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AMFI Newsletter

Commercial-scale cellulosic ethanol plants opening *more*

The AMFI Newsletter is prepared for the members of the Implementing Agreement for Advanced Motor Fuels of the International Energy Agency (IEA/AMF).
The AMFI releases four electronic newsletters each year.
A group of authors prepares contributions to this newsletter:

- Ralph MCGILL, FEEC
- Werner TOBER and Robert ROSENITSCH, TU Vienna
- Shinichi GOTO, AIST
- Manfred WÖRGETTER, BIOENERGY 2020+

Editing by Dina Bacovsky and Nikolaus Luwiczek, BIOENERGY 2020+.
Checking by *Ralph McGill, FEEC and Päivi Aakko-Saksa, VTT.*
The AMFI Newsletter is available online at: www.iea-amf.org

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GENERAL INTEREST

EU: Progress towards Kyoto targets

April/May of 2014 was the first time that countries officially reported GHG emission data covering the full period from 2008 to 2012.This report provides an assessment of the latest progress, as of June 2014, made by EU and European countries in achieving their GHG targets during the first commitment period of the Kyoto Protocol, from 2008 until 2012.

The report provides an overview of those countries which have already achieved their Kyoto target through domestic emission reductions, and also of those which must use the Kyoto Protocol's flexible mechanisms (Flexible mechanisms allow countries to account for emission reductions occurring in other countries.) in order to do likewise. The assessment pays particular attention to the specific role played by the EU Emissions Trading Scheme (ETS) in its contribution to the achievement of Kyoto targets by EU Member States.

Source: http://www.eea.europa.eu/publications/progress-towards-2008-2012-kyoto/at_download/file

EU transport sector and it´s environmental impact

The transport sector is still generating excessive greenhouse gas emissions and harmful levels of air pollution and noise, according to the latest edition of the European Environment Agency's annual report on environment and transport.

Europeans collectively travelled 6.4 trillion km in 2012. While car transport made up more than 70 % of this distance, it has continued to decline since 2009. In contrast, air transport has increased very fast over recent decades.

Some research suggests that younger generations prefer to spend their income on long distance travel rather than on cars. Overall passenger transport demand fell 1.4 % in 2012. Freight transport volumes also fell in 2012, by 2.1 %. Transport's total energy demand has also fallen. Because these trends may be caused by the recession, it is unclear whether this will rebound in coming years.

Greenhouse gas emissions from transport fell 3.3 % in 2012. Air pollutant emissions from most transport modes also decreased, apart from air pollution emitted by planes which increased for some pollutants.

However, air quality is still harming health in Europe's cities. Levels of nitrogen dioxide and particulates in cities have been exacerbated by increasing proportions of diesel cars. This is partly a result of fuel tax policies in most European countries, which give preference to diesel over petrol-driven equivalents.

The number of alternative fuel car registrations in 2013 increased slightly. Battery electric and plug-in hybrid vehicles account for 0.5 % of total new registrations in the EU. This growth may be partly due to incentives such as scrappage schemes and company car systems which continue to support internal combustion engine vehicles in Member States.

While the vast majority of journeys are short distance, long distance freight and passenger transport demand together account for up to three-quarters of greenhouse gas transport emissions and a large proportion of air pollutant emissions.

Source: http://www.eea.europa.eu/highlights/more-action-needed-to-reduce

Study on the GHG impact of marginal fossil fuel

Biofuels represent a major option to reduce greenhouse gas emissions from the transportation sector. When assessing the benefits of biofuels, they are compared to the fossil fuels they replace. In the framework of the European Renewable Energy Directive and the Fuel Quality Directive, this is done by comparing the lifecycle greenhouse gas emissions of biofuels to a 'fossil comparator'. This fossil comparator is based on the average greenhouse gas intensity of fossil fuels brought on the EU transportation market.

However, unconventional oils such as extra heavy oil and bitumen (tar sands), kerogen oil (oil shale), light tight oil (shale oil), deep sea oil and synthetic products such as gas-to-liquids and coal-to-liquids, typically have higher carbon footprints than conventional oil mainly because the effort required to extract, refine and/or synthesize them is much larger than for conventional oil. These effects increase the carbon footprint of conventional oil. Therefore the fossil comparator should be adjusted upward to reflect these changes. Furthermore, in reality biofuels do not displace the average of fossil fuels brought on the market, but the marginal ones: those fossil fuels that are ultimately not produced because of a relatively lower and enduring demand following the introduction of biofuels.

Source: http://www.ecofys.com/files/files/ecofys-2014-ghg-impact-of-marginal-fossil-fuels.pdf

EU: CO2 emissions from passenger cars and vans

A report of the European Environment Agency presents final data for both vehicle types, updating preliminary data published earlier in 2014. The main findings are:

- The EU car fleet meets the 130 g CO2/km target two years ahead of the 2015 deadline 2015. The average specific emissions of the new European car fleet in 2013 were 126.7 g CO2/km, a reduction of 4.1 % compared to 2012.

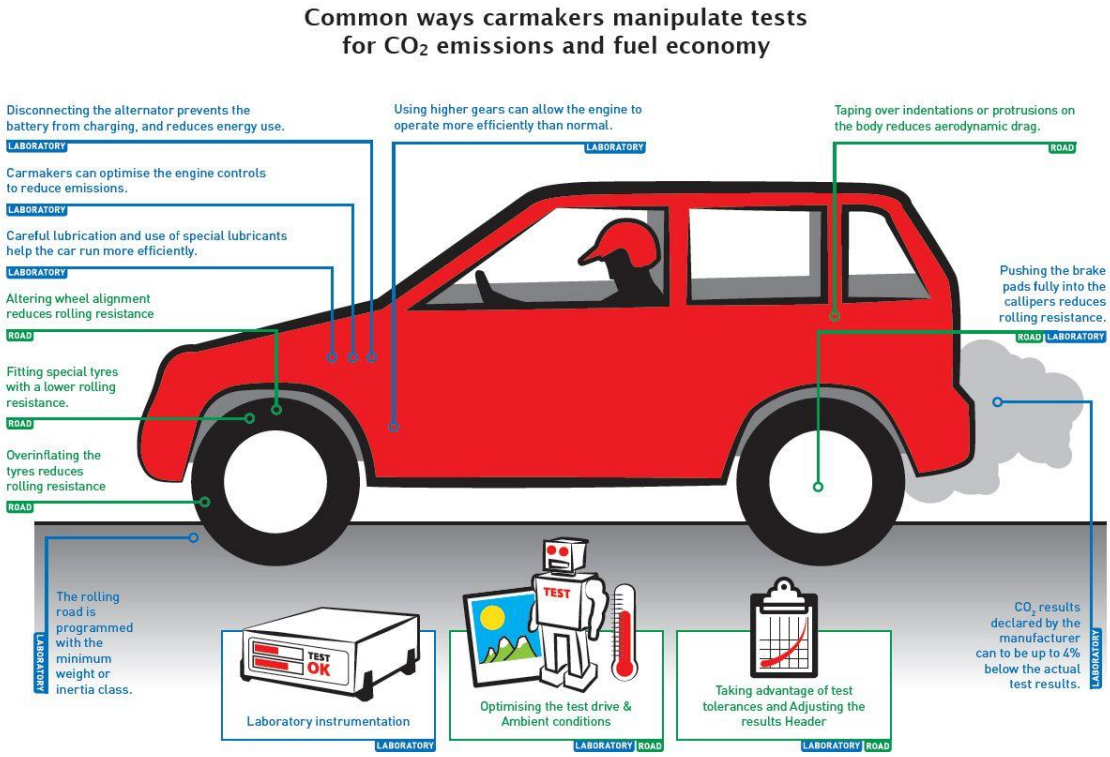
- The average specific emissions of the new light commercial vehicles European fleet in 2013 was 173.3 g CO2/km, a reduction of 3.8 % compared to 2012;

- The difference between preliminary average specific emissions (the emissions data reported by each of the Member States) and final average specific emissions data (the emissions data after any corrections made by the manufacturers) was insignificant (< 0.3 g CO2/km).

Source: http://www.eea.europa.eu/publications/monitoring-co2-emissions-from-passenger/at_download/file

EU: Manipulation of fuel economy test results

The current system of testing cars to measure fuel economy and CO2 emissions is not fit for purpose. The gap between test results and real-world performance has become a chasm, increasing from 8% in 2001 to 31% in 2013 for private motorists and without action is likely to continue to grow to over 50% by 2020. On average, only half of the improvement in emissions claimed in tests has been delivered on the road. Mercedes cars have the biggest gap between test and real world performance, and less than 20% of the improvement in emissions measured in tests of Opel/Vauxhall cars is realized on the road. Carmakers, not drivers, are the cause of the problem as obsolete official test results are manipulated and new technology is fitted to cars which largely improves fuel economy in laboratories rather than on the road.



Distorted test results deceive drivers who achieve much poorer fuel economy than is promised in glossy marketing, costing a typical motorist around €500 every year in additional fuel compared to official test results. The more money drivers spend on fuel the less is available to buy other goods and services, reducing growth and employment. By 2030, the widening gap will require drivers to cumulatively spend €1 trillion more on fuel and the EU to import 6 billion extra barrels of oil, worsening energy security and the EU's balance of payments. The distorted test results cheat EU regulations, which are designed to reduce CO2 emissions, adding 1.5bn tons of CO2 to the atmosphere by 2030 and increasing the prospects of dangerous and uncontrolled climate change. They also reduce government car tax receipts, distorting sales in favor of the carmakers best able to manipulate tests rather than those making the most efficient cars.

Source:
http://www.transportenvironment.org/sites/te/files/publications/2014%20Mind%20the%20Gap_T%26E%20Briefing_FINAL.pdf

Study on Asian Potential of Biofuel Market

This report was prepared by the Working Group for the "Study on Asian Potential of Biofuel Market" under the Economic Research Institute for ASEAN and East Asia (ERIA) Energy Project. Members of the working group are from Indonesia, Japan, Malaysia, the Philippines, and Thailand.

The study focused on the Asian potential of two types of biofuel—bioethanol and biodiesel. The objectives are to find ways and policies to promote the sustainable use of biofuels. Key issues are analyzed to find policy solutions for problems related to the domestic supply of alternative fuels, energy security, economic development, and climate change and to increase understanding of the potential of biofuels.

Source: http://www.eria.org/RPR-FY2013-20.pdf

Japan's Action for National Resilience

Japan has recurrently suffered from damage due to a number of large-scale natural disasters, and natural violence has caused tremendous suffering to the citizens of Japan. The Great East Japan Earthquake brought to mind again the forces of nature.

The Basic Act for National Resilience, contributing to preventing and mitigating disasters by developing resilience in the lives of the citizenry, was established in June 2014. The Act includes many measures to enhance the national resilience in various areas, including energy, aiming for a strong energy supply chain. For example the introduction of independent and distributed energy provision systems, such as cogeneration power plants, fuel cells, renewable energy and hydrogen is promoted. Furthermore the introduction of renewable energy utilizing resources like biomass, water and land etc. in rural districts is promoted. Another energy security measure mentioned in the Action Plan for National Resilience 2014 is the promotion of CNG vehicles**.**

Source: http://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/index_en.html

US: RFS volumes delayed until next year

The Environmental Protection Agency (EPA) is announcing that the Agency will not be finalizing 2014 applicable percentage standards under the Renewable Fuel Standard (RFS) program before the end of 2014. This leaves biofuel producers and fuel refiners with uncertainty over the volumes of biofuels to be produced in 2014, although these volumes should have been announced a year ago.

Link: http://www.epa.gov/otaq/fuels/renewablefuels/documents/fr-notice-2014-rf-standards.pdf

There is controversial discussion over biofuels and the Renewable Fuel Standard. Biofuel producers continue to urge to keep the RFS in place, and to quickly decide upon volumes:

http://www.renewableenergyworld.com/rea/news/article/2014/11/epa-abandons-renewable-fuel-standard-rulemaking-for-2014; http://www.renewableenergyworld.com/rea/news/article/2014/07/biofuel-advancement-threatened-how-can-we-save-the-renewable-fuel-standard

The American Fuel & Petrochemical Manufacturers Association has announced its intention to sue the Environmental Protection Agency (EPA) for failure to issue the 2014 and 2015 Renewable Fuel Standard (RFS): *http://www.afpm.org/news-release.aspx?id=4615*

Yet, others claim that the US Renewable Fuel Standard is the problem, not the solution: *http://www.usnews.com/opinion/blogs/peter-roff/2013/11/12/its-time-for-congress-to-scrap-the-renewable-fuel-standard*

GASEOUS FUELS AND LNG

LNG for marine in North America

The use of natural gas as a marine fuel that allows vessel operators to comply with the low-sulfur fuel requirements of the North American Emissions Control Area is beginning to catch on in the container shipping industry. Beginning on Jan. 1, vessels operated in a 200-mile zone off the coasts of the U.S. and Canada must burn fuel with a sulfur content of no more than 0.1 percent sulfur. That is a significant reduction from the 1 percent sulfur content that has been enforced in the North American ECA since 2012.

For many shipping lines that operate almost entirely within the ECA, liquefied natural gas is the logical choice of fuels to burn in the vessel's main engine. LNG is a clean, affordable and environmentally sustainable fuel. It costs much less than marine gas oil and other low-sulfur fuels. Its sulfur content actually exceeds most existing fuel standards.

For carriers in the trans-Pacific and other international trades, however, the use of LNG within the 200-mile ECA is not such a straightforward decision. Trans-Pacific vessel operators that choose to burn LNG within the ECA must carry the fuel on board, and they must have access to re-fueling stations at the ports where they call. As fueling stations are developed, the use of low-cost, low-emission LNG is expected to become more prevalent.

Source: http://www.joc.com/maritime-news/container-lines/lng-slowly-gaining-support-marine-fuel_20141207.html

LNG for marine in the EU

The EU's TEN-T Programme will co-finance with over €4 million the construction of an innovative propulsion system with liquefied natural gas (LNG) for a combined passenger and freight ferry in Germany. The ferry will serve as a pilot for a new generation of green ships, which aim to cut down on air pollution over the sea.

European Regulations require the shipping sector to reduce marine sulfur emissions in the North Sea to 0.1% as of January 2015. One of the ways for the sector to reach this goal is to use cleaner fuels, such as LNG.

This project will work towards two major environmental and socio-economic goals: to reduce the sulfur emissions from the ships through the use of LNG and to relieve traffic by combining passenger and freight transport on the same vessel.

Source: http://inea.ec.europa.eu/en/news__events/newsroom/eu-supports-the-construction-of-a-green-ferry-in-germany-.htm
Link: http://inea.ec.europa.eu/en/ten-t/ten-t_projects/ten-t_projects_by_country/germany/2013-de-92079-s.htm?utm_source=EurActiv+Newsletter&utm_campaign=9a8d1ec41d-newsletter_energy&utm_medium=email&utm_term=0_bab5f0ea4e-9a8d1ec41d-245716357

ALCOHOLS AND (BIO)GASOLINE

Cellulosic ethanol production starting

In 2014, several large-scale facilities for the production of ethanol from lignocellulosic feedstock finally came online:

- POET-DSM Advanced Biofuels built a facility in Emmetsburg, Iowa, USA, with a capacity of 75 000 tons per year of production
  http://news.nationalgeographic.com/news/energy/2014/09/140911-project-liberty-cellulosic-ethanol-us-test/

- Abengoa built a facility in Hugoton, Kansas, USA, with a capacity of 75 000 tons per year
  http://energyblog.nationalgeographic.com/2014/10/17/production-begins-at-second-cellulosic-biofuel-facility/

- GranBio built a facility in Sao Miguel dos Campos, Alagoas, Brazil, with a capacity of 65 000 tons per year
  http://www.biofuelsdigest.com/bdigest/2014/09/24/granbio-starts-cellulosic-ethanol-production-at-21-mgy-plant-in-brazil/

Another facility at similar scale is currently under construction by Du Pont in Nevada, Iowa, USA. These large-scale facilities are needed as to enable technological learning at commercial scale and to bring down the costs for future installations. They could mark the start of a quick ramp-up of production capacities, especially if they are designed as add-ons to existing conventional ethanol production facilities.

Follow the development: http://demoplants.bioenergy2020.eu

BIODIESEL ESTERS

Thailand: New Mandates B7 since 1 January 2014

Since 1 January 2014, Thailand has raised its mandate of biodiesel blend from 5% to 7%, in order to achieve the biodiesel target of 7.2 million liters per day by 2021 as laid down in the 10-Year Alternative Energy Development Plan. This increase in biodiesel blend was made possible by a series of discussions and negotiations among related stakeholders especially biodiesel producers, fossil fuel refineries and automotive manufacturers, with the final conclusion to modify a few items in diesel specification as follows.

- Oxidation stability not less than 35 hours following EN 15751
- Water content not more than 300 mg/kg following EN ISO 12937
- Total contamination not more than 24 mg/kg following EN 12662

However, as Thailands biodiesel policy has placed biodiesel usage as surplus after domestic edible oil demand, mandated percentage blend of biodiesel is adjustable subjected to palm oil availability, which has varied during 2014. As of August 2014, the average biodiesel usage as 7% blend in diesel is 3.35 million litres per day.

Links:
Diesel specification (effective 1 February 2013) specifying 4.5-5% blend of biodiesel (http://www.ratchakitcha.soc.go.th/DATA/PDF/2556/E/013/70.PDF)

Department of Alternative Energy Development and Efficiency (DEDE), "10-Year Alternative Energy Development Plan (2012-2021)" revised by National Energy Policy Committee on 16 July 2013 (http://weben.dede.go.th/webmax/content/dede-adjusts-alternative-energy-target)

Diesel specification (effective 1 January 2014) specifying 6-7% blend of biodiesel (http://www.ratchakitcha.soc.go.th/DATA/PDF/2556/E/158/18.PDF)

Department of Alternative Energy Development and Efficiency (DEDE), "Alternative Fuel Policy for Thai Transportation", Automotive Summit 2014: Green Mobility Changing the World, Bangkok/Thailand, 20 June 2014 (http://www.thaiauto.or.th/2012/Automotive-Summit2014/doc/Program_files/PPT/221/Mrs.%20Sirinthorn%20Vongsoasup.pdf)

http://fuelsandlubes.com/oiltrends/lower-palm-output-causes-hiccup-in-b7-production/

Department of Energy Business (DOEB), Biodiesel amount sold as blended component in Thai commercial diesel (http://www.doeb.go.th/info/data/datadistribution/biodieselB100.pdf)

Germany: Safe Additivation of Biodiesel

The Association Quality Management Biodiesel (AGQM) started a new test round of Biodiesel oxidation stabilizers. The sophisticated tests aim at eliminating possible detrimental interactions of additives when blended with Diesel fuel. The use of oxidation stabilizers is highly recommended for B7 which is the reason why today in almost all cases already producers blend Biodiesel with oxidations stabilizers. It is necessary to make sure that additivation continues to guarantee a safe application of the end product.

The no-harm test developed by AGQM in cooperation with the mineral oil industry is intended to safeguard that no impairment of the fuel itself or impermissible interaction with other fuel components need be feared. In addition, tests are carried out concerning the relative efficiency to be able to best adapt the use of additives in the individual case with regard to economic aspects also.

The no-harm list published on AGQM's homepage lists all 42 oxidation stabilizers successfully tested so far. A report of all current test results (made anonymous) is available from AGQM's Berlin office.

Both nationally and internationally, AGQM offers a concept of measures for the quality assurance of Biodiesel which comprises the entire production and marketing chain. The association is involved in research projects for most diverse application options of Biodiesel and its by-products.

Source: AGQM; Link: http://www.agqm-biodiesel.de/en/news/press/safe-additivation-of-biodiesel-agqm-s-9th-no-harm-test-round-commenced/

RENEWABLE DIESEL / JET

Oslo becomes first bio-jet fuel hub

Avinor's Oslo Airport will become the world's first hub to receive regular deliveries of bio-fuel. It's also the first time that sustainable bio jet fuel will be used in the hydrant system of the airport. The plan is to start delivering biofuel already in March 2015, and that Statoil Aviation will deliver 2,5 million liters of sustainable bio-fuel to the tank facility at Oslo Airport in the first 12 months. This corresponds to approximately 3,000 flights between Oslo and Bergen with a 50 per cent bio-fuel mix.

While the initial bio-fuel deliveries will probably come from used cooking oil, major players in the Norwegian power and forestry industries are now exploring the possibility of forest-based large-scale production of bio-fuel for aviation in the course of a few short years.

To date, Statoil Aviation has entered into agreements with Lufthansa Group (Lufthansa, SWISS, Austrian Airlines, Germanwings, Eurowings, Brussels Airlines), SAS and KLM for deliveries of bio-fuel at Oslo Airport.

There are currently two concrete industrial Norwegian initiatives for production of bio-fuel: Statkraft and Södra at Tofte in Hurum, and Viken Skog / Treklyngen at Follum in Hønefoss. Both projects are now looking into the possibility of producing both bio-diesel, which is needed in the heavy transport sector, and the bio-jet fuel needed in aviation.

Source/ read more: www.airtrafficmanagement.net/2014/11/oslo-becomes-first-biojet-fuel-hub/

OTHER FUELS AND VEHICLES

The impact of biofuels from algae

Biofuels from microalgae are potentially important sources of liquid renewable energy. Algae are not yet produced on a large scale, but research shows promising results. A new study assesses the blue water footprint (WF) and land use of algae-based biofuels. It combines the WF concept with an energy balance approach to determine the blue WF of net energy. The study considers open ponds and closed photo bioreactors (PBRs). All systems have a positive energy balance, with output-input ratios ranging between 1.13 and 1.98.

The study shows that the WF of algae-based biofuels lies between 8 and 193 m3/GJ net energy provided. The land use of micro algal biofuels ranges from 20 to 200 m2/GJ net energy. For a scenario in which algae-based biofuels provide 3.5% of the transportation fuels in the European Union in 2030, the system with the highest land productivity needs 17,000 km2 to produce the 850 PJ/yr. Producing all algae based biofuels through the system with the highest water productivity would lead to a blue WF of 7 Gm3/yr, which is equivalent to 15% of the present blue WF in the EU28. A transition to algae-based transportation fuels will substantially increase competition over water and land resources.

Source: http://ayhoekstra.nl/pubs/Gerbens-Leenes-et-al-2014.pdf

Electric vehicles in the US

In 2013, there were about 70,000 battery electric vehicles (EVs) and 104,000 plug-in hybrid electric vehicles (PHEVs)—small numbers compared to around 226 million registered vehicles in the United States. Total U.S. sales of plug-in electric vehicles (PEVs) have increased in recent years, but still represent only about 0.7% of new vehicle sales in 2014 so far, up from 0.6% in 2013 and 0.4% in 2012. California is home to almost half of all of the nation's PEVs, but even in California, only about 5 out of every 1,000 registered vehicles are PEVs.

Several states offer tax incentives to reduce the upfront cost of PEVs to consumers. These incentives are in addition to a federal (nationwide) tax credit, which ranges from $2,500 to $7,500 depending on battery capacity and gross vehicle weight. California offers rebates of up to $2,500 for EVs that run only on a charge, and $1,500 for PHEVs, which can also run on gasoline.

Some utility companies offer special electricity rate structures for PEV owners to incentivize vehicle charging during off-peak hours, generally in the evening.

California implemented a ZEV mandate that requires automobile companies to produce for sale a certain percentage of zero emission vehicles, such as electric and hydrogen fuel cell. By 2025, approximately 15% of all new light-duty vehicles sold in the state must be either electric or fuel-cell powered. Nine states have agreed to follow California's ZEV mandate: These ten states represent close to one-quarter of the U.S. light-duty vehicle market.

Source: http://www.eia.gov/todayinenergy/detail.cfm?id=19131&src=email

Alternative-fuel vehicles are hard to sell

Ford boosted C-Max incentives, but the move failed to improve sales.

The U.S. Energy Information Administration, the Energy Department's research arm, says gasoline prices will fall from a projected $3.45 per gallon this year to $3.38 next year, which would be the third straight year of lower prices.

Dealer lots are flush with hybrids and fuel-efficient small cars developed over the past several years in anticipation of continued oil shocks and higher federal mpg standards. As fuel prices drop, those vehicles increasingly need a push out the door.

Alternative-powertrain vehicles, which once commanded a significant premium over their gasoline-powered counterparts, now come with heavy incentives. Data from KBB.com show that Toyota boosted Prius incentives to $2,300 per vehicle in September from $1,400 a year ago while Ford ramped up C-Max spiffs to $4,900 from $2,650 per vehicle in the same period; neither move helped sales.

"It's just difficult to justify paying a premium for an alternative fuel when the payback on that takes forever," said Dave Zuchowski, CEO of Hyundai Motor America.

Despite their low volume, alternative-powertrain vehicles are central to automakers' plans to comply with toughening federal fuel economy standards. If low prices persist, Eric Ibarra, senior analyst with Kelley Blue Book, says, "Manufacturers may be put in a position where they have to produce cars that consumers don't want to buy."

Source: http://www.autonews.com/article/20141020/RETAIL01/310209822/falling-gasoline-prices-make-alternative-fuel-vehicles-a-tougher-sell

MISCELLANEOUS

Malaysian state Sarawak Biomass Hub

The Malaysian state Sarawak takes the regional lead in the biomass based industry with the setting up of South East Asia's first Commercial Scale 2nd Generation (2G) Bioethanol and Biochemical plant in the state. Brooke Renewables and Hock Lee Group presented a Letter of Intent to the Sarawak State Government marking their intention to invest in the 2G Bioethanol and Biochemical plant as the first phase of the Sarawak Biomass Hub project. Brooke Renewables and its consortium of partners will be investing USD 1 billion over the next five years to develop the Sarawak Biomass Hub project.

The MOU between Hock Lee Group and Biochemtex Agro is to establish a dedicated biomass plantation that is sustainable, self-sufficient and in compliance with globally accepted standards. This biomass resource is renewable and provides the bioethanol and biochemical plant secured feedstock to ensure long-term operations of the plant.

Under the MOU, both companies will work together to ensure proper waste management solutions for the biomass cluster and the possibility of creating the largest carbonized pellet plant as part of a holistic approach in maximizing the use of renewable resources for power and steam generation.

The development of the Sarawak Biomass Hub is in line with the government's vision underlined in the National Biomass Strategy 2020, which emphasizes on the capitalization of biomass by channeling it into higher value downstream uses. This strategy provides the roadmap for utilizing some of the 100 million tons by 2020 of by-products produced annually by palm oil plantations alone, to create high value new industries.

Source: http://innovation.my/media_room/sarawak-poised-to-be-a-regional-hub-for-biomass/

IEA & IEA-AMF NEWS

AMF extension granted

The AMF Implementing Agreement was recently granted extension for another five years, until 28 February 2020. The CERT decision was based on the AMF End of Term Report 2009-2015 and the AMF Strategic Plan 2015-2019. While the End of Term Report summarizes AMF activities, findings and impact over the past five years, the Strategic Plan outlines the global trends and challenges we are facing and how AMF intends to contribute to a sustainable transportation system. Both documents can be downloaded from the AMF website.

AMF End of Term Report 2009-2015: http://iea-amf.org/app/webroot/files/file/AMF%20Documents/public/IEA-AMF%202009-2015%20EoT%20Report%20FINAL.pdf

AMF Strategic Plan 2015-2019: http://iea-amf.org/app/webroot/files/file/AMF%20Documents/public/061114_IEA-AMF_Strategic%20Plan_FINAL.pdf

AMF ExCo 48

The 48th Meeting of the AMF Executive Committee was held 3 – 5 November 2014 in Paris, France. There were 26 participants, including Chile and the Methanol Institute as Observers and 7 members of the Energy Technology Network. The informal meeting was held at IEA headquarters, which offered the possibility to strengthen the ties with IEA Secretariat.

Drawing on the opportunity, part of the informal meeting was dedicated to information exchange with IEA experts. Presentations included an outlook for biofuels (Anselm Eisentraut), transportation

modeling of the oil market group (Matthew Parry), and focus of the Energy Technology Perspectives publications 2015 and 2016 (JF Gagne).

During the formal meeting, Magnus Lindgren, delegate for Sweden was elected ExCo Chair; Nils-Olof Nylund, delegate from Finland, and Japan was elected Vice-Chair.

Recent developments in biofuels

As Anselm Eisentraut reported during the ExCo 48 meeting, biofuels production is falling far behind the targets of the IEA Biofuel Roadmap. Although emerging markets continue expanding biofuels production, shifting policy grounds in the established markets of Europe and North America undermine medium-term growth in biofuel production. Reasons for loss in political support in the EU include concerns over indirect land use change (ILUC) caused by biofuels; in the US, late publishing of mandated market volumes and repeated diminution of the target volumes for cellulosic ethanol add uncertainty about future advanced biofuels markets. Stable, long-term policy frameworks, including clear sustainability guidelines, will be vital for further growth.

Topics of interest for further AMF work

Several topics were discussed as relevant for new annexes.

- Sustainable bus systems
- Fuel technologies for high efficiency engine operation
- Real driving emissions and fuel consumption
- Advanced fuels in advanced engines
- Marine fuels
- Aviation fuels
- Transportation and storage of renewable energy carriers

Current AMF Annexes / Projects

Annex 28: Information Service & AMF Website (AMFI)

Annex 35 Subtask 2: Particulate Measurements: Ethanol and Butanol in DISI Engines
NEW: final report available: *http://iea-amf.org/app/webroot/files/file/Annex%20Reports/AMF_Annex_35-2.pdf*

Annex 42: Toxicity of Exhaust Gases and Particles from IC-Engines

Annex 43: Performance Evaluation of Passenger Car, Fuel, and Powerplant Options

Annex 44: Alcohol fuels including methanol, by CATARC, China

Annex 45: Hydrotreated vegetable oil, by Germany and Denmark

Annex 46: Alcohol Application in CI Engines, by DTU

Annex 47: Reconsideration of DME Fuel Specifications for Vehicles

Annex 48: Value Proposition Study on Natural Gas Pathways for Road Vehicles

Annex 49: COMVEC – Fuel and Technology Alternatives for Commercial Vehicles

Annex 50: Fuel and Technology Alternatives in Non-Road Engines

Annex 51: Methane Emission Control

Check *www.iea-amf.org* for more details!

Next ExCo Meetings

ExCo 49: 10-14 March 2015 in Gwangju, South Korea in conjunction with the ISAF conference

ExCo 50: week of 26-30 October 2015 in Jerusalem, Israel

PUBLICATIONS

- **Evaluation of Environmental Impact of Biodiesel Vehicles in Real Traffic Conditions.** The final report of AMF Annex 38 compares real-world emissions between the case of using conventional diesel fuel and biodiesel such as Fatty Acid Methyl Ester (FAME), Hydrotreated Vegetable Oil (HVO) and Biomass to Liquid (BTL). Testing conducted includes on-road driving tests, chassis dynamometer tests, and an engine bench tests.
  Link: http://iea-amf.org/app/webroot/files/file/Annex%20Reports/AMF_Annex_38-2.pdf

- **Enhanced emission performance and fuel efficiency for HD methane engines.** The final report of AMF Annex 39 provides the results of a literature study and of vehicle testing in Canada, Finland and Sweden, both on the state-of-the-art engine technology for methane as fuel. Testing was carried out on-road with vehicles in normal operation, during various driving conditions and in sophisticated emission laboratories. Methane is a global fuel with a high potential for use in heavy-duty vehicles, but additional development is still needed to reach adequate performance regarding fuel efficiency and/or exhaust emissions.
  Link: http://iea-amf.org/app/webroot/files/file/Annex%20Reports/AMF_Annex_39-2.pdf

- **Toxicity of Exhaust Gases and Particles from IC-Engines – International Activities Survey (EngToxIn).** The final report of AMF Annex 42 provides information about activities concerning the research on toxicity of exhaust gases from internal combustion engines in different countries. It also gives some ideas about the available information sources.
  Link: Report: http://iea-amf.org/app/webroot/files/file/Annex%20Reports/AMF_Annex_42-2014.pdf;
  Annexes: http://iea-amf.org/app/webroot/files/file/Annex%20Reports/AMF_Annex_42-2014_annexes.pdf

- **CO2 Emissions From Fuel Combustion Highlights 2014.** In the lead-up to the UN climate negotiations in Lima, the latest information on the level and growth of CO2 emissions, their source and geographic distribution will be essential to lay the foundation for a global agreement. To provide input to and support for the UN process, the IEA is making available for free download the "Highlights" version of CO2 Emissions from Fuel Combustion now on sale at the IEA Bookshop. This annual publication contains, for more than 140 countries and regions:

  - estimates of CO2 emissions from 1971 to 2012
  - selected indicators such as CO2/GDP, CO2/capita and CO2/TPES
  - a decomposition of CO2 emissions into driving factors
  - CO2 emissions from international marine and aviation bunkers, and other relevant.

  Source:
  http://www.iea.org/publications/freepublications/publication/CO2EmissionsFromFuelCombustionHighlights2014.pdf

- **World Energy Outlook 2014**. Now with projections to 2040, the World Energy Outlook presents all the latest data and developments to produce a comprehensive and authoritative analysis of medium- and longer-term energy trends. It also includes in-depth analyses of energy in Africa, nuclear power, and energy sector investment.
  Link: http://www.oecd-ilibrary.org/energy/world-energy-outlook-2014_weo-2014-en

- **Energy Policies of IEA Countries: European Union 2014 Review** provides recommendations on how climate and energy targets can be reached in a cost-effective and integrated way, while fostering the competitiveness and energy security of the European Union

  Link: http://www.oecd-ilibrary.org/energy/energy-policies-of-iea-countries-european-union-2014-review_9789264190832-en

- **Energy, Climate Change and Environment.** This book examines the opportunities to promote synergies between energy, environmental and climate policies and includes an update of key energy and emissions statistics for ten world regions.

  Link: http://www.oecd-ilibrary.org/energy/energy-climate-change-and-environment_9789264220744-en

- **ICCT European Vehicle Market Statistics 2014** offers a statistical portrait of passenger car and light commercial vehicle fleets in the European Union, updated annually. The emphasis is on vehicle technologies and emissions of greenhouse gases and other air pollutants.

  Link: http://eupocketbook.theicct.org/?utm_source=ICCT+mailing+list&utm_campaign=ef8c05ca30-New_releases_November_2014&utm_medium=email&utm_term=0_ef73e76009-ef8c05ca30-423555101

- **ICCT Evaluation of state-level U.S. electric vehicle incentives.** Introduces a novel methodology to monetize the benefit to consumers of electric vehicle incentives provided by U.S. states, and finds that more battery-electric vehicles are sold in states offering a greater total package of incentives.

  Link: http://theicct.org/sites/default/files/publications/ICCT_state-EV-incentives_20141030.pdf

- **ICCT study on Real-world exhaust emissions from modern diesel cars** documents the discrepancy between type-approval and real-world NOx emissions from new diesel passenger cars. On average, on-road NOx emissions from the vehicles tested for this analysis were about seven times higher than the limits set by the Euro 6 standard.

  Link: http://www.theicct.org/sites/default/files/publications/ICCT_PEMS-study_diesel-cars_20141010.pdf

- **Benchmarking biofuels—a comparison of technical, economic and environmental indicators.** This paper considers a selection of biofuel options (biodiesel, bioethanol, biomethane, hydrotreated vegetable oils and fats, lignocellulosic-based fuels) and characterises them by their conversion technologies and stage of development. They were analysed, concerning technical, economic and environmental aspects. Additionally, GHG mitigation costs were calculated.

  Link: http://www.energsustainsoc.com/content/4/1/20

- **IEA Bioenergy Task 39 Newsletter.** This newsletter of the "Liquid Biofuels " Task includes a feature article on the situation for biofuels in Brazil, along with other updates on advanced biofuels.

  Link: http://task39.org/files/2013/05/IEA-Bioenergy-Task-39-Newsletter-Issue-37-Brazil-September-Final.pdf

EVENTS

Fuels of the Future 2015, 19-20 January 2015, Berlin, Germany

Conference website: http://www.ufop.de/english/news/fuels-of-the-future-2015-invitation-for-sponsors-and-call-for-papers/

Lignofuels 2015, 21-22 January 2015, Madrid, Spain

Conference website: http://www.wplgroup.com/aci/conferences/eu-eef6.asp

10th International Colloquium Fuels – Conventional and Future Energy for Automobiles, 20-22 January 2015, Stuttgart, Germany

Conference website: www.tae.de/fuels

Clean Car Expo, 16-18 February 2015, San Diego, CA, USA
Conference website: http://www.cleancarexpo.com/

21st International Symposium on Alcohol Fuels, 10-14 March 2015, Gwangju, Republic of Korea
Conference website: www.2015isaf.org

23rd European Biomass Conference and Exhibition, 1-4 June 2015, Messe Wien - Vienna – Austria
Conference website: www.eubce.com

15th EAEC European Automotive Congress, 8–10 June 2015, Györ, Hungary
Conference website: http://eaec2015.org/

5th EUROPEAN PEFC & H2 FORUM, 30 June 2015, Lucerne, Switzerland
Conference website: http://www.efcf.com/index.php?id=1237

IEA Bioenergy Conference 2015 - Realising the world's sustainable bioenergy potential, 27-28 October 2015, Berlin, Germany
Conference website: http://ieabioenergy2015.org/

ANGVA's 6th Biennial International Conference & Exhibition (ANGVA 2015), 4-6 November 2015, Chengdu, China
Conference website: http://www.angva.org/?p=1091

IEA AMF Delegates

Austria
Austrian Federal Ministry for Transport, Andreas Dorda

Canada
CanmetENERGY, Niklas Ekstrom

People's Republic of China
CATARC, Donglian Tian

Denmark
DTU, Jesper Schramm

Finland
VTT, Nils-Olof Nylund

France
IFPEN, Jean-Francois Gruson

Germany
FNR, Birger Kerckow

Israel
Ministry of Energy and Water Resources, Bracha Halaf

Italy
Eni SpA, Pietro Scorletti

Japan
AIST, Shinichi Goto
LEVO, Nobuichi Ueda

South Korea
KETEP, Hyun-choon Cho

Spain
IDAE,
Francisco José Domínguez Pérez

Sweden
Swedish Transport Administration, Magnus Lindgren

Switzerland
SFOE, Sandra Hermle

Thailand
PTT, Nirod Akarapanjavit

The United States
DOE, Steve Goguen

Editor: BIOENERGY 2020+, Gewerbepark Haag 3, A-3250 Wieselburg-Land dina.bacovsky@bioenergy2020.eu *Dina Bacovsky*