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Moving freight transport towards sustainability

The Energy & Transport portfolio is an important step towards making the Nordic region the testing ground for sustainable transport solutions. The Nordic countries need to take action to make the transport sector more sustainable. To help make this happen, six high profile projects aim at answering some of the challenges in raising the efficiency and decreasing CO₂ emissions from freight transport.

Predicting future **road freight efficiency and emissions**



Road freight transport impacts heavily on the global production of carbon emissions. However, any policy measures to increase energy efficiency and decrease CO₂ emission require a sound and informed data base. Knowledge is required on the current situation of road transport, but also on the mid- and long-term future of its energy efficiency and CO₂ emissions. This project aims to improve knowledge on the energy use of road freight transport and to better understand the relationship between economic activity, road freight transport and carbon dioxide emissions. The project will develop a forecast analysis on energy efficiency and CO₂ emissions in road freight transport and recommend appropriate policy measures.

Improved **actor interfaces in logistics**



Despite growing knowledge about how to make logistics greener, progress is slow in practice. Green logistics need to further develop their business-side to become more competitive. A key area is the interface between logistics service providers and their customers. This project analyses the interplay between logistics companies and their customers (goods owners) in order to support all stakeholders on their quest for sustainable competitiveness. It will identify the current level of cooperation among the actors, relevant drivers and barriers as well as existing business models. Roadmaps for companies will be developed and the project will make policy recommendations for authorities.

Nordic Sustainable Logistics Network



The transport sector is particularly responsible for cutting down CO₂-emissions and particle pollution. On the way to tackle this challenge, businesses gain a lot from actively collaborating to inspire and learn from each other. This is why the Nordic Sustainable Logistics Network brings together various actors from freight transport to focus on several different aspects of sustainable logistics. The close collaboration of the five central clusters and network organisations representing each of the five Nordic countries is highly relevant in this respect. Each country has a specific thematic focus and will thus benefit from the work done by the other participants. A common information portal on sustainable logistic will be established, where project participants, network members and others can share information.

Nordic sustainable **intelligent truck hub**



Today, freight distributions in urban areas are often carried out using the same vehicles as on the long distance transport leg, which are not adjusted to city distribution. This creates problems such as a low load factor, congestion, pollution and unsuitable parking on roads due to waiting times. The transport system would be more sustainable if the interface between long distance and last-mile transport became more energy efficient. The project will look into options provided by intelligent truck parking as well as 'urban consolidation centres', depots that form the interface between long-haul and last-leg transport.

Alcohol as **marine fuel**



The contribution of the shipping industry to exhaust gas emissions is considerable. As a result, it faces serious challenges with respect to meeting upcoming regulations that require large reductions of exhaust gas emissions. The application of methanol as a fuel is one promising solution. The main goal of the project is to test the use of methanol and di-methyl ether (DME) as shipping fuels and to find the best environmental and economic alternative fuel. The methodology is to develop an on board process for the conversion of methanol into a mix of methanol, water and di-methyl-ether, which will then be used as fuel in an adapted diesel engine.

Light Weight Freight Transport



To reduce the mass of vehicles is one way towards reducing CO₂ emissions generated during transport, and which is also independent of the adopted power system and source of energy. Lightweight and multi-material technology offers significant opportunities for enhancement of product performance from several perspectives. The project will introduce innovative lightweight concepts in freight transport systems using carbon fiber composite materials. It will use multi-material load carrying composite structures and focus on modular joining, which represents the main technical challenge for developing light weight vehicles.