

# AMFI Newsletter



Visit to the GoBiGas biomethane production facility (under construction) during [AMF ExCo 45](#)

*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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## GENERAL INTEREST

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### “Real-world” car fuel efficiency

Research by the non-profit International Council on Clean Transportation (ICCT) found "real-world" carbon emissions for new cars based on fuel consumption are about 25% higher on average than carmakers say. The findings will add to pressure for the reform of EU vehicle testing procedures to ensure that advertised fuel-efficiency values better reflect normal use. That in turn could make it harder for manufacturers to meet a new EU CO<sub>2</sub> vehicle emissions target proposed for 2020.

The car industry agrees on the need for change. VDA, which represents the German industry, has said it is "working actively" on reform of the testing regime. The United Nations is leading a worldwide effort to update test procedures that date from the 1980s. In parallel, the European Union is working on how to tighten EU law on vehicle testing and also to enforce a 2020 emissions goal of 95 grams of CO<sub>2</sub> per kilometer (g/km) across the European Union.

Source: *EurActiv.com*, published 28 May 2013, updated 30 May 2013,  
[www.euractiv.com/transport/car-fuel-efficiency-falls-eu-mak-news-528075?utm\\_source=EurActiv%20Newsletter&utm\\_campaign=f56c74f2d6-newsletter\\_energy&utm\\_medium=email&utm\\_term=0\\_bab5f0ea4e-f56c74f2d6-245716357](http://www.euractiv.com/transport/car-fuel-efficiency-falls-eu-mak-news-528075?utm_source=EurActiv%20Newsletter&utm_campaign=f56c74f2d6-newsletter_energy&utm_medium=email&utm_term=0_bab5f0ea4e-f56c74f2d6-245716357)  
Download ICCT report: [www.theicct.org/sites/default/files/publications/ICCT\\_LabToRoad\\_20130527.pdf](http://www.theicct.org/sites/default/files/publications/ICCT_LabToRoad_20130527.pdf)

### EU fuel economy rules

Robust fuel efficiency standards for cars could create up to 443,000 new jobs by 2030 and add €16 billion per year to Europe's GDP, according to the first economic study of the effects of CO<sub>2</sub> legislation on the auto-industry. Implementing the EU's proposed 2020 auto-standard of 95 grams of CO<sub>2</sub> per km (g/km) for automobiles and 147 g/km for vans - as a stand-alone measure - could result in 356,000 new jobs, says the report by Cambridge Econometrics and Ricardo-AEA. But if the realized target were 90 g/km for cars and 141 g/km for vans with annual 3% (and not 1%) efficiency gains in the following years, the jobs harvest could top 443,000.

External Links:

European Commission

- DG Clima: Reducing CO<sub>2</sub> emissions from passenger cars  
[http://ec.europa.eu/clima/policies/transport/vehicles/cars/index\\_en.htm](http://ec.europa.eu/clima/policies/transport/vehicles/cars/index_en.htm)
- DG Enterprise: Competitive Automotive Regulatory System for the 21st Century  
<http://ec.europa.eu/enterprise/sectors/automotive/competitiveness-cars21/cars21/>
- CARS21: Report by High Level Group on the Competitiveness and Sustainable Growth of the Automotive Industry in the European Union [http://ec.europa.eu/enterprise/sectors/automotive/files/cars-21-final-report-2012\\_en.pdf](http://ec.europa.eu/enterprise/sectors/automotive/files/cars-21-final-report-2012_en.pdf)

NGOs & Think-tanks

- Transport and Environment: Report - Mind the gap: Why official car fuel economy figures don't match the reality <http://www.transportenvironment.org/publications/mind-gap-why-official-car-fuel-economy-figures-don%E2%80%99t-match-reality>
- Transport & Environment: Cars and CO<sub>2</sub> targets <http://www.transportenvironment.org/publications/cars-and-co2>

Source / read more: <http://www.euractiv.com/energy-efficiency/report-tough-eu-fuel-economy-rul-news-518559>

## **New EU rules for safer and more environmental Lorries**

The European Commission proposed new rules to allow manufacturers to develop more aerodynamic Lorries which will reduce fuel consumption by 7-10%, cut emissions of greenhouse gases, and also enhance the safety of vulnerable road users.



The proposal will allow cabins with a rounded shape and for the use of aerodynamic flaps at the back of the trailer. These measures will considerably improve the aerodynamics of vehicles, saving approximately € 5,000 per year in fuel costs for a typical long-distance lorry covering 100,000 km. This represents a 7–10% cut in greenhouse gas emissions (or 7.8 tonnes of CO<sub>2</sub> for the same long-distance lorry covering 100,000 km). At the same time, the field of vision of the driver will be improved, helping to save the lives of 300 to 500 vulnerable road users such as pedestrians or cyclists every year.

The current proposal must be adopted by the European Parliament and Member States before becoming law. The new trucks could be expected to be seen on the roads by 2018-2020.

*Source: EC Mobility and Transport Newsletter, 19 April 2013*

*Link: [http://ec.europa.eu/transport/modes/road/weights-and-dimensions\\_en.htm](http://ec.europa.eu/transport/modes/road/weights-and-dimensions_en.htm)*

## **GASEOUS FUELS**

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### **Natural gas as a transport fuel**

Natural gas will increase its share of road transport fuels to 2.5 percent in 2018 from 1.4 percent in 2010 as consumers look for cheaper, cleaner forms of propulsion, according to the International Energy Agency.

Further displacement of oil as the leading transport fuel is being held back by the need for “substantial” infrastructure, the IEA said in its medium-term oil-market report, published 14 May 2013. Oil will account for 96.4 percent of road-transport fuel in 2018 from 97.8 percent in 2010, the Paris-based IEA said.

Natural-gas fuel infrastructure build-up “could begin to happen in a big way over the forecast period, but regardless may not bear fruit until later,” the IEA said in the report. “While this infrastructure development could eventually pave the way for substantial displacement of oil by natural gas in the transport sector, truly meaningful fuel switching is not expected to occur until after the end of the forecast period.”

The prospect of bountiful, cheap gas extracted from shale rocks has led to renewed interest in using the fuel to power vehicles. In the U.S., natural gas is selling at about one-fourth the cost of crude oil. At \$94.83 a barrel, oil costs about \$15.81 per million British thermal units compared with \$3.97 for U.S. gas, according to data compiled by Bloomberg.

U.S. energy policy makers should offer incentives to convert trucks to run on natural gas to promote energy independence, billionaire T. Boone Pickens said May 1. Pickens, whose Clean Energy Fuels Corp. (CLNE) has 400 natural gas filling stations, wants the federal government to offer incentives to convert 8 million 18-wheeler long-haul trucks to run on natural gas, raising money for the plan by selling some of the 700 million barrels of oil now in the U.S. strategic petroleum reserve.

Source: Bloomberg

Link: <http://www.bloomberg.com/news/2013-05-14/natural-gas-to-make-up-2-5-of-transport-fuel-by-2018-iea-says.html>

## US natural gas export plans stir debate

A domestic natural gas boom already has lowered U.S. energy prices while stoking fears of environmental disaster. Now U.S. producers are poised to ship vast quantities of gas overseas as energy companies seek permits for proposed export projects that could set off a renewed frenzy of fracking.



Expanded drilling is unlocking enormous reserves of crude oil and natural gas, offering the potential of moving the country closer to its decades-long quest for energy independence. Yet as the industry looks to profit from foreign markets, there is the spectre of higher prices at home and increased manufacturing costs for products from plastics to fertilizers.

If approved, the resulting export boom could lead to further increases in hydraulic fracturing, a drilling technique also known as fracking. It has allowed companies to gain access to huge stores of natural gas underneath states from Colorado to New York, but raised widespread concerns about alleged groundwater contamination and even earthquakes.

The drilling boom has helped boost U.S. natural gas production by one-third since 2005, with production reaching an all-time high of 25.3 trillion cubic feet last year, according to the U.S. Energy Information Administration. In recent months, however, production has begun to level off as the glut of natural gas keeps U.S. prices down. In response, producers have begun pushing to export the fuel to Europe and Asia, where prices are far higher.

Approval of all the projects currently under review by the Energy Department could result in the export of more than 40 percent of current U.S. production of liquefied natural gas, or LNG, which is gas that's been converted to liquid form to make it easier to store or transport.

But consumer groups and some manufacturers that use natural gas oppose expanded exports, saying they could drive up domestic prices and make manufacturing more expensive. Many environmental groups also oppose LNG exports because of fears that increased drilling could lead to environmental damage

Source: <http://news.yahoo.com/natural-gas-export-plans-stir-072107081.html>

## ALCOHOLS AND (BIO)GASOLINE

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### 20th International Symposium on Alcohol Fuels (ISAF)

ISAF 2013 took place in Stellenbosch, South Africa, 25-27 March 2013. About 200 participants from around the globe attended the conference. The scientific committee involved South African academia and industry such as SASOL, as well as scientists from Asia, Europe, and Latin America.

The theme for the 2013 meeting was "Alcohol fuels enabling sustainable future development", with sessions covering the following topics:

- Production technology developments for sustainable first and second generation alcohol fuels
- Biorefineries and green chemistry
- Application of alcohols and alcohol-derived fuels in transport (terrestrial, maritime and aviation)
- Other alcohols and derivatives (including methanol and ethers) and their role in sustainable transport
- Alcohol fuels integrated with human needs (heating and food production)
- Environmental-friendly management of alcohol refining wastes
- Policy frameworks to enable sustainable alcohol fuel production and use.

ISAF presentations are now available for download.

Link: <http://academic.sun.ac.za/microbiology/ISAF2013.html>

## BIODIESEL ESTERS

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### High-vacuum distillation of biodiesel

Big Island Biodiesel installed a high-vacuum distillation (HVD) unit at its new biodiesel facility on Hawaii Island in 2012; now testing of fuel produced at the facility was completed. The biodiesel refinery, with a capacity of 5.5 MMgy, has since been ramping up production for the HVD unit—a technology that has proven to be an important component in recycling highly degraded waste oils into premium quality biodiesel. Distillation of biodiesel under high vacuum is a new approach to addressing the shortcomings of traditional biodiesel refining techniques when dealing with degraded feedstock.

The president of Pacific Biodiesel Technologies noted that the fuel quality is exceeding all of the individual biodiesel test component requirements of ASTM standards. The HVD system at BIB was made possible by a grant from the Department of Energy, which awarded funds to the Pacific International Center for High Technology Research (PICHTR) to competitively select projects. PICHTR awards funds through two programs, Hawaii Renewable Energy Development Venture and the Energy Excelerator.

Source: <http://www.biodieselmagazine.com/articles/9129/big-island-biodiesel-completes-testing-of-distilled-product>

## Soy biodiesel and food prices

Soybean growers are getting more for their beans because of biodiesel, but consumers aren't being pinched by higher food prices at the grocery stores. According to the United Soybean Board, a new study done for soybean biodiesel in Minnesota, Nebraska and the Dakotas show that biodiesel production has pushed U.S. soy oil prices higher than they were before the green fuel, increasing soy-oil revenues by \$15 billion between 2006 and 2012 while pushing up the price of a bushel of soybeans by \$0.74 per bushel.



As biodiesel production edged upward, the amount of soy oil used in the food industry slid down. Soy oil use for biodiesel increased from 670,000 pounds in 2005 to 4.1 billion pounds for 2012. During that period, U.S. soy oil use in food applications declined by 3.6 billion pounds.

"When trans-fat labeling decreased the use of soy oil for food applications, specifically cooking oils, it created a huge drag on the soy-oil price due to surplus," said Lewis Bainbridge, United Soybean

Board (USB) secretary and a soybean farmer from Ethan, S.D. "We generated a huge stockpile, and that's when the demand for biodiesel started, which helped decrease the glut of soy oil."

Meanwhile, all those soybeans processed for biodiesel production are also being turned into more soy meal, lowering the cost of feed poultry and livestock farmers. The study says biodiesel production lowers soy meal prices by as much as \$25 per ton.

Source: [http://domesticfuel.com/2013/05/14/biodiesel-ups-bean-prices-without-raising-food-prices/?utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+DomesticFuel+%28Domestic+Fuel%29](http://domesticfuel.com/2013/05/14/biodiesel-ups-bean-prices-without-raising-food-prices/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+DomesticFuel+%28Domestic+Fuel%29)

## SYNTHETIC AND RENEWABLE DIESEL / JET

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### Advanced biofuels solutions for aviation

BioFuelNet has signed an agreement with Air Canada and Airbus to help them find the most promising biofuels for aviation. Air Canada and Airbus are part of a broad coalition, which has pledged Carbon Neutral Growth from 2020 and to reduce greenhouse emissions by 50 per cent by 2050. BioFuelNet Canada, a not-for-profit organization hosted by Montreal's McGill University, will assess the viability of various Canadian advanced biofuels solutions for aviation. Their research will focus on diverse raw materials, such as municipal solid waste and agricultural and forestry waste, as well as a range of conversion processes available for biofuel production. The ultimate goal is to determine which advanced biofuels are the most sustainable for aviation.

Dr. Donald Smith, President of BioFuelNet and McGill University Professor stated, "Aviation biofuels are one of the most promising ways to reduce the aviation industry's carbon footprint, making air travel more environmentally-friendly. Airbus and Air Canada are key players in the field, dedicated to finding the most sustainable fuel sources for the future of air travel. These relationships are of great importance to BioFuelNet Canada".

Source: <http://finance.yahoo.com/news/biofuelnet-canada-joins-forces-airbus-110000374.html>

## Wood-based diesel in fleet tests

UPM, VTT and VV-Auto Group will start fleet tests of renewable domestic diesel. Biofuel will be produced by UPM, fleet tests will be coordinated by VTT and cars will be supplied by VV-Auto Group. Fleet tests with UPM BioVerno will start in May, lasting several months.

UPM BioVerno diesel has previously been studied in engine and vehicle tests conducted by VTT amongst others. The fleet tests will focus on investigating UPM renewable diesel in terms of fuel functionality in engine, emissions and fuel consumption. The fleet tests are a part of a larger project coordinated by VTT. The goal of this project is to encourage companies to commercialize renewable energy solutions in traffic.

"Advanced, sustainable biofuels are a great opportunity for Finland. The Commission will most likely restrict the use of biofuel made from food crops, meaning that the value of the forest industry residues will increase. VTT has wide expertise on engines and fuels, which complements UPM's key competence in this project," says Research Professor Nils-Olof Nylund at VTT.

UPM's renewable diesel, known as UPM BioVerno, is an innovation that will reduce greenhouse gas emissions caused by traffic by up to 80% when compared with fossil fuels. This high-quality biofuel is produced from residues of the forest industry, with no edible materials being used. UPM BioVerno is an ideal fuel for all diesel-powered vehicles.

In 2012, UPM began the construction of the first biorefinery in the world producing wood-based renewable diesel. This refinery, located in Lappeenranta, Finland, will be completed in 2014. Its production capacity will be 100,000 tons equating to 120 million liters of renewable diesel a year.

Source: <http://www.upm.com/EN/MEDIA/All-news/Pages/UPM-and-VTT-to-initiate-fleet-tests-of-wood-based-diesel-using-Volkswagen-cars-001-Fri-26-Apr-2013-09-30.aspx>

## Syntroleum asserts second Singapore patent against Neste

Syntroleum Corporation filed suit against Neste Oil Singapore Pte Ltd with the High Court of Singapore asserting its Singapore Patent entitled "Hydrocracking Process For Biological Feedstocks and Hydrocarbons Produced Therefrom." Syntroleum alleges that Neste "operates a renewable diesel refinery at Singapore, that processes bio-renewable feedstocks to produce hydrocarbon products such as renewable diesel fuel and bio-naphtha" which Syntroleum alleges "falls within at least Claim 1 of the Patent." Syntroleum's patent issued on May 31, 2013, and expires on August 21, 2028.

Syntroleum's action against Neste is not the first dispute between the parties in Singapore. On February 7, 2013, Syntroleum filed suit against Neste with the High Court of Singapore asserting its Singapore Patent "Even Carbon Number Paraffin Composition and Method of Manufacturing Same." Syntroleum alleged that Neste's "operation at its renewable diesel refinery in Singapore involves the processing of a bio-renewable feedstock to produce a hydrocarbon composition having at least 75 wt % even carbon number paraffins" which Syntroleum alleges "is claimed at the very least, in claim 22 of the Patent."

Syntroleum Corporation owns the Syntroleum® Process for Fischer-Tropsch (FT) conversion of synthesis gas into liquid hydrocarbons, the Synfining® Process for upgrading FT liquid hydrocarbons into refined petroleum products, and the Bio-Synfining® technology for converting renewable feedstocks into drop-in fuels.

Source: [www.b2i.us/profiles/investor/ResLibraryView.asp?ResLibraryID=63143&GoTopage=1&Category=1939&BzID=2029&G=337](http://www.b2i.us/profiles/investor/ResLibraryView.asp?ResLibraryID=63143&GoTopage=1&Category=1939&BzID=2029&G=337)

## **ELECTRIC VEHICLES AND FUEL CELLS**

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### **US public-private partnership on hydrogen infrastructure**

The new public-private partnership H2USA aims to coordinate research and identify cost-effective solutions to deploy infrastructure that can deliver affordable, clean hydrogen fuel in the U.S. Current members of the partnership include the American Gas Association, Association of Global Automakers, the California Fuel Cell Partnership, the Electric Drive Transportation Association, the Fuel Cell and Hydrogen Energy Association, Hyundai Motor America, ITM Power, Massachusetts Hydrogen Coalition, Mercedes-Benz USA, Nissan North America Research and Development, Proton OnSite and Toyota Motor North America.

Through H2USA, industry and government partners will focus on identifying actions to encourage early adopters of fuel cell electric vehicles, conduct coordinated technical and market analysis, and evaluate alternative fueling infrastructure that can enable cost reductions and economies of scale.

With support from the DOE, private industry and the DOE's national laboratories have already achieved significant advances in fuel cell and hydrogen technologies — reducing costs and improving performance. These research and development efforts have helped reduce automotive fuel cell costs by more than 35 percent since 2008 and by more than 80 percent since 2002.

Source: <http://www.utilityproducts.com/articles/elp-archives/2013/05/doe-launches-public-private-partnership-to-deploy-hydrogen-infra.html>

## **MISCELLANEOUS**

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### **Switzerland's greenhouse gas inventory 2013**

Switzerland, being a member state to the United Nations Framework Convention on Climate Change (UNFCCC) and member state to the Kyoto protocol, has committed to the annual delivery of its inventory of the Greenhouse gas emissions to the UNFCCC Secretariat. In addition to this data, the submission includes the "National Inventory Report" that describes in detail results and methods of the inventory according to the UNFCCC specifications.

Recent findings confirm a warming trend with an observed increase in mean annual temperature of approximately 1.6 °C between 1864 and 2008 for Switzerland. In 2011, Switzerland emitted 6.32 tons CO<sub>2</sub> equivalent per capita to the atmosphere, excluding emissions from international bunkers (aviation and marine) and excluding emissions and removals from the sector Land Use, Land-Use Change and Forestry. Despite clear trends in some GHG emissions, there is no significant trend in the total emissions of the period 1990–2011. Year-to-year variations of total emissions are mainly caused by changing winter temperatures and their effect on CO<sub>2</sub> emissions from fuel combustion.

Emission trends for indirect greenhouse gases are very pronounced. A strict air pollution control policy and the implementation of a large number of emission reduction measures led to a decrease of 48% to 75% in the period 1990-2011 in emissions of air pollutants. The main reduction measures were abatement of exhaust emissions from road vehicles and stationary combustion equipment, taxation of solvents and fuels containing sulfur, and voluntary agreements with industry sectors

Source: INFRAS: <http://www.infras.ch/e/news/displaynewsitem.php?id=4049>

Download: <http://www.infras.ch/downloadpdf.php?filename=CHE-2013-Apr-NIR.pdf>

## **US energy executives call for more drilling**

Top energy executives urged government officials to get rid of overly burdensome regulations on the oil and gas industry, and open up more federal lands for drilling as part of broad policy recommendations for America's energy future.

The proposal, released by the Business Roundtable, an association of CEOs of leading U.S. companies, also included plans to improve energy efficiency initiatives and support enhanced renewable energy production.

The group of executives stressed that national policy should include tapping resources from more public lands to ensure reliable supplies of energy sources such as coal, oil, and natural gas. As part of that, supporting "critical infrastructure projects," is key, the executives argued, specifically mentioning the multi-billion-dollar Keystone XL pipeline project, currently under review by the State Department. The controversial pipeline would provide the infrastructure needed to shuttle crude oil from Alberta, Canada to the Gulf of Mexico.

The group also addressed the issue of regulation and the potential for federal agencies to get involved where states are already managing, especially when it comes to hydraulic fracturing, a controversial practice that has been credited with spurring the recent boom in America's oil and gas production.

Source: <http://www.usnews.com/news/articles/2013/02/25/energy-execs-more-drilling-less-regulation>

## **First algae-derived fuel hits the pumps**

Using algae to produce biofuel is something being pursued by a number of major companies, but no one has made algal fuel or additives available for consumers — until now.

Alternative gas station chain Propel is working with algal fuel creator Solazyme on a month-long experiment, selling algal-additive "Soladiesel" alongside Propel's normal diesel. The special stuff is 20 percent algae oil, while the regular diesel fuel will have the usual additives.

Normally the algal version would cost more, but seeing how customers react and watching for supply chain problems is a critical part of bringing it to market. To that end, Propel, with stations mainly in California and Washington, will offer the two types of diesel side by side for a month.

Algae has been proposed for years as an alternative to corn as a way to produce biofuels. Special algae are grown in bulk; when fed certain sugars, they produce combustible oils that can be used as fuel additives. The resulting fuel, biodiesel in this case, produces significantly less pollutants and, Solazyme claims, may in some ways actually perform better.

There are serious questions regarding the ability to scale algae production to millions-of-barrels capacity, but companies like Shell and Exxon are investing billions in biofuels to find solutions to problems like these. One potential benefit: The oil-producing algae can be grown in salt and brackish water where other crops fail, and are more efficient than corn in their production per acre.

Solazyme itself has more than \$100 million in funding and is building a biofuel plant in Brazil. The company's plan is to commercialize the fuel next year, but limited-market pilots like this one with Propel will make that possible.

Source: <http://www.mynewsdesk.com/uk/pressroom/ducor/news/view/nbc-news-13-may-2013-first-algae-derived-fuel-hits-the-pumps-59257>

## Four energy policies can keep the 2 °C climate goal alive

Warning that the world is not on track to limit the global temperature increase to 2 degrees Celsius, the International Energy Agency (IEA) on Monday urged governments to swiftly enact four energy policies that would keep climate goals alive without harming economic growth.

"Climate change has quite frankly slipped to the back burner of policy priorities. But the problem is not going away – quite the opposite," IEA Executive Director Maria van der Hoeven said in London at the launch of a World Energy Outlook Special Report, Redrawing the Energy-Climate Map, which highlights the need for intensive action before 2020.

Noting that the energy sector accounts for around two-thirds of global greenhouse-gas emissions, she added: "This report shows that the path we are currently on is more likely to result in a temperature increase of between 3.6 °C and 5.3 °C but also finds that much more can be done to tackle energy-sector emissions without jeopardizing economic growth, an important concern for many governments."

New estimates for global energy-related carbon dioxide (CO<sub>2</sub>) emissions in 2012 reveal a 1.4% increase, reaching a record high of 31.6 gigatons (Gt), but also mask significant regional differences. In the United States, a switch from coal to gas in power generation helped reduce emissions by 200 million tons (Mt), bringing them back to the level of the mid-1990s. China experienced the largest growth in CO<sub>2</sub> emissions (300 Mt), but the increase was one of the lowest it has seen in a decade, driven by the deployment of renewables and improvements in energy intensity. Despite increased coal use in some countries, emissions in Europe declined by 50 Mt; emissions in Japan increased by 70 Mt.

The new IEA report presents the results of a 4-for-2 °C Scenario, in which four energy policies are selected that can deliver significant emissions reductions by 2020, rely only on existing technologies and have already been adopted successfully in several countries.

- Targeted energy efficiency measures in buildings, industry and transport account for nearly half the emissions reduction in 2020, with the additional investment required being more than offset by reduced spending on fuel bills.
- Limiting the construction and use of the least-efficient coal-fired power plants delivers more than 20% of the emissions reduction and helps curb local air pollution. The share of power generation from renewables increases (from around 20% today to 27% in 2020), as does that from natural gas.
- Actions to halve expected methane (a potent greenhouse gas) releases into the atmosphere from the upstream oil and gas industry in 2020 provide 18% of the savings.
- Implementing a partial phase-out of fossil fuel consumption subsidies accounts for 12% of the reduction in emissions and supports efficiency efforts.

The WEO Special Report Redrawing the Energy-Climate Map is available free to download at the IEA website, [www.iea.org](http://www.iea.org).

Source: IEA Press Release, 10 June 2013

Link: <http://www.worldenergyoutlook.org/media/weowebiste/2013/energyclimatemap/WEO2013EnergyClimateMapPressRelease.pdf>

### AMF Executive Committee

The 45th Meeting of the AMF Executive Committee was held 28 – 30 May 2013 in Gothenburg, Sweden. There were 42 participants, including Israel as a new Contracting Party, PTT as the new Contracting Party for Thailand, Poland and the Methanol Institute as Observers, and the Chair of the Hydrogen IA. The discussions revealed the following important aspects:

- The shale gas revolution in North America will most probably also affect the transportation sector, both as direct use of natural gas and through NG derived liquid fuels
- Light-duty gas vehicles perform well, but as pointed out by Annex 39, improvement is needed for HD methane vehicles, to actually get methane into HD vehicles
- Methanol is gaining interest again, both from fossil and renewable sources, so AMF should include methanol on its agenda
- Electrification of vehicles is moving slower than anticipated, so this emphasizes the need for sustainable clean-burning fuels for IC engines
- AMF recognizes the need for a broader approach to transport, as outlined in the preliminary proposal for new IEA level activities on “Energy efficient and intelligent transport systems”
- EU policy on biofuels suggests limiting the production of biofuels from edible feedstock, so there will be more focus on other substrates with more challenging conversion processes and probably also end-use aspects
- Most of the BRICS countries (Brazil, Russia, India, China, South Africa) are catching up with higher traffic volumes, posing a global challenge to fuel supply and emission control

Three new Annexes were started at ExCo45; Terms and Conditions for Sponsors were published; and it was decided to start preparation for requesting extension of the Implementing Agreement for another five years after February 2015. The final draft of the AMF Annual Report 2012 was approved, the report shall be published early July. Finally, the Implementing Agreement welcomed its new IEA desk officer, Alex Körner, who participated through a weblink.

Next ExCo meetings are scheduled for mid November 2013 in Chile, and May 2014 in Denmark (in conjunction with the IEA Bioenergy ExCo Meeting).

### AMF Annexes / Projects

Annex 28: Information Service & AMF Website

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

Annex 38 Phase 2: Environmental Impact of Biodiesel Vehicles

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

Annex 41: Alternative Fuels for Marine Applications – closed at ExCo 45

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

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

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

Annex 45: Hydrotreated vegetable oil, by Germany and Denmark

Annex 46: Alcohol Application in CI Engines, by DTU

Annex 47: Reconsideration of DME Fuel Specifications for Vehicles **(NEW!)**

Annex 48: Value Proposition Study on Natural Gas Pathways for Road Vehicles **(NEW!)**

Annex 49: COMVEC – Fuel and Technology Alternatives for Commercial Vehicles **(NEW!)**

## PUBLICATIONS

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- PM10 and PM2.5 ambient concentrations in Switzerland - Primary and secondary particles contribute similar percentages to the total concentration. Between 2005 and 2020, PM10 emissions are expected to decrease by 15% (PM2.5: 30%) due to several reduction measures.

*Link: <http://www.bafu.admin.ch/publikationen/publikation/01700/index.html?lang=en>*

- Global EV Outlook - The Global EV Outlook represents the collective efforts of two years of primary data gathering and analysis from the Electric Vehicles Initiative (EVI) and IEA. Key takeaways and insights include landscape analysis of electric vehicle (EV) stock/sales and charging station deployment. Existing policy initiatives are delineated and future opportunities highlighted in an "Opportunity Matrix: Pathways to 2020".

*Link: [http://www.iea.org/publications/freepublications/publication/GlobalEVOutlook\\_2013.pdf](http://www.iea.org/publications/freepublications/publication/GlobalEVOutlook_2013.pdf)*

- Monitoring CO2 emissions from new passenger cars in the EU: summary of data for 2012 - The EEA has collected EU Member States' data on passenger car registrations, in accordance with Regulation (EC) No 443/2009. All Member States reported information on Carbon dioxide (CO2) emissions and the mass of cars, together with other vehicle characteristics. This data was used to evaluate the performance in 2012 of the new vehicle fleet, and its progress toward meeting the CO2 emissions target of 130 grams of CO2 per kilometre (gCO2/km) by 2015.

*Link: [http://www.eea.europa.eu/publications/monitoring-co2-emissions-from-new-cars/at\\_download/file](http://www.eea.europa.eu/publications/monitoring-co2-emissions-from-new-cars/at_download/file)*

- The impact of international shipping on European air quality and climate forcing - This EEA Technical report provides an overview on the state of knowledge on the impact of international shipping in European waters to air quality and climate change. Based on literature review and model assessment studies information is provided on past and future emissions of air pollutants and greenhouse gases, monitoring of ship emissions, emission mitigation policies and impact on European air quality and radiative forcing.

*Link: [http://www.eea.europa.eu/publications/the-impact-of-international-shipping/at\\_download/file](http://www.eea.europa.eu/publications/the-impact-of-international-shipping/at_download/file)*

- Vegetable oil markets and the EU biofuel mandate - An important question when estimating the indirect land use change emissions from biodiesel feedstocks is whether vegetable oils replace each other in the market, so that increased demand for one may result in increased production of another. In this paper, it is shown that the evidence from trade and agricultural production data strongly suggests that demand for rapeseed biodiesel in the EU will have driven expansion of palm oil production in Indonesia and Malaysia.

*Link: [http://www.theicct.org/sites/default/files/publications/ICCT\\_vegoil\\_and\\_EU\\_biofuel\\_mandate\\_20130211.pdf](http://www.theicct.org/sites/default/files/publications/ICCT_vegoil_and_EU_biofuel_mandate_20130211.pdf)*

- KPMG's Global Automotive Executive Survey 2013 - A range of global mega trends are blurring the traditional boundaries of the automotive model. Automakers face environmental challenges, growing urbanization, changing customer behavior and the growth of the emerging markets. These rapid changes are forcing a re-evaluation of traditional business models, as OEMs seek to broaden their core competencies and choose whether to move into multiple new areas or narrow their focus.

Link: <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/global-automotive-executive-survey/Documents/2013-report-v4.pdf>

## EVENTS

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13th World Conference on Transport Research, 15-18 July 2013, Rio de Janeiro, Brazil

Conference website: <http://www2.wctr2013rio.com/>

The Collective Biodiesel Conference, 15-18 August 2013, Breckenridge, Colorado, USA

Conference website: <http://www.collectivebiodieselconference.org/>

25th International AVL Conference "Engine & Environment", 5-6 September 2013, Graz, Austria

Conference website: <https://www.avl.com/engine-environment-2013>

National Advanced Biofuels Conference & Expo, 10-12 September 2013, Omaha, Nebraska, USA

Conference website: <http://www.biofuelstp.eu/advancedbiofuelsconference.com/>

Next Generation Clean Fuels 2013, 17-18 September 2013, Omaha, Nebraska, USA

Conference website: <http://growdieselevts.net/>

4th Annual Lignofuels Summit, 25-26 September 2013, London, UK

Conference website: [http://www.wplgroup.com/aci/\\_crosslink/register.asp?intSitePageId=8726](http://www.wplgroup.com/aci/_crosslink/register.asp?intSitePageId=8726)

European Transport Conference 2013, 30 September - 2 October 2013, Frankfurt, Germany

Conference website: <http://etcproceedings.org/>

AVTECH'13 - International Conference on Automotive and Vehicle Technologies 2013, 2-4 October 2013, Istanbul, Turkey

Conference website: <http://www.avtechconference.org/>

National Ethanol Conference, 17-19 February 2014, Orlando, Florida, USA

Conference website: <http://www.nationalethanolconference.com/>

5th Transport Research Arena (TRA) 2014 conference, 14-17 April 2014, Paris-la-Defense, France

Conference website: <http://www.traconference.eu/>

Clean Power for Transport Conference, 21 October 2013, Brussels, Belgium

Conference website: [http://ec.europa.eu/transport/themes/urban/events/2013-10-21-cpt-conference\\_en.htm](http://ec.europa.eu/transport/themes/urban/events/2013-10-21-cpt-conference_en.htm)

## IEA AMF Delegates

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### Austria

Austrian Federal Ministry for Transport; Andreas Dorda

### Canada

CanmetENERGY, Niklas Ekstrom

### People's Republic of China

CATARC, Maodong Fang

### Denmark

DTU, Jesper Schramm

### Finland

VTT, Nils-Olof Nylund

### France

ADEME, Patrick Coroller

### Germany

FNR, Birger Kerckow

### Israel

Ministry of Energy and Water Resources, Bracha Halaf

### Italy

Eni SpA, Pietro Scorletti

### Japan

AIST, Shinichi Goto  
LEVO, Nobuichi Ueda

### South Korea

KETEP, Hyun-choon Cho

### Spain

IDAE,  
Francisco José Domínguez Pérez

### Sweden

Swedish Transport Administration  
Olle Hädel

### Switzerland

SFOE, Sandra Hermle

### Thailand

PTT, Nirod Akarapanjavit

### The United States

DOE, Kevin Stork

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