

AMFI Newsletter



Increased interest in natural gas as a motor fuel ([Gaseous Fuels](#))

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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www.iea-amf.vtt.fi

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GENERAL INTEREST

GHG emissions from transport

The significance of GHG emissions due to transport infrastructure and vehicle manufacturing and disposal within the total transport GHG footprint was assessed within the project EU Transport GHG: Routes to 2050 II. This project will develop an enhanced understanding of the wider potential impacts of transport GHG reduction policies, as well as their possible significance in a critical path to GHG reductions to 2050.

The report concludes that GHG emissions due to transport infrastructure and vehicle manufacturing and disposal are significant components of the current overall transport GHG footprint that are likely to significantly increase in their importance in the long term. Policy action should therefore be taken to minimize the degree to which future GHG emissions from infrastructure development and use, vehicle production and disposal erode the GHG savings benefits due to the improved operational energy use of vehicles.

Source: website for the EU Transport GHG: Routes to 2050 project: <http://www.eutransportghg2050.eu/cms/reports/>

Download: <http://www.eutransportghg2050.eu/cms/assets/Uploads/Reports/EU-Transport-GHG-2050-II-Task-2-draftfinal1Mar12.pdf>

Ground-level ozone concentration

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 serious levels during summer 2011.

Independent of the episodic nature of ozone pollution and the strong influence of meteorological conditions, emissions of ozone precursor gases are sustaining a baseline number of exceedances of the various thresholds. Decreased anthropogenic emissions of some ozone precursors (nitrogen oxides (NOX), carbon monoxide (CO) and some volatile organic compounds (VOCs)) in the past two decades did not manifest in significant reductions in the number of such exceedances. The ozone pollution problem therefore requires further mitigation efforts.

Source: European Environment Agency (EEA) - Publications <http://www.eea.europa.eu/publications/air-pollution-by-ozone-2011>

Download: http://www.eea.europa.eu/publications/air-pollution-by-ozone-2011/at_download/file

Oil and the global economy

More than a century and a half after its discovery, oil continues to play an essential role in the global economy, despite fears that reliance on petroleum is fueling rapid climate change. Over the last decade, the price of oil has taken a roller coaster ride, usually in a cyclical pattern that is consistent with the global economy ups and downs. A strong economy tends to increase the demand for oil and drive up the price, while a weak economy generally has the opposite effect.

As a general rule, economists say a \$10 decline in the price of a barrel of oil increases economic growth 0.2 to 0.3 percentage points, helping many businesses dependent on oil, like airlines and makers of plastics and fertilizers. But the opposite is true as well, and the surge in gas prices in 2012 raised fears that it might damage the still-vulnerable economic recovery.

Besides price volatility, concerns about energy security, as well as the environment and the threat of global warming, have put oil's position under pressure. There are also concerns about the effects of instability in the Arab world, as well as tensions between the United States and Iran.

Source: <http://topics.nytimes.com/top/news/business/energy-environment/oil-petroleum-and-gasoline/index.html>

California promotes alternative fuels

The California Energy Commission approved funding of \$23 million for projects that will advance the development of green fuels, and the installation of fueling stations. "We support a range of

efforts, from cutting-edge scientific research to the development of alternative fueling stations” said Energy Commissioner Carla Peterman. The awards are provided through the Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program. The program provides \$100 million annually to encourage the development and use of alternative and renewable fuels and new vehicle technologies.

Source: www.energy.ca.gov/releases/2012_releases/2012-06-13_alt_transportation_fuels_award_nr.html

GASEOUS FUELS

Canada will implement national NGV roadmap



Industry and government representatives have recently met in Ottawa to launch the implementation of a roadmap that will guide market development for natural gas as a transportation fuel in the country. The initiative will mainly focus on medium- and heavy trucks and buses that operate in regional corridors and urban fleets.

According to the Canadian Natural Gas Vehicle Alliance, natural gas use in vehicles can open a new market for an abundant Canadian resource and help offset declining exports to

the U.S. "The Government of Canada is committed to working together with the natural gas industry to encourage innovation and job creation across Canada and reduce greenhouse gas emissions," added Minister of Natural Resources Joe Oliver.

Source: <http://www.ngvjournal.dreamhosters.com/en/markets/item/7605-canada-will-implement-national-ngv-roadmap>

EU project to boost the biomethane market

GreenGasGrids is a 3-year project co-funded by the Intelligent Energy for Europe (IEE) program with the objective to boost the biomethane market in Europe and to establish a cross-border market. The project brings public and private biomethane stakeholders together in order to reduce the most hindering barriers and jointly setting up strategies for the promotion of biomethane injection and utilisation for heat, electricity and vehicle fuel.

More information: www.greengasgrids.eu

1.6 million NGVs in Europe

There are currently 1.6 million methane powered vehicles in pan-geographical Europe (EU/EFTA plus eastern European countries) compared with 1.4 million units in the first half of 2011 (+14%). On a global scale the data shows a rise by 8% (from 13.4 to 14.5 million NGVs).

Source: NGVA Europe

Link: <http://www.ngvaeurope.eu/statistical-information-on-the-european-and-worldwide-ngv-status>

CNG vehicle rentals in US

The Hertz Corporation is announcing the introduction of compressed natural gas (CNG) vehicles to its fleet in the US. Hertz will begin renting eight CNG Honda Civics and two CNG GMC Yukons at Will Rogers World Airport in Oklahoma City early next month. All vehicles will include NeverLost GPS units to assist renters in mapping local CNG refueling stations.

The expansion of energy-efficient and clean vehicles stems from the launch of Living Journey, Hertz's global sustainability strategy announced earlier this year.

Source: <http://finance.yahoo.com/news/hertz-introduces-compressed-natural-gas-205700079.html>

HKS supplies CNG Engine to Isuzu

HKS CO., LTD. who is one of the Japanese major companies manufacturing and selling automobile aftermarket parts, will supply CNG engines for heavy duty trucks to Isuzu Motors Limited. This is the first challenge for HKS to supply CNG engine to motor company. The CNG engine will be manufactured at the new factory built in the head office site in Fujinomiya, Shizuoka, and will be exported to Isuzu's factory in Thailand.

HKS developed CNG engine based on Isuzu's diesel engine for heavy duty vehicles using original developed cylinder head, turbo charger, etc. The mileage is achieved about 500 km without decreasing power output compared to the base diesel engine.

In a CNG producing country, Thailand, CNG price is cheaper than gasoline, therefore, the need for CNG vehicles is increasing. HKS expects the sales volume of CNG engines achieve over 30 million JPY.

Source: 9 May, 2012, Nikkan Jidosha Shimbun (Daily Automobile News)

LNG import terminal planned

Gasum Oy is planning the imports of liquefied natural gas (LNG). The company is exploring the feasibility of constructing a large import terminal in Southern Finland. If completed, the terminal investment is anticipated to total several hundreds of millions of euros. The environmental impact assessment (EIA) procedure covering both potential sites begins in April. The terminal would enable the imports of an amount of LNG corresponding to 25–50% of Finland's current gas consumption.

According to Gasum CEO Antero Jännes, the LNG project is justified by the positive LNG price development seen in the past decades, with the underlying reasons for this being the increased LNG production capacity and the utilisation of new gas resources. This has made LNG a competitive alternative to gas imported via the pipeline network.

Source: Gasum press release, <http://www.gasum.com/Corporateinfo/news/Pages/LNGimportterminalforSouthernFinland.aspx>

LNG bus demonstration in Poland

GAZPROM Germania together with the Polish bus manufacturer Solbus and local municipal transport companies are organizing a series of demo-runs of LNG-fuelled buses during April and May 2012. Two Solbus Solcity buses are servicing regular lines in several Polish cities, available for the use of the general public.

Liquefied natural gas at temperatures of between -161 °C and -139 °C can be used as a motor fuel and is as environmentally friendly as the established CNG (compressed natural gas), which already today is one of the most promising alternative motor fuels, offering savings on ever increasing petrol and diesel prices and 25 % lower CO2 emissions.

Source: NGVA Europe

Link: <http://www.ngvaeurope.eu/gazprom-germania-and-solbus-demonstrate-lng-fuelled-buses-in-poland>

LNG bus demonstration in Beijing

The two biggest energy companies in China, CNPC and Sinopec, both selected Beijing as the city for LNG bus demonstration, which aims to show that utilization of LNG buses will be one of the most important directions for alternative fuel vehicles in the near future.

On Mar. 15 2012, Sinopec declared that the company had signed a strategy cooperation agreement with the Beijing Municipal Government to promote the use of LNG buses in Beijing. According to the agreement, a new jointly company will be founded by Sinopec Beijing and Beijing Gas Group. This company will be responsible for investing and managing LNG buses, building the LNG infrastructure as well as providing the related services. The LNG bus fleet will be running on Chang'an Avenue at the end of this September according to plan.

On Feb. 7 2012, CNPC also signed a similar cooperation agreement with the Beijing Municipal Government. By this agreement, 100 LNG buses will be provided to Beijing and the skid mounted LNG fueling stations will be built simultaneously. The LNG buses will begin to run on Chang'an

Avenue at the end of February.

Nanjing, another big city in China, also promotes the use of LNG vehicles, which are mainly used as long-distance passenger transport, logistics and freight. According to the plan, there will be 170 heavy-duty LNG vehicles in 2012 and 1000 LNG vehicles in 2013 running in Nanjing.

With the completion of LNG receiving terminal and the improvement of infrastructure, LNG buses show the advantages of lower total investment and lower fuel cost than that of CNG buses. LNG vehicles have excellent prospects in China.

Source: News release 16 March 2012, Beijing Daily

LNG hybrid buses in China

On May 15, 2012, the first batch of 20 new REEV (Range-Extended Electric Vehicle) buses fueled by LNG was put into operation in Chengdu City, China. The buses have the same profiles as the widely used 12-meter-long CNG buses and the cost of each REEV is around RMB 1 million. These buses have characteristics of high energy efficiency and low exhaust emissions. They can run two days after one refueling while the ordinary CNG buses need to be refueled each day. According to the plan, the number of REEV LNG buses will increase to 90 at the end of this year.

Along with the LNG/electric buses fueling stations offering both LNG and Electric refueling must be provided. This will add to the challenges of infrastructure required for the project.

Source: News release May 17, 2012, Chengdu Evening

ALCOHOLS AND (BIO)GASOLINE

E15 development in the US

The U.S. Environmental Protection Agency approved the first applications for registration of ethanol for use in making gasoline that contains up to 15 % ethanol. For over 30 years ethanol has been blended into gasoline, but the law limited it to 10 % by volume for use in gasoline-fueled vehicles. Registration of ethanol to make E15 is a significant step toward its production, sale, and use in model year 2001 and newer gasoline-fueled cars and light trucks.

To enable widespread use of E15, the Federal Administration has set a goal to help fueling station owners install 10,000 blender pumps over the next 5 years. In addition, the U.S. Department of Energy and U.S. Department of Agriculture have provided grants, loans and loan guarantees to spur American ingenuity on the next generation of biofuels.

Today's action follows an extensive technical review required by law. Registration is a prerequisite to introducing E15 into the marketplace. Before it can be sold, manufacturers must first take additional measures to help ensure retail stations and other gasoline distributors understand and implement labeling rules and other E15-related requirements. EPA is not requiring the use or sale of E15.

E15 is not permitted for use in motor vehicles built prior to 2001 model year and in off-road vehicles and equipment such as boats and lawn and garden equipment. Gas pumps dispensing E15 will be clearly labeled so consumers can make the right choice.

More information: <http://www.epa.gov/otaq/regs/fuels/additive/e15/>

The graphic is a rectangular label with a black top half and an orange bottom half. In the top-left corner, the word "ATTENTION" is written in white, slanted upwards. In the center of the black section, "E15" is written in large, bold, orange letters, with "Up to 15% ethanol" in smaller orange text below it. The orange section contains the text "Use only in" followed by a bulleted list: "• 2001 and newer passenger vehicles" and "• Flex-fuel vehicles". At the bottom of the orange section, it says "Don't use in other vehicles, boats or gasoline-powered equipment. It may cause damage and is **prohibited** by Federal law."

BIODIESEL ESTERS

Biodiesel development in China

Due to the increasing rise of oil prices in 2012, biodiesel companies are faring better than in 2011 in China. Since April 2012, the oil price fluctuates sharply and has risen totally about 27%, which allows the biodiesel companies to be more competitive in sales this year. For instance, the biodiesel company named Yuanhua Energy Company in Fujian has already produced more than 35% of the total production in 2011, and the total production of this small company is expected to reach 50,000 tons in 2012.

It is similar in Qingdao City of Shandong Province. The first biodiesel fuel station based on used cooking oil has been built in Laixi of Qingdao in April 2012, where the price of biodiesel is cheaper than that of ordinary diesel fuel by RMB 1000 per ton. According to data, there are totally about 160,000 restaurants in Qingdao, and the daily production of used cooking oil is around 500 tons.

Until now, the main feedstock for biodiesel is still used cooking oil in China, whose supply largely depends on the strict management of the local government. This stems from the fact that used cooking oil is still possible to be used illegally by some small restaurants. This is not only harmful to the public health but also affects the price of biodiesel feedstock.

In response to this situation, the government tracks the route of used cooking oil and guarantees it to be used by biodiesel companies, but large amounts of biodiesel feedstock plants have been grown in Fujian, Hainan and other provinces. For instance, in Fujian Province, a soapberry seed production project involving 1 million MU (1MU=667m²) has been approved by the government.

The promotion of biodiesel still faces some challenges in China. Used cooking oil may still be used by the illegal restaurants, which will reduce the raw material supply and raise the feedstock price. Until now, the industrialized cultivation of biodiesel feedstock plants are not matured, which means the biodiesel industry is still confronting a tough road in China.

Source: June 12, 2012, Comprehensive news



US biodiesel production slips

The U.S. biodiesel industry produced 135 million gallons of fuel in the first two months of 2012, according to new numbers released by the EPA. The volume is an increase over the same period last year, but it is down from the record production late last year when the industry exceeded 100 million gallons per month for five consecutive months and reached a peak of 160 million gallons in December.

Anne Steckel, vice president of federal affairs for the National Biodiesel Board, said the drop-off reflects lost momentum this year after Congress allowed the biodiesel tax incentive to expire and the Obama Administration delayed finalizing next year's biodiesel volume requirement under the Renewable Fuel Standard (RFS).

"These are solid numbers that show the biodiesel industry is on pace to meet the 1 billion gallon RFS requirement this year, but they also reflect some of the missed opportunities for growth and jobs that we've seen with the loss of the tax credit and the continued uncertainty about next year's RFS volume," Steckel said. "With the tax credit and clear RFS growth in place, we think these numbers would be better."

Source: <http://www.biodiesel.org/news/biodiesel-news/news-display/2012/03/21/biodiesel-production-slips-after-late-2011-growth>

SYNTHETIC AND RENEWABLE DIESEL

New feedstock for Jet Fuel

UOP LLC, a Honeywell company, announced in April that Honeywell Green Jet Fuel™ will be used for the world's first comprehensive test program using a new biofeedstock specifically designed for biofuel production. The test flights will also feature in-flight collection of emissions by a trailing aircraft, allowing for later evaluation of the Green Jet Fuel's emissions performance.

The series of flights will use jet fuel produced from Resonance™ Energy Feedstock, a new non-food, industrial oilseed crop produced by Ottawa-based Agrisoma. The feedstock is derived from *Brassica carinata* and is optimized for use as a biofuel feedstock. The crop is suited for production in semi-arid areas that are unsuitable for food oilseed production, meaning it will not compete with food crops for land resources.

Honeywell UOP's Renewable Jet Fuel Process technology was originally developed in 2007 under a contract from the U.S. Defense Advanced Research Projects Agency to produce renewable military jet fuel for the U.S. military. The process technology is fully compatible with existing hydroprocessing technology commonly used in today's refineries to produce transportation fuels. It produces an aviation biofuel that can be blended seamlessly with petroleum-based fuel. When used as part of as much as a 50 percent blend with petroleum-derived jet fuel, Green Jet Fuel is a drop-in replacement that requires no changes to the aircraft technology and meets all critical specifications for flight.

Source: <http://finance.yahoo.com/news/honeywell-green-jet-fuel-power-113000133.html>

NExBTL diesel supplied to the US

Neste Oil has recently supplied its first batch of NExBTL diesel to the US market. The fuel, which qualifies as an advanced biofuel in the US, was produced at the company's Porvoo refinery in Finland from waste fats. "Our entry into the US renewable fuel market is an important milestone for us, as the US represents a major market for premium-quality biofuels. We are also proud of our contribution to the US Renewable Fuel Standard. Said Matti Lehmus, Executive Vice President from Neste Oil. Neste Oil's sales of renewable fuels this year have grown as expected, according to the company's Interim Report. Neste Oil sold 305,000 tons of NExBTL renewable diesel to several dozens of customers in over ten countries during the first quarter of 2012.

Source: <http://www.nesteoil.com/default.asp?path=1;41;540;1259;1260;18523;19136>

\$20 Million Available for Clean Diesel Projects

The U.S. Environmental Protection Agency (EPA) is announcing the availability of up to \$20 million in 2012 grant funding to establish clean diesel projects aimed at reducing harmful pollution from the nation's existing fleet of diesel engines and improving air quality and Americans' health. In addition to these grants, approximately \$9 million will be available through direct state allocations. EPA estimates that for every \$1 spent on clean diesel funding up to \$13 of public health benefit is realized.

Diesel engines are durable, fuel efficient workhorses in the American economy. EPA has standards in place that make new diesels more than 90 percent cleaner. However, older diesels that predate these standards emit large amounts of air pollutants, such as nitrogen oxides (NOx) and particulate matter (PM). These pollutants are linked to health problems, including asthma, lung and heart disease, and even premature death. Nearly 11 million older diesels still operate throughout the nation's transportation system.

States, tribes, local governments, and non-profits are eligible to apply for these grants. Projects can reduce air pollution from older school buses, transit buses, heavy-duty diesel trucks, marine engines, locomotives, and other diesel engines. The closing date for receipt of proposals is June 4, 2012.

Further information: <http://www.epa.gov/otaq/diesel/prgnational.htm>

OTHER FUELS AND VEHICLES

Production of LPG powered taxi will stop in 2017

TOYOTA MOTOR CORPORATION will change powertrain of taxis from LPG spark ignition engine to gasoline hybrid engine system in 2017. TOYOTA has a 90 % share of LPG taxi's market in Japan, therefore, it was a shocking news for the industries of taxi and LPG.

LPG taxis were introduced in early 1960s, because of cheaper fuel cost than gasoline, LPG taxis were spread step by step. However, the decreasing cost appeal of LPG and delaying evolution to electric LPG fuel injection system braked more expansion of LPG taxis. Furthermore, gasoline hybrid taxis use increased rapidly due to TOYOTA's sales strategy.

This TOYOTA's action is put on their hybrid vehicle sales strategy. TOYOTA has a plan named "TOYOTA New Global Architecture", which is a plan to harmonize their platforms and powertrains at every vehicle size as a medium and long term policy of vehicle development. Also, taxis need to change to universal design. Thus, TOYOTA is planning to introduce gasoline hybrid vehicles for taxis instead of LPG taxis.

Source: <http://www.j-cast.com/2012/05/11131712.html?p=all> (in Japanese)

Bio-DME technology development in China

The Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences (GIEC) performs bio-DME technology development in its key project named "Research and demonstration of DME synthesis and power generation from biomass gasification".

To meet the biogas quality requirements for DME synthesis, a mixed-flow fixed-bed gasifier and fluidized-bed complex gasifier technology was developed by GIEC. The key challenges include matching and optimizing among biomass gasification, reforming purification, synthesis gas decarburization, catalytic synthesis, absorption, distillation, and the exhaust gas generation unit. A system for the production of 1000 ton DME annually was built in GIEC which achieved stable and continuous system operation.

In the system, the complex biomass gasification efficiency is over 80%. The syngas by Oxygen-rich water vapor gasification is $H_2/CO \geq 1$. One-way CO conversion is over 70% and dimethyl ether selection (DME/organic compounds) is no less than 90%. The exhaust gas was used for power generation. The total system efficiency of biomass is over 38%.

At present, the technologies of mixed flow fixed-bed gasifier and fluidized-bed complex gasifier developed by this project have been used practically. GIEC has built a demonstration project of 1.5t/h biomass fixed-bed gasifier to replace 2000t/a heavy oil and a 2*5t/h biomass fluidized-bed gasifier to replace 1,700t/a heavy oil.

Source: New release Mar. 23, 2012 http://english.giec.cas.cn/rh/rp/201203/t20120328_83173.html

\$5 Million to spur EV and alt fuels adoption

The U.S. Department of Energy on May 8 announced that up to \$5 million in funding is available this year to help expand the use of alternative fuel vehicles, including electric vehicles (EVs), in cities and towns across the country. The funding will help cut through red tape for homeowners and businesses, provide training for mechanics and first responders, and support community planning to expand fueling infrastructure. The Energy Department anticipates awarding 10 to 20 projects this year to be completed within two years. The support of alternative fuel vehicles is part of a strategy to increase energy security in the United States, reduce emissions, and help drivers save money.

More information:

http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=723

<https://eere-exchange.energy.gov/#3a7bc384-523f-4762-b2bb-dbd5d264b526>

Demonstration of fuel cell vehicles

The U.S. Department of Energy announced on April 25 up to \$2.5 million in funding is available this year to demonstrate and deploy fuel cell electric vehicles for transporting passenger baggage at major U.S. airports. Up to three projects selected for funding will demonstrate first-generation, fuel cell-powered baggage-towing tractors under real-world operating conditions, and will collect and analyze data to test their performance and cost-effectiveness. The funding will help industry bring advanced fuel cell technologies into emerging markets. It will also provide airlines and airports with new choices for ground support operations that cut energy costs, air pollution, and petroleum use.

Performance data generated through these projects will be collected so that engineers and economic analysts can assess the technology's performance, durability, and cost-effectiveness under the real-world conditions of commercial airports. Conclusions will be drawn from the data to evaluate the commercial viability of this fuel cell application, and the data will be shared with fuel cell manufacturers, helping to improve their designs and optimize overall performance and costs.

More information on

http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=718

<https://eere-exchange.energy.gov/default.aspx#b354ca47-7a0c-44b0-b23e-7199c9074aef>

Electric vehicle development strategy

The 12th five-year plan for Electric Vehicle (EV) Development Strategy was issued in China by the Ministry of Science and Technology on Mar. 6, 2012, in which the path and the goal as well as the key technologies for the EV development were pointed out clearly.

1) The disputes about the EV development strategy were ended. The pure electric driven vehicle is clearly defined as the ultimate goal of the vehicle industry in China. The pure electronic driven vehicle here is referred to pure EV, PHEV (plug-in HEV) and REEV (Range-extended EV), while FCEV (Fuel cell EV) can be considered as a special type. Ordinary HEV and other low energy consumption vehicles will coexist for a long time, but the transformation process from ordinary fuel vehicle to EV should be promoted from now on in China.

2) A fuzzy production target of EV was put forward. At the end of 2015, EV production should reach 1% of the total vehicle sales, and EV is required to be demonstrated in large scale in more than 30 big cities. Under the 12th five-year plan for New Material Development Strategy by the Ministry of Industry and Information Technology, the total new energy vehicle quantity is clearly set to be no less than 500,000, although both the production and sales are only about 8,000 in 2011, and almost all of which are bought by government based companies.

3) Industrialization of HEV is the target for vehicle industry from 2010 to 2015. In order to realize the goal of fuel consumption per 100km below 5 liters after 2020, the typical energy saving technology such as HEV is necessary in China.

4) Lithium battery technology was suggested to be the key technology to break through. In the strategy, 400,000 charge piles and 2,000 charge stations should be built in China before 2015, and pure EV will be industrialized in large scale during the period of 2015 to 2020.

Source: News release Mar.6, 2012, Science Daily

MISCELLANEOUS

Transport Research and Innovation Portal TRIP

The Lisbon Treaty of the European Union aims to establish a European Research Area in which researchers, scientific knowledge and technology circulate freely. In response to this, the Transport Research and Innovation Portal (TRIP) provides key deliverables of transport research projects and thus links transport research and transport policy-making inside and outside the EU.

The Portal gives an overview of research activities at European and national level. Country profiles provide a summary on the organisation of transport research in the European Research Area countries. The Programme and Project sections contain detailed information on national, European and international programmes and projects respectively.

The series of Policy Brochures and Thematic Research Summaries provide a broader overview of the research conducted at European level and its input into the policy-making process.

TRIP website: <http://www.transport-research.info/web/index.cfm>

Global Automotive Executive Survey 2012

The Global Automotive Executive Survey is KPMG International's annual assessment of the current state and future prospects of the worldwide automotive industry. In this year's survey, 200 senior executives from the world's leading automotive companies were interviewed, including automakers, suppliers, dealers, financial service providers, and for the first time mobility service providers.

KPMG's 2012 global survey shows that the automotive industry continues to face environmental challenges, growing urbanization and shifting customer behavior, which calls for radical new approaches to future mobility. And these issues are becoming universal, with three-quarters of respondents believing that emerging and mature markets will converge by 2025.

Source: KPMG, Articles & publications

<http://www.kpmg.com/global/en/issuesandinsights/articlespublications/Pages/default.aspx?k=Type%3a%22Survey+report%22&s=KPMGAP-EN&u=http%3a%2f%2fwww.kpmg.com%2fglobal%2fen%2fIssuesAndInsights%2fArticlesPublications>

Download: <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/global-automotive-survey-2012/Documents/global-automotive-survey-2012.pdf>

Aviation biofuels in Thailand

In December 2011, Thai Airways has officially launched the campaign "THAI Travel Green". THAI is the first airline in Asia to operate commercial passenger flights with biofuels. In a flight operated from Bangkok to Chiang Mai in northern Thailand, eight tons of imported biofuels were used.

As a follow up effort, THAI, PTT (Thai oil and gas company), AEROTHAI and the Boeing Company have joined forces to hold the "Thai Aviation and Environmental Workshop – Biofuels and Efficient Flight Operations" in March 2012 to raise awareness of aviation biofuel as another means to help reduce the greenhouse effect and climate change. PTT has joined with THAI to develop sustainable biofuels and is conducting research to produce aviation biofuels from suitable raw material as well as developing the production process in order to make high quality aviation biofuels.

More information:

http://www.prthaiairways.com/thaiair_4p/biofuelsworkshop/news.html;

<http://www.nationmultimedia.com/business/Thai-Airways-conducts-biofuel-test-flight-30172368.html>;

<http://www.nationmultimedia.com/business/THAI-operates-first-Asian-passenger-biofuel-flight-30171569.html>

Transpacific biofuel flight

Boeing and All Nippon Airways made history in April, flying a 787 Dreamliner across the Pacific Ocean powered in part by aviation biofuel.

The brand new 787 flew from Washington state to Japan using a biofuel blend made mainly from used cooking oil. The airplane emitted an estimated 30 percent less CO2 emissions compared to similarly sized airplanes, Boeing said. Of the reduction in greenhouse gasses, about 10 percent can be attributed to the use of biofuel and approximately 20 percent to the technology and efficiency advancements offered by the Dreamliner.

The delivery flight between Boeing's factory in Everett, Washington, and Tokyo Haneda Airport was the first-ever transpacific biofuel flight.



Source: <http://www.flyingmag.com/news/boeing-787-makes-transpacific-biofuel-flight>

IEA & IEA/AMF News

ExCo43 recently held in Zürich, Switzerland

The 43rd Meeting of the AMF Executive Committee attracted 44 participants. These included delegates from 12 of the 15 member countries, observers from 5 countries (Israel, Norway, Poland, South Korea, Turkey) and guests from 3 transport related Implementing Agreements (Bioenergy, Bioenergy Task 39, Combustion, Hybrid and Electric Vehicles).

Israel and South Korea will be invited to join the Implementing Agreement. In December 2011 Australia and Thailand announced their withdrawals.

Annex 37 and Annex 40 were closed. Both Annexes have elaborated final reports which will shortly be available from the AMF website.

2 new Annexes were started at ExCo 43:

- Annex 44: Alcohol fuels including methanol, by CATARC, China
- Annex 45: Hydrotreated vegetable oil, by Germany and Denmark

Active Annexes to AMF

Annex 28: Information Service & AMF Website

Annex 35 Subtask 2: Particulate Measurements: Ethanol and Butanol in DISI Engines

Annex 37: Fuel and Technology Alternatives for Buses (closed at ExCo 43)

Annex 38 Phase 2: Environmental Impact of Biodiesel Vehicles

Annex 39 Phase 2: Enhanced Emission Performance of HD Methane Engines

Annex 40: Life Cycle Analysis of Transportation Fuel Pathways (closed at ExCo 43)

Annex 41: Alternative Fuels for Marine Applications

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

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

ExCo44 to be held in Beijing, China

The next meeting of the AMF Executive Committee shall take place in the week of 22nd October 2012 in Beijing, China.

Transport Contact Group Meeting

The next IEA Transport Contact Group Meeting will be held in October 2012 in Ottawa in conjunction with the Transport Fuels and Technology Forum.

PUBLICATIONS

- **Towards low carbon transport in Europe:** This Policy Brochure, which is produced by the Transport Research and Innovation Portal (TRIP), highlights the contribution of research and innovation in meeting the EU targets on CO2 emission reduction in the transport system.
Link: http://www.transport-research.info/Upload/Documents/201204/20120423_214705_81522_PB02_web.pdf
- **Energy Technology Perspectives 2012** is the International Energy Agency's most ambitious publication on new developments in energy technology. It demonstrates how technologies – from electric vehicles to smart grids – can make a decisive difference in achieving the objective of limiting the global temperature rise to 2°C and enhancing energy security.
Link: <http://iea.org/etp/>
- **Deploying Renewables:** The IEA's report provides a comprehensive review and analysis of renewable energy policy and market trends, analyses in detail the dynamics of deployment, assesses the impact and cost-effectiveness of support policies, and investigates the strategic reasons underpinning the pursuit of RE deployment by different countries and the prospects for globalisation of RE.
Link: <http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=612011271P1&LANG=EN>
- The **European Biofuels Technology Platform Newsletter 12** includes the European Bioeconomy, EBTP Developments, news on EIBI, industrial-scale deployment of advanced biofuels technology, biomass supply challenges, advanced biofuels events, reports and industrial-scale deployment.
Source: EBTP <http://www.biofuelstp.eu/newsletter.html>
- **Life Cycle Analysis of Transportation Fuel Pathways:** This is the final report of the Advanced Motor Fuels Implementing Agreement Annex 40. It delivers advice to policy makers on how to use LCA results for transport fuels and what the constraints of the tool are.
Link: <http://www.iea-amf.vtt.fi/8annexreports.html>

EVENTS

Bioenergy from Forest, 27-31 August 2012, Jyväskylä and Jämsä, Finland

Conference website: <http://www.bioenergy.finbioenergy.fi/>

24th AVL Conference "Engine & Environment", 13-14 September 2012, Graz, Austria

Conference website: https://www.avl.com/engine_environment_2012_first_announcement

9th Symp. Automotive Powertrain Control Systems, 20-21 September 2012, Berlin, Germany

Conference website: <http://www.iav.com/en/events/iav-tagung/9th-symposium-automotive-powertrain-control-systems>

Lignofuels 2012, 26-27 September 2012, Stockholm, Sweden

Conference website: <http://www.wplgroup.com/aci/conferences/eu-eef3.asp>

Transportation Technology and Fuels Forum (TTFF), 3-4 October 2012, Ottawa, Canada

Conference website: <http://www.transportationforum.net/index.html>

21st Aachen Coll. "Automobile and Engine Technology", 8-10 October 2012, Aachen, Germany

Conference website: http://www.aachen-colloquium.com/index_e.htm

World Refining and Fuel Conference, October 9 2012, Rio de Janeiro, Brazil

Conference website: <http://www.wrfconferences.com/rio/>

1st Annual World Congress of GreenAuto (GreenAuto-2012), 19-21 October 2012, Guangzhou, China

Conference website: <http://www.bitcongress.com/Greenauto2012/>

1st Iberoamerican Congress on Biorefineries, 24-26 Oct. 2012, Los Cabos Baja California, Mexico
Conference website: www.ciab2012.org

2nd Aachen Colloquium China, 6-7 November 2012, Beijing, China
Conference website: <http://www.aachen-colloquium-china.com/>

NGV Global 2012 Conference and Exhibition, 7-9 November 2012, Mexico City, Mexico
Conference website: <http://www.ngv2012.com/>

IEA Bioenergy Conference 2012, 13-15 November 2012, Vienna, Austria
Conference website: <http://www.ieabioenergy2012.org/>

Fuels – Conventional and Future Energy for Automobiles, 15-17 January 2013, Stuttgart/Ostfildern, Germany
Conference website: <http://www.tae.de/en/kolloquien-symposien/7th-international-colloquium-fuels.html>

20th International Symposium on Alcohol Fuels (ISAF 2013), 25-27 March 2013, Stellenbosch, South Africa
Conference website: <http://www.isaf2013.co.za/>

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