

# AMFI Newsletter



Market uptake of B5 in China, Malaysia and Thailand. The picture shows the Malaysian Minister of Plantation Industries and Commodities, Tan Sri Bernard Dompok, fuelling B5 into a BMW 3 Series.  
(PUTRAJAYA, Malaysia: B5 is now available in the market)

The AMFI Newsletter is prepared for the members of the Implementing Agreement on Advanced Motor Fuels of the International Energy Agency (IEA/AMF).

The AMFI releases four electronic newsletters each year.

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The AMFI Newsletter is available online at:  
[www.iea-amf.vtt.fi](http://www.iea-amf.vtt.fi)

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## GENERAL INTEREST

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### Department of Energy to Release Oil from the Strategic Petroleum Reserve

U.S. Energy Secretary Steven Chu announced today that the U.S. and its partners in the International Energy Agency have decided to release a total of 60 million barrels of oil onto the world market over the next 30 days to offset the disruption in the oil supply caused by unrest in the Middle East. As part of this effort, the U.S. will release 30 million barrels of oil from the Strategic Petroleum Reserve (SPR). The SPR is currently at a historically high level with 727 million barrels.

"We are taking this action in response to the ongoing loss of crude oil due to supply disruptions in Libya and other countries and their impact on the global economic recovery," said Energy Secretary Steven Chu. "As we move forward, we will continue to monitor the situation and stand ready to take additional steps if necessary."

The United States has been in close contact with oil producing and consuming countries about disruptions to the international oil market that could affect the global economy. The situation in Libya has caused a loss of roughly 1.5 million barrels of oil per day - particularly of light, sweet crude - from global markets. As the United States enters the months of July and August, when demand is typically highest, prices remain significantly higher than they were prior to the start of the unrest in Libya.

The Administration will continue to consult closely with other consuming and producing countries in the period ahead. The decision today is intended to complement the production increases recently announced by a number of major oil producing countries. The United States welcomes those commitments and encourages other countries to follow suit.

Source: US Department of Energy  
<http://www.energy.gov/news/10393.htm>

### IEA Technology Roadmap - Biofuels for Transport

Biofuels can provide up to 27% of world transportation fuel by 2050, according to a new IEA report.

This roadmap represents a response to requests from the G8 and other government leaders for more detailed analysis of the sustainable growth pathway for biofuels, a key carbon mitigation technology. The biofuel roadmap is intended to be a process that evolves to take into account new technology developments, policies and international collaboration efforts. The roadmap has been designed with milestones that the international community can use to ensure that biofuel development efforts are on track to achieve reductions in GHG emissions in a sustainable manner that are required by 2050. The IEA, together with government, industry and NGO stakeholders, will report regularly on the progress achieved toward this roadmap's vision.

Source: International Energy Agency (IEA)  
Download: [http://www.iea.org/papers/2011/biofuels\\_roadmap.pdf](http://www.iea.org/papers/2011/biofuels_roadmap.pdf)  
For more information about the biofuel roadmap actions and implementation, visit [www.iea.org/roadmaps](http://www.iea.org/roadmaps)

### Roadmap for Biofuels in Belgium

With the European Directive for the promotion of energy from renewable sources 2009/28/EC (RED) fixing a mandatory 10 % target for renewable energy in transport by 2020, biofuel consumption in Belgium is bound to increase. Moreover, the revised Fuel Quality Directive 2009/30/EC (revising Dir 98/70/EC and 2003/17/EC) requires fuel suppliers to reduce the life cycle greenhouse gas emissions (GHG) per unit of energy from fuel and energy supplied of 6 % by 31 December 2020. Biofuel blending is one of the major instruments for the sector to reach this.

The aim of this roadmap is to determine targets, key milestones and actions needed for a sustainable deployment of biofuels in Belgium up to 2020 (middle term – chapter one), but also on the longer term (up to 2030 – chapter two).

As biofuels will play a major role in fulfilling 2020 national targets, it has been chosen to maintain the focus of the first chapter on biofuels. Targets for energy saving in transport, electric mobility and advanced biofuels will be discussed in the longer-term perspectives in chapter 2. Even though prospects of electric technology are mostly on the longer term (2030 and beyond), policy support is necessary from today to reach long term targets.

Source: BIOSSES - Information & Reports (<http://www.vito.be/biosses/index.htm>)

Download:

[http://www.vito.be/biosses/pdf/2011/BIOSSES\\_T5-1\\_Roadmap%20for%20biofuels%20in%20Belgium\\_Jan2011.pdf](http://www.vito.be/biosses/pdf/2011/BIOSSES_T5-1_Roadmap%20for%20biofuels%20in%20Belgium_Jan2011.pdf)

## Roadmap to a Single European Transport Area

The European Commission adopted a roadmap of 40 concrete initiatives for the next decade to build a competitive transport system that will increase mobility, remove major barriers in key areas and fuel growth and employment. At the same time, the proposals will dramatically reduce Europe's dependence on imported oil and cut carbon emissions in transport by 60% by 2050.

By 2050, key goals will include:

- No more conventionally-fuelled cars in cities.
- 40% use of sustainable low carbon fuels in aviation; at least 40% cut in shipping emissions.
- A 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport.
- All of which will contribute to a 60% cut in transport emissions by the middle of the century.

Source: European Commission, *Mobility and Transport*; [http://ec.europa.eu/transport/strategies/2011\\_white\\_paper\\_en.htm](http://ec.europa.eu/transport/strategies/2011_white_paper_en.htm)

## EU finance ministers propose carbon pricing for shipping and aviation

In a statement, the ministers called for the International Maritime Organisation (IMO) and the International Civil Aviation Organisation (ICAO) to "develop without delay a global policy framework that avoids competitive distortions or carbon leakage". "The carbon pricing of global aviation and maritime transportation is a potential source of revenues that would generate the price signal necessary to achieve emission reductions from these sectors," the statement said.

Carbon pricing in the aviation and shipping sectors would impose a global cap on CO<sub>2</sub> emissions. Aviation and shipping companies would have to trade permits to pollute. Lies Craeynest, Oxfam's climate change advisor argued: "It is a unique opportunity to control a major and rising source of climate changing emissions and at the same time generate desperately needed cash" she said.

Climate Action Commissioner Connie Hedegaard said that the EU would push for shipping and aviation to be included in any successor deal to the Kyoto Protocol, and that time was running out for the industry associations to curb emissions voluntarily. "Since 1997, the IMO has had this task, without delivering," she said. A spokesman for the IMO said that the carbon pricing issue had been "under examination for a long time, and the work is heavily advanced". It would be further discussed at the next meeting.

The Ecofin statement expanded on proposals first outlined in an EC staff working document 'Scaling up Climate Finance'. The document suggested that revenues raised from a carbon pricing mechanism for shipping and aviation "could generate up to \$24 billion worldwide, assuming a carbon price of 50 \$/t CO<sub>2</sub>". The report also indicated that the EU would pay around a third of the \$100 billion a year Green Climate Fund that was pledged to help developing countries mitigate the effects of climate change. So far, member states have mobilized €2.3 billion as part of a commitment to provide €7.2 billion over the 2010-2012 period.

Source: [www.euractiv.com/en/climate-environment/eu-finance-chiefs-call-global-air-maritime-carbon-market-news-504906?utm\\_source=EurActiv+Newsletter&utm\\_campaign=8aef954438-my\\_google\\_analytics\\_key&utm\\_medium=email](http://www.euractiv.com/en/climate-environment/eu-finance-chiefs-call-global-air-maritime-carbon-market-news-504906?utm_source=EurActiv+Newsletter&utm_campaign=8aef954438-my_google_analytics_key&utm_medium=email)

## **US Senate votes to eliminate billions of dollars in support for the US ethanol industry**

The 73-27 vote may ultimately be symbolic since the White House has vowed not to repeal ethanol subsidies fully and the bill is not expected to make it into law. But, it underscores the growing desperation to find savings in a budget crisis that is forcing both Republicans and Democrats to consider sacrificing once-sacred government programs, like the ethanol subsidy.

"Ending this wasteful handout would ensure taxpayers no longer subsidize the already profitable corn ethanol industry," Democratic Senator Frank Lautenberg said. The increasingly hostile attitude toward federal ethanol support has added to a steep fall this week in the price of corn, from which most U.S. ethanol is made.

The Senate vote shows that the chances are diminishing that the 45-cent-a-gallon subsidy the government gives refiners and the 54-cent-per-gallon tariff on imported ethanol -- both targeted in Thursday's vote -- will be extended at current rates beyond their scheduled expiration at the end of this year.

The Senate measure still faces a long road to becoming final. The White House issued a statement saying it was against a full repeal of ethanol subsidies, indicating it could use its veto power if the amendment continued to advance in Congress.

Source: Reuters

<http://www.reuters.com/article/2011/06/16/us-usa-senate-ethanol-idUSTRE75F5IN20110616>

<http://www.epa.gov/otaq/reg>

## **Biodiesel Industry Statement on EPA RFS2 Volume Requirements**

### **National Biodiesel Board Supports Sustainable Approach to Growth**

The National Biodiesel Board (NBB) expressed support Tuesday for the Environmental Protection Agency's proposed 2012-2013 volume requirements for renewable fuels.

The proposal calls for increasing the biomass-based diesel program from 800 million gallons in 2011 to 1 billion gallons in 2012 and almost 1.3 billion gallons in 2013. (Biodiesel makes up nearly all U.S. biomass-based diesel production.) Because it qualifies as an advanced biofuel, biodiesel is also eligible to exceed the biomass-based diesel targets and help meet general advanced biofuels requirements under the program.

"This proposal represents a careful and responsible approach to growth that is consistent with the resources that we know are available for sustainably producing biodiesel," NBB CEO Joe Jobe said. "As America's first advanced biofuel being produced on a commercial scale nationwide, we have done extensive research to assess the various feedstocks that are used to make biodiesel, including agricultural oils, recycled cooking oil, animal fats, algae and camelina. We are confident we can meet these targets and we anticipate that we will likely exceed them. In doing so, we will continue to improve the environment, create jobs, and reduce the nation's dangerous reliance on foreign oil."

Source: National Biodiesel Board (US)

[http://www.nbb.org/news/pressreleases/20110621\\_VolumeRequirements.htm](http://www.nbb.org/news/pressreleases/20110621_VolumeRequirements.htm)

## **ALCOHOLS AND (BIO)GASOLINE**

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### **EPA Finalizes E15 Pump Labeling Requirements**

#### **New labels will help consumers find the right fuel for their vehicles**

The U.S. Environmental Protection Agency (EPA) issued fuel pump labeling and other requirements for gasoline blends containing more than 10 and up to 15 percent ethanol, known as E15. These requirements will help ensure that E15 is properly labeled and used once it enters the market.

The new orange and black label must appear on fuel pumps that dispense E15. This label will help inform consumers about which vehicles can use E15. This label will also warn consumers

against using E15 in vehicles older than model year 2001, motorcycles, watercraft, and gasoline-powered equipment such as lawnmowers and chainsaws.

Over the past year, EPA issued two partial waivers under the Clean Air Act that in sum allow E15 to be sold for use in model year 2001 and newer cars and light trucks. EPA based its waiver decisions on testing and analysis showing that these vehicles could continue to meet emission standards if operated on E15. However, EPA does not mandate the use of E15, nor has the agency registered the fuel, which is required before E15 can be legally sold for use in conventional vehicles.



The E15 pump label requirements, developed in coordination with the Federal Trade Commission (FTC), adopt elements of FTC's existing labels for alternative fuels to promote consistent labeling. The rule also includes a prohibition against misfueling with E15; a requirement to track E15 and other fuels as they move through the fuel supply chain so that E15 can be properly blended and labeled; and a quarterly survey to help ensure that gas pumps dispensing E15 are properly labeled. In addition, it modifies the Reformulated Gasoline (RFG) Program to allow fuel producers to certify batches of E15 as complying with RFG standards.

This action will help to further reduce the risks of potential misfueling that could result in damage to the vehicle or equipment and in associated emission increases that pose threats to human health and the environment.

EPA is also issuing guidance on the compatibility of underground storage tanks (USTs) with gasoline containing greater than 10 percent ethanol or diesel containing greater than 20 percent biodiesel. The guidance is intended to assist UST owners and operators in meeting the existing federal UST compatibility requirements.

Source: US Environmental Protection Agency

<http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceec8525735900400c27/231c39ce21c42537852578bd005a238b!OpenDocument>

## **Mossi & Ghisolfi Break Ground on Cellulosic Plant**

Italy is soon to be the home of one of the world's largest cellulosic ethanol biorefineries. Yesterday, Mossi & Ghisolfi Group (M&G) held a groundbreaking ceremony for a 13 million gallon per year plant located in northwestern Italy. The company believes its plant will be 10 times larger than the largest demonstration facilities in operation today and is scheduled to be fully operational in 2012. The technology will enable the facility to produce cellulosic ethanol from a variety of feedstocks. Novozymes will be supplying the enzymes for the plant. The plant will also use the lignin, a co-product as a result of the production process, to burn in an attached power plant. Any excess bioelectricity will be fed back to the grid.

"Laying the foundation for the world's first commercial-scale cellulosic ethanol plant here in Crescentino is an important milestone for us and at the same time a new beginning," says Vittorio Ghisolfi, President of the M&G Group. "This plant proves cellulosic bioethanol can be produced in a sustainable manner for the environment and for the industry. But research is not stopping here. We are assessing bio-based substitutes for a range of other petrochemical products and chemical intermediates."

The cellulosic ethanol will be produced from a variety of biomass-based feedstocks including wheat straw, corn stover or other energy crops. In the production process, the biomass is first broken down into a pulp. At this point, enzymes are added turning the biomass cellulose into sugar. From there, the sugar is fermented into ethanol. Novozymes has been working with M&G for several years to refine the enzyme portion of the process.

"Today's groundbreaking is fantastic news and signals the dawn of a new green era," says Poul Ruben Andersen, Marketing Director Bioenergy at Novozymes. "With this state-of-the-art facility, M&G proves there is a cure for the world's addiction to fossil fuels. Biofuel made from lignocellulosic biomass is no longer a distant pipe-dream. The technology is ready and plants will be built and run on commercial scale, offering a compelling alternative to conventional gasoline."

Source: DomesticFuel; <http://domesticfuel.com/2011/04/12/mossi-ghisolfi-break-ground-on-cellulosic-plant/>

## BIODIESEL ESTERS

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### **Demonstration project on biofuels production from non-food biomass in Thailand**

On May 19, 2011, Dr. Virachai Virameteekul, Minister of Science and Technology, and Mr. Seiji Kojima, Ambassador of Japan to Thailand, presided over the hand-over ceremony of the pilot plant for high quality biodiesel fuel (BDF) production from non-food biomass at Thailand Institute of Scientific and Technological Research (TISTR). The pilot plant was provided by the Japanese Government through Japan International Cooperation Agency (JICA) under the project entitled "Innovation on production and automotive utilization of biofuels from non-food biomass".

The pilot plant demonstrates the biodiesel production from jatropha oils which are non-food crops. Its production capacity is 1 ton per day. Major processes are esterification, transesterification, glycerin separation, methanol and water recovery and hydrogenation. The qualities of biodiesel produced complied with the international standards of WWFC. The high quality biodiesel produced from the pilot plant can be used in a vehicle with higher B5 blend into petro-based fuels.

The biodiesel pilot plant has been designed based on environmental friendly technology. It is anticipated to be used as a training or a knowledge centre for high quality biodiesel production in the region.

This project is under the MOU between Thailand-Japan Collaboration signed on February 25, 2010 among five institutes, namely, Thailand Institute of Scientific and Technological Research (TISTR), the National Sciences and Technology Development Agency (NSTDA), King Mongkut's University of Technology North Bangkok (KMUTNB) of the Thai side, and the National Institute of Advanced Industrial Science and Technology (AIST) and Waseda University of the Japanese side with support and promotion by JICA and Japan Science and Technology Agency (JST). Besides the demonstration of high quality biodiesel production; the bio-oil processing from non-food biomass, bio-oil upgrading to biofuels for transportation, engine performance evaluation and their life cycle assessment (LCA) are also included in the study.

*More information:*

<http://www.thaipr.net/nc/readnews.aspx?sec=&newsid=54199E614A97A7733655BAEF5CB23EC4>

<http://www.tistr.or.th/tistr/newsboard/shownews.php?Category=newsboard&No=254> (in Thai)

<http://www.dailynews.co.th/newstartpage/index.cfm?page=content&contentId=140273&categoryID=659> (in Thai)

<http://www.energychoices.in.th/node/245>, access 23 may 2011 (in Thai)

<http://www.nstda.or.th/news/5608-20110520-pilot-plant-production-of-biodiesel> (in Thai)

### **PUTRAJAYA, Malaysia: B5 is now available in the market**

From June until October, the supply of the new fuel will be available in stages starting at Putrajaya followed by Malacca, Negeri Sembilan, Kuala Lumpur and Selangor respectively. Plantation Industries and Commodities Minister Tan Sri Bernard Dompok launched the B5 biodiesel programme at the Petronas station at Precint 9 on 1 June.

With this, all five Petronas stations and one Shell station will be dispensing the fuel. B5 is a blend of 95% regular petroleum-based diesel and 5% biodiesel which can be used in normal diesel engine vehicles without any modifications. It will be sold at the same price as regular diesel at RM1.80 per litre.

Dompok said that the B5 price mechanism would be regulated and determined by the Finance Ministry. "The rolling out of the B5 programme will not cause any price changes as the Government will continue providing subsidies to ensure that B5 will be at the same cost as regular diesel," he said. "The production of B5 is more expensive but the cost is absorbed by the Government," he added. Malaysian Palm Oil Board director general Datuk Dr Choo Yuen May said the fuel is more environment-friendly than regular diesel.

BMW, a strong diesel advocate, said it supported the government initiative. BMW Group Malaysia currently has an Advanced Diesel variant vehicle in Malaysia for almost every BMW model introduced in the country. It said modern diesel engines generate 20% more horsepower, 75%

more torque and consume up to 30% less fuel compared to their petrol equivalents. They also produce up to 25% less carbon dioxide (CO<sub>2</sub>) than their equivalent petrol counterparts.

The next step forward for Malaysia is to go ahead as planned to introduce Euro 4M standard diesel this year, it said. "Such a move would ultimately be most beneficial to consumers as well as the environment, who would obtain better performance while lowering fuel consumption and emission levels at the same time. This would ultimately ensure the further takeup of green technology that is sustainable for both the nation and the environment in the long-run."

*Source: Star-Motoring, 02 June 2011*

## **One grade diesel (B3) goes nationwide in Thailand effective 1 May 2011**

With a target of 4.5 million liters per day consumption of biodiesel by 2022 in the National Alternative Energy Plan (2008-2022), Thai government by the Ministry of Energy has consistently pushed for the usage of biodiesel in order to reduce fossil fuel import, which costs over one hundred billion baht annually. With the first introduction of the mandate biodiesel blending in diesel at 2% since February 2008 (optional 5% with price incentive), the biodiesel consumption has gradually increased, and the Ministry of Energy has consistently aimed to increase the blending level. In June 2010, the blending level was raised to 3% but later was temporarily reduced back to 2% due to the shortage of palm oil from the severe flooding in the south of Thailand, where most palm plantations are located.

As to avoid dealing with two different grades of diesel (mandate B2-3 and optional B5), the Ministry of Energy has announced a "one-grade diesel" specification that allows a range of 3-5% biodiesel blend in diesel, after the National Palm Oil Policy Committee has confirmed that domestic palm oil production is enough to supply the biodiesel industry. The benefit was projected at reducing fossil import by 14 billion baht, greater than the projection of 12 billion baht saving from having both B2 and B5. In addition, all 14 automobile manufacturer companies have confirmed that there are no damage problems to the engine being fuelled by up to B5 diesel. Eventually, the Ministry of Energy would like to increase the blending level to B5.

*More information:*

<http://www.thainews-online.com/index.php?mo=3&art=454377> (in Thai)  
<http://www.manager.co.th/Home/ViewNews.aspx?NewsID=954000052296> (in Thai)  
<http://www.thaiday.com/Business/ViewNews.aspx?NewsID=954000053324> (in Thai)  
<http://www.energy.go.th/index.php?q=en/node/527>  
[http://elaw.doeb.go.th/document\\_doeb/319\\_0001.pdf](http://elaw.doeb.go.th/document_doeb/319_0001.pdf)

## **Completed Trial Sale of Biodiesel (B5) in Hainan Province, China**

CNOOC, one of the three biggest state-owned energy companies, has undertaken a biodiesel project in Hainan province with an annual output of 60,000 tons biodiesel since 2008, and it began the B5 (biodiesel contents between 2%-5%) closed trial sale in Chengmai and Linggao Counties on 8th December 2010. The high-pressure transesterification technique is used to produce biodiesel, which has the advantages of good adaptability to raw materials, high reaction conversion and selectivity and high fuel quality. Currently, the feedstock mainly depends on acidic vegetable oil from outside Hainan Island. It is estimated that approximately 3-5 years later, *Jatropha* oil from Dongfang City will become the main feedstock.

On 2nd April 2009, the Hainan government issued a government notice named "Work Scheme to Promote the Use of Biodiesel in Hainan" to enhance biodiesel application; the goal is that all diesels should be required to be blended with 5% biodiesel in all retail and wholesale networks in the province. However, the biodiesel companies faced many challenges such as raw materials shortage, high production cost, unqualified biodiesel and non-standard sales networks, which increased the market risk, and delayed B5 fuel use in China.

The Hainan government has now begun to evaluate the results of the project. If the desired goal is achieved, Hainan will promote the use of bio-diesel in the whole province.

*More information:*

<http://www.yonton.com/newsread.asp?id=729>  
[http://www.hq.xinhuanet.com/news/2010-11/23/content\\_21458325.htm](http://www.hq.xinhuanet.com/news/2010-11/23/content_21458325.htm)  
[http://www.360doc.com/content/11/0116/20/818794\\_86964805.shtml](http://www.360doc.com/content/11/0116/20/818794_86964805.shtml)



## **Biodiesel Industry Boosted by Growing OEM Support, Momentum under RFS-2**

At its semi-annual board meeting in Washington D.C. last week, members of the National Biodiesel Board applauded the latest Original Equipment Manufacturer (OEM) to announce its support for use of B20 biodiesel blends. Isuzu Commercial Truck of America, Inc. has confirmed that all of its new 2011 and forward model year diesel engines, including its four popular N-Series truck models as well as the new Isuzu Reach commercial van, are compatible with use of up to 20 percent biodiesel blends (B20). This is especially significant as Isuzu Commercial Truck is the first Asian manufacturer to approve B20 for U.S. market spec engines.

According to Isuzu Commercial Truck's Retail Marketing Manager Brian Tabel, Isuzu's announcement of B20 support is the result of three key factors: growing consumer demand for the fuel, an extensive and cooperative research project on B20 biodiesel blends by Isuzu engineers in the U.S. and Japan, and improved biodiesel fuel quality and industry support in the U.S. under the assurances of ASTM D7467, the American Society of Testing and Materials specifications for B6-B20 biodiesel blends.

"Our customers at Isuzu Commercial Truck of America have been asking for approval to use B20 in our products in the U.S. for many years," Tabel said. "We are really happy to now turn that request into a reality and bring B20 biodiesel capability to the U.S. market."

Isuzu's announcement is indeed timely as the U.S. biodiesel industry ramps up for its biggest year yet, with expected production volumes of at least 800 million gallons of biodiesel in 2011 to meet requirements under EPA's Renewable Fuel Standard (RFS-2) program. Made from an increasingly diverse mix of feedstocks, biodiesel is the only fuel produced in commercial scale volumes in the U.S. that qualifies as an Advanced Biofuel under EPA definitions.

*Source: National Biodiesel Board (US)*  
[http://www.nbb.org/news/pressreleases/20110623\\_Isuzu.htm](http://www.nbb.org/news/pressreleases/20110623_Isuzu.htm)

## **UFOP demands B30 for commercials and tax shelter for admixed biogenic fuel**

On the occasion of the presentation of the fleet project of Coburg College involving the use of hydrogenated vegetable oil as an alternative fuel, the Union zur Förderung von Oel- und Proteinpflanzen (UFOP) called upon the German government to go ahead with launching the B30 fuel for commercial vehicles and make the biogenic portion eligible for a tax concession. To ensure equal opportunities in the market for all, UFOP demands that the use of B30 with 30 % biodiesel should be made possible by an amendment to the present Diesel norm EN 590.

If the Diesel fuel norm was amended, in particular, the rate of admixture of biodiesel was increased from, at present, 7 % (B7) to 30 % (B30) for commercial vehicles, the mixing ratio of biodiesel and HVO could be any ratio as long as the limit of max. 30 % admixture was observed. Plants producing totally approximately 4.9 million tonnes of biodiesel in Germany could profit from such a regulation. The recent announcement by Biopetrol of shutting down the production facility with 150,000 tonnes capacity in Schwarzheide underlined that action was needed urgently so that the window for the sale of biodiesel could be opened wider, UFOP states.

*Source: UFOP press release, 4 April; <http://www.ufop.de/4113.php>*

## **OTHER FUELS AND VEHICLES**

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### **DME Vehicle Demonstration Project in Shanghai Successfully Completed**

The National High-Tech Research and Development Program, "DME Vehicle Commercial Operation in Typical Shanghai Road Conditions", which was undertaken mainly by the Shanghai Public Transport Group and Shanghai Jiao Tong University, was successfully finished in May, 2011.

The DME vehicles started the first commercial operation on the No.147 bus line in Shanghai in February 2010. A DME filling station was built specially for the project and the cumulative vehicle distance is more than 400,000 km. The results indicate that the DME buses have both excellent

acceleration performance and favorable fuel economy; moreover, the DME bus completely eliminates the black smoke, which means excellent market prospects.

In order to support the demonstration, the Shanghai municipal government organized the related standard development. Dozens of local standards on DME vehicles, such as, DME fuel for vehicles, DME engines and DME filling stations were formed. In all those standards, there are 4 items upgraded into industry standards, and the DME fuel standard has been submitted to the National Standards Board for approval.

The project has accumulated valuable experiences in improving urban air pollution and exploring alternative fuel use in vehicle.

*More information:*

<http://hudong.wlstock.com/StockBar/d6889752.aspx>

[http://www.mj.org.cn/mjzt/2011nzt/2011nlh/2011lhjyxc/2011hzmkyw/201103/t20110315\\_123086.htm](http://www.mj.org.cn/mjzt/2011nzt/2011nlh/2011lhjyxc/2011hzmkyw/201103/t20110315_123086.htm)

## **New Energy Vehicles Shining in Shanghai World Expo**

In the Shanghai World Expo, there were 1017 new energy vehicles in use, which included hybrid buses, pure electric vehicles, fuel cell vehicles and other new energy vehicles around Expo area. Those constituted a unique moving landscape and attracted many tourists. The concept of a green expo showed great charm.

Of these new energy vehicles, 90 of the total 196 fuel cell vehicles were used as a VIP reception. The six fuel cell buses and 100 fuel cell tourist vehicles were used as public transport at the Expo Park. The hydrogen used was extracted and purified from the emissions of the Shanghai Coking Plant, and the hydrogen purity was 99.99%.

The statistics showed that the fuel cell tour vehicles took more than 10,000 tourists per day during exhibition period.

Currently, there are 3 hydrogen stations in China, two of which are in Shanghai and one in Beijing. The New energy vehicle market in China faces many difficulties, such as high cost, energy supply capacity and construction of refueling stations. It may take great efforts and long time to make it commercialized. However, the trail application of new energy vehicles in the Expo garden provides valuable experiences for its commercial use.

*More info:*

<http://www.chinafcb.org/chinafcb/xmjz/webinfo/1291772852570416.htm>

<http://www.huaue.com/unews/2010416165722.htm>

## **“Dozens of cities each with thousands of new energy vehicles” project progressing well in China**

With the issue of prompting policies, new energy vehicles become the focus of attention once again. As a demonstration project of new energy vehicles in China, “Dozens of cities each with thousands of new energy vehicles” has attracted more attention.

The project was launched in January 2009 mainly via a financial subsidy. According to the plan, more than ten cities shall use more than 1000 new energy vehicles each. The project will last no less than 3 years. The first identified cities include Beijing, Shanghai, Chongqing, Changchun, Dalian, Hangzhou, Jinan, Wuhan, Shenzhen, Hefei, Changsha, Kunming and Nanchang.



The first electric vehicle began to run in Beijing during the 2008 Olympic Games. The city council of Beijing planned to expand the new energy vehicle demonstration scale to 3000 for public transportation and sanitation systems by 2011.

In the 2010 Shanghai World Expo, there were 1,017 new energy vehicles in the Expo garden. By

2012, there will be more than 4400 new energy vehicles to be put into use in the public transportation system in Shanghai.

Shenzhen has more than ten demonstration bus lines which use new energy vehicles at present. It is the first city to set up a pure electric taxi service in China. Meanwhile, Shenzhen has equipped more supporting facilities, for example, there are 154 charging piles, 11 bus stations and 3 fast charge stations. According to its plan, Shenzhen will promote more than 34,000 new energy vehicles and establish a group of charging infrastructure by the end of 2012.

More info: <http://www.chinanews.com/auto/scxw/news/2009/01-07/1517480.shtml>;  
[http://www.chinabus.info/html/hydt\\_board/2011-3-19/2011319104528.htm](http://www.chinabus.info/html/hydt_board/2011-3-19/2011319104528.htm)

## MISCELLANEOUS

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### Ozone across Europe – summer 2010

All 27 EU Member States provided information to the European Commission on observed one-hour and long-term objective ozone exceedances. In addition, 11 other countries (Albania, Bosnia and Herzegovina, Croatia, Iceland, Liechtenstein, Montenegro, Norway, Serbia including Kosovo under UNSC Resolution 1244/99, Switzerland, the former Yugoslav Republic of Macedonia and Turkey) supplied information to the EEA upon request.

The percentage of ozone monitoring stations reporting exceedances of the information threshold (a one-hour ozone concentration of 180 µg/m<sup>3</sup>) is among the lowest since comprehensive reporting of Europe-wide data commenced in 1997.

Despite efforts to mitigate ozone pollution, the number of exceedances of EU ground-level ozone concentration standards for protecting human health (Directive 2008/50/EC) remained at sustained levels during summer 2010, compared with the summer ozone concentrations from 1997 to 2009.

Source: European Environment Agency (EEA) – Publications  
Download: [http://www.eea.europa.eu/publications/air-pollution-by-ozone-across/at\\_download/file](http://www.eea.europa.eu/publications/air-pollution-by-ozone-across/at_download/file)

### US Airlines get preliminary OK to use biofuel from algae, inedible plants

The Air Transport Association said the standards group ASTM International has granted preliminary approval to passenger airlines to use a blend of standard fuel and biofuel derived from algae, wood chips or organic waste. ASTM is expected to issue its final approval on July 1, said Barbara Schindler, the group's communications director.

Source: Bloomberg, 9 June;  
<http://www.bloomberg.com/news/2011-06-09/biofuel-from-algae-wood-chips-approved-for-airlines-ata-says.html>

### European Commission, Airbus, airlines & biofuel producers in aviation biofuel accord

The European Commission, Airbus, leading European airlines and European biofuel producers, have launched an exciting new industry-wide initiative to try to speed up the commercialization of aviation biofuels in Europe.

The initiative labelled "Biofuel Flightpath" is a roadmap with clear milestones which targets an annual production of two million tonnes of sustainably produced biofuel for aviation by 2020. The biofuel will be produced in Europe from European sourced feedstock material and has the backing of The European Commissioner, Günther Oettinger, Airbus CEO Tom Enders, major European airlines, and a number of advanced biofuel producers.

"The suitability of biofuels for aviation has been proven, opening an outstanding opportunity to drastically reduce air transport's carbon footprint. Deployment of sustainable biofuels will only be possible through a shared vision and common objectives from producers, end users and policy makers. With this ambitious 'Biofuel Flightpath', Europe is giving the right signal for the emergence of a European supply chain." Pierre Henri Gourgeon, CEO Air France-KLM.

Source: Airbus press release, 22 June  
More information: [http://ec.europa.eu/energy/technology/initiatives/biofuels\\_flight\\_path\\_en.htm](http://ec.europa.eu/energy/technology/initiatives/biofuels_flight_path_en.htm)

## **Airbus teams up with Tarom to build biofuel plant in Romania**

Airbus has teamed with Tarom to establish a facility in Romania to produce aviation biofuel from the camelina crop, as part of the European airframer's plan to develop at least one such facility on every continent. The project is undergoing a year-long feasibility study to evaluate "four to five" potential sites across Romania to find the most suitable location for the plant, says Airbus head of new energies Paul Nash. "The closer we can get to Bucharest the better, for distribution purposes," he adds.

Airbus and Tarom are hoping to be able to produce enough biofuel in the short term to carry out a series of flight tests. The medium-term goal for the planned Romanian plant is to supply "at least 25% of Tarom's annual fuel bill", but the long-term aim is to scale up production to commercial levels and make the fuel available to other airlines, says Nash. "It will be five to 10 years before we're up to commercial scale - we're talking vast amounts of biofuels in the thousands and thousands of tonnes," he adds.

Honeywell unit UOP is providing its biofuel refining technology for the project, but Nash says that discussions are taking place with two Romanian refineries to secure a joint venture. "We're looking this year at whether we can do all the processing in Romania. If not, we'll have to do it at a UOP site," he says.

Airbus's goal is to establish "at least one [biofuel] project" on every continent, using feedstocks native to the local regions in which the projects are based, says Nash. Projects have already been announced in Australia, Brazil, Germany, Mexico and the Middle East. Airbus says its role is to act as a "catalyst", supporting fuel approval processes and assessing the effects of the biofuels on aircraft systems and engines.

Source: [www.flightglobal.com/articles/2011/03/23/354634/airbus-teams-up-with-tarom-to-build-biofuel-plant-in.html](http://www.flightglobal.com/articles/2011/03/23/354634/airbus-teams-up-with-tarom-to-build-biofuel-plant-in.html)

## **IEA & IEA/AMF News**

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### **Annual Report 2010**

The IEA AMF Annual Report 2010 has been submitted to the IEA Secretariat. The report comprises four different sections: a description of the Advanced Motor Fuel Implementing Agreement, a comprehensive view on policy and implementation of advanced motor fuels in 14 countries, results from 11 Annexes on various topics, and an outlook for advanced motor fuels. The report is available for download at the AMF website <http://www.iea-amf.vtt.fi/>. Hardcopies are available on request from the AMF Secretary.

### **ExCo42 in October in Istanbul, Turkey**

The next meeting of the AMF Executive Committee will take place 25-27 October 2011 in Istanbul, Turkey. For further information please contact the AMF Secretary.

### **ExCo41 last May in Karlsruhe, Germany**

24-26 May 2011 the Executive Committee of the Advanced Motor Fuels Implementing Agreement took place in Karlsruhe, Germany. More than 50 delegates participated in this meeting.

German experts presented five Annex Pre-proposals which were discussed with the group and may be reviewed and re-proposed at ExCo42. The topics of these Pre-proposals include future fuels for gasoline engines, influence of fuel blends on diesel engine emissions, small spark ignited engine fuels, hydrotreated oils for engine operation, and biomethane as alternative motor fuel.

Work is ongoing in 10 Annexes, details are summarized below. IEA AMF aims to further develop contacts to Asian and South American countries, and to strengthen collaboration with related IEA Implementing Agreements. The Annual Report 2010 is used as a reference document to showcase the work of IEA AMF.

## IEA AMF Annex News

- **Annex XXVIII (28):** Information Service & AMF Website (AMFI) and Fuel Info  
Dissemination of IEA AMF related information is ongoing, e.g. through this newsletter and through the website <http://www.iea-amf.vtt.fi/>.
- **Annex XXXIV (34):** Biomass Derived Diesel Fuels  
Work on Subtask 2 (Algal Biofuels) of Annex 34 has been completed. A joint Executive Summary with IEA Bioenergy is under elaboration. Annex 34 remains open and may include work on hydrotreated vegetable oils (HVO).
- **Annex XXXV-2 (35-2):** Particulate Measurements: Ethanol and Butanol in DISI Engine  
This Annex has just started recently and participation of more participants is encouraged. The work focuses on particulate formation due to interaction of ethanol-gasoline blends in direct injection spark ignited (DISI) engines.
- **Annex XXXVII (37):** Fuel and Technology Alternatives for Buses  
The aim of this Annex is to produce data on the overall energy efficiency, emissions and costs of various technology options for buses. Testing is 85% completed. The German vTI will publish results elaborated under Annex 37 (Fuel and Technology Alternatives for Buses) in technical papers soon. The final report of Annex 37 is due for November 2011.
- **Annex XXXVIII (38):** Environmental Impact of Biodiesel Vehicles  
This Annex deals with the question how the use of biodiesel fuel affects emissions of the newest diesel vehicles and includes on-road testing of diesel vehicles. Testing is almost completed; the final results will be presented in October 2011. Work on this topic may be carried on (to be decided at ExCo42), expanding the scope of fuels tested to HVO and NExBTL.
- **Annex XXXIX-2 (39-2):** Emission Performance of HD Methane Engines Phase 2  
Building on work carried out in Phase 1 of Annex 39, tests shall be performed to verify the present status of fuel efficiency and emission performance of commercially available heavy duty engines fuelled with methane or a mixture of methane and diesel. Phase 2 has started recently, further participants are welcome.
- **Annex XL (40):** Life Cycle Analysis of Transportation Fuel Pathways  
The purpose of Annex 40 is to improve the understanding of the concept of lifecycle analysis of transportation fuels and some of its pertinent issues among non-technical people, senior managers, and policy makers. 15 LCA models will be addressed in the report and compared to one another; specific regional issues of participating countries will also be addressed. Additional participants are welcome.
- **Annex XLI (41):** Alternative Fuels for Marine Applications  
The purpose of Annex 41 is to compile an extensive volume of information relative to the implementation of various alternative fuels within the maritime sector, and to recommend most fiscally sound policies. The Annex is just about to start and encourages further participants and cooperation with related IEA Implementing Agreements.
- **Annex XLII: (42)** Toxicity of Exhaust Gases and Particles from IC-Engines  
This Annex deals with the toxic effects of exhaust gases as combined aerosols. No testing is performed in this Annex, but it provides information service and knowledge transfer in the field of toxicology and health risks. The Annex operates in close cooperation with the Engine Toxicity Network (EngToxNet) and expands their work to a global view.
- **Annex XLIII (43):** Performance Evaluation of Passenger Car, Fuel, and Powerplant Options  
The core of the evaluation under Annex 43 consists of benchmarking a set of passenger cars of such make & model that offer multiple choices for powerplant and fuel, i.e. gasoline, flex-fuel (E85), diesel, CNG/LPG and perhaps also hybrid and EV variations. Finland has already started testing, other participants will follow.

Experts who are interested in the details of one of the Annexes are encouraged to contact either their national AMF Delegate, the AMF Secretary, or the respective Operating Agent.

## PUBLICATIONS

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- [EU National Emission Ceilings Directive status report 2010](#)

This report documents the most recent emissions and projections information requested under the National Emission Ceilings Directive (NECD) by the end of 2010. The directive requires all 27 Member States of the European Union to report information annually concerning emissions and projections for four main air pollutants: sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), non-methane volatile organic compounds (NMVOCs) and ammonia (NH<sub>3</sub>). These pollutants harm both human health and the environment by contributing to formation of ozone and particulate matter and by causing acidification and eutrophication. To help protect human health and the environment, the NECD sets pollutant-specific and legally binding emission ceilings for each of these pollutants and for each country, which must be met by 2010 and thereafter.

*Download:* [http://www.eea.europa.eu/publications/nec-directive-status-report-2010/at\\_download/file](http://www.eea.europa.eu/publications/nec-directive-status-report-2010/at_download/file)
- [Hydrogen – Energy Carrier of the Future?](#)

Both from an ecological and economic perspective, the growing global demand for energy cannot be met through a massive expansion of energy production alone. In this competition, efficient energy converters and accumulators will play a crucial role for automotive engineering as well as stationary applications. Long-term energy supply must be assured on the basis of regenerative (and other non-fossil) sources. Hence a wider variety of energy carriers will be needed which will have to be adjusted to and chosen in accordance with energy requirements. This variety could range from energy carriers such as alcohols, hydrocarbons or hydrogen, electricity stored in batteries and mechanical storage systems.

High energy densities which are characteristic of chemical energy carriers will be of particular advantage, especially with regard to the storage of energy, transport and automotive engineering applications. Thanks to state-of-the-art fuel cell systems, a highly efficient conversion of chemically stored energy can be achieved. A variety of systems, which simultaneously produce electricity and heat, are available for mobile applications, micro plants, vehicle drivetrains and large-scale commercial use.

Source: 32nd International Vienna Motor Symposium 5 - 6 May 2011, "Fortschritt-Berichte VDI", pp. 194. Authors: Prof. Dr. U. Stimming, H. Wolfschmidt Technische Universität München, Physik Department E19, München; Dr. M. Rzepka ZAE Bayern, Abt. 1, Garching;

*Available at:* [http://www.övk.at/index\\_en.htm](http://www.övk.at/index_en.htm)
- [Alternative fuels and the global auto industry](#)

This report authored by AutomotiveWorld.com outlines the prospects for the various types of alternative fuels currently in use and under development in the global auto industry.

*Available at:* <http://www.automotiveworld.com/research/research-alternative-fuels-and-the-global-auto-industry-2nd-edition>
- [Plug-in Electric Vehicles: changing perceptions, hedging bets](#)

A study just released by Accenture says the majority of consumers would consider buying a plug-in EV as their next car purchase, but it also warns that consumer insistence on deciding when and how they can charge their vehicles could mean challenges for electric utilities and charging service providers. It's a revealing consumer profile as well as an interesting summary of those challenges.

*Download:* <http://www.accenture.com/us-en/Pages/insight-plug-in-electric-vehicles-changing-perceptions-summary.aspx>
- [BIODIESEL GHG EMISSIONS, PAST, PRESENT, AND FUTURE](#)

This report, commissioned by IEA Bioenergy Task 39's program of promoting the commercialization of biofuels, addresses the energy balance and greenhouse gas emissions of biodiesel. The available data on the supply chain for rapeseed and soybean biodiesel indicate that the GHG emissions for these vegetable oil biodiesel fuels have decreased from 1995 to 2005, and if the present trends continue there should be further reductions in the emissions in the future.

*Download:* <http://www.task39.org/LinkClick.aspx?fileticket=E5r1rznoEzU%3d&tabid=4426>

## EVENTS

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- Algae World Australia, 16-17 August, Townsville, Queensland  
Algae ventures are thriving in Australia. Various federal and state government departments are eager to back up the growth of the industry by providing R&D grants. This topical conference encapsulates the robust algae developments in Australia, addressing the "Mass Production of Algae for Biofuels & Bioproducts".  
*Information:* <http://www.cmtevents.com/aboutevent.aspx?ev=110834&>
- 3rd International Conference Automotive Biofuels, 29-31 August, Berlin  
The IQPC conference addresses challenges for the combustion engine: how durable are engine materials on automotive biofuels?  
*Information:* <http://www.automotive-biofuels.com>
- International Conference on Polygeneration Strategies, 30 August - 1 September, Vienna  
polygeneration unities the different approaches to sustainable energy production best and offer a unique platform for scientific exchange and discussion. The main aim of the conference is to present the current state-of-the-art of syngas production, syngas cleaning and syngas utilization. Furthermore, to offer the opportunity for exchange of information, results and experiences as well as networking.  
*Information:* <http://www.icps-conference.eu>
- ISAF (International Symposium on Alcohol Fuels) XIX, 10-14 October, Verona  
The main theme is "Innovation for Local and Global Sustainability of Alcohol Fuels". ISAF XIX is collocated with the 2<sup>nd</sup> Lignocellulosic Bioethanol Conference, a major event on 2<sup>nd</sup> generation bioethanol technologies organised by the European Commission and Brazil.  
*Information:* <http://www.isaf2011.it>
- ANGVA 2011 (4th Biennial Asia Pacific Natural Gas Vehicles Association International Conference & Exhibition), 18-20 October, Beijing  
Speakers from more than 20 countries in the Asia-Pacific region, the European and the American region will deliver speeches, covering almost all parts of the NGV industry chain, including natural gas supply, the construction of natural gas refueling stations, the R&D and production of vehicles and parts, alternative fuels, safety standards, as well as policies and regulations.  
*Information:* <http://angva2011.com>
- 2011 FISITA World Automotive Summit, 17-18 November, Mainz  
The FISITA World Automotive Summit is a unique annual meeting of automotive leaders. It brings the world's top technical executives together with scientists, public policy-makers and influential NGOs to work on an issue of central importance to the automobile and society. For 2011 the chosen topic is the future of personal mobility.  
*Information:* <http://www.fisita-summit.com/>

## IEA AMF Delegates

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### **Australia**

Department of the Environment  
Sharon Rees

### **Austria**

Austrian Federal Ministry for Transport  
Andreas Dorda

### **Canada**

Natural Resources Canada  
Jean-Francois Gagné

### **People's Republic of China**

CATARC, Maodong Fang

### **Denmark**

DTU, Jesper Schramm

### **Finland**

VTT, Nils-Olof Nylund

### **France**

ADEME, Patrick Coroller

### **Germany**

FNR, Birger Kerckow

### **Italy**

Eni SpA, Pietro Scorletti

### **Japan**

AIST, Shinichi Goto  
LEVO, Nobuichi Ueda

### **Spain**

IDAE, Francisco José Domínguez Pérez

### **Sweden**

Swedish Road Administration  
Olle Hådell

### **Switzerland**

SFOE, Sandra Hermle

### **Thailand**

NSTDA, Coovattanachai Naksitte

### **The United States**

DOE, Kevin Stork

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