

JULY 2021, ISSUE NO. 1/2021

Advanced Motor Fuels News



The world is changing

Meetings take place online

Biofuels regain interest

Shipping and aviation increasingly turn to alternative fuels

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EVENTS

IMPRINT

DEMONSTRATION / IMPLEMENTATION / MARKETS

Blockchain for Sustainable Biofuels

RSB and Bioledger launched a case study on the potential of a blockchain database to support traceability of biofuel and its feedstocks and overcome the vulnerabilities identified in securing the supply of sustainable renewables. The project was able to identify recommendations and observations to build out a full database to be used by industry globally to improve transparency and control in certified sustainable biofuel supply chains.

Source: *Roundtable on Sustainable Biomaterials (RSB):*

<https://rsb.org/2021/03/12/combating-fraud-with-technology-rsb-bioledger-launch-biofuels-blockchain-case-study/>

Download:

<https://rsb.org/wp-content/uploads/2021/03/Blockchain-Database-for-Sustainable-Biofuels-A-Case-Study-March-2021.pdf>

Renewable Gas Use in U.S.

Natural Gas Vehicles for America and Coalition for Renewable Natural Gas found that 53% of all on-road fuel used in natural gas vehicles in calendar year 2020 in the USA was renewable natural gas (RNG). RNG use as a transportation fuel grew 25% percent over 2019, increasing 267% percent over the last five years. As of April 2021, 157 RNG production facilities are in operation in the U.S., 76 are under construction, and 79 are in development, according to Argonne National Laboratory.

Source: <http://biomassmagazine.com/articles/17891/rng-accounts-for-53-of-on-road-ngv-fuel-use-in-2020-up-25>

ExxonMobil Purchases Renewable Diesel

ExxonMobil and Global Clean Energy have expanded their five-year agreement to increase ExxonMobil's purchase of renewable diesel up to 5 million barrels per year. The renewable diesel will be from Global Clean Energy's biorefinery in Bakersfield, California, which is on schedule to begin production in early 2022. The biorefinery will process up to 15,000 barrels per day using a wide range of feedstocks including camelina, used cooking oil, soybean oil, and distillers' corn oil.

Source:

<http://www.biodieselmagazine.com/articles/2517516/exxonmobil-global-clean-energy-expand-renewable-fuels-agreement>

Sustainable Aviation Fuel from CO2

In Japan, Toshiba Energy Systems & Solutions Corporation, Toshiba Corporation, Toyo Engineering Corporation, Idemitsu Kosan, All Nippon Airways and Japan CCS have reached an agreement to begin reviewing recycling business models for reuse of CO2 from sources such as exhaust gases into Sustainable Aviation Fuel (SAF) via Power-to-Chemicals (P2C)

processes, using technologies developed by Toshiba Corporate Research & Development Center which convert carbon dioxide (CO2) to carbon monoxide (CO) through electrolysis.

Link: https://www.toshiba-energy.com/en/info/info2020_1202.htm

Medium Duty Fuel-Cell Truck

Hyundai Motor Company is producing the world's first hydrogen-electricity-based commercial vehicle. In April 2020, it established the world's first hydrogen-electric truck Exient mass production system. Exient can travel about 400 km by charging hydrogen for 8 to 20 minutes depending on the outside air temperature. According, the Ministry of Environment will support the construction of a total of 21 special commercial vehicle hydrogen charging stations this year (16 privates, 5 local governments) (up to 4.2 billion won per unit). The Korea Automobile Environment Association held a public offering for 2021 special Hydrogen Special Charging Station Installation Private Capital Assistance Project.



Hyundai Motor's hydrogen electric truck 'Exient'

Meanwhile, in July 2020, Hyundai Motor Company opened the Wanju hydrogen charging station, the first charging station specialized for hydrogen commercial vehicles in Korea. It is a facility that is more than twice the number of charging stations in operation in Korea (up to 300 kg per day) and can charge about 22 units per hour (based on Nexo). The hydrogen supply plan is to utilize by-product hydrogen from nearby petrochemical facilities when supplying fuel through small-scale hydrogen production bases and suppliers and expanding demand in the future.

Links:

<https://www.energydaily.co.kr/news/articleView.html?idxno=115565>

<https://www.ajunews.com/view/20210121124449062>

<http://www.h2news.kr/news/article.html?no=8973>

Commercial Production of DME

In the United States (US) Oberon Fuels, a producer of low carbon, renewable dimethyl ether (rDME) transportation fuel, has announced that it has begun commercial production of the first-ever renewable DME (rDME) in the country.

As part of a US\$6 million project funded in part by a grant from the California Energy Commission (CEC), Oberon Fuels is converting waste methanol into renewable dimethyl ether (rDME) at its recently upgraded facility in Brawley, California (CA). According to the company, it is the first time this feedstock has been used to make rDME at a commercial scale.

In addition to waste methanol, other potential feedstocks include biogas from dairy waste, food wastes, agricultural waste, as well as excess electricity and carbon dioxide (CO₂), resulting in ultra-low carbon to carbon-negative DME.

Renewable DME has multiple pathways to reducing the carbon footprint of the transportation sector: as a diesel replacement, as a blend with propane, and as an energy-dense, cost-effective way to move renewable hydrogen. rDME can help overcome some of the biggest barriers inhibiting the widespread use of hydrogen for transportation fuel, including access to renewable feedstocks; modular, scalable production; and energy-dense, cost-effective storage, and transport.

Source: *Bioenergy International*

Link: <https://bioenergyinternational.com/biofuels-oils/oberon-fuels-begins-commercial-production-of-renewable-dimethyl-ether>

Advanced Methanol Amsterdam

GIDARA Energy B.V., a Dutch technology-based energy company has announced details of Advanced Methanol Amsterdam (AMA), its first advanced biofuels facility in the Netherlands. The plant will convert non-recyclable waste into advanced methanol that will be used for fuel blending, and therefore meets governmental objectives to achieve carbon dioxide (CO₂) emission reductions as defined in the EU Renewable Energy Directive (RED II) and transposed into national legislation.

Source: *Bioenergy International*

Link: <https://bioenergyinternational.com/biofuels-oils/gidara-energy-reveals-plan-for-advanced-methanol-amsterdam>

85 % Co-processing of Renewables

Haldor Topsoe has revamped the renewable hydrotreater unit at Preem's refinery in Gothenburg, Sweden. The hydrotreater is now able to co-process 85 percent renewable feedstock utilizing Topsoe's HydroFlex technology and has a capacity of 6 600 barrels per day (bpd). The two companies are also collaborating on the revamp of the Lysekil refinery.

Source: *Bioenergy International*

Link: <https://bioenergyinternational.com/biofuels-oils/haldor-topsoe-and-preem-achieve-85-co-processing-of-renewable-feedstock>

POLICY / LEGISLATION / MANDATES / STANDARDS

Fit-for-55 package of the EC

On 14 July, the European Commission adopted a package of proposals to make the EU's climate, energy, land use, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels. Achieving these emission reductions in the next decade is crucial to making the European Green Deal a reality. With today's proposals, the Commission is presenting the legislative tools to deliver on the targets agreed in the European Climate Law and fundamentally transform our economy and society for a fair, green and prosperous future.

These proposals combine: application of emissions trading to new sectors and a tightening of the existing EU Emissions Trading System; increased use of renewable energy; greater energy efficiency; a faster roll-out of low emission transport modes and the infrastructure and fuels to support them; an alignment of taxation policies with the European Green Deal objectives; measures to prevent carbon leakage; and tools to preserve and grow our natural carbon sinks.

These proposals are all connected and complementary. We need this balanced package, and the revenues it generates, to ensure a transition which makes Europe fair, green and competitive, sharing responsibility evenly across different sectors and Member States, and providing additional support where appropriate.

Source: *European Commission*

Link:

https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3541

U.S. R&D Funding for Biofuels

In April 2021, the U.S. Department of Energy (DOE) announced \$61.4 million for technologies that produce low-cost, low-carbon biofuels for heavy-duty vehicles, airplanes, and ships. The funding opportunity announcement (FOA) includes five topic areas including the scale-up of biotechnologies; high yield conversion for affordable cellulosic sugars; separations to enable biomass conversion; low-emission, high efficiency, and cost competitive residential wood heaters; and renewable natural gas upgrading and production.

DOE's research on conversion technologies for low-carbon biofuels and bioproducts has led to significant cost reductions. It is now examining how to reduce commercialization risk by partnering with industry to demonstrate technologies at large scale.

Also in April 2021, DOE announced more than \$162 million to improve efficiency and reduce carbon emissions among cars, trucks, and off-road vehicles. One FOA worth \$62.75 million will support expansion of EV infrastructure and charging, along with

community-level EV demonstrations that can lower barriers to EV adoption—such as piloting EV car sharing and installing EV charging within multi-unit housing. The FOA is also open to projects developing advanced engines and fuels that operate with lower emissions. In addition, DOE will provide \$100 million in funding over four years for the “SuperTruck 3” program to electrify heavy-duty through a range of approaches including all-electric, plug-in hybrid systems using renewable biofuels, and hydrogen and fuel cell technologies.

Sources: <https://www.energy.gov/articles/doe-announces-614-million-biofuels-research-reduce-transportation-emissions>

<https://www.energy.gov/articles/doe-announces-162-million-decarbonize-cars-and-trucks>

Indonesia’s Diesel Fuel Policy

Indonesia aims to achieve two main objectives in its road transport fuel policy: first to protect health by reducing emissions from vehicles and second to improve the fuel trade balance.

First, to protect health, Indonesia is implementing the Euro IV equivalent emission standards for light- and heavy-duty vehicles which will be applied to all diesel vehicles starting in April 2022.

The second objective is related to the country’s need to reduce its dependency on imported refinery products. The 2014 biodiesel blend mandate has been implemented at the current blending rate of 30 % since December 2019 and the government is targeting to reach 40% by the middle of this year, 2021. Apart from using the biodiesel blend which is conventionally produced by transesterification of crude palm oil (CPO) fats with methanol known as ‘FAME’ or fatty acid methyl esters, Indonesia also plans to commercialize a new renewable fuel product called ‘green diesel’ or Refined, Bleached and Deodorized Palm Oil categorized also as hydrotreated vegetable oil (HVO).

Synchronizing both objectives means that Indonesia needs a policy roadmap that is based on the blend mandate of CPO-based biodiesel during the transition period to Euro IV diesel fuel and the blend mandate of green diesel in the Euro IV diesel fuel period and beyond. The roadmap should be based on three principles. First, a gradual shift to Euro IV diesel fuel should be done without any diesel fuel price subsidy. Second, the biodiesel blending mandate policy should be maintained during the transition to Euro IV. Third, the need to create the economies of scale for green diesel as soon as possible to decrease its price by introducing a very low percentage blend mandate and at the same time, selling a high percentage of pure 100% green diesel as an alternative (non-mandatory) fuel at the gas stations.

Link: <https://www.eria.org/news-and-views/synchronizing-indonesias-diesel-fuel-policy/>

Strategic Roadmap for Transport

The Strategic Transport Research and Innovation Agenda (STRIA) roadmap on low-emission alternative energy for transport in Europe was updated in 2020. It considers the latest developments in the field and includes hydrogen. It identifies relevant researched technologies by fuel type and their phase of development. Results show that Liquefied Natural Gas (LNG) refuelling stations followed by biofuels for road transport and alternative aviation fuels are among the researched technologies with the highest investments.

Source and download: Publications Office of the EU:

<https://op.europa.eu/de/publication-detail/-/publication/2dcbe007-b139-11eb-8307-01aa75ed71a1/language-en/format-PDF/source-208780688>

White Paper - Marine biofuels

The International Maritime Organization (IMO) has agreed to adopt a strategy to reduce CO2 emissions related to shipping by 40% before 2030 and to reduce all greenhouse gas (GHG) emissions by 50% before 2050, when compared with figures from 2008.

In order to reach these goals, transitioning to alternative fuels is necessary. A number of different fuel types are being discussed as potential replacements for fossil fuels, including green and blue hydrogen, ammonia, methanol and biogas. The white paper covers FAME and HVO, two of the favourable biofuel options available to the marine industry.

Source: Alfa Laval

Canada Electrification Investments

The Canadian government plans to provide C\$2.75 billion in total funding from 2021 to 2025 over five years for transit electrification projects, including the purchase of 5,000 zero-emission public transit and school buses. To date the Canadian government funding programs have supported the purchase of over 300 zero-emission buses. In addition, the Canada Infrastructure Bank, which is tasked with financially supporting infrastructure projects through public-private partnerships, has committed to invest \$1.5 billion in zero-emission buses and associated infrastructure as part of its most recent three year growth plan.

Source: <https://www.newswire.ca/news-releases/government-of-canada-investing-to-electrify-transit-systems-across-the-country-895599052.html>

Honda promotes Electrification

In order to achieve Honda’s carbon-free goal on a “tank-to-wheel” basis, as the responsibility of an automaker, Honda will strive to increase the ratio of battery-electric vehicles (EVs) and fuel cell electric vehicles (FCVs) within overall unit sales in all major markets of electrification combined to 40% by 2030, to 80% by 2035, and then to 100% globally by 2040.

Link:

<https://global.honda/newsroom/news/2021/c210423eng.html>

SPOTLIGHT AVIATION

Waste-to-Jet in Rotterdam

The consortium partners behind to proposed Rotterdam waste-to-chemicals (W2C) project in the Netherlands have decided to repurpose the project to waste-to-jet and expect to submit a revised project permit application by the end of 2021. The decision is based on substantial targets and demand for sustainable aviation fuel (SAF), expected support for recycled carbon fuels, and a full scope 'in-house' technical solution to be provided by Enerkem and Shell.

Source: *Bioenergy International*

Link: <https://bioenergyinternational.com/biofuels-oils/rotterdam-waste-to-chemicals-consortium-mull-waste-to-jet-instead>

Neste expands Production

Technip Energies N.V. has been awarded two contracts by Neste Oyj for work on the development of Neste's renewables production platform in the Port of Rotterdam, the Netherlands, as part of the existing Partnership Agreement between the two companies.

The first contract covers engineering, procurement, and construction management (EPCM) services for the modification of Neste's existing biorefinery in the Port of Rotterdam, to enable the production of sustainable aviation fuel (SAF).

The modifications to the biorefinery, an investment of approximately EUR 190 million, will enable Neste to optionally produce up to 500 000 tonnes of SAF per annum as part of the existing capacity.

The second contract covers the Front-End Engineering and Design (FEED) for Neste's possible next world-scale renewable products biorefinery in Rotterdam. This contract is part of Neste's preparations to enable a final investment decision by its Board of Directors, targeted for the end of 2021 or the beginning of 2022.

Source: *Bioenergy International*

Link: <https://bioenergyinternational.com/technology-suppliers/neste-selects-technip-energies-for-two-renewable-fuel-platform-projects>

Great Potential in Brazil

In Brazil, the availability, location, and potential emissions reductions, as well as overall sustainability, of the feedstocks required to make Sustainable Aviation Fuels (SAF) are not well understood. A study published by the Roundtable on Sustainable Biomaterials (RSB) in collaboration with agricultural analysis firm Agroicone and the University of Campinas addresses this challenge and finds that the country could produce up to 125 percent of its current fossil kerosene Jet A demand.

Source: *Bioenergy International*

Link: <https://rsb.org/wp-content/uploads/2021/04/RSB-Brazil-SAF-Feedstock-Factsheet-2021.pdf>

IEA & IEA AMF NEWS

AMF ExCo 61

The 61st Meeting of the AMF Executive Committee was held 4-12 May 2021 as a series of online meetings. Two new Tasks were started and complement the suite of already ongoing Tasks:

- NEW Task: Sustainable Aviation Fuels
- NEW Task: Wear in Engines using Alternative Fuels
- Task 61: Remote Emission Sensing
- Task 60: The Progress of Advanced Marine Fuels
- Task 59: Lessons Learned from Alternative Fuel Experiences
- Task 28: Information Service & AMF Website

Interest is high to start another new Task on electrofuels, and discussions on the details are underway.

As one of the first IEA Technology Collaboration Programmes, AMF has adopted the new TCP Legal Framework provided by IEA. The process was smooth and did not substantially change the way AMF operates. New is the possibility to join AMF as a Limited Sponsor. This shall serve to ease short-term participation in the TCP. Another change is that projects are now called "Tasks" instead of "Annexes".

Recent AMF Publications

AMF Task Reports

A number of final task reports and key messages documents have been published recently:

- Lessons Learned from Alternative Fuel Experiences - Final Report
- The Role of Renewable Fuels in Decarbonizing Road Transport - Key Messages 2021
- Heavy Duty Vehicle Evaluation - Key Messages
- Heavy Duty Vehicle Evaluation - Final Report

Link: https://iea-amf.org/content/publications/project_reports

Annual Report 2020

The new annual report provides information on the status of advanced motor fuels in AMF member countries, and on the work carried out by AMF in individual projects (tasks). With its 15 member countries spanning the globe, AMF offers a truly broad view on the sector.

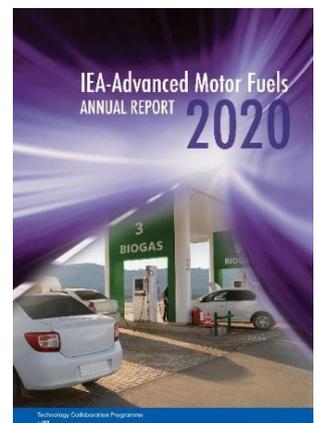
Link: <https://iea-amf.org/annualreport>

AMF on Social Media

Follow AMF on twitter and linkedin:

<https://twitter.com/#!/AmfTcp>

[https://www.linkedin.com/company/a mf-tcp/](https://www.linkedin.com/company/a-mf-tcp/)



IEA Roadmap to net zero 2050

This recent IEA publication is the world's first comprehensive study of how to transition to a net zero energy system by 2050 while ensuring stable and affordable energy supplies, providing universal energy access, and enabling robust economic growth. It sets out a cost-effective and economically productive pathway, resulting in a clean, dynamic and resilient energy economy dominated by renewables like solar and wind instead of fossil fuels. The report also examines key uncertainties, such as the roles of bioenergy, carbon capture and behavioural changes in reaching net zero.

Building on the IEA's energy modelling tools and expertise, the Roadmap sets out more than 400 milestones to guide the global journey to net zero by 2050. These include, from today, no investment in new fossil fuel supply projects, and no further final investment decisions for new unabated coal plants. By 2035, there are no sales of new internal combustion engine passenger cars, and by 2040, the global electricity sector has already reached net-zero emissions.

In the near term, the report describes a net zero pathway that requires the immediate and massive deployment of all available clean and efficient energy technologies, combined with a major global push to accelerate innovation. The pathway calls for annual additions of solar PV to reach 630 gigawatts by 2030, and those of wind power to reach 390 gigawatts. Together, this is four times the record level set in 2020. For solar PV, it is equivalent to installing the world's current largest solar park roughly every day. A major worldwide push to increase energy efficiency is also an essential part of these efforts, resulting in the global rate of energy efficiency improvements averaging 4% a year through 2030 – about three times the average over the last two decades.

Most of the global reductions in CO₂ emissions between now and 2030 in the net zero pathway come from technologies readily available today. But in 2050, almost half the reductions come from technologies that are currently only at the demonstration or prototype phase. This demands that governments quickly increase and reprioritise their spending on research and development – as well as on demonstrating and deploying clean energy technologies – putting them at the core of energy and climate policy. Progress in the areas of advanced batteries, electrolyzers for hydrogen, and direct air capture and storage can be particularly impactful.

The full report is available for free on the IEA's website along with an online interactive that highlights some of the key milestones in the pathway.

Source: IEA

Link: <https://www.iea.org/news/pathway-to-critical-and-formidable-goal-of-net-zero-emissions-by-2050-is-narrow-but-brings-huge-benefits>

PUBLICATIONS

Dispelling Bioenergy Misconceptions

The open-access article “Applying a science-based systems perspective to dispel misconceptions about climate effects of forest bioenergy” was recently published in the Journal GCB Bioenergy and is freely available at

<https://onlinelibrary.wiley.com/doi/epdf/10.1111/gcbb.12844>. The paper is an output of IEA Bioenergy Task 45 ‘Climate and Sustainability Effects of Bioenergy within the broader Bioeconomy’. Twenty-eight scientists from around the world with expertise in forestry, climate and energy systems contributed to this article. A summary is provided under the link below.

Link:

<https://www.ieabioenergy.com/blog/publications/applying-a-science-based-systems-perspective-to-dispel-misconceptions-about-climate-effects-of-forest-bioenergy/>

Sustainable Aviation Fuels

The report “Progress in the Commercialization of Biojet / Sustainable Aviation Fuels: Technologies, potential and challenges” was prepared by IEA Bioenergy Task 39 and provides an extensive analysis of the current and potential technologies for production of biomass based sustainable aviation fuels.

The report summarizes the various technologies that are currently being pursued to produce Biojet/SAF from alternative feedstocks, with several commercial-scale facilities coming online over the next few years. The various technologies include gasification and Fischer-Tropsch to jet, alcohol-to-jet and catalytic hydrothermolysis jet (CHJ). Several of these pathways and fuels have already received certification, under ASTM, to be used in commercial aviation. Although other technologies, such as pyrolysis and hydrothermal liquefaction are under development, they are not yet ASTM certified.

Link:

<https://www.ieabioenergy.com/blog/publications/progress-in-the-commercialization-of-biojet-sustainable-aviation-fuels-technologies-potential-and-challenges/>

Biofuels Policies and Market in Ireland

The most recent IEA Bioenergy Task 39 Newsletter focuses on the situation in Ireland, and provides news from the Task and a wealth of summaries and links to news articles from the first half of 2021.

Link: <http://task39.ieabioenergy.com/newsletters/>

U.S. LDV Fuel Economy Assessment

The United States National Academies of Sciences, Engineering, and Medicine developed a government mandated report addresses the potential for internal combustion engine, hybrid, battery electric, fuel cell, non-powertrain, and connected and automated vehicle technologies to contribute to efficiency in 2025-2035. It recommends that federal agencies

should facilitate the development and deployment of zero emission vehicles, given their potential for the future of energy efficiency, petroleum reduction, and greenhouse gas emissions reduction for light-duty vehicles. They found that the current U.S. statutory authority and regulatory structure for fuel economy is rapidly becoming outdated in legal, scientific, policy, technological, and global leadership perspectives, and should be updated before 2025-2035 to reflect national goals for transportation efficiency and emissions.

Source: <https://www.nap.edu/catalog/26092/assessment-of-technologies-for-improving-light-duty-vehicle-fuel-economy-2025-2035>

U.S. Corn Ethanol GHG Analysis

Department of Energy researchers analyzed data from U.S. corn ethanol production between 2005 and 2019 to examine its change in carbon intensity (CI) over that time. The study the CI of corn ethanol has decreased significantly, from 58 to 45 grams of CO₂e per MJ, a 23% reduction. This was due to several factors including an increase in corn grain yield, reaching 10.5 metric tons per hectare, while fertilizer inputs per hectare have remained constant. In addition, a 6.5% increase in ethanol yield, from 0.402 to 0.427 L per corn kg, and a 24% reduction in ethanol plant energy use, from 9.0 to 6.9 MJ per ethanol liter also helped reduce the CI. The total GHG emission reduction benefits through the reduction in the CI and increased ethanol production volume are estimated at 140 million metric tons from 2005 to 2019 in the ethanol industry. Displacement of petroleum gasoline by corn ethanol in the transportation fuel market resulted in a total GHG emission reduction benefit of 544 MMT CO₂e over the same time.

Source: <https://onlinelibrary.wiley.com/doi/10.1002/bbb.2225>

Improving Mexican Emission Standards

The International Council on Clean Transportation investigated the impacts of updating three Mexican standards: sulfur content of gasoline and diesel, emissions of automobiles, and emissions of heavy-trucks and buses, to meet those used in the rest of North America. The study found that about 9,000 deaths could be prevented in 2035 alone, with the monetary benefits premature deaths averted in that year being worth more than \$20 billion dollars. These regulations would result in a dramatic reduction in emissions from the road transport sector in 2035; for example, nitrogen oxides would be reduced by 66% and fine particulate matter by more than 90%.

Source: <https://theicct.org/publications/mejorar-normas-de-emisiones-mexico-may2021>

Hydrogen Strategy for Canada

The Canadian government released its Hydrogen Strategy for Canada report identifying it as a critical part of its path towards achieving the goal of net-zero carbon emissions by 2050. The report outlines Canadian specific business opportunities and

challenges, recommends the use of a mix of feedstocks, as well as industrial by-products available in various regions of Canada to produce hydrogen. The implementation of the Strategy is backed by a mix of public funding, notably a C\$1.5-billion Low-carbon and Zero-emissions Fuels Fund established by the Government of Canada for the production and use of low-carbon fuels, as well as by existing and future carbon-pricing, low-carbon fuel and vehicle emissions policies and regulations.

Source:

https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/environment/hydrogen/NRCan_Hydrogen-Strategy-Canada-na-en-v3.pdf

Product watch: synthetic fuels

This report aims to provide an overview of relevant stakeholders with an analytical and empirical base to see how ATI (Advanced technologies for industry) products can help EU industry to stay ahead of global competition. The objective is to map the EU synfuel industry and its interactions in the value chain, as well as to identify its strengths and weaknesses. Due to the difference between green hydrogen, PtL and BtL fuels regarding their current importance for research and industry, the report foregrounds hydrogen as the furthest developed option. Analyses are based on desk-research, the internal expertise of Fraunhofer ISI and on expert interviews.

Source and download: Publications Office of the EU:

<https://op.europa.eu/de/publication-detail/-/publication/f05e0678-6ce0-11eb-aeb5-01aa75ed71a1/language-en/format-PDF/source-208807471>

High Blends in HDVs

The study “Market opportunities to decarbonise heavy duty vehicles using high blend renewable fuels” shows that with a market average of 30% high blend renewable fuels (HBRF), used in place of fossil fuels (diesel and natural gas) by 2030, the transport sector in the UK could save an additional 46m tonnes in GHG emissions over the next decade, with savings continuing to 2050. The biggest opportunities are in the heaviest vehicles with the longest journey profiles, which also produce the most GHG emissions.

The study covered three heavy-duty vehicle sectors: trucks, buses, and coaches. For renewable fuels, this focused on liquid and gaseous biofuels above blends of 20% specifically—biodiesel (Fatty Acid Methyl Ester), hydrotreated vegetable oil (HVO) and biomethane.

Source: Green Car Congress

<https://www.greencarcongress.com/2021/03/20210308-zemo.html>

Download:

https://www.zemo.org.uk/assets/lowcvpreports/Market_opportunities_decarb_HDVs%20using%20HBRF_2021_.pdf

Biofuels for Transport Statistical Report 2021

This report provides readers with accurate, up-to-date data on the current state of play of biofuel consumption, production - looking at different feedstocks including a database with all the facilities for the producing advanced liquid and gaseous biofuels for transport. The accompanying Policy Brief puts forward key highlights from the report, as well as recommendations from the sector.

Links: Policy brief: <https://bioenergyeurope.us9.list-manage.com/track/click?u=3e1f1a1e3e8c2369b9e5784b5&i d=2c095578ab&e=db66c3ef8d>

Report: <https://form.jotform.com/211922224691351>

Decarbonising Transport in Europe

This paper that was recently published by The International Transport Forum summarises the findings of the project “Decarbonising Transport in Europe”. The DTEU project modelled transport activity in Europe and provided detailed quantitative evidence on the actual impact of CO2 mitigation measures. This allows European decision makers to identify and assess realistic pathways towards decarbonising transport to 2050 and to help the European Union to achieve its CO2 reduction ambitions for the transport sector.

Source: <https://www.itf-oecd.org/decarbonising-transport-europe-way-forward>

The Case of Mobility as a Service

The report “The Innovative Mobility Landscape: The Case of Mobility as a Service (MaaS)” reviews changes in today’s urban mobility landscape and the potential of Mobility as a Service (MaaS) to improve travel in cities. It assesses essential governance and regulatory challenges that stakeholders must address to create a healthy ecosystem for Mobility as a Service which aligns with societal objectives and delivers clear benefits to people.

Link: <https://www.itf-oecd.org/innovative-mobility-landscape-maas>

EVENTS

Advanced Clean Technology (ACT) Expo

30 August - 2 September 2021, Long Beach, California, USA

<https://www.actexpo.com/>

Electric & Hybrid Vehicle Technology Expo

14-16 September 2021, Novi, Michigan, USA

<https://evtechexpo.com/>

Advanced Biofuels Conference

21-23 September 2021, Stockholm, Sweden

<https://www.svebio.se/en/evenemang/advanced-biofuels-conference-2021/>

Future of Biofuels

5-6 October 2021, Copenhagen, Denmark

<https://fortesmedia.com/future-of-biofuels-2021,4,en,2,1,13.html>

Biofuels International Conference and Expo International Biogas Congress & Expo

International Biomass Congress & Expo
19-20 October 2021, Brussels, Belgium

https://biofuels-news.com/conference/biofuels/biofuels_index_2021.php

NGV America Meeting & Industry Summit

19-21 October 2021, Phoenix, Arizona, USA

<https://ngvshow.com/>

ABLC 2021

27-29 October 2021, San Francisco, California, USA

<https://biofuelsdigest.com/ablc/>

Future of Biogas Europe 2021

24-25 November 2021, Berlin, Germany

<https://www.wplgroup.com/aci/event/future-biogas-europe/>

IEA Bioenergy Conference 2021

28 Nov - 9 Dec 2021, Virtual

<https://www.ieabioenergy.com/iea-publications/conferences/>

The Battery Show and Electric & Hybrid Vehicle Technology Expo

30 Nov - 2 Dec 2021, Stuttgart, Germany

<https://www.evtechexpo.eu/en/Home.html>

RNG 2021 Conference

13-16 December 2021, Dana Point, California, USA

<https://www.rngcoalition.com/rng-conference/>

Transportation Research Board 101st Annual Meeting

9-13 January 2022, Washington, D.C., USA

<https://www.trb.org/AnnualMeeting/AnnualMeeting.aspx>

Renewable Fuels Association National Ethanol Conference

21-23 February 2022, New Orleans, Louisiana, USA

<https://www.nationalethanolconference.com/>

The Work Truck Show & GreenTruck Summit

8-11 March 2022 Indianapolis, Indiana, USA

<https://www.worktruckshow.com/>

WCX SAE World Congress Experience

5-7 April 2022, Detroit, Michigan, USA

<https://www.sae.org/attend/wcx>

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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 Werner TOBER and Robert ROSENITSCH, TU Vienna, Shinichi GOTO, AIST, and Andy BURNHAM, ANL. It is edited by Andrea Sonnleitner and Dina Bacovsky, BEST – Bioenergy and Sustainable Solutions. 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.

CONTACT

AMF SECRETARY

Dina Bacovsky
 BEST – Bioenergy and Sustainable Technologies
dina.bacovsky@best-research.eu
 +43 5 02378 9435

AMF EXCO CHAIR

Jesper Schramm, Technical University of Denmark
js@mek.dtu.dk

AMF DELEGATES

Austria

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Andreas Dorda

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