priority and strategies. This resulted in the reported The Hydrogen Economy: opportunities, cost, barriers, and R&D needs, completed in February 2004.

Complete report is available from: www.nap.edu/books/0309091632/html

From here to there
A better way to get from here to there – A commentary on the hydrogen economy and a proposal for an alternative strategy was published by the Institute for Local Self-Reliance in December 2003. According to the author, David Morris: (…) a fierce spotlight on hydrogen is pushing more promising strategies into the shadows. The hydrogen economy is offered as an all-purpose idea, a universal solution. However, in the short and medium term a crash program to build a hydrogen infrastructure can have unwarranted and even damaging consequences. This is especially true for the transportation sector, the transformation of which is the primary focus of hydrogen advocates and the highest priority of federal efforts.10

The report can be downloaded from: http://www.ilse.org/pubs/pubrecent.html

Competitive bio-methanol
In a recently finished EU project called Black Liquor Gasification with Motor Fuels production, Nykon Synergetics, Volvo Bus Corporation, OK-Q6, Methanex, Chemrec, STFI and Ecotraffic have investigated the possibilities to produce green transport fuels from biomass via gasification of ‘black liquor’, a by-product in the pulp and paper industry. Due to the high process efficiency, a modern Swedish pulp & paper mill could produce bio-methanol at a cost which could compete with gasoline, concluded the study. This means that the cost of green transport fuels at the pump would be competitive with gasoline, including distribution cost and Swedish CO2 tax, but excluding other taxes. The estimated total production potential in Sweden could replace almost 30% of all consumed transport fuel. The combined effect would be a lowering of Swedish CO2 emissions by 12%.


MISCELLANEOUS

Clean vehicles
Practical information, new developments and experiences regarding clean vehicles can be found at the site of the DEMO programme sponsored by NOVEM: www.platformschonevoertuigen.nl. Site in Dutch only.

The very last Fuels Update
This Fuels Update will be the last IEA/AFIS newsletter we compiled for you. During the last AMF Exco meeting in Linköping, January 2004, it was decided not to continue this quarterly newsletter. It has been a pleasure keeping you up-to-date of the latest trends and developments of the advanced motor fuels all these years. You can find some interesting links with useful sources of information on advanced automotive fuels on our website: www.innas.com/fuel_links.html
BIOGAS

Jatropha diesel oil
Scientists of Life Science Institute of Sichuan University (southwest China) said they have developed an environment-friendly fuel oil similar to diesel oil based on the dried fruits of Jatropha Curcas, whose oil-bearing rate stands at 36-40%. Experiments show that the fuel can be used in various types of existing diesel engines.

The emission of the oil is up to the Euro III standards and should be able to reach Euro IV standards in two years. The institute anticipates production capacity will reach 20,000 tons next year. China has been looking for new energy resources as alternatives to fossil oil and coal, while increasing oil imports to fuel its rapid economic growth. The country’s oil consumption totalled 252.31 million tons in 2003, up 10.15% from 2002; and its oil imports jumped 31.29% to over 91 million tons. It is predicted that China’s oil demand may surge to 30 million tons by 2010.

Ethanol
An effort to curb consumption of gasoline and reduce automobile exhaust gas emissions, the Chinese government also decided to expand its trial use of fuel ethanol in nine provincial areas.

China first began trial use of fuel ethanol (produced from grain) on June 30, 2002 in three cities in central China and northeast China. The use of ethanol is a strategic move by the central government to promote sustainable economic and social development and environmental protection.

NATURAL GAS

Iran switches to CNG
Iran is planning to switch its 1.5 million vehicles to Compressed Natural Gas (CNG) and has sought Pakistan’s help in this regard. Both Pakistan and Iran have signed a Memorandum of Understanding recently. They have agreed to set up a six-member committee with three members each from Iran and Pakistan to work for the transfer of knowledge, technology and information on CNG developments in the two countries. They have also agreed to cooperate in the development of Compressed Natural Gas (CNG) as vehicular fuel. Besides planning to convert 1.5 million vehicles, Iran has also planned establishment over 500 CNG stations in the next 7 to 8 years. There are 400,000 vehicles currently running on CNG in Pakistan and 500 CNG stations are already in operation and another 200 are in the process of being set up.

The Diesel Dilemma
Should Americans invest in diesel or gasoline cars and light trucks to reduce oil usage, global warming pollution and toxic air contaminants, while saving money at the pump? In the report The Diesel Dilemma Patricia Monahan and David Friedman, the University of Concerned Scientists explored this question by comparing the cost, fuel economy, and emissions performance of conventional, advanced and hybrid-electric diesel and gasoline cars.

Among the main findings are that diesel is becoming more common, but future diesel vehicles may not be as clean as today’s best gasoline cars.

The report can be downloaded from www.ucusa.org/publications or may be obtained from: UCS Publications, Cambridge, MA U.S.A., phone +1 (617) 347-5552.

The Hydrogen Economy
The National Research Council (NRC) examined the technical and policy issues about the hydrogen economy, on initiative of the US Department of Energy (DOE). NRC was asked to look at, among other things, the current state of technolo- gy, future cost estimates, CO2 emissions, problems about hydrogen production, storage, and end use, and the DOE hydrogen R&D program. The NRC was also asked to make recommendations on R&D directions,