



Background Information

March 10, 2010

Mobility powered by E.ON

Natural gas, bio natural gas and electricity make vehicles more friendly to climate and environment

E.ON is helping the automotive industry in its efforts to deploy and develop vehicles with lower CO₂-emissions. Alternative fuels like natural gas and bio natural gas are already reducing emissions, as are fuel-efficient cars powered by gasoline or diesel. But a car running on natural gas emits 25 percent less CO₂ than a comparable gasoline-powered car and has 50 percent lower fuel costs. Not just the environment, but also automotive manufacturers benefit from natural gas and bio natural gas. These alternative fuels help them to comply with the limits on CO₂-emission applying to new cars as of 2012.

Germany now has around 900 public natural gas filling stations. At the moment, especially E.ON Gas Mobil is expanding the network of filling stations on the motorways. 110 natural gas filling stations are already run by E.ON and 40 more will soon be built. With these accomplishments, E.ON is making a significant contribution to creating nationwide access to natural gas filling stations.

In Sweden, E.ON runs 32 filling stations that offer a mix of half natural gas and half biogas. At these stations, almost 110 million KWh of biogas filled up car tanks in 2009. In total, almost 150 million KWh of biogas were produced in plants that are E.ON participations. This quantity is enough to provide an environmentally friendly way for 30,000 gas powered vehicles to cover 10,000 kilometers per year. E.ON is also pressing ahead with biogas in Germany. It is processed into bio natural gas and fed into the existing natural gas network.

Collaborating on electromobility with vehicle manufacturers

Even though a large range of natural gas powered vehicles is already on sale, electric cars are still waiting for a widespread launch. At the moment, E.ON is conducting several studies together with automotive manufacturers that investigate the possibilities offered by electric cars. Since July 2009, BMW and E.ON have been showing that electric cars can become a real alternative to cars with conventional combustion engines. E.ON provides test users with public recharging stations in the city and with charging possibilities in their home garage.

In addition to its project in Munich, E.ON has joined forces with Volkswagen and other partners to carry out a cooperation project for testing the VW Golf TwinDrive in

E.ON AG
E.ON-Platz 1
40479 Düsseldorf
www.eon.com

Inquiries:

Josef Nelles
T 0 89-12 54-42 52
F 0 89-12 54-42 54
josef.nelles
@eon-energie.com



the course of 2010. This plug-in hybrid combines a combustion engine with an electric motor.

In Great Britain, E.ON is involved in the project CABLED. 110 electric Mitsubishi iMiEV cars will soon be zooming around on the streets of Birmingham and Coventry. As a part of the project, E.ON UK is setting up public and private infrastructure and analyzing the strain placed on the electricity network. A similar project will take place in the Swedish town of Malmö.

Focus on researching and developing electromobility

Developing electromobility to market maturity will still take a few years more. E.ON is complementing its in-house development work with cooperation projects with renowned university institutes. These include the Fraunhofer Institute for Solar Energy Systems, the Fraunhofer Institute for System and Innovation Research, the Associate Institute of Power Transmission Systems at the Technical University Munich, as well as the Institute for High Voltage Technology at the RWTH Aachen.

Furthermore, E.ON is currently testing a groundbreaking, cable free electrical recharging station in collaboration with the Technical University Braunschweig. It enables car batteries to be charged contact-free. A mat about one and a half square meters large and containing a conduction coil is placed in a parking lot. An additional coil located in the vehicle floor receives the energy from the induction coil. The trial is focused on gaining insights into the reliability and safety of the charging procedure as well as system related transfer losses.

Smart grids for future mobility

E.ON can increase generation of electricity from renewable energy even more by taking advantage of the batteries of the growing number of electric cars. Batteries could be charged when abundant electricity supply coincides with low demand, such as when a lot of wind energy is available during the night. In this way, electromobility could play its part in making better use of renewable energies with their fluctuating electricity production. At peak consumption times, network operators could even feed electricity from parked electric cars back into the grid.

Communication networks, much the same as the internet, will handle the necessary data exchange. They will be built alongside of the traditional grid and transform it into an intelligent network, a so-called smart grid. Smart electricity meters will have a key role to play in this. In a smart grid, they represent the decisive interface between energy providers and consumers. More than a million of these smart meters have already been installed by E.ON in all of Europe.