for innovation systems – Vinnova reviewed advances in biofuels technologies, and said for the EU-15 to become self-sufficient in 1st-generation biofuels would require an eight-fold increase in existing land use. However, second generation fuels from Fischer-Tropsch plants for biodiesel or Dimethyl ether (DME) fuel could soon achieve a 70% CO₂ reduction over fossil fuel refining. With this technology Europe could be up to 20 % self-sufficient clean fuels for the transport sector.
- **Sven Wolf**, managing director of the Hydrogen Sweden public-private partnership noted a need for more renewable energy for hydrogen production. His organisation is through the Scandinavian Hydrogen Highway Partnership targeting 15 refuelling stations across Scandinavia, sufficient to fuel 500 cars and 100 buses by 2015.
- A new, energy-saving truck refrigeration system using waste CO₂ from industrial installations, capable of running independently of the truck's powertrain, hence able to deliver to zero-emissions zones, was outlined by Rüdiger Jehle of **Thermo King**.

Solutions that can surmount obstacles to best environmental freight transport practice vary between road, rail, air and sea, and may also depend on exposure to end-consumer opinion. Each solution also has different implications for fuel and technology suppliers; availability of supply of environmental fuel options has to be assessed beforehand.

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But all delegates at the Gothenburg ETTAR workshop agreed that the barriers to carbon reduction in goods trade would never come down if individuals in the logistics business continued to wait for others inside and beyond their own companies to come up with 'silver bullet' solutions or new regulations: Small-scale projects could and should be implemented with willing partners, with the potential of contributing to large-scale change.

Workshop moderator Frank Sprenger, of the Munich-based consultancy Sustainable, summed up: *"We need to break down the psychological barriers around each of us, overcome the inertia of daily commercial pressures, and dare to make mistakes. We must pursue a variety of possibilities, in the knowledge that they won't all be right to have good answers to the nagging questions future generations will definitely ask us. Technologies and alternative fuels are obviously not the bottleneck for inducing a change towards the better."*

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Notes for Editors

ETTAR (Environmental Technologies, Training and Awareness-Raising) was established to identify and assess training needs, methods and activities for the wider use of environmental technologies in the transportation sector. ETTAR focuses on activities that assist the sector to make its contribution to reductions not just of greenhouse gases but also of other pollutants that have significant environmental impacts.

ETTAR runs from April 2007 to September 2008 and is a coordinated action plan under the 6th EU Framework Programme.

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