

25 February 2008

Efficient mobility gains global momentum

– Third CLEAN MOVES EXPO at Hannover Messe

Hannover. The Clean Moves Expo, part of the flagship Energy fair, will focus on unlocking new applications for electric drives, sustainable biofuels, the latest developments in natural gas drives and optimized diesel technology. With German Federal Environment Minister Sigmar Gabriel as its patron, the Clean Moves Expo at Hannover Messe (the Hannover Fair) will cover the full range of energy-efficient mobility technologies. The transport sector is currently facing a number of major challenges. The industry needs to cut emissions of CO₂ and other harmful substances and reduce its dependency on oil while also safeguarding a high level of mobility.

Innovations in batteries are opening up exciting new possibilities in the field of electromobility. “There are many advantages to using electrical energy in transportation. It can be obtained from a number of primary energy sources, which could substantially reduce dependency on oil imports. And crucially, using renewable energies to generate power will greatly improve the CO₂ balance in the transport sector”, comments **Environment Minister Sigmar Gabriel**. “Alongside the potential offered by alternative fuels and improvements in the efficiency of conventional drives, electromobility will, in my opinion, also play a key role in ensuring sustainable mobility in the future.”

Roger Kohlmann, Deputy Managing Director of the Bundesverband der Energie- und Wasserwirtschaft (BDEW, German Energy and Water Association), adds: “More and more energy is now being generated by wind and PV systems – however, as this source can be somewhat erratic, we also need to create new and innovative methods of storage. Electromobility has the potential to solve this problem faster than comparable alternatives. As far as the energy industry is concerned, it’s a win-win situation for the environment, customers and the economy alike.”

Cars are still responsible for the majority of transport-related CO₂ emissions. The most efficient way to use energy is to conserve it. This simple conclusion has provided the launch pad for developing highly-efficient cars. Manufacturers such as Volkswagen, Fiat, Opel and Ford will be displaying examples of these at Clean Moves 2008. “Clean Moves establishes a firm foothold on the path towards finding technology that will help to overcome the imbalances and dependencies of the oil era. This event provides a market-focused showcase for viable solutions,” comments **Ralph Kappler**, the driving force behind Clean Moves.

Sustainable biofuels – Germany is market leader in Europe

“Germany, one of the global front-runners in the development of biofuels, is focusing on establishing international sustainability standards for both the cultivation of biomass and the production of biofuels,” says **Dr. Andreas Schütte** of the Fachagentur Nachwachsende Rohstoffe (Agency for Renewable Resources). His agency and the BDEW are both supporting Clean Moves

as information partners. According to EU Commission guidelines, biofuels are to replace ten percent of fossil fuels by 2020 to ensure sustainable security of supply. The German Federal Government's road map anticipates that the proportion of sustainable biofuels could be as high as 17 percent by 2020. **Dietrich Klein**, Managing Director of the Verband Landwirtschaftliche Biokraftstoffe (Association for Agricultural Biofuels) comments: "If we produce bioethanol in Europe using the raw materials available in the region, we can be confident of meeting the EU's sustainability criteria throughout the entire process from cultivation to production."

Germany currently has four bioethanol plants with a total production capacity of 620,000 tons. In 2008, two additional plants will expand capacity to 850,000 tons. "The German bioethanol industry leads the field in Europe and this, the most important industry event worldwide, is therefore the perfect setting for us and the bioethanol association," says **Lutz Guderjahn**, Chief Operating Officer of CropEnergies AG. "Today, bioethanol production is highly efficient and the potential offered by biomass is being used to the full to help protect the climate."

Biodiesel and bioethanol will continue to offer potential for improvement, though this is limited due to the raw materials currently in use. "The key factor in the long-term will be to develop processes that allow us to use alternative raw materials from outside the food chain," says **Klaus Kilian**, Head of Marketing/Communication at Lurgi GmbH. Working in conjunction with the Forschungszentrum Karlsruhe (Karlsruhe Research Center), Frankfurt-based Lurgi has developed a process that turns biomass into valuable synthetic fuels. Lurgi and the Forschungszentrum Karlsruhe will present this innovative new process at Clean Moves.

Natural gas vehicles in the fast lane

Natural gas vehicles are becoming increasingly popular. At the beginning of 2008, around 70,000 vehicles fitted with this environmentally friendly, cost-effective drive system were registered for use on Germany's roads. Several new models will come onto the market in the course of the year, including the Opel Zafira TNG and the VW Passat TSI EcoFuel, the first vehicles with natural gas turbo engines. They promise to deliver lower emissions of harmful substances and a reduction in fuel consumption. "In terms of CO₂ emissions, the figures for natural gas vehicles are very positive – and they will improve even more in the future due to the blending of renewable bio-natural gas with natural gas fuel," says **Dr. Ulrich Müller**, Chairman of the Trägerkreis Erdgasfahrzeuge (Natural Gas Vehicle Group). The first projects have already been put into practice. In northern Germany, for example, drivers in the region supplied by Oldenburg-based EWE AG (between the Ems, Weser and Elbe rivers), can refuel with a proportion of bio-natural gas at over 50 natural gas filling stations. As a fuel, natural gas is 50 percent cheaper than gasoline on average.

High-octane conference at the heart of Clean Moves

Automotive manufacturers, fuel producers, suppliers, investors and consumers will share their know-how about market-ready products at the Clean Moves conference, an integral part of the exhibition. Michael Müller, Parliamentary State Secretary at the German Federal Ministry for the Environment, will speak about the latest requirements set down by EU legislation. In addition, representatives of automotive groups Volkswagen, Toyota, Ford, Opel, Fiat and Seat will give the latest updates from the field of efficient drives and mobility concepts. The conference will also focus on cutting-edge developments in electric drives and storage technologies and on the potential of vehicle2grid solutions as demonstrated by leading innovations company Li-Tec, for example.

"HANNOVER MESSE is world-renowned as a center of excellence for innovations, new concepts and technologies," says trade fair manager **Oliver Frese** who is responsible for energy-related topics at HANNOVER MESSE. "New technologies are of keen interest to visitors from industry, the political world and the general public. The Clean Moves Expo with its energy-efficient mobility solutions is ideally located at the very heart of the new energy hub in Hall 27 and is directly linked with the Partner Country Japan section." More than 35,000 visitors are expected to attend the

integrated “Clean Moves Exhibition and Conference”. The platinum sponsors of the Clean Moves Expo at this year’s HANNOVER MESSE are NORD/LB and Invest in Germany.

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