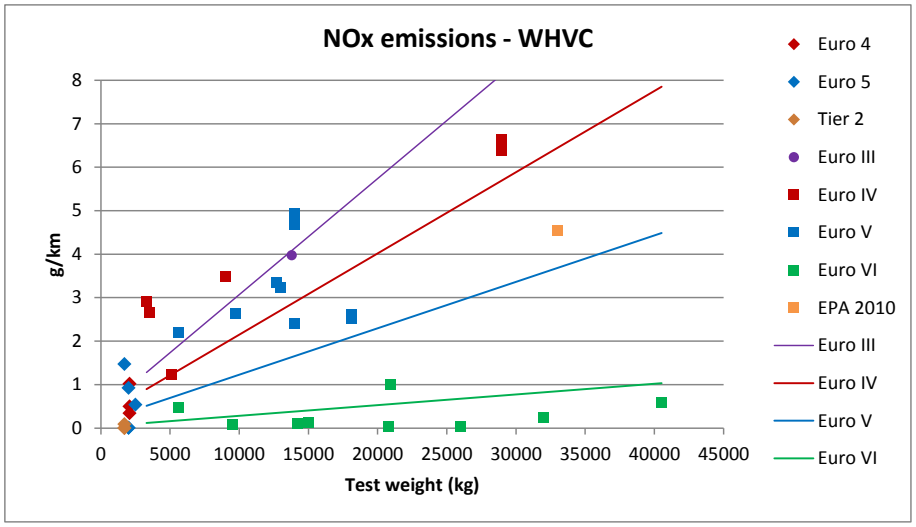
September 2017, issue no. 2/2017

AMFI Newsletter



The new AMF Annual Report has been published recently. It covers ongoing AMF work and recent developments in AMF member countries.

The figure on the left shows results from Annex 49: COMVEC — Fuel and Technology Alternatives for Commercial Vehicles.

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EVENTS

RESEARCH AND DEVELOPMENT

How to turn seawater into fuel

After decades of experiments, U.S. Navy scientists believe they may have solved one of the world's great challenges: how to turn seawater into fuel. The breakthrough came after scientists developed a way to extract carbon dioxide and hydrogen gas from seawater. The gasses are then turned into a fuel by a gas-to-liquids process with the help of catalytic converters.

The next challenge for the Navy is to produce the fuel in industrial quantities. It will also partner with universities to maximize the amount of CO2 and carbon they can recapture.

Source: International Business Times
Link: http://www.ibtimes.com/goodbye-oil-us-navy-cracks-new-renewable-energy-technology-turn-seawater-fuel-1568455

Hydrogen from water and sunlight

In the HYDROSOL PLANT project, researchers at the DLR Institute of Solar Research have developed a production process with which they can generate hydrogen directly from water using sunlight. Using a solar chemical reactor, thermal energy from the sun is used directly for hydrogen generation via a redox reaction. In 2017, researchers are testing a 750-kilowatt reactor at the Plataforma Solar de Almería, operated by the Spanish research centre CIEMAT. The reactor is a further development of a system successfully used by researchers for thermo-chemical hydrogen generation in 2006. This innovation was awarded the European Commission's Descartes Prize.

Source: DLR, April 2017
http://www.dlr.de/dlr/presse/en/desktopdefault.aspx/tabid-10309/472_read-22035/year-all/#/gallery/26888

New biofuels feedstock Carinata

UPM Biofuels is developing a new feedstock concept by growing Brassica carinata as a sequential crop in South America. The Carinata crop produces non-edible oil suitable for biofuels' feedstock and protein for animal feed. The sequential cropping concept enables contract farmers to take agricultural land into use outside the main cultivation period, in winter time, without compromising existing food production. This does not cause any land use change, prevents erosion and improves soil quality. Carinata will provide additional income to local farmers, who do not normally have their fields in productive use during winter.

Source: UPM Biofuels, June 2017
http://www.upmbiofuels.com/whats-new/all-news/Pages/UPM-tests-Carinata-sequential-cropping-concept-as-part-of-Biofuels-future-develo-001-Wed-28-Jun-2017-15-03.aspx

DEMONSTRATION / IMPLEMENTATION / MARKETS

UK project on methane-fueled lorries

In the UK, five lorries will be trialed to run on methane. The lorries range from 12 to 44 tons, and are all new to the UK market. The trial will road test the HGVs, creating data on vehicle performance, fuel efficiency, reliability and cost. Trial vehicles running on compressed natural gas

(CNG) and liquefied natural gas (LNG) are expected to reduce CO_2 emissions by up to 8 %, and those run on biomethane can expect to see a 70 % reduction in CO_2 emissions, compared to a similarly diesel HGV.

The project is part of the Low Emission Freight and Logistics Trial, funded by the Office for Low Emission Vehicles (OLEV) in partnership with Innovate UK. In January 2017, OLEV announced that 20 trial projects were to receive funding of £20m to encourage the introduction of low and zero emission vehicles to commercial fleets. The Trial will help the UK meet its CO2 reduction targets – and represents another step towards the government's target for all new cars and vans to be zero emission by 2040.

Source: Cenex, August 2017
Link : http://www.cenex.co.uk/press-releases/cenex-announces-trial-natural-gas-fuelled-lorries/

Scania to deliver 140 biodiesel buses to Norway

Scania is set to deliver 140 buses to Norway, all of which can run on biodiesel and 70 of which have hybrid technology. The buses will be used in the public transport system of Kristiansand, a town south-west of the Norwegian capital Oslo.

Included in the delivery are Scania Citywide LE Suburban Hybrid, Scania Citywide LE Suburban and Scania Higer A30 buses, each in a range of specifications. A seven-year contract for Scania's repair and maintenance programme, Fleet Care, is also included in the agreement.

As well as being Scania's biggest yet order for hybrid buses, it is also the biggest bus order so for Scania's subsidiary in Norway, Norsk Scania.

Source: Biofuels International
http://biofuels-news.com/display_news/12844/scania_to_deliver_140_biodiesel_buses_to_norway%3C/a/

POLICY / LEGISLATION / MANDATES / STANDARDS

China sets 2020 target for ethanol use

On September 13, 2017, the government of China announced the release of a national plan for ethanol deployment. While the details are not yet released this marks a major milestone in rolling out biofuels in China.

Read more: https://www.reuters.com/article/us-china-biofuels/china-sets-2020-target-for-nationwide-ethanol-use-to-cut-corn-stocks-idUSKCN1BO03R

Iran requesting Euro-5-compliant vehicles

Only Euro-5-compliant vehicles will be registered as of March 2019, the head of the Department of Environment of Iran said. "Since 2014-15, the government only allows vehicles with Euro-4-compliant engines to be registered and this will continue until 2019-20 when the emission standards will be raised to Euro-5," Massoumeh Ebtekar was also quoted as saying by IRNA.

In line with plans to reduce air pollution, Euro-4 standard fuel is distributed in 15 metropolises and 10 provincial capitals. The government is targeting nationwide distribution by 2020. Along with efforts to increase gasoline quality, President Hassan Rouhani's administration has instructed automakers to make products that comply with Euro-4 emission standards.

The government banned the production of highly-polluting, carburetor-equipped motorcycles from September 2016 and is urging people to opt for eco-friendly electric motorbikes. With 26,000 annual deaths due to air pollution, Iran ranks 16th in terms of air pollution-related deaths, according to figures released by WHO.

Source: https://financialtribune.com/articles/people-environment/68912/only-euro-5-vehicles-will-be-registered-in-2019

Worldwide Harmonised Test Procedure

From 1 September 2017, a new test for measuring emissions from cars, called Worldwide Harmonised Light Vehicle Test Procedure (WLTP), will officially apply to all models that are introduced on the European market for the first time. From September 2018, the lab test will be extended to all new cars sold across the EU. The WLTP laboratory test is used to measure fuel consumption and CO2 emissions from passenger cars, as well as their pollutant emissions.

An additional test to measure pollutant emissions on the road (real driving emissions, "RDE" test) will also apply. Under RDE, a car will be driven on public roads over a wide range of conditions. RDE will complement WLTP to ensure that laboratory test results are confirmed on the road. "These new diesel vehicles will deliver low pollutant emissions in the laboratory and on the road. We believe that the introduction of this latest generation of diesel vehicles will play a strong role in helping cities move towards compliance with EU air quality targets." stated ACEA Secretary General, Erik Jonnaert.

Source: ACEA Press Release, 31 August 2017; more information about the new WLTP emissions test: http://wltpfacts.eu/

Facts about bioenergy

"An enormous amount of nonsense" has been told about bio-energy, says André Faaij, scientific director of Energy Academy Europe and professor Energy Systems Analysis at the University of Groningen in the Netherlands. According to Faaij, it is high time for the real – scientifically validated – story. "The bio-based economy is indispensable for our climate policy and can mean huge progress for agriculture and nature in developing countries".

Bio-energy has acquired a bad reputation in many European countries in recent years, as André Faaij knows all too well. "There is this idea that as a result of the production of palm oil and wood pellets forests are being cut down, food prices are going up and people are starving to death. That's a totally one-sided picture. It is deadly for the development of a sector that is crucial for the economy and the climate."

According to Faaij, society should stop polarizing and face the facts. "Biomass is necessary and it can be produced and used in a sustainable way. We have to start looking at how we can achieve a sustainable bio-based economy. Not *if*, but *how*." If we don't do this, he adds, the energy transition will slip out of our hands. "The effect of doing nothing on biomass is to continue with oil, gas and coal."

Source: Interview with Andre Faaij, The Energycollective, June 2017
http://www.theenergycollective.com/karelbeckman/2407088/interview-bio-energy-expert-andre-faaij-much-nonsense-told-high-time-real-story?utm_campaign=shareaholic&utm_medium=twitter&utm_source=socialnetwork

EU Resolution on Palm Oil

In Malaysia, during a meeting between the trade ministers for Malaysia and Indonesia, the countries expressed deep disappointment in the allegedly unfair treatment by the EU on palm oil in favor of other vegetable oils and commodities which they say also contribute significantly to deforestation. The EU Resolution on Palm Oil and Deforestation of the Rainforest as well as the unfair labeling practices by the private sector in the EU will adversely affect not only exports of palm oil from Malaysia and Indonesia to the EU market but also the livelihood of millions of small holders.

Source: Biofuels Digest, July 2017
http://www.biofuelsdigest.com/bdigest/2017/07/17/malaysia-and-indonesia-ready-to-fight-eu-at-wto-over-palm-oil-ban/

US antidumping against Indonesian biodiesel

The Indonesian government will ask the United States to review its latest antidumping measure against Indonesian biodiesel, according to Trade Minister Enggartiasto Lukita. "Such allegations [that Indonesian biodiesel production is subsidized] have been raised before and we can prove that there's no subsidy involved. We'll pass the request to the US for a review immediately after talking to producers," he told reporters on Wednesday. This is in response to the US Indonesia was alleged to provide subsidies to their biodiesel producers in violation of Commerce Department that slapped Indonesia with huge antidumping penalty. international trade rules. Indonesian biodiesel producers have therefore been eyeing China as a new promising market amid negative sentiment in the European Union and the United states.

Source:
1: http://www.thejakartapost.com/news/2017/08/24/indonesia-denies-biodiesel-dumping-allegation-in-us.html
2: http://www.thejakartapost.com/news/2017/06/09/indonesian-biodiesel-producers-turn-to-china.html

4th JASTIP Symposium

The Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) has established joint laboratories focusing on the three fields of energy & environment, bioresources & biodiversity, and disaster prevention in order to strengthen the cooperative research into sustainable development.

The JASTIP symposium was held July 3-4, 2017 at NSTDA Thailand with the purpose to disseminate and share information and knowledge with stakeholders through poster presentations, exhibits and discussions. This provided all parties involved to strengthen and promote collaborative activities amongst biorefinery researchers and research networks.

JASTIP has reviewed the current situation and challenges of the biorefinery sector and presented a case study about cutting edge research activities, results, and future prospects in ASEAN countries. Biorefinery research will be introduced in NSTDA (Thailand) and LIPI (Indonesia), who are partners of JASTIP. The private sector promoting business in this field will also be invited.

Source: http://jastip.org/en/eventinfo/4symposium/

SPOTLIGHT AVIATION

Japan assessing Bio Jet Fuel

ICAO (International Civil Aviation Organization) and IATA (International Air Transport Association) is showing a great interest in introducing CO2 reduction targets and bio jet fuel. Commercial airlines around the world are conducting test flights using bio jet fuel.

The Mitsubishi Research Institute has organized a committee with government officials, external experts, and related business operators such as commercial airlines and fuel companies assess the utilization of jet biofuel by 2020 in Japan. The committee analysed over-sea case studies to achieve a better understanding of the supply chains and their challenges.

Source: http://www.meti.go.jp/meti_lib/report/H28FY/000068.pdf

GHG emissions from renewable jet fuel production

In March 2017, a paper was published on the well-to-wake (WtWa) greenhouse gas (GHG) emission performance of multiple renewable jet fuel (RJF) pathways. The insights obtained are of particular importance if RJF is included as an emission mitigation instrument in the global Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Fischer–Tropsch pathways yield the highest GHG emission reduction compared to fossil jet fuel (86–104%), followed by Hydrothermal Liquefaction (77–80%) and sugarcane- (71–75%) and corn stover-based Alcohol-to-Jet (60–75%). Feedstock cultivation, hydrogen and conversion inputs are major contributors to the overall WtWa GHG emission performance. The choice of allocation method mainly affects pathways yielding high shares of co-products or producing co-products which effectively displace carbon intensive products (e.g., electricity).

Renewable jet fuel can contribute to significant reduction of aviation-related GHG emissions, provided the right feedstock and conversion technology are used. The GHG emission performance of RJF may be further improved by using sustainable hydrogen sources or applying carbon capture and storage. Based on the character and impact of different co-product allocation methods, the authors recommend using energy and economic allocation at a global level.

Source: Biotechnology for Biofuels, March 2017
https://biotechnologyforbiofuels.biomedcentral.com/articles/10.1186/s13068-017-0739-7

Flying with fuel cells

The HY4 is the world's first four-seat passenger aircraft powered solely by a hydrogen fuel cell and battery system. The maiden flight of the aircraft, which has a range of up to 1500 km, took place on 29 September 2016. The HY4's power train consists of a hydrogen storage unit, a low-temperature hydrogen fuel cell and a high-performance battery. The fuel cell converts the energy of the hydrogen fuel directly into electrical power. The electric motor uses the generated power to propel the aircraft. The lithium-ion battery installed on board provides additional power during the take-off phase and when climbing. The fuel cell aircraft was developed by the DLR Institute of Engineering Thermodynamics together with partners Hydrogenics, Pipistrel, H2Fly, Ulm University and Stuttgart Airport, and is operated by H2FLY.

Source: DLR, April 2017
http://www.dlr.de/dlr/presse/en/desktopdefault.aspx/tabid-10309/472_read-22035/year-all/#/gallery/26888

SPOTLIGHT ELECTRIC VEHICLES

Campaign EV 30@30

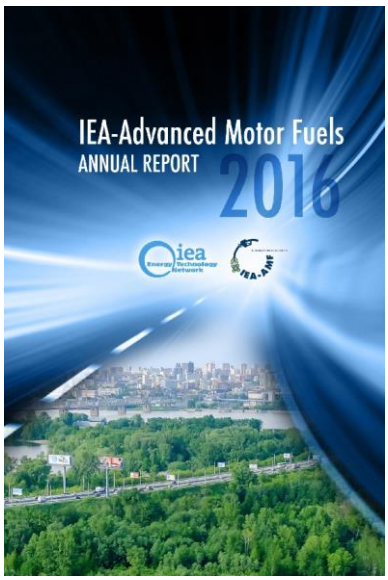
The Clean Energy Ministerial (CEM) announced a new campaign called EV 30@30 to speed up the deployment of electric vehicles and target at least 30 percent new electric vehicle sales by 2030.The campaign will support the market for electric passenger cars, light commercial vans, buses and trucks (including battery-electric, plug-in hybrid, and fuel cell vehicle types). It will also work towards the deployment of charging infrastructure to supply sufficient power to the vehicles deployed.

Governments supporting the EV30@30 campaign include Canada, China, Finland, France, India, Japan, Mexico, the Netherlands, Norway and Sweden

Source: Clean Energy Ministerial, June 2017
http://www.cleanenergyministerial.org/News/new-cem-campaign-aims-for-goal-of-30-new-electric-vehicle-sales-by-2030-85068

IEA & IEA-AMF NEWS

AMF Annual Report



The Advanced Motor Fuels Technology Collaboration Programme (AMF TCP) has recently published its annual report for 2016.

The report includes country reports from all 15 AMF member countries, providing detailed information on the political framework and the current production and use of advanced motor fuels, as well as reports from all 11 current AMF projects.

The report is available at *www.iea-amf.org/annualreport*.

Other AMF Publications

Based on work undertaken for AMF Annex 44: *Research on Unregulated Pollutants Emissions of Vehicles Fuelled with Alcohol Alternative Fuels* VTT has co-authored a research article published in Atmospheric Chemistry and Physics in April 2017 on the *Influence of fuel ethanol content on primary emissions and secondary aerosol formation potential for a modern flex-fuel gasoline vehicle*.

IEA Report: The Future of Trucks

This report was prepared in the Directorate of Sustainability, Technology and Outlooks of the International Energy Agency. Most important results are:

- Road freight vehicles are a key enabler of global economic activity and play an essential role in delivering all types of goods or commodities from their points of production to the factories and industries that use or transform them, or to their final points of sale.
- Road freight vehicles are a central source of global oil demand today: at around 17 million

barrels per day (mb/d), oil demand from road freight vehicles accounts for around 1/5 of global oil demand – equivalent to the current oil production of the US and Canada combined.

- Without policy efforts, oil demand from road freight vehicles is set to rise by 5 mb/d to 2050.
- Reducing future growth of oil demand from road freight vehicles is a challenging, but possible task; opportunities arise from three main areas (systemic improvements, vehicle efficiency technologies and other measures, including autonomous trucks
- In the Modern Truck Scenario, targeted efforts to modernise road freight transport reduces oil demand from road freight vehicles by nearly 16 mb/d by 2050.
- Not all elements of the Modern Truck Scenario are easily implemented, but there are three key enablers that present important near-term energy policy opportunities.

Download:
https://www.iea.org/publications/freepublications/publication/TheFutureofTrucksImplicationsforEnergyandtheEnvironment.pdf

Current AMF Annexes / Projects

Annex 28: Information Service & AMF Website (AMFI)

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

Annex 51: Methane Emission Control

Annex 52: Fuels for Efficiency

Annex 53: Sustainable Bus Systems

Annex 54: GDI Engines and Alcohol Fuels

Annex 55: Real Driving Emissions and Fuel Consumption

New Annex: Methanol as a Transport Fuel

Next ExCo Meetings

ExCo 54 will be held 30 October to 2 November 2017 in Tsukuba, Japan.

PUBLICATIONS

Energy Technology Perspectives 2017

The global energy system is moving closer to a historic transformation. This year's edition of the International Energy Agency (IEA)'s comprehensive publication on energy technology focuses on the opportunities and challenges of scaling and accelerating the deployment of clean energy technologies. This includes looking at more ambitious scenarios than the IEA has produced before.

Source: IEA
Link: http://www.iea.org/etp2017/

World Energy Balances 2017

World Energy Balances 2017 offers final and complete energy balances for 1971 to 2015, with supply estimates for 2016, by country and region. More detailed data in original units are published in World Energy Statistics 2017. This overview from World Energy Balances 2017 contains a summary of the most recent energy trends.

Source: International Energy Agency (IEA) Publications
http://www.iea.org/publications/freepublications/publication/world-energy-balances---2017-edition---overview.html
Download: http://www.iea.org/publications/freepublications/publication/WorldEnergyBalances2017Overview.pdf

Renewables Information 2017

Renewables Information 2017 includes detailed renewables and waste data by country and by product for OECD countries up to 2015, with provisional data for 2016. It also contains summary tables of renewables and waste data for non-OECD countries up to 2015. This overview from Renewables Information 2017 contains a summary of the most recent trends in the world and OECD renewables market.

Source: International Energy Agency (IEA) Publications
http://www.iea.org/publications/freepublications/publication/renewables-information---2017-edition---overview.html
Download: http://www.iea.org/publications/freepublications/publication/RenewablesInformation2017Overview.pdf

ICCT report: Waste not want not

This report assesses the indirect emissions implications of producing biofuels from some of the waste materials listed in the proposal for a revised EU Renewable Energy Directive. It finds that indirect emissions are likely to be significant in most cases and can fundamentally change our understanding of the full climate impacts of using these materials for biofuels.

Source: icct - the International Council on Clean Transportation
Linke: http://www.theicct.org/waste-not-want-not
Download: http://www.theicct.org/sites/default/files/publications/Waste-not-want-not_Cerulogy-Consultant-Report_August2017_vF.pdf

Bioenergy for Sustainable Development

This 4-page paper was elaborated jointly by FAO, IRENA and IEA Bioenergy. It highlights that and how bioenergy can play an important and constructive role in achieving the UN Sustainable Development Goals and implementing the Paris Agreement on Climate Change, thereby advancing climate goals, food security, better land use and sustainable energy for all.

Link: http://www.ieabioenergy.com/publications/bioenergy-for-sustainable-development/

IRENA Technology brief: Biogas for road vehicles

This brief highlights the technologies available – both established and newly emerging – for biomethane production and biogas-driven vehicle fleets. It evaluates costs, performance and sustainability and outlines the best practices from around the globe to accelerate uptake of this key renewable transport fuel. Germany, Sweden, Switzerland, The Netherlands, the UK and the US were the largest producers of biogas as vehicle fuel in 2016. Worldwide, around 500 plants produce about 50 petajoules (PJ) per year of such upgraded biogas, called biomethane.

Source: http://www.irena.org/DocumentDownloads/Publications/IRENA_Biogas_for_Road_Vehicles_2017.pdf

EU Biofuels Impact Assessment

The overall objective of this study is to undertake an economic and environmental analysis of the impact of increasing the limits of the bio-content of petrol and diesel imposed by the FQD, and beyond 2020. In particular, for specific biofuel blends identified in the study, the assessment considers both their positive and negative impacts. The findings of this work will input to the Commission when considering implications of increasing the bio-content level in transport fuels.

Link: https://publications.europa.eu/en/publication-detail/-/publication/ec1f67bd-5499-11e7-a5ca-01aa75ed71a1/language-en/format-PDF

Alternative fuels for marine and inland waterways

This exploratory report gives an overview of the marine sector, including market share, emission related issues, fuel standards and present legislation. It then considers different alternative fuels, engine types and the introduction of alternative fuels. Low sulphur grade diesel fuels which are available at a higher price than traditional fuel, and possibility of using a scrubber to reduce emissions such as oxides of sulphur (SOx) on ships that run on traditional fuels are also discussed. The report then reviews biofuels such as biomethanol, dimethyl ether (DME), biodiesel, hydrogenation derived renewable diesel (HDRD) and algal biofuel. The report also considers electricity (battery operated), FT-diesel (Fischer-Tropsch diesel), pyrolysis oil, hydrogen in combination with fuel cells, solar power and wind energy as potential alternatives.

Source: EU Law and Publications
Link: https://publications.europa.eu/en/publication-detail/-/publication/eb3e8e7c-ecd6-11e5-8a81-01aa75ed71a1/language-en/format-PDF/source-search

NGVA Europe study

The study "Greenhouse gas intensity of natural gas" shows that natural gas reduces GHG emissions from passenger cars on a Well-to-Wheel (WtW) basis by 23% compared with petrol and by 7% compared with diesel. On the heavy-duty application, benefits compared to diesel are of 16% for CNG and up to 15% for LNG. Also in the maritime sector, overall WtW benefits are up to 21% compared to conventional HFO (Heavy-Fuel-Oil) fuels.

The use of renewable gas provides additional benefits towards carbon-neutral mobility: by blending natural gas with just 20% renewable gas, GHG emissions are reduced by 40% compared with oil-derived fuels.

Link: http://ngvemissionsstudy.eu/

Supply report 2016/2017

This report elaborated by the German Union for the Promotion of Oil and Protein Plants highlights the European and world demand for biomass for the purpose of biofuel production in relation to supply in the food and feedstuff markets.

Link: https://www.ufop.de/files/7814/9977/4144/UFOP_supply_report_20162017.pdf

EVENTS

2017 JSAE Congress (Autumn), 11-13 October 2017, Osaka, Japan
Conference website: http://www.jsae.or.jp/2017aki/english/index.html

ABLC NEXT 2017, 16-18 October 2017, San Francisco, CA, USA
Conference website: http://biofuelsdigest.com/ablcnext/

UITP-Busworld International Bus Conference, 23 - 24 October 2017, Kortrijk, Belgium
Conference website: https://www.busworldeurope.org/

The 10th Asian DME Conference of 2017, 24-26 October 2017, Seoul, South Korea
Conference website: http://www.koreadme.com/10adc/index.htm

The 45th Tokyo Motor Show 2017, 27 October - 5 November 2017, Tokyo, Japan
Conference website: http://www.tokyo-motorshow.com/en/outline/

ANGVA 2017 the 7th ANGVA Biennial, International Conference & Exhibition, 31 October – 2 November 2017, The International Trade and Convention Center, Milad Tower, Tehran, Iran
Conference website: www.angva2017.com

Eco-Mobility 2017, 9-10 November 2017, Vienna, Austria
Conference website: http://www.a3ps.at/konferenz/eco-mobility-2017

Future of Biogas Europe 2017, 15-16 November 2017, London, Great Britain
Conference website: http://www.wplgroup.com/aci/event/future-biogas-europe/

22nd International Transport and Air Pollution Conference (TAP2017), 15-16 November 2017, Zürich, Switzerland
Conference website: http://tapconference.org

Small Engine Technology Conference 2017 (SETC2017), 15-17 November 2017, Jakarta, Indonesia
Conference website: http://www.setc-jsae.com/

Busworld Academy Congress in Latin America "Passenger Focused Mobility", 5-7 December 2017, Medellín, Colombia
Conference website: http://www.busworldacademy.org/

Fuels of the Future 2018, 22-23 January 2018, Berlin, Germany
Conference website: http://www.fuels-of-the-future.com/

National biodiesel Conference and ExPo, 22-25 January 2018, Fort Worth, Texas, USA
Conference website: http://www.biodieselconference.org/splash.aspx

Lignofuels 2018, 7-8 February 2018, Amsterdam, Netherlands
Conference website: http://www.wplgroup.com/aci/event/lignocellulosic-fuel-conference-europe/

IMPRINT

The **Advanced Motor Fuels Technology Collaboration Programme** (AMF TCP) is one of the International Energy Agency's (IEA) transportation related Technology Collaboration Programmes. These are multilateral technology initiatives that encourage technology-related activities that support energy security, economic growth and environmental protection.

AMF provides an international platform for co-operation to promote cleaner and more energy efficient fuels and vehicle technologies. This newsletter contains news articles on research, development and demonstration of advanced motor fuels, information about related policies, links to AMF projects, and an overview over publications and events.

The newsletter is prepared based on contributions from Ralph McGILL, FEEC, Werner TOBER and Robert ROSENITSCH, TU Vienna, Shinichi GOTO, AIST, and Manfred WÖRGETTER, BIOENERGY 2020+. It is edited by Dina Bacovsky, Kerstin Brunbauer and Doris Matschegg, BIOENERGY 2020+. The Newsletter is available online at: *www.iea-amf.org*

AMF welcomes interested parties to make contact and to become members of the AMF family. If you wish to get in touch please contact the AMF Secretary, the AMF ExCo Chair or your national AMF Delegate, see contact information below.

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DTU, Jesper Schramm

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