



World's first methanol-fueled ships about to enter service – [read more](#)

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RESEARCH AND DEVELOPMENT

Methanol from CO₂ captured from air

For the first time, researchers have directly converted carbon dioxide from the air into methanol at relatively low temperatures. The researchers bubbled air through an aqueous solution of pentaethylenehexamine (or PEHA), adding a catalyst to encourage hydrogen to latch onto the CO₂ under pressure. They then heated the solution, converting 79 percent of the CO₂ into methanol. Though mixed with water, the resulting methanol can be easily distilled.

The process needs to be refined to the point that it could be scaled up for industrial use, though that may be five to 10 years away. The system operates at around 125 to 165 degrees Celsius (257 to 359 degrees Fahrenheit), minimizing the decomposition of the catalyst. It uses a homogeneous catalyst, making it a quicker "one-pot" process. In lab, the researchers demonstrated that they were able to run the process five times with only minimal loss of the effectiveness of the catalyst.

Source: <http://pubs.acs.org/doi/abs/10.1021/jacs.5b12354>

DME-powered passenger car

Oberon Fuels, Inc. ("Oberon"), the first company to produce fuel-grade dimethyl ether (DME) in North America, is partnering with Ford Motor Company, Forschungsvereinigung Verbrennungskraftmaschinen e. V. (FVV), and other FVV member companies on a 3-year, €3.5 million project to research, analyze and test the potential of DME and oligomethyl ether (OME) fuel in passenger cars and heavy-duty truck engines, and ultimately build the world's first OEM-produced DME passenger car for on-road testing.

Technical preparations and combustion engine development will span the first two years of the project with the third year focused on building demonstrator cars based on the Ford Mondeo. Oberon Fuels will supply DME for the project from its small-scale pilot plant in Brawley, California, which has a nameplate capacity of 4,500 gallons (~17,000 liters) of DME per day.

Source: <http://www.oberonfuels.com/2015/09/15/oberon-fuels-partners-ford-fvv-3-year-e3-5-million-project-build-test-worlds-production-passenger-car-powered-dme/>

US: Dollars for biorefinery projects

The US Office of Energy Efficiency and Renewable Energy intends to issue a Funding Opportunity Announcement "Project Definition for Pilot and Demonstration Scale Manufacturing of Biofuels, Bioproducts, and Biopower". The call supports technology development for drop-in hydrocarbon biofuels, bioproducts, or intermediates in a pilot- or demonstration-scale integrated biorefinery. Scale-up and validation of these process technologies is essential to enable the industry to build manufacturing facilities. Plans for facilities that use lignocellulosic biomass, algal biomass, or biosolids feedstocks will be considered.

EERE plans to issue the FOA in May 2016 via the EERE Exchange website <https://eere-exchange.energy.gov/>.

Source: <https://eere-exchange.energy.gov/Default.aspx#FoaIde3f4b99e-f7d1-463e-9fd5-b29c11ffdfad>

DEMONSTRATION / IMPLEMENTATION / MARKETS

Higher-octane gasoline share in the US increasing

Since 2013, the share of premium gasoline in total gasoline sales has steadily increased to 11.3% in August and September 2015. The upward trend in sales is mainly driven by changes in fuel requirements for light-duty vehicles (LDV) in response to increasing fuel economy standards.

The latest Corporate Average Fuel Economy (CAFE) regulations set automaker LDV fleet-wide fuel economy for model years 2017-21 to a range of 40.3–41.0 miles per gallon (mpg), with standards for model years 2022-25 rising to 48.7–49.7 mpg. To meet these standards, automakers are implementing a wide range of technical solutions. Solutions include weight reduction, conventional engine and transmission efficiency improvements, aerodynamics, and hybrids and electric vehicles.

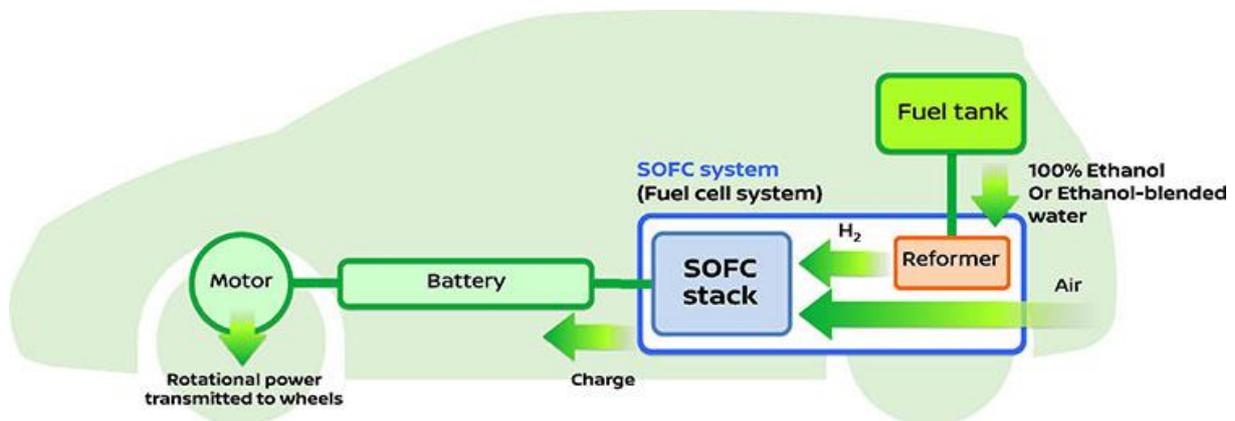
One significant trend is engine downsizing coupled with turbocharging. Smaller, turbocharged engines can raise fuel economy while meeting the power and torque of larger engines, allowing engine downsizing and improved fuel economy with little or no performance compromise.

In model year (MY) 2009, turbocharged vehicles accounted for 3.3% of new gasoline-fuelled LDV sales. By MY 2014, their share was more than five times greater, at 17.6% of the market. This trend is expected to continue, and turbocharged engines are projected to account for 83.3% of the LDV market by 2025.

Source: www.eia.gov/todayinenergy/detail.cfm?id=25692&src=email

Combining ethanol and SOFC

Nissan Motor Co., Ltd. announced that it is currently researching and developing a Solid Oxide Fuel-Cell (SOFC)-powered system that runs on bio-ethanol electric power. The new system features an e-Bio Fuel-Cell with an SOFC power generator. The e-Bio Fuel-Cell uses hydrogen transformed from fuel via a reformer and atmospheric oxygen, with the subsequent electrochemical reaction producing electricity to power the vehicle. e-Bio Fuel-Cell features SOFC as its power source, affording greater power efficiency to give the vehicle cruising ranges similar to gasoline-powered cars (more than 600km). In addition, the e-Bio Fuel-Cell car features the comfort of a pure electric vehicle.



Source: Nissan

Source: <http://nissannews.com/en-US/nissan/usa/releases/nissan-announces-development-of-the-world-s-first-sofc-powered-vehicle-system-that-runs-on-bio-ethanol-electric-power?la=1>

New biofuels pilot plant in Australia

Australia-based Southern Oil Refining has announced plans to build a biofuels pilot plant in Gladstone, Queensland. The A\$16m Northern Oil advanced biofuels pilot plant is planned to be expanded into a large commercial-scale refinery costing A\$150m and produce 200 million liters of advanced biofuel per year. The plant will use biomass material such as sugarcane bagasse and prickly acacia as feedstock to produce bio crude oil, which will be distilled into kerosene and diesel products. The plant is set to be operational later this year and is expected to produce one million liters of fuel within the next three years.



Source: www.hydrocarbons-technology.com/news/newssouthern-oil-refining-biofuels-pilot-plant-queensland-4851197

Biogas fuel for buses

Wärtsilä has been awarded the order to supply a biogas liquefaction plant that will produce fuel for public transport vehicles, mainly in Norway. The Wärtsilä plant will be installed at the paper mill in Skogn, Norway and will convert the cleaned biogas from fishery waste and residual paper mill slurry into liquid fuel. The liquid will be cooled to minus 160°C and stored in insulated tanks. The system has been designed to liquefy small methane-based gas streams. The technology is based on well proven components.

Source: www.wartsila.com/media/news/17-03-2016-wartsila-to-deliver-nordic-countries-largest-biogas-plant-to-provide-fuel-for-buses

Developing biogas purification

Air Liquide announces the commissioning of 12 biogas purification units in the last 12 months in Europe. With these new units, Air Liquide triples its biogas purification capacity on the European continent. Overall, Air Liquide has designed and deployed worldwide 50 biogas purification units in order to transform biogas into biomethane and inject it into the natural gas networks.

The 12 new biogas purification units commissioned by Air Liquide are located in France, in the United Kingdom, in Hungary and in Denmark. Five of these units, representing a total investment of 12 million euros, are operated by Air Liquide. They generate long-term contracts for the production of biomethane for Europe's natural gas grids, which supply the transportation fleets that run on bio-NGV.

Source: www.airliquide.com/media/air-liquide-accelerates-its-development-biogas-purification

POLICY / LEGISLATION / MANDATES / STANDARDS

European Roadmap for an "Algae-Based Industry"

The Conference "European Roadmap for an Algae-Based Industry" was successfully held on 6-8 April in Portugal. Microalgae have the potential to produce high-value nutritional elements, bio-based plastics and energy while keeping pressures on land and resources low, including enhancing the sustainability of other conventional processes, thus contributing to a safer and healthier society, mitigating climate change and promoting innovation.

After three days of discussions, the experts identified the needs of the sector, pointing-out the direction of the European algae strategic research agenda, which will soon be published as a White Paper.

More about the conference: www.eualgaeroadmapconference.eu and maria.barbosa@wur.nl

Japan publishes Energy White Paper 2015

The Agency for Natural Resources and Energy in Japan recently issued the Energy White Paper. As its main topics, the Energy White Paper 2015 provides analysis on the global environment for energy security, which is drastically changing due to the Shale Revolution in the United States, and also explains the current situation of rising energy costs in Japan and the Government's response to the situation. The White Paper also describes in detail the responses to the accident at Tokyo Electric Power Company's (TEPCO) Fukushima Daiichi Nuclear Power Station, energy trends, and measures taken in FY2014 concerning energy supply and demand.

Source: http://www.meti.go.jp/english/report/index_whitepaper.html#energy

New standard on 20% and 30% biodiesel blends

At the beginning of December 2015, the German Institute for Standardisation, DIN, published the standard for using biodiesel as an admixture component in percentages of up to 20 (B20) or 30 per cent by volume (B30). B20 and B30 may only be used in so-called closed vehicle fleets according to the European standard. Their application is therefore especially geared towards fleets in HGV traffic. Approvals of the vehicle manufacturers yet are to be obtained, and with respect to the use of summer and winter quality, a corresponding storage must be ensured.

The standard can be purchased in the Beuth Verlag publishing house: www.mybeuth.de

Electric cars for the Netherlands

The Dutch parliament has taken the first step in banning petrol and diesel cars from sale in the Netherlands from 2025. In March the lower house supported a motion from the Labour PvdA party to do all it can to ensure all new cars are sustainable from 2025. Despite strong opposition from the right-wing VVD, the motion passed and the cabinet must now come up with an action plan.

Slashing vehicles' emissions was also one pledge from the UN Conference on Climate Change in Paris last year. Eight north American states and five countries (including the Netherlands) joined the International Zero-Emission Vehicle (ZEV) Alliance at the beginning of December, pledging to make all new car sales eco-friendly by 2050.

Source: <http://www.dutchnews.nl/news/archives/2016/03/only-electric-cars-to-be-sold-in-netherlands-from-2025>

European Alternative Fuels Observatory

A Consortium led by AVERE, the European Association for Electromobility, has launched the EAFO portal www.eafo.eu. The portal is available to all to provide information on the development and deployment of alternative fuels' vehicles, infrastructure and incentives as well as related relevant topics in the different EU countries. The EAFO was set up at the initiative of the European Commission.

Available information is currently focused on electricity, while information on hydrogen and natural gas will be provided as of the third quarter of 2016. The EAFO Consortium will also conduct and publish regular analysis based on the collected data and information. The EAFO portal provides details and quality not available anywhere else for the Member States and other stakeholders, in the 28 EU countries and in the EFTA countries (Iceland, Norway, Switzerland, and Liechtenstein).

Source : <http://www.eafo.eu>

SPOTLIGHT SHIPPING

Methanol-fueled ships

The world's first ocean-going ships capable of operating on methanol are about to be delivered to operator Waterfront Shipping Co. In a ground breaking event, three methanol-propelled tankers were delivered in April from South Korean and Japanese shipyards. Another four methanol-burning ships are scheduled to enter service in October this year.

The seven 50,000 dwt product tankers will be used to replace older vessels and expand Waterfront's fleet of methanol carriers. The new ships each have MAN B&W's dual-fuel, two-stroke engines ME-LGI, which can run on methanol, fuel oil, marine diesel oil or gasoil. Two of the vessels will be owned by Westfal-Larsen Management (WL), three by Mitsui OSK Lines (MOL) and the other two by a joint venture between Marinvest and Skagerack Invest and Waterfront. The ships are constructed by Hyundai Mipo Dockyard and Minaminippon Shipbuilding Co.

Source: http://www.mpropulsion.com/news/view/worlds-first-methanolfuelled-ships-about-to-enter-service_42552.htm

LNG as marine fuel

Qatar and Royal Dutch Shell have agreed to develop liquefied natural gas (LNG) as a marine fuel for use by the world's largest container shipping company. Qatargas, the world's largest LNG producer, said the three companies signed a memorandum of understanding which sees Qatargas 4, a joint venture between Qatar Petroleum and Shell, producing the fuel for use by Maersk Line. Most shipping companies currently use heavy fuel oil, or bunker fuel, to propel their vessels although LNG as marine fuel has been used by some ships in the past decade.

DNV GL, an international energy and shipping certification agency, says while most of the industry will continue to use heavy fuel oil for now, LNG is being used more, in part because it more easily meets current and proposed emission rules. In a 2015 report, DNV GL said 63 LNG-fuelled vessels were already operating globally with another 76 ships being built that would use the new fuel. In contrast, Maersk has just under 600 ships operating, including some of the biggest in the world.

Source: <http://www.zawya.com/mena/en/story/TR20160222nL8N1611S1X2/>

SPOTLIGHT AVIATION

Fifth Bio-based jet fuel approved

The US Federal Aviation Administration (FAA) recently approved a new, alternative bio-based jet fuel that meets ASTM International standards. Known as Alcohol to Jet Synthetic Paraffinic Kerosene (ATJ-SPK), the new aviation fuel is created from isobutanol derived from feed stocks such as sugar and corn. This latest approval brings the number of approved aviation biofuels to five, including ATJ-SPK, Synthesized Iso-parafins (SIP), Hydro-processed Esters and Fatty Acids Synthetic Paraffinic Kerosene (HEFA-SPK), Fischer-Tropsch Synthetic Paraffinic Kerosene (FT-SPK) and Fischer-Tropsch Synthetic Kerosene with Aromatics.

Source: <http://www.ainonline.com/aviation-news/aerospace/2016-04-25/fifth-bio-based-jet-fuel-approved-faa>

Flight Path 1.5

In mid-March, members of the International Coalition for Sustainable Aviation (ICSA) launched FlightPath 1.5 to address the urgent and growing need to reduce greenhouse gas emissions from the airline industry through the International Civil Aviation Organization (ICAO), the United Nations (UN) decision-making body charged with regulating aviation emissions. ICAO is planning to adopt an agreement in 2016 that puts international aviation on a path to cutting its climate pollution in line with stabilizing the increase in global temperature to 1.5°C above pre-industrial levels.

Source: <http://us3.campaign-archive1.com/?u=f042e4328120bfd839ba8efef&id=46ff7a8903&e=83ae7f8346>

Biofuels production and use in aviation

Around the globe, the aviation sector is engaged in the production and use of biofuels.

Japan Airlines is building its first demonstration complex in Chiba Prefecture, east of Tokyo, aiming to get the fuel ready for use in their aircraft by 2020. Hydrogen and carbon monoxide produced in a waste disposal plant will be converted into aircraft fuel using catalytic agents.

Source: www.efe.com/efe/english/business/japan-airlines-to-build-first-biofuel-plant-for-its-planes/50000265-2810827

In Canada, the Montréal-Trudeau Airport has been chosen by Canada's Biojet Supply Chain Initiative (CBSCI) for a project to supply aircraft with aviation biofuel from a shared fuel system. The objective of the CBSCI project is to create a sustainable Canadian supply chain of biojet using renewable feedstocks. Commercially available, certifiably sustainable oleochemical feedstocks will undergo a Hydroprocessed Esters and Fatty Acids (HEFA) conversion process before being blended with conventional petroleum jet fuel and introduced into a shared fuel tank at Montréal-Trudeau.

Source: <http://www.greenaironline.com/news.php?viewStory=2241>

Cathay Pacific will use a 10% blend of Amyris renewable jet fuel on all A350 delivery flights over the next two years. The Amyris renewable jet fuel process involves converting plant sugars through fermentation into a hydrocarbon molecular structure called farnesene. The fuel is produced at the Amyris biorefinery in south-eastern Brazil and has already been used in commercial flights by Brazilian carrier GOL, following ASTM certification for the process in 2014.

Source: <http://www.greenaironline.com/news.php?viewStory=2246>

United Airlines, in partnership with AltAir Fuels (AltAir), begins to use commercial-scale volumes of sustainable aviation biofuel for regularly scheduled flights from Los Angeles International Airport. The AltAir facility is a dedicated, commercial-scale renewable jet fuel production facility and converts non-edible natural oils and agricultural wastes into jet fuel and renewable diesel.

Source : [http://newsroom.united.com/2016-03-11-United-Airlines-Makes-History-with-Launch-of-Regularly-Scheduled-Flights-Using-Sustainable-](http://newsroom.united.com/2016-03-11-United-Airlines-Makes-History-with-Launch-of-Regularly-Scheduled-Flights-Using-Sustainable-Biofuel?utm_source=United+AltAir+PR+March+11+2016+Event&utm_campaign=11+March+2016+United+AltAir+News&utm_medium=email)

[Biofuel?utm_source=United+AltAir+PR+March+11+2016+Event&utm_campaign=11+March+2016+United+AltAir+News&utm_medium=email](http://newsroom.united.com/2016-03-11-United-Airlines-Makes-History-with-Launch-of-Regularly-Scheduled-Flights-Using-Sustainable-Biofuel?utm_source=United+AltAir+PR+March+11+2016+Event&utm_campaign=11+March+2016+United+AltAir+News&utm_medium=email)

IEA & IEA-AMF NEWS

AMF ExCo 51 held in Chicago, USA

In May 2016, 34 delegates attended the AMF ExCo meeting at the premises of Argonne National Laboratories. The group exchanged information on the current projects (annexes) and discussed collaboration opportunities with the Methanol Institute and the International Council on Clean Transportation (ICCT), who were both present as observers.



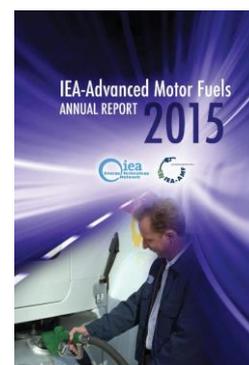
Yutaka Takada, one of the longest standing ExCo members, provided success stories from 50 AMF meetings: Face-to-face meetings enhance the expertise of ExCo members and expand the individual networks on advanced motor fuels; thoughtful chairing enables fruitful discussions during the meetings. The success from the past 50 meetings shall be continued to the next 50 meetings. A tour through the Argonne research facilities and to downtown Chicago rounded off the meeting.

AMF Annual Report 2015 published

The Advanced Motor Fuels Technology Collaboration Programme (AMF TCP) has recently published its annual report for 2015.

The report includes country reports from all 17 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 12 current AMF projects.

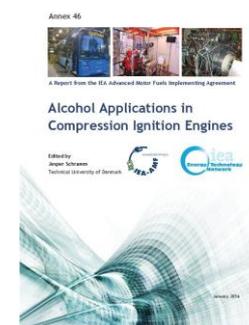
The report is available at www.iea-amf.org/annualreport.



Annex 46 final report published

The two year project on the application of neat alcohols in compression ignition engines has been finalized. The project has shown that neat alcohols can be applied at very high compression ratios in diesel engines with the same performance as conventional diesel fuel. This was achieved by applying different ignition improvers in the form of additives. Blends of alcohols and diesel showed a reduction in particulate emissions from a compression ignition engine with lower compression ratios.

More information on the project and the full project report are available at <http://iea-amf.org/content/projects/annexes/46>.



Current AMF Annexes / Projects

Annex 28: Information Service & AMF Website (AMFI)

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

Annex 47: Reconsideration of DME Fuel Specifications for 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

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

Next ExCo Meetings

ExCo 52 will be held 19-21 October 2016 in Vienna, Austria, in conjunction with the Eco-Mobility 2016 conference.

PUBLICATIONS

- **IEA World Energy Outlook 2016 Special Report on Energy and Air Pollution:** Based on new data for pollutant emissions in 2015 and projections to 2040, this special report, the latest in the World Energy Outlook series, provides a global outlook for energy and air pollution as well as detailed profiles of key countries and regions: the United States, Mexico, the European Union, China, India, Southeast Asia and Africa.
Link: <http://www.worldenergyoutlook.org/>
- **IEA Energy Technology Perspectives 2016 - Towards Sustainable Urban Energy Systems:** This report examines the technology and policy opportunities available for accelerating the transition to sustainable urban energy systems. It includes the annual IEA *Tracking Clean Energy Progress* report, which finds once again that despite some notable progress, the rate of needed improvements is far slower than required to meet energy sector sustainability goals.
Link: http://www.iea.org/bookshop/719-Energy_Technology_Perspectives_2016
- **RES-T-BIOPANT Towards advanced biofuels - options for integrating 1st and 2nd generation biofuel production:** The integration of advanced (2nd generation / 2G) biofuel plants with conventional (1st generation / 1G) biofuel plants can lead to significant synergies and cost savings, especially for bioethanol plants. For biodiesel, conversion of fossil refineries to advanced biofuel production is another promising option as well. These are the results of a scoping study commissioned by the IEA Implementing Agreement for Renewable Energy Technology Deployment (IEA-RETD).
Link: <http://iea-rettd.org/archives/publications/res-t-bioplant>

- **Examples of Positive Bioenergy and Water Relationships:** Bioenergy is, and will continue to be, a substantial part of the global renewable energy supply in a low carbon economy. The Global Bioenergy Partnership (GBEP) and the International Energy Agency (IEA) Bioenergy Technology Cooperation Programme (IEA Bioenergy) have joined forces to collect information, analyse it and present the results. This new report includes examples that show how solutions can be found that produce bioenergy while contributing positively to the state of water.

Link: <http://ieabioenergy.us8.list-manage.com/track/click?u=f902b070150dd13840a31e93e&id=53457ef2fd&e=e9cadb9545>
- **Are technology myths stalling aviation climate policy?** Emissions from aviation will continue to increase in the future, in contradiction of global climate policy objectives. Yet, airlines and airline organisations suggest that aviation will become climatically sustainable. This paper investigates this paradox by reviewing fuel-efficiency gains since the 1960s in comparison to aviation growth, and by linking these results to technology discourses over 20 years (1994–2013).

Link: www.sciencedirect.com/science/article/pii/S1361920916000158
- **Perspectives for Sustainable Aviation Biofuels in Brazil:** The aviation industry has set ambitious goals to reduce carbon emissions in coming decades. This paper presents the main conclusions and recommendations from a broad assessment of the technological, economic, and sustainability challenges and opportunities associated with the development of drop-in aviation biofuels in Brazil. Published in the International Journal of Aerospace Engineering, December 2015.

Links: https://www.researchgate.net/profile/Luis_Cortez and https://www.researchgate.net/profile/Luiz_Nogueira2
- **Evaluating 15 years of transport and environmental policy integration – TERM 2015:** Transport indicators tracking progress towards environmental targets in Europe: The report analyses the evolution of the transport sector (freight and passenger) and its pressures on the environment since 2000, including the impacts of the economic recession in 2008. It concludes that a fundamental decarbonisation of the transport sector will require not just technological solutions but also policies that stimulate significant behavioural changes, including the correct pricing of transport externalities and planning approaches that stimulate the use of sustainable modes of transport.

Link: <http://www.eea.europa.eu/publications/term-report-2015>
- **European Environmental Agency report on vehicle emissions published:** Measuring exhaust emissions from vehicles is a complex issue, and it's a topic that has been extensively discussed in the media over the past months. This report explains in simple terms how vehicle emissions occur and how they are tested, and the reasons for the gap between tested and real-world driving emissions.

Link: <http://www.eea.europa.eu/publications/explaining-road-transport-emissions>
- **The land use change impact of biofuels consumed in the EU: quantification of area and greenhouse gas:** The EU Renewable Energy Directive (2009/28/EC) directed the European Commission to develop a methodology to account for the ILUC effect. As Indirect Land Use change (ILUC) can only be modelled not measured, the aim of this study was to model land use change and its greenhouse gas emissions related to biofuels consumed in the EU. This study serves to provide new insights to the European Commission and other stakeholders about these indirect carbon and land impacts from biofuels consumed in the EU, with more details on production processes and representation of individual feedstocks than was done before.

Link: https://ec.europa.eu/energy/sites/ener/files/documents/Final%20Report_GLOBIOM_publication.pdf

- **Post-2020 Visions and National Plans for Sustainable Transport:** On request of the European Biofuels Technology Platform, ECN has carried out a full review of 10 current Member State plans in the transport sector.
Link: <http://biofuelstp.eu/road-biofuels.html#post2020>
- **Biofuel and Bioelectricity evaluation report 2014 (Germany):** The implementation of the sustainability criteria plays a key role in the achievement of the national, European and international climate protection targets. The Federal Office of Agriculture and Food has published an "Evaluation Report 2014" according the "Biomass Electricity Sustainability Ordinance and the "Biofuels Sustainable Ordinance" in its fifth consecutive year.
Source: http://www.ble.de/SharedDocs/Downloads/EN/02_ControlLicensing/05_SustainableBiomassProduction/EvaluationAndProgressReports2014.pdf?__blob=publicationFile
- **Lowering of the Boiling Curve of Biodiesel: The boiling line of diesel** fuels is relevant for the combustion in modern engines. Biodiesel shows a boiling behavior that is very different to diesel fuel. To adapt the boiling line, metathesis reactions were carried out.
Link: http://www.ufop.de/files/7913/8063/2076/20120827_Abschlussb_final_eng_korr_Munack_Aend.pdf

EVENTS

Bioenergy 2016, 12-13 July 2016, Washington, DC

Conference website: <http://www.energy.gov/eere/bioenergy/conferences>

ICATM 2016 : 18th International Conference on Automotive Technology and Management, 4 August 2016, Amsterdam, The Netherlands

Conference website: <https://www.waset.org/conference/2016/08/amsterdam/ICATM/home>

Nordic Biogas Conference, 07-09 September 2016, Tutku (Finland) Stockholm (Sweden), Finland

Conference website: <http://nordicbiogas.biokaasuyhdistys.net/>

Biofuels International, 20-22 September 2016, Gent, Belgium

Conference website: <http://biofuels-news.com/conference/>

Eco-Mobility 2016, 17-18 October 2016, Vienna, Austria

Conference website: <http://www.a3ps.at/konferenz/eco-mobility-2016>

Future of Road Mobility (FORM) Forum, 19 October 2016, Brussels, Belgium

Conference website: http://www.earpa.eu/earpa/17/1002/form_forum_19th_october_2016._save_the_date_.html

9th International Seminar on Gasification, 19-20 October 2016, Malmö, Sweden

Conference website: <http://www.energiforsk.se/konferenser/international-seminar-on-gasification/>

RENEXPO® Poland, 19-21 October 2016, Warsaw, Poland

Conference website: <http://www.renexpo-warsaw.com/index.php?id=7&L=1>

Fuels of the Future, 23-24 January 2017, Berlin, Deutschland

Conference website: <http://www.fuels-of-the-future.com/>

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 and Vijay Kumar Verma, 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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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
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