July 2024

Advanced Motor Fuels News

Photo by Harrison Kugler on Unsplash

Renewable fuel options for heavy duty vehicles on the rise

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DEMONSTRATION / IMPLEMENTATION / MARKETS

Repsol begins large-scale biofuel production

Repsol has marked a milestone in the decarbonisation of transport in the Iberian Peninsula with the start of large-scale production of renewable fuels at its industrial complex in Cartagena, Spain. This plant will be the first on the Iberian Peninsula dedicated exclusively to the production of 100% renewable fuels. The company has invested €250 million in the construction of the unit, which has a production capacity of 250,000 tons per year. It can produce renewable diesel and sustainable aviation fuel (SAF), which can be used in any means of transport: cars, trucks, buses, ships, or aircraft and with existing refuelling infrastructure.

The renewable fuels are produced from organic waste, such as used cooking oil or agri-food waste, thereby giving a second life to these types of residues. They are a quick and cost-efficient solution for the decarbonisation of all transport sectors. The production of 100% renewable fuels at the plant in Cartagena will avoid the emission of 900,000 tons of CO_2 a year.

Source: https://biofuels-news.com/news/repsol-begins-large-scale-biofuel-production-at-cartegena-plant/

Largest biorefinery in world opens in Brazil

Raízen has opened its new, $228 million, second-generation ethanol plant, at the Bonfim Bioenergy Complex, in Guariba, in the state of São Paulo, Brazil. The plant is the largest in the world and has 80% of its 82 million litres annual production capacity already contracted. The company has also announced the construction of nine cellulosic ethanol plants, all of which already have their volumes committed under long-term contracts. Another eleven plants are included in Raízen's plan, totalling 20 sites that will have the capacity to produce 1.6 billion litres per year.

Source: https://advancedbiofuelsusa.info/the-brazilian-behemoth-the-biggest-baddest-advanced-biorefinery-of-them-all-open-for-business

Increasing biodiesel demand causes concerns

In Indonesia, the national palm oil association is concerned about a potential conflict between food and fuel production if demand for biodiesel continues to expand. About 46% of last year's production of 23.2 million metric tons went to fuel production while 44% went to food production, and the remaining to cosmetics and other uses. About 58% of last year's production was exported, but the association is concerned that with increased fuel demand, exports will be hit. The country is embarking on a program to renew about 180,000 ha of palm oil plantations, subsidizing about $3,800 per hectare.

Source: https://www.biofuelsdigest.com/bdigest/2024/02/29/indonesian-palm-oil-producers-concerned-about-increasing-demand-for-biodiesel/

Japanese study on carbon-neutral fuels for automobiles

Idemitsu Kosan, ENEOS, Toyota, and MHI Commence announced that they have commenced a study toward the introduction and spread of carbon-neutral fuels that contribute to the decarbonisation of automobiles with the aim of realizing a carbon-neutral society. Seeking to introduce carbon-neutral fuels in Japan around 2030, the four companies fulfilling major roles respectively in supply, technology, and demand will jointly embark on this study

Source: https://www.idemitsu.com/jp/news/2024/240527_en.pdf

POLICY / LEGISLATION / MANDATES / STANDARDS

Supporting French sustainable biomethane production

The European Commission has approved a €1.5 billion French scheme to support the production of sustainable biomethane to foster the transition towards a net-zero economy. The scheme was approved under the State aid Temporary Crisis and Transition Framework (TCTF) and aims to support the production of sustainable biomethane to be injected into the natural gas grid. The measure will be open to new installations with a projected annual production of biomethane of more than 25 GWh per year. The measure is expected to support the production of 1.6 TWh of sustainable biomethane per year.

Source: https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3986

Supporting Dutch renewable hydrogen production

The European Commission has approved, under EU State aid rules, a €998 million Dutch scheme to support the production of renewable hydrogen. The measure aims to contribute to the development of renewable hydrogen in line with the objectives of the EU Hydrogen Strategy and the European Green Deal.

The scheme will contribute to the objectives of the REPowerEU Plan to reduce dependence on Russian fossil fuels and accelerate the green transition. Likewise, the scheme will support the construction of at least 200 MW of electrolysis capacity. Additionally, it will contribute to the Netherlands's efforts to achieve 500 MW of electrolyser capacity in 2025 and 3-4 GW by 2030. It will also support the EU's ambitions to install at least 6 GW of renewable hydrogen electrolysers by 2024, and at least 40 GW by 2030.

The Netherlands expects that the scheme will lead to the equivalent of around 55 kilotons of CO2 being avoided every year until 2030, which will contribute to the Netherlands' and EU's climate targets.

Source: https://ec.europa.eu/commission/presscorner/detail/en/ip_24_4043

Accountability of aviation sector in UK

The Environmental Audit Committee has urged the UK government to hold the aviation industry accountable for its proposed emissions reductions, as it publishes the government's response to its report on net zero aviation. The UK government's plans for delivering net zero aviation are set out in the Jet Zero Strategy, published in 2022. In this plan, the UK government expects technological measures, like increasing fuel efficiency and the adoption of sustainable aviation fuels, to reduce emissions significantly each year.

Source: https://committees.parliament.uk/work/1408/net-zero-aviation-and-shipping/news/200691/committee-urges-government-to-hold-aviation-industry-accountable-for-emissions-reductions/

$3 billion for U.S. Zero-Emission Port Equipment

The U.S. Environmental Protection Agency launched the $3 billion Clean Ports Program, with $2.8 billion directly funding zero-emission port equipment and infrastructure and $150 million funding climate and air quality planning activities at U.S. ports, such as emissions inventories and strategy analysis. The zero-emission equipment eligible for funding include cargo handling equipment, harbour craft, drayage trucks, locomotives, and electric charging and hydrogen fuelling infrastructure. Applications under this competition will be evaluated under multiple tiers in order to ensure that funds are distributed across ports of different sizes and types, and to ensure funding for ports serving Tribal communities.

Source: https://www.epa.gov/newsreleases/biden-harris-administration-invests-3b-clean-ports-part-president-bidens-investing

$1 billion for U.S. zero-emission heavy-duty vehicles

The U.S. Environmental Protection Agency launched the nearly $1 billion Clean Heavy-Duty Vehicles Grant Program to fund the replacement of certain polluting heavy-duty vehicles with zero-emission vehicles. The 2024 Clean Heavy-Duty Vehicles Grant Program will support the adoption and deployment of eligible Class 6 and 7 zero-emission vehicles while also funding zero-emission vehicle fuelling infrastructure and workforce development and training. In the U.S., over 3 million Class 6 and 7 vehicles are currently in use, spanning a variety of vehicle types and vocations, including school buses, refuse haulers and utility and delivery trucks. EPA anticipates approximately 70% of available funding will be for projects under the School Bus Sub-Program and about 30% of funding will be for projects under the Vocational Vehicles Sub-Program.

Source: https://www.epa.gov/newsreleases/biden-harris-administration-announces-nearly-1-billion-grants-invest-americas-clean

U.S. funding for mixed algae development

The U.S. announced the Mixed Algae Conversion Research Opportunity (MACRO) funding opportunity awarding up to $18.8 million to address research and development challenges in converting algae, such as seaweeds and other wet waste feedstocks, to biofuels and bioproducts that can decarbonize domestic transportation, industry, and communities. Seaweeds, also known as macroalgae, are an emerging biomass resource with unique benefits compared to land-based biomass systems. However, they are underutilised and are difficult to convert due to their variability, unique chemical make-up, and storage instability. Overcoming these conversion challenges will help build algae biomass supply chains, accelerate their demand, and ultimately, drive the U.S. bioeconomy by enabling greater volumes of sustainable aviation fuel and carbon dioxide conversion to algae.

Source: https://www.energy.gov/eere/bioenergy/us-department-energy-announces-188-million-advance-mixed-algae-development-low

Brazil announces low carbon policies

The Brazilian government has recently announced a series of major incentives and regulatory changes to promote low carbon mobility. Brazil launched the "Mover Program", with $19 billion available over the next 5 years for companies to invest in sustainable technologies. The program will increase sustainability requirements by applying measurement of emissions across the entire automotive chain and will expand investments in energy efficiency with incentives for the local production of vehicles with lower carbon emissions. The "Mover Program" will also reduce the tax rate on vehicles that emit less, encouraging hybrid vehicles and with a special incentive to ethanol, and charge more for a petroleum-based vehicles.

Additionally, Brazil will regulate companies that emit more than 10,000 tonnes of CO2 equivalent per year, requiring they submit an emissions reduction plan. Moreover, the government increased the mixture of biodiesel in diesel: the regulatory rate jumped from 10% to 12%; in 2024, it will go to 14% in 2025, and it is estimated that it will reach 15% by 2026.

Source: https://media.edenred.com/brazil-on-the-road-to-sustainable-mobility/

SPOTLIGHT SHIPPING

Hapag-Lloyd wins ZEMBA tender

Germany's container shipping major Hapag-Lloyd has won the first tender launched by Zero Emission Maritime Buyers Alliance (ZEMBA). Starting in 2025, it

will deliver greenhouse gas emissions reduction of over 90% as compared to fossil fuel service to ZEMBA members. Through this deal, more than a dozen ZEMBA members have collectively committed to purchase the environmental attributes associated with over 1 billion twenty-foot shipping container-miles of zero-emission shipping on a route from Singapore to Rotterdam, Netherlands in 2025-2026.

Source: https://www.offshore-energy.biz/hapag-lloyd-wins-zemba-tender/

Maersk's methanol-powered vessel bunkers in Antwerp

The world's first large methanol-powered deep-sea vessel 'Ane Maersk' called the Antwerp port. The vessel completed its first bunker operation in European waters, bunkering 4.300 tons of green methanol and 1.375 tons of biodiesel (B100) during the port stay. The successful and efficient bunkering is a new milestone in Port of Antwerp-Bruges' ambition to become a multifuel port.

The call at the Antwerp port is part of 'Ane Maersk's' maiden voyage from South Korea to China, fuelled by green methanol. The container vessel built by Hyundai Heavy Industries in South Korea has a nominal capacity of 16,000 containers (TEU) and is equipped with a dual-fuel engine enabling operations on methanol as well as biodiesel and conventional bunker fuel. 'Ane Maersk' is the first of Maersk's 18 large methanol-enabled vessels, that will be delivered between 2024 and 2025 and world's second methanol-enabled container vessel.

Source: https://www.biofuelsdigest.com/bdigest/maersks-methanol-powered-deep-sea-vessel-ane-maersk-bunkers-in-antwerp/

Successful bunkering of liquid biomethane

In the Netherlands, Titan Clean Fuels and STX Group have successfully concluded a ship-to-ship bunkering of 2,200 metric tons of LBM to a Hapag-Lloyd container vessel in the port of Rotterdam. This transaction marks Hapag-Lloyd's entry into using LBM as sustainable shipping fuel, representing the largest ship-to-ship bunkering operation known to this day. STX Group and Titan Clean Fuels have collaborated to liquefy, store and deliver mass-balanced biomethane in Zeebrugge in Belgium under ISCC certification fully recognized under the European Union's Renewable Energy Directive known as RED II.

Source: https://www.biofuelsdigest.com/bdigest/titan-clean-fuels-and-stx-group-successfully-bunker-liquid-biomethane-in-ship-to-ship-operation/

Developing first biomass-fuelled vessel

A consortium of Japanese shipping companies comprising NYK Line, NYK Bulk & Projects Carriers, Tsuneishi Shipbuilding, and UK-headed renewable energy group Drax have recently signed a new Memorandum of Understanding (MoU) to develop both the world's first biomass-fuelled ship (bioship) and the tech that could power it.

Biomass is playing a growing role in Japan's transition from fossil fuel power generation to low carbon and renewable electricity, and the country's demand for biomass pellets, sourced primarily from North America and composed of sawmill and forestry residues, is increasing. The on-board energy plant would use a gasifier to gasify pellets at high temperatures, create, and contain gases including carbon monoxide, hydrogen, and methane (synthesis gas – syngas). The syngas would then be used to power a generator, which could propel the bioship and provide a proportion of its internal power. The installation of a biomass energy plant could see up to a 22 % reduction in well-to-wake carbon emissions in bioships when compared to using fossil fuels.

Source: https://bioenergyinternational.com/consortium-seek-to-develop-bioship-tech-build-worlds-first-biomass-fuelled-vessel/

First long-term biofuel test run on large crude oil tanker

Nippon Yusen Kabushiki Kaisha (NYK) began a long-term biofuel test run on its very large crude oil tanker (VLCC) Tenjun. The vessel received an initial supply of biofuel in Singapore and will continue to use biofuel for approximately three months to comprehensively verify the safe and stable procurement of biofuel for long-term use. NYK has conducted many short- and long-term safety trials of biofuel use on bulk carriers, car carriers, and liquefied petroleum gas (LPG) carriers, but this is the first time an NYK-operated VLCC has engaged in a long-term biofuel trial.

Source: https://www.nyk.com/english/news/2024/20240527_01.html

First truck-to-ship bunkering of fuel ammonia

In Japan, energy utility major JERA has announced that it will implement a truck-to-ship bunkering of fuel ammonia to an ammonia-fuelled tugboat (A-Tug) owned by compatriot NYK Line. Thus far, the consortium has jointly studied the establishment of safe methods for handling fuel ammonia and the creation of systems for transporting it to and receiving it at port areas, while also liaising with related parties about developing rules related to its supply to ships. Now that progress has been made on bunkering fuel ammonia to ships, it was decided to supply fuel ammonia to the A-Tug by tanker truck at the Port of Yokohama beginning in late May 2024. When implemented, this will be the world's first example of truck-to-ship bunkering of fuel ammonia.

Source: https://bioenergyinternational.com/consortium-to-implement-worlds-first-truck-to-ship-bunkering-of-fuel-ammonia/

Boosting maritime biofuel in Singapore

In Singapore, the Coastal Sustainability Alliance (CSA) is investing up to $10 million in efforts to develop and increase adoption of maritime biofuel in Singapore. Green COP and Ken Energy, will lead the partnership, and have inked a memorandum of understanding on 16 April during the Singapore Maritime Week 2024. The program aims to develop stable B30, B40, and B50 biofuel blends and achieve production and commercial adoption of up to 50% (B50), derived from 50% agri-waste to Biobutanol – a blend poised to significantly reduce carbon emissions in maritime operations. The process will include biofuel certification, commencing sea trials, building a production plant by 2025, and launching commercial-scale production by 2026, the report added.

Source: https://www.biofuelsdigest.com/bdigest/csa-invests-10-million-to-boost-maritime-biofuel-in-singapore/

SPOTLIGHT AVIATION

Wind power for SAF production

Ireland-based offshore wind developer Simply Blue Group is moving inland to develop sustainable aviation fuel (SAF) production facilities and onshore renewables to power them. There are three fuels projects in engineering design phase in Canada, Ireland and Australia. The one in Canada is expected to reach construction stage in 2026. The facilities will have the capacity to process more than 1.5 million tonnes of locally sourced sustainable biomass annually and churn out over 300,000 tonnes of SAF per year. The company's focus will be on renewable liquid fuels for aviation, marine vessels and chemical feedstocks.

Source: https://renewablesnow.com/news/simply-blue-group-adds-saf-onshore-renewables-to-portfolio-853193/

Inauguration held for Gothenburg Biorefinery

In Sweden, the Gothenburg Biorefinery, a joint venture between Finland-headed oil refiner and energy company St1 Nordic Oy and forest industry major SCA, has been officially opened on 10 April following an extensive start-up phase that has been ongoing since the beginning of the year. Gothenburg Biorefinery has commenced commercial operations to produce sustainable aviation fuels (SAF), renewable diesel (HVO), bio-naphtha, and bioLPG. All production at the Gothenburg Biorefinery will be certified according to International Sustainability & Carbon Certification (ISCC).

Source: https://bioenergyinternational.com/inauguration-held-for-gothenburg-biorefinery/

Solarig to set up SAF plant in Spain

Solarig has reached an agreement with Somacyl to acquire 116,000 square metres for its NUMANTIA sustainable aviation fuel (SAF) project. The plant will be built in Parque Empresarial del Medio Ambiente in Soria, Spain.

The SAF plant will have an estimated investment of €780 million and a production capacity of 60,000 tonnes of SAF per year, avoiding the emission of 170,000 tonnes of CO_2. The innovative approach is based on the combination of two technological routes for the SAF production, by means of biomethane and renewable electricity in the same facility. The plant will promote the circularity and use of local resources (sun, wind, water) and farming waste (biomethane and biogenic CO2), improving rural development and competitiveness.

Source: https://biofuels-news.com/news/solarig-to-set-up-saf-plant-in-spain-with-e780m-investment/

AFKLMP and GTS extend SAF collaboration

Air France KLM Martinair Cargo (AFKLMP) and the Global Transport Solutions (GTS) Group, encompassing Marinetrans and Best Global Logistics (BGL), are to extend their collaboration on AFKLMP's Sustainable Aviation Fuel (SAF) programme. This collaboration underscores a mutual commitment to sustainability and supports GTS's Going Green initiative.

The continuation of this partnership emphasizes a shared commitment to environmental responsibility throughout the logistics and airfreight value chain. By aligning efforts, AFKLMP and GTS are actively contributing to the reduction of carbon emissions, setting an example for others in the industry to follow. AFKLMP's SAF programme stands as a beacon of innovation in the quest for sustainable aviation solutions.

Source: https://biofuels-news.com/news/afklmp-and-gts-extend-saf-collaboration/

Topsoe secures first SAF project in China

Danish Topsoe has signed an agreement with Guangxi Hongkun Biomass to provide its HydroFlex™ technology to produce sustainable aviation fuels (SAF) at the company's plant in the Qinzhou Port Area Free Trade Pilot Zone of Guangxi, China. This agreement is Topsoe's first SAF project in China. Topsoe will deliver its HydroFlex™ technology for the project, which expects to process 300,000 tonnes of feedstock per year. Guangxi Hongkun Biomass's SAF production plant is expected to begin construction in May, with SAF production to begin within the first few months of 2026.

Source: https://biofuels-news.com/news/topsoe-secures-first-saf-project-in-china/

Avina Clean Hydrogen unveils SAF plant plans

U.S.-based Avina Clean Hydrogen Inc., a developer of clean hydrogen and derivative fuel solutions, has disclosed plans for a "cutting-edge" sustainable aviation fuel (SAF) plant in the Midwest region set to

commence operations in 2027. According to a statement, the facility is engineered to produce 454.2 million litres of SAF annually and will utilize the alcohol-to-jet (AtJ) production technology pathway. The SAF produced will have significantly reduced life cycle carbon emissions compared to conventional jet fuel. The end product will be certified to meet ASTM D7566 standards.

Source: https://bioenergyinternational.com/avina-clean-hydrogen-unveils-saf-plant-plans/

Desert Jet teams with Titan Aviation Fuels

U.S.-based Desert Jet has partnered with Titan Aviation Fuels to establish the supply of Sustainable Aviation Fuel (SAF) at its flagship FBO, Desert Jet Center at KTRM, including using SAF for its charter aircraft fleet. The SAF, supplied by Titan Aviation Fuels and produced by World Energy, is a low-carbon and eco-friendly alternative to traditional Jet-A fuel. It is made from agricultural waste and residues converted into a renewable fuel source that can reduce carbon emissions significantly compared to fossil-based jet fuel. The Roundtable on Sustainable Biomaterials certifies that the fuel meets the same safety and performance standards as conventional Jet-A fuel and can be used in existing aircraft without requiring any modifications.

Source: https://www.biofuelsdigest.com/bdigest/desert-jet-teams-with-titan-aviation-fuels-on-saf-supply/

Southwest Airlines acquires SAFFiRE

U.S.-based Southwest Airlines has acquired SAFFiRE Renewables as part of the investment portfolio of its wholly owned subsidiary Southwest Airlines Renewable Ventures (SARV) to create more opportunities for Southwest to obtain scalable, sustainable aviation fuel (SAF). SAFFiRE is part of a DOE-supported project to develop and produce scalable renewable ethanol that can be upgraded into SAF. To do this, SAFFiRE will utilize technology developed by the DOE's National Renewable Energy Laboratory (NREL) to convert corn stover - a common residue feedstock - into renewable ethanol.

Source: https://www.energytech.com/renewables/article/55001950/southwest-airlines-acquires-saffire-to-produce-sustainable-aviation-fuel-from-corn-stover

SAF with lower cost and waste

U.S-based Honeywell announced breakthrough in hydrocracking technology for producing sustainable aviation fuel (SAF) from biomass. This fuel is expected to be 90% less carbon-intensive compared to traditional fossil-based jet fuels. The new Honeywell technology claims to yield 3-5% more sustainable aviation fuel and deliver cost savings of up to 20%. Additionally, it significantly reduces by-product waste streams compared to typical hydroprocessing technologies. This SAF production technology aligns with aviation industry standards for environmentally friendly fuel production, utilizing waxes, liquids from processed biomass, and residues from food scraps, wood waste, and crops.

Source: https://bioenergytimes.com/honeywell-announces-latest-saf-production-technology-will-reduce-production-costs/

WestJet acquires SAF from Shell Aviation

Canadian WestJet announced that it will purchase sustainable aviation fuel (SAF) from Shell Aviation becoming the first airline in Canada to purchase renewable jet fuel for its operations. The SAF acquired by WestJet will be blended with conventional fuel to meet safety and certification standards eliminating the need for modifications to aircraft engines, fuelling infrastructure, or distribution processes. WestJet's decision to incorporate SAF in its flights is in line with the airline's goal of achieving net-zero emissions by 2050.

Source: https://www.safinvestor.com/news/144839/westjet-buys-first-saf-from-shell-in-canada/

Chile developing large-scale SAF plant

Chilean government report described the effort to start producing sustainable aviation fuel (SAF) in a large plant by 2030 and use the fuel made from oils, fats, and biological and municipal waste for half of its aviation needs by 2050. The "2050 SAF Roadmap" report was presented by Fernanda Cabañas, program coordinator for Chile's public-private "Clean Flight" project that aims to decarbonize the country's airline industry, at an aviation conference in Santiago. A full study on the viability and economic projections of how much SAF, and from what sources, Chile can produce is expected in late 2024.

Source: https://www.reuters.com/sustainability/climate-energy/chile-aims-have-first-large-scale-sustainable-aviation-fuel-factory-by-2030-2024-04-10/

Mubadala Capital to invest $13 billion in Brazilian SAF

In the UAE, Mubadala Capital plans to invest $13 billion in sustainable aviation fuel (SAF) and renewable diesel in Brazil in five $2.7 billion "modules" through its energy company Acelen. Each of the five planned facilities, the first of which is set to be online by the end of 2026, will produce 20,000 barrels of fuel per day. Key to the roll out of the modules will be converting the Petrobras refinery that the company bought in Bahia in 2021.

Source: https://staging.biofuelsdigest.com/mubadala-capital-to-invest-13b-in-brazilian-saf-over-next-decade/

Bangchak and Sumitomo create partnership for SAF

Thai energy firm Bangchak Corporation and Japan's Sumitomo Corporation signed a strategic agreement that establishes a framework for the purchase and sale of UCO, a key feedstock for SAF production. The UCO will be utilised at SAF production facility currently under construction at the Bangchak Phra Khanong

Refinery in Bangkok. The plant, expected to be operational in early 2025, boasts a projected daily production capacity of approximately 1 million litres.

Source: https://www.safinvestor.com/news/144720/bangchak-sumitomo-join-forces-to-develop-uco-saf-supply-chain/#:~:text=Thai%20energy%20firm%20Bangchak%20Corporation,key%20feedstock%20for%20SAF%20production.

Australian 'Book and Claim' registry to be established

Jet Zero Australia and Trovio announce that they have entered a strategic partnership to design and develop the 'Book and Claim' Registry for Australian Sustainable Aviation Fuel (SAF) and Renewable Diesel (RD). The Registry will support the capture and retention of provenance data throughout the supply chain to meet the required standards for the issuance and retirement of SAF credits (SAFc) and SAF End-User Reduction credits (SERc).

Source: https://jetzero.com.au/jet-zero-australia-and-trovio-partner-to-establish-the-australian-framework-for-a-book-and-claim-registry-for-sustainable-aviation-fuel-and-renewable-diesel/

SPOTLIGHT HEAVY DUTY VEHICLES

Promotion of biogas for Norway's green transition

Gasum, a leading Nordic energy company, and the Norwegian Road Transport Association have officially entered into a strategic cooperation agreement aimed at advancing the role of biogas in Norway's green energy landscape. The collaboration seeks to position biogas as a prominent solution in the ongoing green transition, with a focus on replacing fossil diesel. Gasum said it will actively share insights on biogas as a sustainable transport fuel. The collaboration involves advocating for improved biogas framework conditions in Norway, engaging with truck suppliers, and participating in events to promote biogas as a green solution.

Source: https://www.bioenergy-news.com/news/gasum-and-nlf-collaborate-to-promote-biogas-in-norways-green-transition/

First electric heavy truck crosses boarder

An electric class 8 truck made a historic first crossing from the U.S. into Mexico. Electric trucks will utilize recently built charging infrastructure installed by San Diego Gas & Electric utility to provide reliable and accessible charging options for medium- to heavy-duty electric freight trucks crossing the U.S.-Mexico border.

Source: https://electrifynews.com/news/work-evs/heavy-duty-electric-class-8-truck-makes-historic-first-crossing-from-the-u-s-into-mexico/

Zero emission heavy duty vehicle sales in California

The sales of new zero-emission medium- and heavy-duty trucks in California in 2023 doubled from 2022, with accounting for one out of every six new vehicles sold. With 18,473 medium- and heavy-duty zero-emission vehicles sold in California in 2023, the state exceeded its Advanced Clean Trucks goal two years ahead of schedule and sold five times the required amount. Since 2021, a total of 26,921 medium- and heavy-duty ZEVs have been sold in California.

The latest figures are a preliminary look at annual data that tracks sales of medium- and heavy-duty vehicles in California and points to continued momentum for zero-emission vehicles ahead of rules that start phasing in later this year requiring the gradual deployment of clean vehicle technology for fleets.

Source: https://www.gov.ca.gov/2024/06/06/1-in-6-new-trucks-buses-and-vans-in-california-are-zero-emission/

Bus running on biofuel unveiled in Japan

Tokyu Bus, Tokyo City University, and Euglena are pleased to announce that they held an unveiling ceremony for a bus that runs on biofuel at the Tokyu Bus Meguro Office in May 14, 2024, as part of Tokyo Metropolitan Government's "Support Project to Promote Businessization for the Use of Biofuels." The group will use biofuel to operate 150 route buses owned by Tokyu Bus Meguro and Seta Depots. In addition, they will use biofuel as an opportunity to investigate what "environmental charges" should be, and consider a system to promote public transportation with a lower environmental impact.

Source: https://www.euglena.jp/en/news/20240514-2/

Using renewable diesel for airport ground vehicles

In Singapore, the Civil Aviation Authority of Singapore (CAAS) is working with airport stakeholders to conduct trials on the use of renewable diesel for heavy and specialised airside vehicles operating at Singapore Changi Airport, as part of its larger effort to decarbonise the Singapore aviation sector. The trials will help Singapore develop the supply chain and procurement processes for using renewable diesel at Changi Airport and evaluate renewable diesel's operating performance vis-à-vis conventional fossil diesel, including the requirements and frequencies of vehicular and equipment maintenance. The trials are expected to last one year and will inform deliberation on future adoption of renewable diesel to power the heavy and specialised airside vehicle types for which there are no or few viable electric options.

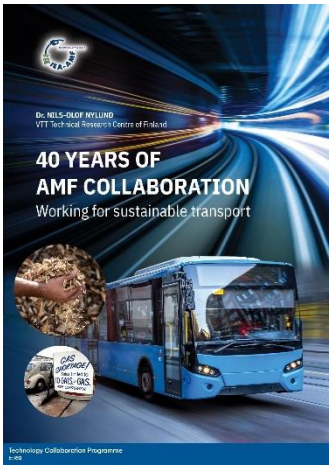
Source: https://www.biofuelsdigest.com/bdigest/singapore-changi-airport-trials-use-of-renewable-diesel-for-ground-vehicles/

AMF NEWS

40 Years of AMF

AMF was initiated in 1984 as “The Implementing Agreement for a Programme of Research, Development and Demonstration on Alcohol and Alcohol Blends”.

Consequently, AMF celebrates its 40th anniversary this year, and with the help of Nils-Olof Nylund, one of our longest-standing members, a brochure was created that looks back on 40 Years of AMF Collaboration.



The brochure summarizes the evolvement, activities and achievements of AMF. Starting as “Alcohol and Alcohol Blends as Motor Fuels”, evolving through “Alternative Motor Fuels” to becoming “Advanced Motor Fuels”, while keeping its original acronym, AMF takes a comprehensive approach towards clean, sustainable and energy efficient transport.

Starting with activities related to fuels for road vehicles, AMF now also covers non-road mobile machinery, shipping and aviation, with the focus moving towards those modes of transportation, which are difficult to electrify.

Link: https://iea-amf.org/content/publications/specialreports/40years

AMF Annual Report 2023

The AMF Annual Report provides information on the Advanced Motor Fuels Technology Collaboration Programme on the status of advanced motor fuels in AMF member countries and worldwide, and on the work carried out by AMF in individual projects. In addition, the AMF Chairman provides an outlook on advanced motor fuels, and the Chair of the Strategy & Technology Sub-Committee provides recent highlights.

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

E-fuels and End-Use Perspectives

AMF Task 64 has recently published its key messages derived from their series of online seminars. They find that e-fuels and biofuels must be considered together in the energy strategy, as both will play a crucial role in hard-to-electrify sectors (aviation, shipping, heavy-duty road transport and industry), where the availability of renewable energy resources is limited.

Several countries have launched strategic programs to increase the production of e-fuels. These initiatives provide incentives, support research or enact regulations that mandate a certain percentage of e-fuel use.

Due to the energy-intensive production of e-fuels, it is being discussed that their use should be prioritized in sectors that are difficult to electrify, such as aviation, shipping, heavy-duty road transport and industry. Water electrolysis, which is crucial to produce e-fuels, has a significant impact on production costs and carbon intensity.

All findings will be highlighted during an online webinar on 18 September 2024 from 13:00 – 14:30 CET.

More information: https://iea-amf.org/content/projects/map_projects/64

ExCo Meeting in Seattle, USA

In June 2024, the AMF Executive Committee conducted its 67th ExCo Meeting in Seattle, USA. There were 18 participants on site, and another 22 joined the meeting (or parts of it) online. Topics discussed included AMF management issues, reports from all ongoing Tasks, discussions on new Tasks and reports from IEA, sister TCPs and AMF Sub-Committees. A study tour provided insights into the operations of BP´s Cherrypoint Refinery and Paccar´s Technical Center.

During the meeting, two new Tasks were kicked-off:

The Task on **Exhaust After-Treatment Systems** will be led by Switzerland and conducted in collaboration with the Sustainable Combustion TCP. The objective of the work in this Task is to enable the transition from fossil-based fuels to low GHG emission fuels, while ensuring that pollutant emissions will be reduced in parallel. The focus is thus on the aftertreatment of exhaust generated from the combustion of advanced motor fuels (biological or synthetic).

The Task on **Recent Progress in SAF Research** will be led by Austria and already marks the second project of AMF in the SAF field. The purpose is to facilitate information exchange on recent related research through a series of online workshops. Topics span from SAF production to SAF utilization and policy recommendations.

More information on AMF Tasks can be found here: https://iea-amf.org/content/projects/ongoing_projects

PUBLICATIONS

EU bioenergy sustainability report

The Governance Regulation sets out the legal requirements and specific content for Member States (MS) to report to the EC on the five dimensions of the Energy Union, including when to report and the templates for the reports, which are further detailed in the Commission Implementing Regulation (EU) 2022/2299 of 15 November 2022. The NECPRs submitted in the 2023 round were the first NECPRs with the new and updated formats, including the requirements set out in the Governance Regulation.

This report presents the main results of the quantitative and qualitative analysis of the production and consumption of bioenergy in each Member State and in the European Union (EU-27) as a whole, as well as the main policies and measures implemented. In this context, the sustainability of bioenergy consumption in the EU-27 has been addressed. An overview of the state of advanced biofuels production in the EU (in EU language: Annex IX biofuels) is given on p. 56-64 of the report.

Link: https://op.europa.eu/de/publication-detail/-/publication/96d671c9-c719-11ee-95d9-01aa75ed71a1/language-en/format-PDF/source-321344243

Austria´s National Inventory Report 2024

The National Inventory Report 2024 (NIR 2024) gives a detailed and comprehensive description of the trend and the methodologies applied in the Austrian air emissions inventory for the greenhouse gases carbon dioxide, methane, nitrous oxide, HFC, PFC, SF6 and NF3. With this report, Austria complies with its reporting obligations under the EU Governance Regulation No 2018/1999 by providing transparent and verifiable documentation. It contains emission data by sector for the years 1990 - 2022 as well as information on emission factors, activity data and other basic data for emission calculations. Moreover, the report provides documentation of the national inventory system and quality control and assurance activities as performed by the accredited Inspection Body for Emission Inventories (ISO/IEC 17020).

Link: https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0909.pdf

National Inventory Report for the German GHG Inventory 1990 – 2021

As a Party to the United Nations Framework on Climate Change (UNFCCC), since 1994 Germany has been obliged to prepare, publish and regularly update national emission inventories of greenhouse gases. Pursuant to Decision 24/CP.19, all Parties listed in ANNEX I of the UNFCCC are required to prepare and submit annual National Inventory Reports (NIRs) containing detailed and complete information on the entire process of preparation of such greenhouse-gas inventories. The purpose of such reports is to ensure the transparency, consistency and comparability of inventories and support the independent review process.

Link: https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/29_2023_cc_submission_under_the_united_nations_framework_convention.pdf

Setting a Standard for GHG-Neutrality

In late 2023, the International Standard Organization (ISO) published a new standard on carbon neutrality: ISO 14068-1. It provides terminology, principles and requirements for GHG-neutral organizations and products, agreed by international experts. However, it contains significant shortcomings as it allows GHG-neutrality claims to be made using high fossil based GHG emissions and environment-damaging GHG removal methods. In a factsheet, the German Environment Agency (UBA) describes the new carbon neutrality standard and concludes: Credible GHG-neutrality claims must go beyond the standard. Above all, companies must consequently reduce their GHG emissions.

Link: https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/factsheet_setting_a_standard_for_ghg-neutrality_bf.pdf

The new emission standard for light- and heavy-duty vehicles in the EU

This policy update summarizes the key elements of the soon-to-be-adopted Euro 7 regulation. This EU regulation aims to reduce pollutant emissions from cars, vans, trucks and buses.

Link: https://theicct.org/wp-content/uploads/2024/03/ID-116-%E2%80%93-Euro-7-standard_final_v2.pdf

Updated overview of biofuel policies and markets in the EU

European Renewable Ethanol (ePURE) has published the latest update of its overview of biofuels policies and markets in the EU. The reports tracks the progress made by the EU and its Member States to date in meeting energy and climate change targets and in implementing the provisions of the Renewable Energy Directive II, as they relate to the transport sector. The overview compiles details of relevant elements of national implementation of the Directive and provides information on Member States' fuel and vehicle markets.

Link: https://www.epure.org/news/updated-for-2024-overview-of-biofuels-policies-and-markets-across-the-eu/

In-depth analysis of future marine fuels

The German Environment Agency (UBA) has analysed future fuels in depth recently, resulting in the publication of three “factsheet”.

In-depth analysis 1: Future Fuels: This paper presents various fuel options in maritime transport, examines their production processes, sustainability aspects,

infrastructure requirements, production costs and looks at the energy required for production.

Link: https://www.umweltbundesamt.de/en/publikationen/in-depth-analysis-1-future-fuels

In-depth analysis 2: Technical aspects of future fuels in existing fleet and new builds

This paper examines the technical challenges and safety aspects on board the ship when using alternative fuels in maritime transport and compares their use in fuel cells and combustion engines. It also looks at GHG and pollutant emissions as well as costs and possible necessary adaptations during operation.

Link: https://www.umweltbundesamt.de/en/publikationen/in-depth-analysis-2-technical-aspects-of-future

In-depth analysis 3: Lifecycle emissions of future fuels: This paper examines the life cycle emissions of alternative fuels in maritime transport.

Link: https://www.umweltbundesamt.de/en/publikationen/in-depth-analysis-3-lifecycle-emissions-of-future

U.S. renewable diesel production growth drastically impacts global feedstock trade

A new report from the U.S. Department of Agriculture (USDA) finds that the sharp growth in US renewable diesel production and capacity is causing significant, market-altering shifts both domestically and to foreign feedstock trade. During the past few years, the landscape for U.S. renewable diesel production has drastically changed, akin to the growth of ethanol and biodiesel during the past two decades. Domestically, U.S. soybean crush (i.e. the difference in value of the soybeans to that oil and meal) expanded to produce more oil, driven by high soybean oil prices. While domestic demand grew, U.S. soybean exports declined on expanding Brazilian supplies and slowing growth of global import demand. U.S. soybean oil premiums increased far above global vegetable oil prices that U.S. exports plummeted, and the U.S. became a net soybean oil importer for the first time in 2023. While biomass-based diesel production should continue growing based on current federal mandates, feedstock availability could limit expansion and slow growth well-below proposed capacity expansion.

Link: https://fas.usda.gov/data/us-renewable-diesel-production-growth-drastically-impacts-global-feedstock-trade

Decarbonisation of Brazilian Coastal Shipping

Researchers examined the principal commodities transported through cabotage (i.e. good shipped between two places in the same country) and the entities involved in this sector to explore the potential to synchronize decarbonisation efforts and facilitate achieving national net-zero emissions in Brazil. They found that Brazil's cabotage fleet primarily transports materials for the oil and gas industry, so strategies to decarbonize national maritime transportation will require the participation and support of this sector. Supply and container vessels are the ship classes responsible for most of the emissions inside Brazil's exclusive economic zone. The company that owns and operates most of the ships operating in cabotage in Brazil, Transpetro, aims to reduce emissions from its ships by 11% and plans to invest BRL 64 million in decarbonisation efforts by 2027. The company is examining several strategies to reduce emissions including route optimization a most efficient routes and the use of biofuel blends.

Link: https://theicct.org/publication/coastal-shipping-in-brazil-in-2021-mar24/

Decarbonisation of ASEAN Energy Systems

The Economic Research Institute for ASEAN and East Asia (ERIA), in collaboration with the Institute of Energy and Economics, Japan (IEEJ), prepared the Decarbonisation of ASEAN Energy Systems: Optimum Technology Selection Model Analysis up to 2060 report for the Association of Southeast Asian Nations (ASEAN) region. The report showed the energy transition pathways for ASEAN, including (a) the promotion of energy efficiency and electrification in the final energy consumption sector and (b) shifting from fossil fuel power generation to renewable power sources in the early stages and new energy technologies, such as hydrogen/fuel ammonia and carbon capture, utilisation, and storage in the later stages.

Link: https://www.eria.org/uploads/Decarbonisation-of-ASEAN-Energy-Systems-Updated-2023.pdf

EVENTS

Latam Mobility Summit Tour

27-28 August 2024 Santiago, Chile

https://latamobility.com/en/summit/

Sustainable Road Transport Europe

3-5 September 2024, Amsterdam, Netherlands

https://events.reutersevents.com/automotive/sustainabletransport

North American SAF Conference & Expo

11-12 September 2024, Minneapolis, Minnesota, USA

https://saf.bbiconferences.com/ema

8th Rostock Large Engine Symposium

12-13 September, Rostock, Germany

https://rgmt.de/

European Biomass to Power

11–12 September 2024, Helsinki, Finland

https://www.wplgroup.com/aci/event/european-biomass-to-power/

Electric & Hybrid Vehicle Technology Expo

7-10 October 2024, Detroit, Michigan, USA

https://evtechexpo.com/

Latam Mobility Summit Tour

15-16 October 2024, Mexico City, Mexico

https://latamobility.com/en/summit/

3rd European Methanol Summit

16-17 October 2024, Rotterdam, Netherlands

https://www.wplgroup.com/aci/event/the-european-methanol-summit/

BBEST & IEA Bioenergy Conference

22-24 October 2024, Sao Paolo, Brazil

https://bbest-ieabioenergy.org/

JSAE Annual Congress

23-25 October 2024, Sendai, Japan

https://www.jsae.or.jp/2024aki/english/

28th Small Powertrains and Energy Systems Technology Conference

4-7 November 2024, Bangkok, Thailand

https://www.setc-jsae.com/

Decarbonisation in Shipping Europe

20-21 November 2024, Hamburg, Germany

https://www.wplgroup.com/aci/event/decarbonisation-shipping-europe/

RNG Conference

9-12 December 2024, Dana Point, California, USA

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

Transportation Research Board Annual Meeting

5-9 January 2025, Washington, D.C., USA

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

Clean Fuels Conference

20-23 January 2025, San Diego, California, USA

https://www.cleanfuelsconference.org/

22nd International Conference on Renewable Mobility "Fuels of the Future"

20-21 January 2025, Berlin, Germany

https://www.fuels-of-the-future.com/en

Lignofuels 2025

11 -13 February 2025, Helsinki – Finland

https://www.wplgroup.com/aci/event/lignocellulosic-fuel-conference-europe/

Renewable Fuels Association National Ethanol Conference

17-19 February, 2025, Nashville, Tennessee, USA

https://www.nationalethanolconference.com/

International Biomass Conference & Expo

18-20 March 2025, Atlanta, Georgia, USA

http://www.biomassconference.com

The Work Truck Show & Green Truck Summit

4-7 March 2025, Indianapolis, Indiana, USA

https://www.worktruckweek.com/

WCX SAE World Congress Experience

8-10 April 2025, Detroit, Michigan, USA

https://www.sae.org/highlights/wcx

Advanced Clean Technology (ACT) Expo

28 April - 1 May 2025, Anaheim, California, USA

https://www.actexpo.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 Robert ROSENITSCH, TU Vienna, Shinichi GOTO, AIST, and Andy BURNHAM, ANL. It is edited by Lena Huck, FNR. 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.

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