

NEWS FROM THE AMF

Paris Workshop Clean City Vehicles

IEA AMF has attended the Clean City Vehicles workshop that was announced in our newsletter of April 2002. At the workshop of September 24-26, four themes were discussed:

1. What is the potential for cleaning the air and reducing oil import costs by new transport technology? What is an appropriate role for specific technologies and fuels?
2. What lessons can be learned from successes and failures?
3. What is the role of the developing countries, the donor community, and multinationals? How can IEA and its implementing agreements better serve these groups and facilitate technology research and transfer?
4. How do we go from here to actions? What are the key next steps for different groups? How can we strengthen our networks of information and technology exchange?

Under each theme, short presentations were given. From representatives of developing countries it was obvious how serious the air quality problems are in many big cities in the world. Old diesel buses and small 2-stroke vehicles are the worst polluters, particulate emissions being the biggest problem in many cases.

Columbia

Automotive manufacturers were in favour of conventional vehicle technologies. The Transmilenio project in Columbia was mentioned as an example of an efficient public transportation system. The Transmilenio system is based on dedicated bus lines, big articulated buses for the main lines and an efficient terminal system. The buses have conventional Euro II diesel engines.

A clear message during the Workshop was that a number of "Clean Cities and "Clean Vehicles" initiatives and networks already exist. At the concluding discussions it was, however, concluded that there is a certain demand and an interest in an IEA network on "Clean City Vehicles". Tommy Månsson of EnEn Consultants, Sweden has summarised the findings of the Workshop.

No definite decisions on future activities were taken at the September workshop. During a second meeting held on December 9, 2002, at the IEA headquarters in Paris it was decided that proposals for 6 projects will be written.

Source: Memo Nils-Olof Nylund (chairman AMF) dated 29.10.2002.

Website IEA Information Centres

A website introducing all IEA Implementing Agreement Information Centres has been launched. The IEA Information Centres provide an essential vehicle for communicating R&D results and achievements. They cover the broad spectrum of topics, from R&D to implemented technologies in the areas of fossil fuels, renewable energies and efficient end use. A short introduction of each Information centre can be found and brochures can be downloaded on:

<http://www.iea.org/tech/infocentres>

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Newsletter on automotive fuels for the members of the
Implementing Agreement on Advanced Motor Fuels of the
IEA (IEA AMF)

Colophon

Fuels Update is released under the authority of the Implementing Agreement of the Advanced Motor Fuels Agreement of the International Energy Agency. Fuels Update, issued by IEA AMF/AFIS, gives short summaries on recently published articles, reports and books in the field of (advanced) motor fuels, without giving any rating to the information presented.

For your comments, suggestions or when you have news items that you wish to get known among the IEA AMF members and a wide variety of organisations working in the field of automotive fuels please contact:

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Here you can also apply for a PDF copy of this newsletter by e-mail.*

This newsletter is distributed by the delegates of the participating countries of IEA AMF, who are listed on page 4.

BIODIESEL

Waste cooking oils save money and the environment...

Starting this January, super market firm Asda of the UK will try running its own fleet of lorries on waste from kitchen frying pans. Asda produces more than 50 tons of used cooking oil and 138 tons of waste frying fat every year from its canteens, restaurants and rotisseries. The firm is now converting the waste oil to biodiesel. The planned Asda fleet fuel, like all commercial biodiesel, will still undercut conventional diesel prices by at least 10pence a litre. Converting an in-house product like the waste oil will add to savings for the firm. "This is real eco-innovation - trials already show that chip pan fuel emissions are up to 40% lower than diesel", according to a spokeswoman of the company.

California

Californian coffee roaster Thanksgiving Coffee also began using 100% biodiesel in its delivery trucks in September 2002. The company was granted a fund to offset the difference in cost in fueling its fleet with biodiesel rather than petroleum diesel. The resources were allotted to county Air Quality Management Districts by the State Department of Motor Vehicles in order to finance projects that reduce emissions within those districts. Harmful CO₂ emissions are reduced by 80%, and carbon monoxide emissions are an average 44% lower than those of petroleum diesel. When using pure biodiesel, the cancer risk of diesel exhaust is reduced by 90%, and the smog-forming potential is nearly 50% less than petroleum diesel.

Yokayo Biofuels, located in Ukiah, will make regular deliveries of biodiesel to the Thanksgiving Coffee facilities in Ft. Bragg, where the trucks will fuel up before departing for their delivery routes. A network of biodiesel fueling stations in northern California will provide the fleet with the fuel on the road, though it can be blended with regular petroleum diesel if biodiesel is not available.

The Guardian, Oct. 29, 2002; Enn.com, Oct. 16, 2002

...and the engine as well

Penn State College engineers have shown that adding specially treated cooking oils, such as soybean, canola or sunflower oil, to mandated low-sulphur diesel fuels and engine lubricants reduces friction and wear. In order to meet 2004 emissions regulations, all states in the USA will have to use low-sulphur diesel fuels. The removal of sulphur from the fuel can cause severe wear problems. Adding as little as 10% of a treated mixture of vegetable oil and fuel reduces both friction and wear. When the vegetable oil/fuel mixture is oxygen treated, only 2% of vegetable oil is needed to produce the same friction and wear performance as current high-sulphur diesel fuel.

<http://www.engr.psu.edu/news/News/2002%20Press%20Releases/October/oil.html>

Biodiesel production in Germany

Overall production reaching over 850.000 ton high quality biodiesel per year, Germany has accelerated the expansion of production capacity dramatically in the last 2 years and will reach a total of 883.000 ton by March 2003. This is shown in the most recent update of the AGQM, a quality assurance council, in which 14 German producers, 1 French and 1 Austrian producer are represented. Biodiesel is marketed since the very beginning as pure 100% fuel and is sold today according to the quality standard DIN E 51.606. Biodiesel is distributed through over 1.500 pumps all over Germany. There are no blends on the market.

AGQM e.V., Berlin, Aug. 2002; Biodiesel Courier, 30 Aug. 2002; www.biodiesel.at

NATURAL GAS

Iran major future gas supplier to EU

IEA predicted that the Islamic Republic of Iran will be a major gas supplier to the EU in the future, according to Fatih Birol, IEA's chief economist. Iran has one of the biggest gas reserves in the world. Russia and Iran together possess 52% of the world's gas reserves. Birol is the main author of the 530-page study *World Energy Outlook 2002*. The study forecasts that net imports of gas in the EU will expand from the current 44% to 81% of total gas supply in 2030. The share of net imports in the EU's oil supply will climb from 73% in 2000 to 93% in 2030.

oil price

Replying to a question on the effect on the oil price in case of a military strike on Iraq, Birol said: "We do not expect any major turmoil in the oil market." He explained that Iraq has been an "on and off" oil supplier since several years now and the loss of Iraqi oil will not make fundamental changes on the market. Major oil producers have said that they will make up for any shortages, he added.

Iran and EU cooperating on energy issues

Last October, Iran and the European Union announced that they have opened a joint office in Tehran to boost cooperation on oil and energy issues. The Energy Cooperation Centre (ECC), will help the Islamic Republic develop non-nuclear energy technologies and is backed by EUR 1.7 mm in EU funds. The Director General for Energy and Transport of the European Commission, Francois Lamoureux said that the European Union has to supply some 40% of its natural gas needs from outside sources, adding that the Islamic Republic of Iran, given its vast gas reserves, can play a significant role in that regard.

Speaking at a conference in Tehran, Lamoureux said Iran's efforts to build infrastructure to transfer its natural gas to EU states would have mutual benefits for both sides. In related news, Iranian Oil Minister Bijan Namdar Zanganeh urged EU countries to participate in Iran's projects to expand its natural gas industries and to upgrade Iran's expertise in the area of compressed natural gas (CNG). The ECC's specific objectives are establishing a con-

tact point between the energy sectors of the EU and Iran, providing a forum for the exchange of ideas and information on non-nuclear energy technologies, providing training, identifying priority projects, and providing technical assistance for the introduction of advanced non-nuclear technologies in Iran.

www.gasandoil.com; *The Tehran Times*, 3&21 Oct. 2002; World Energy Outlook 2002, IEA, Paris, www.iea.org; BBC Monitoring Middle East - Political

PUBLICATIONS

Heavy-duty alternatives

An Australian study of Life-cycle emissions of alternative fuels for heavy vehicles can be downloaded from the site of the Australian Greenhouse Office. Among the fuels analysed are: ultra low sulphur, and Fischer-Tropsch diesel, biodiesel, canola, (hydrated) ethanol, CNG, LPG, unleaded petrol and hydrogen.

www.greenhouse.gov.au/transport/comparison/index.html

Well-to-Wheel analysis

General Motors initiated the the European study *Well-to-Wheel analysis of Energy Use and Greenhouse Gas Emissions of Advanced Fuel/Vehicle Systems* in May 2001. It resulted in a report that is available from L-B Systemtechnik, which conducted the analysis based on GM's Tank-to-Wheel analysis, in cooperation with BP, ExxonMobil, Shell and TotalFinaElf. The European report was preceded by a North-American analysis conducted by GM and Argonne National

Laboratory in June 2001. Analysed Well-to-Tank pathways are crude oil, natural gas, electricity and biomass.

Source: www.l-b-systemtechnik.com/gm-wtw/main.html

NATURAL GAS

Gas to liquids

In the IEA Greenhouse Gas R&D Programme, AEA Technology of the UK recently completed a study in which the different ways to bring natural gas to the market have been compared. The first way is direct use as compressed natural gas, the second is indirect use, in which the gas is converted by the Fischer-Tropsch process into a liquid hydrocarbon fuel and exported to market using existing infrastructure.

AEA Technology concluded that the Fischer-Tropsch route with CO₂ capture and storage has emission and cost benefits compared to the alternative route for using gas to service the transport market.

CO₂ Abatement by Production and Use of Gas to Liquids Transport Fuels. IEA Greenhouse Gas R&D Programme, Mr. Paul Freund, phone: +44 1242 680 753 fax: +44 1242 680 758; e-mail mail@ieagreen.demon.co.uk;

DIESEL

Germany: oil consumption drop in 2002

German oil consumption is expected to have dropped by 3.8% in 2002 to 117.9 million tons, but then will level off in 2003, the country's Oil Industry Federation (MWV) said. The MWV said German oil demand in 2003 would be 117.7 million tons. Petrol

consumption for 2002 is expected to have reached 27.2 million tons, down about 3%. This was due to people driving less amid high prices and more motorists switching to diesel-powered cars. Petrol demand is expected to decline again slightly in 2003.

Diesel fuel consumption for 2002 is seen levelling off at below 29 million tons despite higher road cargo traffic. The MWV said this apparently reflected the fact that lorry drivers were buying cheaper diesel outside Germany.

DPA, Nov.11, 2002.

HYDROGEN

Hydrogen in Europe

Without a change in its energy supply, Europe will be dependent on oil for 90% of its energy consumption by 2020. According to European Commissioner Busquin (Research & Development), Europe should be preparing fast and properly for a future with hydrogen. He pleads for a higher budget for hydrogen research. Busquin is afraid Europe will get well behind Japan and the U.S.A., who are investing 2 to 3 times more money into the research of fuel cells. Busquin is installing a high level study group which in time should become a broad platform in which industry, science, politics and consumer organisations and will prepare Europe for a large-scale change of energy use and energy sources.

Stromen, No. 8, October 2002; GAVE-mail No. 9, 2002.

MISCELLANEOUS

India searches for oil alternative

India is looking at alternative fuel sources to reduce its dependence on oil. The recent tensions between the US and Iraq have seen the oil price at a 19-month high of more than \$30 a barrel. As India imports 70% of its oil, the country has been hit hard by the increased cost and uncertainty.

A biodiesel extracted from trees is one such alternative under consideration. The biodiesel would be cheap to produce as it can be extracted from certain species of tree that are common in many parts of India. The government is already preparing a case for the launch of the new fuel. Consumers in India have already seen fuel prices rise as the government abolished state price controls on its \$15 bn oil and refining industry in March 2002.

gasohol

Moreover a first pilot project for mixing ethanol with petrol (gasohol) has been inaugurated in East Godavari district last October, according to Union petroleum and Indian natural gas minister Ram Naik. The plant will be run by oil companies and tenders will be called for the supply of ethanol.

Naik said in the first phase about 5% of ethanol would be mixed with petrol and sold at 170 pumps in East Godavari, West Godavari, Khammam and Krishna districts. In the second phase, more petrol pumps would be added and the percentage of ethanol to be blended with petrol would be increased.

Sources: *Times of India* 2 Oct, 2002; *BBC News*, 17 Sept., 2002, <http://news.bbc.co.uk>