

NNFCC News Review

Biofuels



Each month we review the latest news and select key announcements and commentary from across the biofuels sector.

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Foreword

Welcome subscribers, to this month's edition of our Biofuels News Review.

Annual CO₂ emissions from Transport account for almost 25% of worldwide emissions, with aviation and shipping responsible for 2% and 3% of global CO₂ emissions alone. As a result of the need to rapidly decarbonise these sectors we are seeing a rise in research and industrial projects aiming to facilitate and broaden the use of biofuels for long haul jets and industrial shipping in order to reduce their impact on the environment.

Following their successful pilot study earlier this year, Jet Aviation - one of the industry's largest aviation services company - have reiterated their pledge to enhance and increase the supply of Sustainable Aviation Fuel (SAF). In accordance with those changes in the aviation manufacturing sector, multiple oil refining giant companies have begun their slow transition towards the production of sustainable and renewable fuels. Most recently, Neste and Shell have entered in a large-scale partnership aiming to significantly increase the refinery and supply of biofuel to the aviation industry, with immediate effect.

On the maritime front, biogas seems to be positioning itself as the main sustainable alternative to oil-based fuel for ships. The potential of biogas lies in its versatility and the many sources and processes it can result from. Last year, the Norwegian company Hurtigruten revealed its plans to power its cruise ships with liquified biogas using dead fish as feedstock. More recently, researchers have been looking into ammonia as the main "ingredient" for biogas, deeming it safer, more readily available and a less technically challenging product.

Although it is undeniable that things are moving in the right direction, it appears that they might not be moving fast enough. To meet the 2030 target set by the EU Sustainable Development Scenario (SDS), transport biofuel production should expand by 10% per year. Unfortunately, the annual production is expected to fall from 6% in 2019 to 3% over the next five years.

Read on for the latest news.

Policy

New coalition calls on Government to act on negative emissions technologies

A letter has been sent to the Chancellor from a new coalition including the CBI, Velocys and Drax calling on the government to adopt a clear commitment to greenhouse gas removal and negative emissions technologies.

The letter from the Coalition for Negative Emissions to Rishi Sunak describes how the new group aims to develop pioneering projects that can remove CO₂ and other pollutants from the atmosphere whilst harvesting energy.

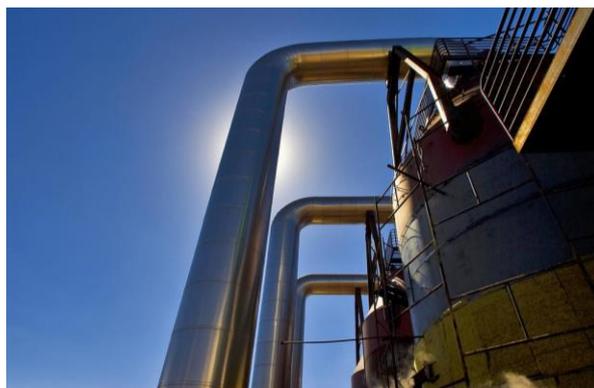
The letter said: "Together, we represent hundreds of thousands of workers across some of the UK's most critical industries, including aviation, energy and farming, each of which contribute billions of pounds each year to the economy. [...] Whilst we should seek to decarbonise sectors such as aviation, heavy industry and agriculture as far as practically possible, due to technical or commercial barriers it is unlikely we will eliminate their greenhouse gas emissions completely. Negative emissions technologies are critical, therefore, to balancing out these residual emissions and ensuring we achieve Net Zero in a credible, cost effective and sustainable way."

The coalition is calling on the Government to work with industry to bring forward early projects in the 2020s that are viable and represent value for money.

Click [here](#) for more information.

Markets

T2 ethanol price swings to record-high on Amsterdam-Rotterdam-Antwerp supply chain



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The European T2 ethanol price surged to Eur809/cu m FOB Rotterdam on 6th August, the highest level since the assessment began in 2007 and surpassing the previous record high of Eur769/cu m in September 2012 by some distance, as ARA supply dried up.

But even with demand recovering perhaps quicker than expected, it is still not quite at pre-coronavirus levels, while the gasoline market is not sharing ethanol's bullish run.

Overall, while the current peak is likely not sustainable and import arrivals should help cool-off the market, normal market conditions would not suggest a particularly bearish outlook. But the great degree of uncertainty is weighing on the forward curve, with imports and coronavirus the key variables.

Click [here](#) for more information.

Neste and Shell sign an agreement to increase the supply of Sustainable Aviation Fuel

In a move which anticipates increasing desire from airlines to reduce emissions, Neste and Shell Aviation have entered into a sustainable aviation fuel (SAF) supply agreement.

This agreement significantly increases the supply and availability of SAF for the aviation industry with effect from October 2020. It brings together Neste's expertise in the production and supply of renewable diesel and SAF with Shell Aviation's world-class credentials in supplying and managing fuel around the world.

Click [here](#) for more information.

Signature Flight Support, Neste and NetJets establish SAF strategic partnership

A pioneering collaboration combines Sustainable Aviation Fuel (SAF) production and distribution, establishing a permanent supply for private aviation operators at San Francisco and London-Luton.

Click [here](#) for more information.

Green Fuels to receive €86,000 grant in support of COVID-19-related work

Green Fuels Ltd has been awarded a \$100,000 (€86,000) grant in recognition of the work being undertaken in addressing the immediate and long term challenges resulting from the effects of the global pandemic. The grant is designed to support and amplify the impact of the work Green Fuels is doing as a global producer of sustainable transport fuels.

Green Fuels was chosen by a selection committee for the meaningful work they are doing in partnership with the waste management sector in Mumbai, India, to develop safe, reliable collection systems for food waste, suitable for use in developing countries COVID-19 lockdown.

Click [here](#) for more information.

Tightening of Indonesian Palm oil supply evidenced in lower exports to China



Pxfuel

Malaysia's palm oil exports to China increased by 31.9% or 316,400 tonnes over last year to 1.31 million tonnes from January to June this year.

This contrasts with Indonesia which shipped 1.28 million tonnes of palm oil to China - decreasing by 42.7% or 956,400 tonnes. As a result, palm oil market share commanded by Malaysia in China up to June this year rose from 30.7% held last year to 50.3%. Indonesia's share on the other hand slid to 49.2% from 69.2% for the same period in comparison.

Click [here](#) for more information.

Biofuel margins slump into negative

Biodiesel production margins in Europe have been pushed into negative territory by rising vegetable oil feedstock costs and an uncertain demand outlook caused by a resurgence of Covid-19 cases.

The negative margins have prompted several biodiesel producers in the Mediterranean and central Europe to consider reducing output or shutting down production altogether.

Click [here](#) for more information.

Research and Development

Total to convert its Grandpuits refinery into a zero-crude platform



Pxfuel

Total will convert its Grandpuits refinery into a zero-crude platform. By 2024, the platform will focus on four new industrial activities: production of renewable diesel primarily intended for the aviation industry; production of bioplastics; plastics recycling; and operation of two photovoltaic solar power plants.

Click [here](#) for more information.

EPS trials biofuel with GoodFuels

Singaporean-based tonnage provider Eastern Pacific Shipping (EPS) has hired GoodFuels to supply biofuel bunkers for one of its MR tankers.

The company bunkered its 2010-built 47,377 deadweight tonne MR tanker M/T Pacific Beryl, with the residual-fuel equivalent Bio-Fuel Oil on the 9th October in Dutch waters.

The BFO's performance will be tested and analysed on M/T Pacific Beryl, and the company plans to test the fuel on other classes of EPS managed ships in the near future.

Click [here](#) for more information.

MSU researchers to lead \$11 million study on camelina

A research team led by faculty in Montana State University's College of Agriculture received \$5.1 million from the U.S. Department of Energy designed to explore camelina, an oilseed with the potential to be an alternative biofuel and multi-use crop.

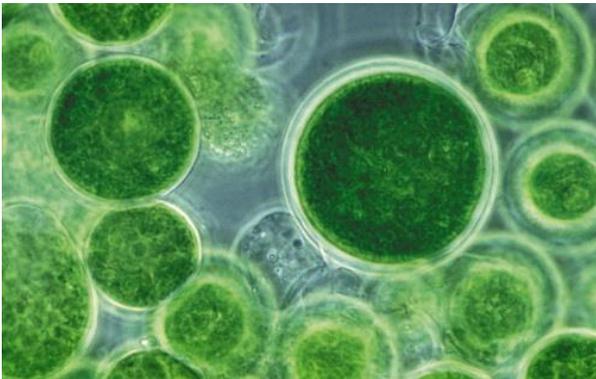
Click [here](#) for more information.

Chandigarh launches used cooking oil initiative to make bio-diesel

On Friday 18th October the Food Safety and Standards Authority of India (FSSAI) launched the Repurpose Used Cooking Oil (Ruco) initiative to collect and convert used cooking oil into bio-diesel.

Click [here](#) for more information.

Effect of post-treatment process of microalgal hydrolysate on bioethanol production



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Microalgae accumulate abundant lipids and are a promising source for biodiesel. However, carbohydrates account for 40% of microalgal biomass, an important consideration when using them for the economically feasible production of biodiesel. In this study, different acid hydrolysis and post-treatment processing of *Chlorella* sp. ABC-001 was performed, and the effect of these different hydrolysates on bioethanol yield by *Saccharomyces cerevisiae* KL17 was evaluated.

Overall, hydrolysis using $\text{H}_2\text{SO}_4 + \text{Ca}(\text{OH})_2$ provided the highest ethanol yield, and the yield was almost same as from conventional medium. This research emphasizes the importance of post-treatment processing that is modified for the species or strains used for bioethanol fermentation.

Click [here](#) for more information.

Biodiesel

California plant gearing up for renewable diesel

Marathon Petroleum Corporation has applied for permits to convert its Martinez into a refinery for renewable diesel.

While the Martinez conversion project, in California, is still being evaluated, seeking permits is an important step toward producing lower-carbon-intensity fuels.

If the project is commissioned, the Martinez facility would be expected to start producing renewable diesel in 2022, with a build to full capacity in 2023.

Click [here](#) for more information.

Neste MY Renewable Diesel available at more than 100 sales points in the Netherlands

Neste, the world's largest producer of renewable diesel, celebrates reaching the milestone of 100 Neste MY Renewable Diesel™ sales points in the Netherlands. Neste MY Renewable Diesel, produced from 100% renewable raw materials, was launched on the Dutch market in October 2019. With the use of Neste MY Renewable Diesel, customers can reduce greenhouse gas emissions by up to 90% compared to fossil diesel over the fuel's lifecycle.

Click [here](#) for more information.

Covid related movement restrictions curb palm oil collections and impact crude palm oil production

Malaysia will impose a second round of conditional movement control orders that could further tighten biodiesel feedstock availability.

Citizens can only leave their homes for essential tasks in the states of Kuala Lumpur, Putrajaya and Selangor until 27th October. Malaysia imposed the order after state elections in Sabah prompted a spike in Covid-19 cases. Inter-district travel is also banned unless a special permit is obtained.

Business activities will be allowed to continue but the move will likely further depress an already struggling restaurant sector and slash supplies of used cooking oil (UCO) across these regions. The four affected areas have a combined total of around 11mn people, or a third of the country's total population.

UCO collections were already estimated at just 70pc of pre-pandemic levels, though this has failed to provide much support to prices as a relapse in coronavirus cases and lockdown measures across Europe has neutered demand.

Malaysia exported 295,000t of UCO between January and July this year mainly to Singapore, the Netherlands and the UK. Prices slumped to \$710/t fob Malaysia last week from \$765/t in August as the second wave of Covid-19 began hitting Europe.

Click [here](#) for more information.

Aviation Biofuel

Jet Aviation commits to Sustainable Aviation in first ever business aviation sustainability summit



Pxfuel

Jet Aviation confirmed its ongoing commitment to sustainable aviation in the industry's first ever (virtual) sustainability summit hosted by the Business Aviation Coalition for Sustainable Aviation Fuel (SAF Coalition). The company was the first, exclusive provider of SAF in Switzerland through its pilot program during WEF 2020.

Click [here](#) for more information.

Other Biofuels

Ammonfuel - an industrial view of ammonia as marine fuel

The Ammonfuel report covers all aspects of the process of turning ammonia into marine fuel, including conventional and future green ammonia production, experience regarding safety with ammonia from other areas, the logistics of providing ammonia where it is needed, and the application on board the ship. It focuses on cost, availability, safety, technical readiness, emissions,

and the elimination of risks related to future environmental regulations and requirements. Based on industrial expertise, the report concludes that ammonia is an attractive and low risk marine fuel, applicable both in the transition phase towards a more sustainable shipping and as a long-term solution.

Click [here](#) for more information.

Events

European Bioenergy Future Online, 17th-19th November 2020

Event moved online due to the Covid-19 outbreak.

The European Green Deal paves the way to transform the EU to become the world's first climate-neutral economy by 2050.

2020 and 2021 are set to become defining years for the energy sector as many key EU legislations will be decided that will strategically frame the future of the industry.

Click [here](#) for more information.

UK Green Gas Day 2021 Birmingham, 22nd April 2021

Come to Green Gas Day to meet project developers and operators, financiers, feedstock providers, waste hauliers, technology providers and government officials. Visit exhibition stands from all of the major suppliers to the biomethane industry. If you interested in Green Gas, this is the one industry event you cannot afford to miss.

Click [here](#) for more information.

RBB 2021

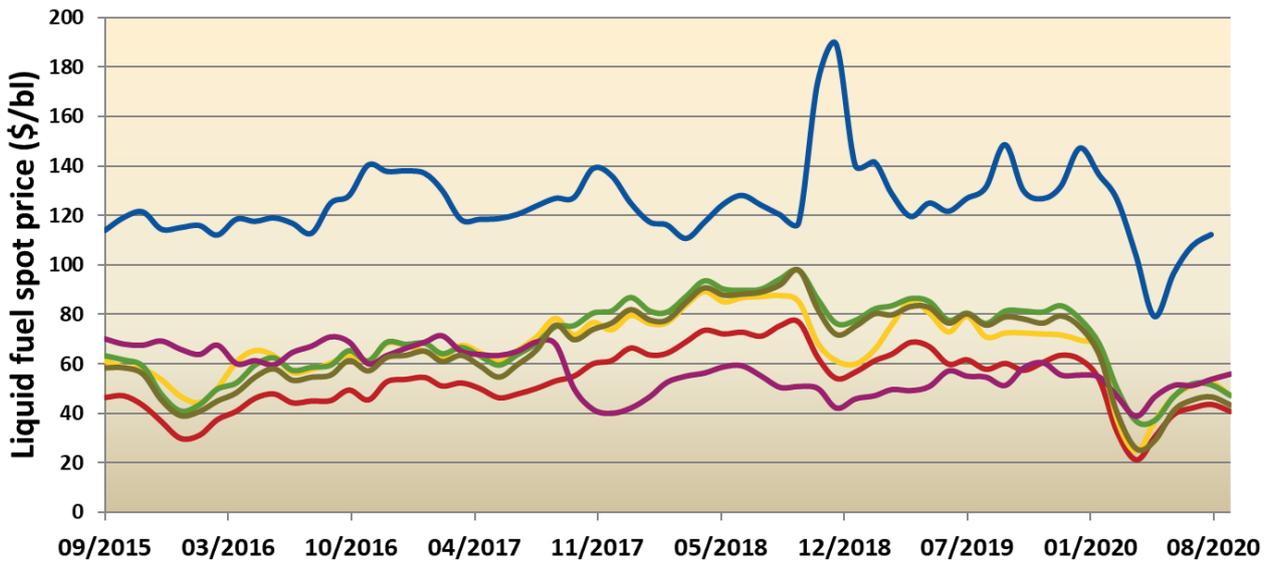
Aveiro, 6th-8th September 2021

The 17th edition of the International Conference on Renewable Resources & Biorefineries will take place in Aveiro, Portugal from Monday 6 Sept until Wednesday 8 Sept, 2021. Based on the previous RRB conferences, this conference is expected to welcome about 350 international participants from over 30 countries.

Click [here](#) for more information.

Price Information

Historical spot prices of liquid fossil fuels and liquid biofuels. Five years prices and up to September 2020 are given in \$ per barrel.



- Crude Oil (petroleum), simple average of three spot price
- Gulf Coast Gasoline
- Diesel - New York Harbor Ultra-Low Sulfur No 2 Diesel Spot Price
- Ethanol Average Rack Prices F.O.B.
- Jet Fuel Spot Price FOB - U.S. Gulf Coast Kerosene
- FAME 0° FOB ARA

Prices of Crude oil, diesel, jet fuel and gasoline are recorded from www.ycharts.com

Prices of ethanol from www.markets.businessinsider.com

Prices for FAME 0° from www.indexmundi.com

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