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AMFI Newsletter

US EPA aims to improve fuel economy standards

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

CONTENTS

DETAILED CONTENTS

GENERAL INTEREST

World Energy Outlook 2011

The IEA´s flagship publication World Energy Outlook brings together the latest data, policy developments, and the experience of another year to provide robust analysis and insight into global energy markets, today and for the next 25 years. Without a bold change of policy direction, the world will lock itself into an insecure, inefficient and high-carbon energy system, the International Energy Agency warns.

Report: http://iea.org/w/bookshop/add.aspx?id=428

In China, new Science and Technology Development Plan

"The 12th National Five-Year Science and Technology Development Plan" issued earlier this year and covering years 2011 through 2015 will foster strategic new industries, boost key technology breakthroughs in important fields, foster the construction of technology creation bases and platforms and train creative talents.

The Chinese automotive industry is now experiencing a crucial period of development as the conflict of interest among auto, society and environment becomes obvious. The key solution to these problems is to encourage manufacturers to produce more effective and energy-saving products through technical innovation and technology breakthrough, instead of limiting the auto industry.

Future automotive industry development shall promote new energy vehicles and realize energy savings and emission reductions, as well as ease conflicts of interest among the auto industry, energy and environment.

Source: CATARC

The biomass energy section of "12th Five-Year Development Plan for Renewable Energy"

The biomass energy section of the "12th Five-Year Development Plan for Renewable Energy" is forthcoming in China.

The biomass energy development objectives of the plan include:

- The biomass power generation capacity shall reach 13 million kW and 30 million kW respectively by the end of 2015 and 2020, increasing by 1.36 fold and 4.45 fold from 5.5 million kW at the end of 2010.
- By the end of the 12th Five-Year (2015), the agriculture and forestry biomass power generation shall reach 800 million kW, methane power generation shall reach 200 million kW and the waste-incineration power generation shall reach 300 million kW.
- During the 12th Five-Year period, the utilization of biomass molding fuel (pellets), biomass ethanol, biodiesel and aviation biofuel shall respectively reach 10 million tons, 3.5-4 million tons, 1 million tons and 100,000 tons.

Source: CATARC

GHG and fuel economy program extension proposed in the U.S.

The U.S. Environmental Protection Agency (EPA) and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) are issuing a joint proposal extending the National Program to further reduce greenhouse gas emissions and improve fuel economy for model year 2017 through 2025 light-duty vehicles.

The EPA fuel economy standards that take effect next year would boost vehicle fleet mileage to

34.1 mpg by 2016 and 54.5 mpg by 2025. According to researchers at the University of Michigan Transportation Research Institute in Ann Arbor, mileage of new vehicles sold in the United States in September 2011 was 22.1 mpg.

EPA's and NHTSA's technology assessment indicate there is a wide range of technologies available for manufacturers to consider in reducing GHG emissions and improving fuel economy. The proposals allow for long-term planning by manufacturers and suppliers for the continued development and deployment across their fleets of fuel saving and emissions-reducing technologies.

Source: http://www.epa.gov/otaq/climate/regulations.htm
Fact sheet: http://www.epa.gov/otaq/climate/documents/420f11038.pdf

EPA Awards $50 Million for Clean Diesel Projects

The U.S. Environmental Protection Agency (EPA) has awarded $50 million for clean diesel projects as part of its ongoing campaign to reduce harmful emissions in the air and better protect people's health. These efforts will replace, retrofit or repower more than 8,000 older school buses, trucks, locomotives, vessels, and other diesel powered machines. Reducing emissions from existing diesels provides cost-effective public health and environmental benefits while supporting green jobs at manufacturers, dealerships and businesses across the country.

While EPA's standards significantly reduce emissions from newly manufactured engines, clean diesel projects funded through these grants will work to address the more than 11 million older diesel engines that continue to emit higher levels of harmful pollution. Every state will receive funding for clean diesel projects through direct state allocations. Additionally, EPA plans to award more than 50 grants across the nation.

Source and more information: EPA, http://www.epa.gov/cleandiesel/

EC approves seven voluntary certification schemes

On July 19th, 2011 the European Commission recognized seven voluntary certification schemes for biofuels sustainability certification. About twenty other schemes are still in the process of examination.

Economic operators are free to choose the national scheme or a voluntary scheme in order to prove compliance with the RED sustainability criteria for biofuels and bioliquids. Voluntary schemes approved by the EC apply throughout the entire European Union.

The seven approved schemes are:

- ISCC (German government financed scheme covering all types of biofuels)
- Bonsucro EU (Roundtable initiative for sugarcane based biofuels, focus on Brazil)
- RTRS EU RED (Roundtable initiative for soy based biofuels, focus on Argentina and Brazil)
- RSB EU RED (Roundtable initiative covering all types of biofuels)
- 2BSvs (French industry scheme covering all types of biofuels)
- RSBA (Industry scheme for Abengoa covering their supply chain)
- Greenergy (Industry scheme for Greenergy covering sugar cane ethanol from Brazil)

Source: Biograce newsletter, http://www.biograce.net/app/webroot/files/file/BioGrace_Newsletter_4.pdf

Turkey demands addition of domestic biofuels from 2013

Turkey's energy regulator will require addition of domestically-produced biofuels from 2013, in a decision aimed at lowering the country's current account deficit and encouraging production of biofuels.

At least 2 percent ethanol must be added to all gasoline types from Jan. 1, 2013 and the minimum percentage will increase to 3 percent in 2014. At least 1 percent fatty acid methyl ester will be added to diesel types from 2014, gradually rising to 3 percent in 2016.

Source: Bloomberg
More information: http://www.bloomberg.com/news/2011-09-20/turkey-demands-domestic-additives-for-biofuels-from-2013.html

FEEDSTOCKS

Algae as a Feedstock for Biofuels

IEA AMF and IEA Bioenergy Task 39 have published a joint executive summary of their algae reports, named "Algae as a Feedstock for Biofuels". This publication combines the findings of both extensive reports and covers an algae industry overview and a technology assessment as well as notes on sustainability, siting and the economics of algal biofuels production. The comprehensive assessment suggests that although algae feedstocks for alternative fuels production are not economically competitive with fossil fuels at the present time, algae does have potential as a feedstock for biofuels. Depending on their composition, different algae species may be suitable for a range of biofuels. Attention to algal biofuels from researchers, industries and (governmental) policy makers is justified, but policymaking on algal biofuels needs to be done carefully, considering the recommendations given in this publication.

Report:
http://www.iea-amf.vtt.fi/pdf/annex34b_joint_t39_algal_biofuels_summary_report_sept2011.pdf

GHG Calculation for Biodiesel in Thai Palm Oil Industry

Since production of biodiesel is promoted as a means to fight climate change, the plantation of oil palm has been increased rapidly in recent years. However, one major concern is the Greenhouse Gas (GHG) emissions resulting from land use changes (LUC) and along the value chain of palm oil production. There is, therefore, the necessity to assess life cycle GHG emissions to ensure that the oil palm and palm oil industry performs product operation in a way to minimize negative impacts on the environment. For Thailand, this assessment was made in the project "Sustainable Palm Oil Production for Bioenergy".

In this project, scope of work included LUC, oil palm cultivation, and conversion of palm oil to cooking oil and biodiesel. Six different LUC patterns were considered. Most LUC patterns show potential in GHG mitigation due to oil palm's high carbon stock and no-till farming practices. The conversion of unused land to oil palm plantation is environmentally and economically the most suitable LUC pattern. The worst pattern is conversion of forest to oil palm plantation which releases huge amounts of carbon stock during land conversion.

GHG emissions from all life cycle stages (including oil palm cultivation, palm oil mill, palm oil refinery, and biodiesel production) of the Thai palm oil industry were calculated and published for 4 possible cases: (1) with biogas (2) without biogas (3) Thailand average and (4) best observed. Comparing to the GHG emission from diesel, the calculated values are 67, 54, 63, and 81% reduction respectively.

The study also lists GHG optimization options along the production pathway to assist further improvements in environmentally sound production of biodiesel from palm oil.

Source: "Developing GHG Calculation methodology for Biodiesel in Thai Palm Oil Industry", GIZ and OAE publication, Bangkok, Thailand, 2011.

GIZ publication: http://www.gtz.de/de/dokumente/2011giz-en-sustainable-palm-oil-production.pdf

GASEOUS FUELS

Chinese technical regulation for LNG vehicle filling stations enforced

The National Energy Administration of China officially issued the "Technical Regulation for LNG Vehicle Filling Stations". The regulation was enforced from November 1st, 2011. The regulation code is NB/T 1001-2011.

This regulation is China's first LNG industrial standard, which will promote the development of LNG vehicles in China, especially the development and application of LNG buses.

Source: CATARC

Natural Gas Vehicle 'Fueling Station in a Box'

In October, Southern California Gas Co. (SoCalGas) launched the field demonstration of a new natural gas vehicle fueling technology that aims to significantly reduce costs and increase performance. Galileo Microbox is a streamlined compressed natural gas "fueling station in a box" which contains all components required to regulate, measure, compress and deliver CNG safely. It is a modular fueling station technology that offers the potential for lower construction and maintenance costs, faster vehicle fueling, minimized installation time and a smaller physical footprint.

Source: PR Newswire; http://www.galileoar.com/en/microbox.php

NGV population is growing worldwide

NGVA Europe published a new statistical update for the NGV (Natural Gas Vehicle) development in Europe and worldwide, showing a strong market development in the world of 12% compared with mid 2010, only 5% for total Europe, but 9% for the EU & EFTA countries. There are now 1,4 million methane powered vehicles pan-European, thereof more than 1 million in the EU & EFTA countries and 13.5 million units worldwide.

Source: NGVA Europe;
More information: http://www.ngvaeurope.eu/steady-ngv-growth-in-europe-strong-market-development-worldwide

LNG as a marine fuel

Wärtsilä, the marine industry's leading solutions provider, and Shell Oil Company have signed a Joint Co-operation Agreement aimed at promoting and accelerating the use of liquefied natural gas (LNG) as a marine fuel. Supplies of low cost, low emissions LNG fuel will be made available to Wärtsilä natural gas powered vessel operators, and other customers by Shell.

Gas fuelled marine engines are seen as being a logical means for ship owners and operators to comply with increasingly stringent environmental legislation.

Source: Wärtsilä Corporation, Trade and Technical press release, 8 September 2011
More information:
http://www.wartsila.com/en/press-releases/wartsila-and-shell-sign-co-operative-agreement-to-promote-use-of-lng-as-a-marine-fuel
http://www.ngvglobal.com/dnv-predicts-thousands-of-lng-fuelled-ships-by-2020-1129#more-18350

ALCOHOLS AND (BIO)GASOLINE

U.S. Ethanol production capacity over 14 billion gallons

The U.S. biofuels industry has more than 14 billion gallons (42 million tons) in annual production capacity for fuel ethanol, according to new industry and government data, but growth has flattened and experts see steady but slow capacity growth going forward.

Data reported by the industry as of November 16 showed 209 plants producing about 14.2 billion gallons per year, less than the estimated capacity of 14.7 billion gallons.

Renewable Fuels Association spokesman Matt Hartwig said that the rate of expansion was slowing as the domestic market neared the saturation level and approached the mandate set by the Renewable Fuels Standard which requires oil companies to use 15 billion gallons of ethanol by 2015.

Source and more information:
http://news.ggirtsou.gr/business/ethanol-production-capacity-over-14-billion-gallons/?utm_source=twitterfeed&utm_medium=twitter

U.S. farm boom driven by ethanol demand

The 2007 U.S. energy bill mandated that a total of 15 billion gallons of renewable ethanol must be produced by 2015 for energy independence. This mandate drove ethanol production from corn and, consequently, prices of corn and corn land rose. Other grain prices have risen just to assure that farmers don't all switch to corn. Farmers have reaped the benefits, as have their suppliers from John Deere to Monsanto to fertilizer producers to land auctioneers.

But will corn prices stay strong? More to the point, will ethanol prices? - A blenders tax credit and a tariff on ethanol imports are set to expire on January 1, 2012. Most experts do not expect either to be renewed given Republican-led budget pressure. But the mandated use target remains 12.6 billion gallons of ethanol in 2011, peaking at 15 billion by 2015, or roughly 10 percent of the fuel burned by cars and light trucks.

Source and more information: http://news.ggirtsou.gr/us/is-u-s-farm-boom-sitting-on-an-ethanol-bubble/

Virent´s biogasoline passes first test in European auto fleet trial

Virent has taken another step in the gasoline certification process, successfully completing its first road fleet test organized and executed by Virent collaborator, Royal Dutch Shell. Virent's biogasoline was found to cause "no harm" to vehicles in comparison to Shell's baseline fuel.

The Virent process uses continuous catalytic chemistry to convert plant sugars directly into a premium gasoline blendstock, with molecular composition identical to fuel made at a petroleum refinery. The sugars can be sourced from conventional biofuel feedstocks such as sugar beets, corn and sugar cane, or as proven recently, from cellulosic biomass like corn stover and pine residuals.

Virent's fuels and chemicals are considered "drop-in," meaning they can be blended seamlessly into other fuels at high percentages and without any changes to today's fuel infrastructure. The road trial is one of many steps in Virent's journey towards fuel certification.

Source: Virent,
More information : http://www.virent.com/news/virents-biogasoline-passes-first-test-in-european-auto-fleet-trial/

BIODIESEL ESTERS

Low level blends of biodiesel do not significantly affect emissions

In a Clean Air Regulatory Agenda related project, detailed characterization of tailpipe exhaust emissions from three different diesel vehicles operating with canola and soy methyl ester blends was documented in an Environment Canada in-house report, "Characterization of Exhaust Emissions of Light-Duty Diesel Vehicles Operating on Biodiesel Blends". The study addressed a science gap that was identified by Health Canada through their Risk Assessment process. Regulated emissions, greenhouse gases, hydrocarbon speciation and particle characterization including PM2.5, organic/elemental carbon split, particle phase SO4, trace metals, and particle size distributions were analyzed. At the low level blend, B5 (5% biofuel), the effects on emissions generally were not significant.

Source: PERD Program 2.1.2 Reports Progress on Advanced Fuels and Technologies for Emissions Reduction (AFTER)

Waste to renewable biodiesel association formed

Four major European waste to biodiesel producers have decided to found the European Waste to Renewable Biodiesel association (W2RB). By combining waste management obligations and provisions of the renewable energy Directive, the W2RB sector has a unique nature. Consequently, it is essential to ensure that the legal framework will clearly address the sector-related issues and to establish a direct dialogue with the institutions and other stakeholders.

More information: www.w2rb.eu

SYNTHETIC AND RENEWABLE DIESEL

Neste Oil starts up NExBTL plant in Rotterdam

Neste Oil has successfully started up Europe's largest renewable diesel plant in Rotterdam in the Netherlands. Production of NExBTL renewable diesel at the new plant will be ramped up on a phased basis. The Rotterdam plant has a capacity of 800,000 t/a and will increase Neste Oil's total renewable diesel capacity to 2 million t/a. Utilizing Neste Oil's proprietary NExBTL technology, the plant can make flexible use of almost any vegetable oil or waste fat in the production of premium-quality renewable diesel.

The raw material base of NExBTL shall be expanded with jatropha and camelina oils. By introducing these new raw materials in its feedstock base, Neste Oil increases the proportion of non-food materials and raw materials that can be grown on cultivation areas less suited for food plants in its raw material procurement. As a result, the proportion of crude palm oil is expected to be less than 50% of the total bio-based raw materials used in NExBTL production in 2011.

Recently, Neste Oil, the Port of Rotterdam, and the Rotterdam Climate Initiative have launched a trial in which a Port Authority patrol boat will run for an extended period on Neste Oil's NExBTL renewable diesel. This will be the first time that NExBTL renewable diesel has been used in a marine environment. The pioneering trial, will measure the patrol boat's exhaust emissions and engine performance, and gather operational experience. NExBTL fuels have already shown what they are capable of in terms of performance and lower emissions on the road and in the air."

Source: Neste Oil press releases, http://www.nesteoil.com/default.asp?path=1,41,540,1259

Scania approves use of HVO in DC9 buses

Helsinki Region Transport, Neste Oil, Proventia Emission Control, VTT Technical Research Centre of Finland and Aalto University carried out a 3.5 year project "OPTIBIO" to demonstrate the use of paraffinic renewable diesel (hydrotreated vegetable oil HVO) in city buses. The fleet test in Metropolitan Helsinki, involving some 300 buses at four bus operators, was the largest one in the world to demonstrate this new fuel. The fuels were a 30 % HVO blend and 100 % HVO. The field test was supplemented by a comprehensive in-laboratory research programme on fuel effects on exhaust emissions and low-temperature operability.

The project confirmed that HVO actually works as a drop-in fuel, meaning that HVO can replace diesel fuel 100 % without any modifications to the refuelling system or to the vehicles, without causing any operational problems. The emission testing, both the screening and the follow-up measurements, demonstrated significant and permanent emission benefits. Based on the findings of the OPTIBIO project, Scania has approved the use of 100 % HVO (NExBTL) in its city and intercity buses with DC9 engines. After the demonstration phase, the markets will determine the future of high concentration HVO fuels in Finland. Low-level blending is already used commercially to fulfil the general biofuels obligation.

Source: Final Report "Optimized usage of NExBTL renewable diesel fuel – OPTIBIO"
Project abstract within the BioRefine Yearbook 2011: http://www.tekes.fi/u/BioRefine_Yearbook_2011.pdf

OTHER FUELS AND VEHICLES

FFV commitments by automanufacturers

The Renewable Fuels Association (RFA) today commended General Motors, Ford Motor Company, and Chrysler for meeting their pledge to produce 50 % of their new vehicles as flexible fuel vehicles (FFVs) by 2012. FFVs are cars, pickups, or SUVs capable of using any blend of ethanol up to 85 % of the gallon, or E85.

According to data compiled by the RFA from expected FFV model production and conversations with General Motors and Ford Motor Co., America's "Big 3" are on pace to produce half of all new vehicles as FFVs in 2012. Currently, there are approximately 9 million FFVs in use. The RFA has

compiled a list of FFVs available by make, model and model year.

The RFA is joining with national security experts and alternative fuel industries to push for enactment of an Open Fuel Standard (OFS) that would help level the playing field for new fuel technologies.

Source: RFA http://www.ethanolrfa.org/news/entry/rfa-applauds-big-3s-commitment-to-ffvs-releases-comprehensive-list/

Total Costs of Ownership of Advance Vehicle Technologies

The Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) has issued a Request for Information requesting stakeholder feedback on a proposed methodology and basis for assumptions to be used to estimate the total cost of ownership of various advanced vehicle technologies.

DOE has been estimating the potential for advanced light-duty vehicle technologies and alternative fuels technologies to significantly reduce greenhouse gases emissions and petroleum consumption. One of the quantification measures is the total cost of ownership per mile driven, including vehicle and fuel costs.

DOE is requesting stakeholder input regarding the proposed methodology and basis for assumptions when calculating this cost. Comments on the validity of the methodology and the assumptions and on the various levels of success assumed for the different advanced technologies are requested.

Source:DOE Fuel Cell Technologies Program Newsletter, October 2011
Information on RFI announcement: https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000592&agency=DOE

$8.4 Million for Improved Engine and Powertrain Efficiency

DoE announced $8.4 million over three to four years for suppliers and vehicle manufacturers to develop and demonstrate technologies that increase the efficiency of engines and powertrain systems for future highway transportation vehicles. Four projects will focus on innovations that achieve breakthrough thermal efficiencies while meeting federal emission standards for passenger vehicles—cars and light trucks—as well as commercial vehicles, including long-haul tractor trailers. These technologies for engines and powertrains will help automakers and truck engine manufacturers achieve higher efficiencies, while meeting or exceeding the recently-announced vehicle fuel economy standards intended to help reduce U.S. demand for oil imports and save consumers money at the pump.

Source and more information: http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=622

Diesel fuels for advanced combustion engines

The relative effects of cetane number, aromatics content and 90% distillation temperature (T90) on advanced diesel combustion were investigated using a matrix of nine diesel fuels designed by the Fuels for Advanced Engines (FACE) Working Group of the Coordinating Research Council (CRC). The experiments were conducted in a specially-configured Caterpillar single-cylinder, diesel engine at the National Research Council. The experimental results show that diesel fuels with a combination of higher cetane number (45-55) and higher T90 distillation temperature (340°C) may be problematic for advanced diesel combustion. It was observed that the higher cetane number fuels had to be injected later in the compression stroke due to their shorter ignition delay to optimize the combustion phasing, but the shorter ignition delay period did not provide sufficient time for the fuel and air to premix before the start of combustion, especially for fuels with higher T90 distillation temperatures. This led to partially-premixed combustion under the conditions investigated and resulted in higher fuel consumption due to the longer combustion duration, as well as significant soot emissions. The lower cetane number (~30) fuels had a significantly shorter combustion duration, which reduced fuel consumption by 5-8% at the operating condition investigated, while achieving near-zero soot emissions.

Source: PERD Program 2.1.2 Reports Progress on Advanced Fuels and Technologies for Emissions Reduction (AFTER)

EMISSIONS

New catalysts reduce N2O and NOx emissions from diesel engine exhaust

Several syngas-SCR (selective catalytic reduction) catalysts were prepared with varying amounts of support material and metal concentrations. These catalysts were characterized and tested in a microreactor to study the effect of support composition and metal loading on reducing nitrogen oxide concentrations (DeNOx activity). This has lead to new syngas-SCR catalyst formulations with novel supports that have shown increased low temperature DeNOx activity and reduced N2O formation. Testing with a heavy hydrocarbon showed improved catalytic activity with a H2+CO mixture similar to the one obtained from a reformer. An industrial partner has expressed interest in scaling up the bench scale prototype catalyst.

Development of polymetallic catalysts is also yielding results of significance. These newly developed (patent application submitted) catalysts extend the temperature range and improve the stability of ammonia selective catalytic reduction (SCR) catalysts. A highly desirable characteristic of the new catalysts is that they produce no N2O, a potent greenhouse gas. An industrial partner has expressed interest in scaling up the bench scale prototype catalyst.

Source: PERD Program 2.1.2 Reports Progress on Advanced Fuels and Technologies for Emissions Reduction (AFTER)

A device to measure particles

The effective primary particle diameter determined by laser-induced incandescence (LII) was found to be a useful parameter for estimating the relative contributions between diesel and gasoline soot particles in ambient observations. This is a new capability that will be a significant contributor to understanding the impacts of transportation-related emissions of black carbon nanoparticles, which are second only to carbon dioxide in their influence on global climate.

Source: PERD Program 2.1.2 Reports Progress on Advanced Fuels and Technologies for Emissions Reduction (AFTER)

EPA Seeks to Adopt Emission Standards for Large Commercial Aircraft

The U.S. Environmental Protection Agency (EPA) is proposing to adopt new air pollution standards for engines used primarily in large commercial aircraft, including 737s, 747s, and 767s. The proposal would reduce ground-level nitrogen oxide emissions by an estimated 100,000 tons nationwide by 2030. Exposure to nitrogen oxide emissions can cause and aggravate lung diseases and increase susceptibility to respiratory infection.

The standards were previously agreed to by the United Nation's International Civil Aviation Organization (ICAO). Due to the global nature of air travel, EPA works with international agencies to ensure significant and cost effective emissions reductions. If adopted in the United States, the standards would be phased in over the next two years, applying to all new engines in 2013.

More information: http://www.epa.gov/otaq/aviation.htm

Hydrogen enrichment may improve efficiency of diesel HCCI combustion

Hydrogen enriched diesel homogeneous charge compression ignition (HCCI) combustion was experimentally investigated in a Cooperative Fuel Research (CFR) engine at the National Research Council using three diesel fuels with cetane numbers ranging from 36 to 54. Preliminary results indicate that hydrogen enrichment was effective in retarding the combustion phasing of the three diesel fuels towards more optimal values, as well as reducing the combustion duration. Hydrogen enrichment was effective for all three diesel fuels by enabling engine operation at a higher compression ratio, which led to higher power output and better fuel conversion efficiency. In a practical engine application, a hydrogen-rich gas could potentially be produced using an onboard diesel fuel reformer.

Source: PERD Program 2.1.2 Reports Progress on Advanced Fuels and Technologies for Emissions Reduction (AFTER)

MISCELLANEOUS

China-US Energy Cooperation Program

On November 21st, 2011, during the 22nd China-US Joint Commission on Commerce and Trade, the National Development and Reform Commission of China, the National Energy Administration (NEA) of China and the US Trade and Development Agency (TDA) jointly signed a Memorandum of Understanding. According to the MOU, the partners will extend and deepen the China-US cooperation on clean energy through the Energy Cooperation Program platform. TDA will provide funds for feasibility studies, consulting, visits, seminars and related engineering development for best practices of Chinese clean and efficient energy.

Source: CATARC

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Source: PERD Program 2.1.2 Reports Progress on Advanced Fuels and Technologies for Emissions Reduction (AFTER)

Canada-U.S. pipeline would cut Mideast oil imports

A proposed pipeline from Canada's oil sands to refineries along the Gulf of Mexico would help "essentially eliminate" U.S. oil imports from the Middle East in a decade or two, according to a study commissioned by the Department of Energy.

Oil deliveries from the $7 billion pipeline, combined with a projected drop in U.S. fuel demand, would potentially turn the United States into a net exporter of products like gasoline, jet fuel and diesel, said the report, called "Keystone XL Assessment."

The Obama administration is divided over Keystone XL. In November it was decided to explore a new route for the pipeline to avoid fragile territory in the Sand Hills of Nebraska. The State Department suggested that exploring a new route would take until at least the first quarter of 2013, well beyond the November 6, 2012 U.S. election.

Source: http://www.reuters.com/article/2011/02/02/us-pipeline-keystone-middleeast-idUSTRE7110UE20110202
Report : http://www.keystonepipeline-xl.state.gov/clientsite/keystonexl.nsf/AssmtDrftAccpt.pdf

Airlines to pay for CO2 emissions in EU

The European Union's highest court is expected to give its final ruling on December 21 on a European law that would force all airlines to pay for their carbon emissions, an EU source said on Tuesday. From January 1 next year, all airlines will have to buy permits under the European Union's emissions trading scheme to help offset the carbon emissions of flights that land or take off in Europe.

The plan has prompted a bitter battle between the European Union and the aviation industry, as the United States, China and two dozen other nations have urged the European Union not to include non-EU carriers in its plan. Nations opposed to the plan say it would infringe a "cardinal principle of state sovereignty" by basing its charges on the distance flown by each flight, which means calculations would include foreign airspace, in violation of a 1944 pact that gives each country exclusive authority over its skies.

Source: Planet Ark World Environment News; More Information: http://planetark.org/enviro-news/item/64110

IEA & IEA/AMF NEWS

IEA AMF ExCo 42 in Istanbul, Turkey

The 42nd Executive Committee Meeting (ExCo 42) of the IEA-AMF Implementing Agreement was held in Istanbul, Turkey, October 25-27 2011. In addition to the usual cooperative interactions between the AMF member parties, the meetings provided opportunities to liaise with the Tübitak Marmara Research Center, under the Scientific and Technological Research Council of Turkey, an advisory agency to the Turkish Government on science and research issues. This was enhanced through very interesting technical tours of the MAM facilities, as well as a tour of the Tüpras refinery, where Tüpras R&D activities were described.

During ExCo 42, discussions were undertaken to help AMF plan its activities in a more strategic way, and to encourage broader participation from member and potential member countries. The purpose of these discussions was to help AMF start new annexes while ensuring the work focuses on areas of importance to participating countries. The yearly country reports were seen as a good means to identify key areas, but a more visual tool could help in coordinating efforts. It was proposed that a matrix of fuels of interest and areas to be explored be prepared to help highlight where AMF currently is focussing its efforts, and to help identify areas that may need more work. This tool could then be used by member countries to report on their current and future research interests.

Active Annexes to IEA AMF

- Annex XXVIII (28): Information Service & AMF Website (AMFI) and Fuel Info
- Annex XXXV-2 (35-2): Particulate Measurements: Ethanol and Butanol in DISI Engine
- Annex XXXVII (37): Fuel and Technology Alternatives for Buses
- Annex XXXVIII (38): Environmental Impact of Biodiesel Vehicles
- Annex XXXIX-2 (39-2): Emission Performance of HD Methane Engines Phase 2
- Annex XL (40): Life Cycle Analysis of Transportation Fuel Pathways
- Annex XLI (41): Alternative Fuels for Marine Applications
- Annex XLII: (42) Toxicity of Exhaust Gases and Particles from IC-Engines
- Annex XLIII (43): Performance Evaluation of Passenger Car, Fuel, and Powerplant Options

During ExCo 42, one Annex was closed as the respective tasks had been completed:

- Annex XXXIV-2 (34-2): Algae as Feedstock for Biofuels

A joint executive summary of the respective AMF report and the report of IEA Bioenergy Task 39 is available online: *http://www.iea-amf.vtt.fi/pdf/annex34b_joint_t39_algal_biofuels_summary_report_sept2011.pdf*

New Annex Proposals

Two new annex proposals were discussed during ExCo 42:

- Opportunities and Challenges for the Implementation of Biomethane as Alternative Motor Fuel
- Proposed evaluation of alcohols as compression ignition engine fuels

For details please contact the AMF Secretary.

IEA AMF ExCo 43 to be held in Zürich, Switzerland

The next IEA-AMF Executive Committee Meeting is scheduled from May 30th to June 1st, 2012, in Zürich, Switzerland. It was suggested to host the following meeting in Latin America, preferably in conjunction with an international conference to allow as many observers as possible to learn of AMF activities.

New IEA Executive Director

Maria van der Hoeven took over as Executive Director of the IEA on 1 September 2011. Previously, Ms. Van der Hoeven served as Minister of Economic Affairs of the Netherlands from February 2007 to October 2010, during which time she demonstrated leadership on energy policy at the national, regional and global levels.

More information: http://www.iea.org/journalists/Maria_van_der_Hoeven.asp

PUBLICATIONS

IEA: World Energy Outlook 2011 brings together the latest data, policy developments, and the experience of another year to provide robust analysis and insight into global energy markets, today and for the next 25 years. Without a bold change of policy direction, the world will lock itself into an insecure, inefficient and high-carbon energy system, the International Energy Agency warns.
Report: http://iea.org/w/bookshop/add.aspx?id=428

IEA: Key World Energy Statistics 2011.
Report: http://www.iea.org/publications/free_new_Desc.asp?PUBS_ID=1199

IEA AMF and IEA Bioenergy Task 39, a joint executive summary report: "Algae as a Feedstock for Biofuels".
Report: http://www.iea-amf.vtt.fi/pdf/annex34b_joint_t39_algal_biofuels_summary_report_sept2011.pdf

IEA Bioenergy Task 39: "Biodiesel GHG Emissions: Past, Present and Future". This project addresses three specific issues (1) GHG emissions for biodiesel over time (1995, 2005, and 2015); (2) production parameters for specific aspects of similar feedstock in different countries; (3) understand why there are differences.
Report: http://www.task39.org/LinkClick.aspx?fileticket=E5r1rznoEzU%3d&tabid=4426

The European Commission: WHITE PAPER: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system. The paper outlines ten goals for a competitive and resource efficient transport system, March 2011
White Paper: *http://ec.europa.eu/transport/strategies/2011_white_paper_en.htm*

The European Environment Agency: TERM 2011: transport indicators tracking progress towards environmental targets in Europe. This report contains a core set of indicators, which covers environmental pressure, state and impacts, as well as drivers behind trends such as transport demand changes, and response indicators such as vehicle fleet developments.
Report: http://www.eea.europa.eu/publications/foundations-for-greener-transport

BIOMAP is a tool providing information on biofuels projects, plants, and players. Knowledge is encoded into a graph-based database and displayed to the user by means a list, geographical map, and non-geographical map.
Map: http://setis.ec.europa.eu/BIOMAP/#31016

JEC: Well-to-Wheels Analysis of Future Automotive Fuels and Powertrains, update (3c) in the European Context. Main updates concern biofuels with modified and new pathways for ethanol, bio-diesel and biogas.
Report: http://iet.jrc.ec.europa.eu/about-jec/downloads

ACEA: Automobile Industry Pocket Guide.
Pocket Guide: http://www.acea.be/images/uploads/files/20110921_Pocket_Guide_3rd_edition.pdf

A sample of presentations of the 2011 FISITA World Automotive Summit, 17-18 November, Mainz is available online.
Presentations: http://www.fisita-summit.com/presentations.html

Tekes in Finland: BioRefine Yearbook 2011. The "BioRefine" yearbook offers descriptions of 28 projects that aims to develop innovative new products, technologies and services based on biomass refining and biorefineries.
Report: http://www.tekes.fi/u/BioRefine_Yearbook_2011.pdf

Renewables 2011 – Global Status report. The REN21 Renewables Global Status Report is a unique overview of the status of renewable energy worldwide, covering markets, investment, industries, policies, and rural (off-grid) renewable energy in developing countries.
Report: http://www.ren21.net/Portals/97/documents/GSR/REN21_GSR2011.pdf

The U.S. DoE: market reports on wind energy, advanced vehicles, and fuel cell technologies.
http://www1.eere.energy.gov/wind/pdfs/51783.pdf
http://www1.eere.energy.gov/vehiclesandfuels/pdfs/2010_vt_market_rpt.pdf
http://www1.eere.energy.gov/hydrogenandfuelcells/pdfs/2010_market_report.pdf

Assessing opportunities and constraints for biofuel development in sub-Saharan Africa.
Report: http://www.cifor.org/nc/online-library/browse/view-publication/publication/3489.html

The European Technology Platform Newsletter, December 2011 newsletter, including status of the European Industrial Bioenergy Initiative (EIBI) and biofuel fact sheets.
Fact sheets: http://www.biofuelstp.eu/newsletter.html#3

IEA HIA (Hydrogen Implementing Agreement) Newsletter, June 2011.
Newsletter: http://ieahia.org/pdfs/HIANewsJune2011.pdf

IEA Bioenergy Task 39 (Commercializing Liquid Biofuels from Biomass) Newsletter, October 2011. Including biofuels research in Austria and details of meeting held in conjunction with BBEST in Brazil.
Newsletter: http://www.task39.org/LinkClick.aspx?fileticket=Vtb5VBIUxEI%3d&tabid=4348

IA-HEV (Hybrid and Electric Vehicle Implementing Agreement**)**, July 2011.
Newsletter: http://www.ieahev.org/pdfs/newsletters/hev_newsletter-2011-1.pdf

IEA Bioenergy Newsletter, December 2011. This issue covers the November ExCo68 meeting in Australia, an editorial 'Bioenergy Progresses in Australia', and a focus on Task 36 (Integrating Energy Recovery into Solid Waste Management).
Newsletter: http://ieabioenergy.com/LibItem.aspx?id=7291

EVENTS

National Biodiesel Conference & Expo 2012, 5-8 February 2012, Orlando, Florida
Conference website: http://www.biodieselconference.org/2012/

Fuels of the future, 9th Int. Conference on Biofuels, 23-24 January 2012, Berlin, Germany
Conference website: http://event.bioenergie.de/index.php?option=com_content&view=article&id=51&Itemid=25

2nd Annual Global Biofuels Summit, 25-26 January 2012, Barcelona, Spain
Conference website: http://energy.flemingeurope.com/biofuels-summit/

Next Generation Biofuels, 7-9 February 2012, London, UK
Conference website: http://nextgenbiofuels.agraevents.com/

Advanced biofuels in a biorefinery approach, 28.2. 1.3.2012, Copenhagen, Denmark
Conference website: http://www.bio4bio.dk/BiorefineryConference2012.aspx

12th Automotive and Engine Technology, 13-14 March 2012, Stuttgart, Germany
Conference website: http://www.fkfs.de/index.php?id=1840&L=2

World Biofuels Markets Congress & Exhibition, 13-15 March 2012, Rotterdam, Netherlands
Conference website: http://www.worldbiofuelsmarkets.com/

4th European Transport Research Arena, TRA 2012, 23-26 April 2012, Athens, Greece
Conference website: http://www.traconference.eu/Welcome/

European Algae Biomass, 25-26 April 2012, London, UK
Conference website: http://www.wplgroup.com/aci/conferences/eu-eal2.asp

5th Simulation and Testing for Automotive Electronics, 10-11 May, 2012, Berlin, Germany
Conference website: http://www.iav.com/en/index.php?we_objectID=17872

European Bioenergy 2012 Conference & Exhibition, 29-31 May 2012, Jönköping, Sweden
Conference website: http://www.elmia.se/en/worldbioenergy/

European Biodiesel Summit, 13-14 June 2012, Kraków, Poland
Conference website: http://www.wplgroup.com/aci/conferences/eu-eaf5.asp

20th European Biomass Conference & Exhibition, 18-22 June 2012, Milan, Italy
Conference website: http://www.conference-biomass.com/

3rd AEBIOM European Bioenergy Conference 2012, 25-27 June 2012, Brussels, Belgium
Conference website: http://www.aebiom.org/conference2012

24th AVL Conference "Engine & Environment", 13–14 September, 2012, Graz, Austria
Conference website: https://www.avl.com/engine_environment_2012_first_announcement

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