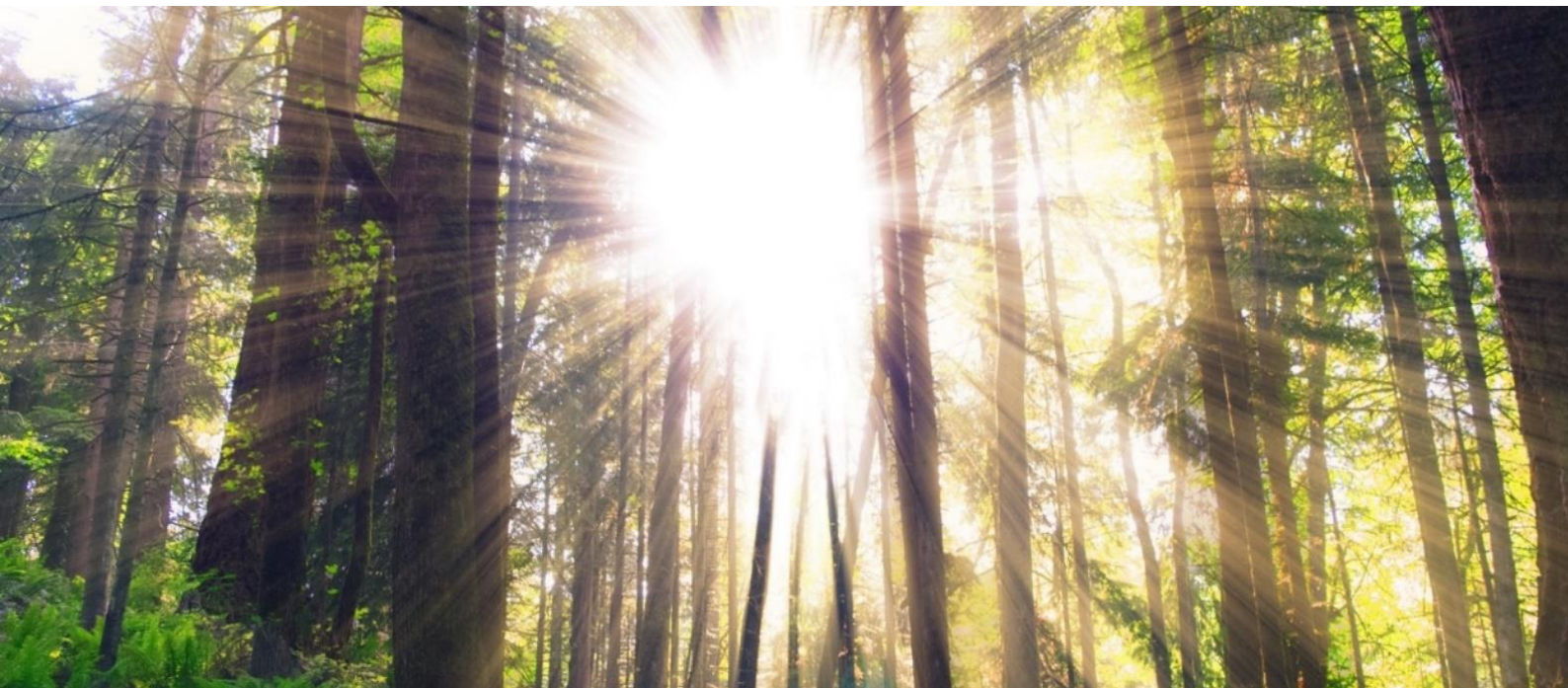


News Review



Issue Eighty

November 2018

Each month we review the latest news and select key announcements and commentary on feedstocks used in the bioeconomy.

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Foreword

Welcome, subscribers, to November's Feedstocks News Review.

Thanks to fears that the growing of crops for use in energy, or as feedstocks for biobased products, results in unsustainable competition with food crops, the land-use change brought about by cultivation of feedstock crops is always heavily scrutinised. This month, there has been controversy about precisely how any land-use change is accounted for. Under the US Renewable Fuel Standard, all crops intended for use as biofuel feedstock must be grown on land that had previously been farmed before the Standard came into effect. This legislation is in place in order to protect wild native grasslands. The EPA's manner of measuring this has been criticised by environmental groups, as it merely involves comparing current energy crop areas with 2007 levels (the year the Standard came into force). Critics believe that this allows for the legislation to be circumvented, as long as an equivalent amount of existing cropland is retired for each area of wild grassland converted to cropland. Environmental groups are demanding that biofuel producers demonstrate that their feedstocks are supplied from cropland that is confirmed as having always been cropland. This method of measuring is more bureaucratic, but would certainly have a greater success rate of enforcing the legislation. It remains to be seen how the EPA will respond.

Land-use change has been in the spotlight here in UK also, following controversy generated by supermarket Iceland's Christmas television advert. The advert has been banned for using footage from a Greenpeace advert, highlighting orangutan habitat destruction caused by unsustainable palm oil farming. It has been made clear that the reason for the ban has nothing to do with the adverts anti-palm oil stance, but simply due to its political nature – political advertising is banned in the UK. This has, however, thrown palm oil back into the national conversation, with many commentators pointing out that its requisite amount of land-use change is in fact lower than all other viable vegetable oils, and so by transitioning to other vegetable oils, the problem may actually be exasperated. This stance was backed recently by a report from the IPCC. Concerned consumers are encouraged to seek out products made with sustainably farmed palm oil, that does not contribute to rainforest deforestation, and that this is often indicated on product labels.

At the time of writing, the European Parliament has just approved a provisional agreement with the European Council on a revised renewable Energy Directive. This sets targets for renewable energy contributions out to 2030, provides greater opportunities for second generation biofuels along with plans to phase out first generation biofuels to address land use change and food v fuel concerns.

Read on for the latest news.

Policy

European Parliament approves RED II agreement



Wikimedia Commons

On Nov. 13, the European Parliament approved new targets for renewables, energy efficiency and second-generation biofuels when it voted to confirm a provisional agreement reached with the European Council in June on a revised Renewable Energy Directive (REDII).

Members of the parliament voted 495 to 68 to approve a binding target that will require renewables to account for at least 32 percent of the European Union's gross final energy consumption by 2030.

For biofuels, the agreement states that at least 14 percent of transportation fuel must come from renewable sources by 2030. First-generation, crop-based biofuels are capped at 2020 levels—with an extra 1 percent—but cannot exceed 7 percent of final consumption of road and rail transport. In addition, the share of advanced biofuels and biogas must be at least 1 percent in 2025 and at least 3.5 percent in 2030. Food crops, such as palm oil, that result in high indirect land use change (ILUC) are to be phased out through a certification process for low-ILUC biofuels.

For the heating and cooling sector, the provisional deal provides a sub-target of an indicative 1.3 percent yearly increase of renewables in heating and cooling installations, calculated on a period of 5 years starting from 2021.

The REDII agreement will also set the first European-wide sustainability criteria for solid biomass. Exemptions are to be given to installations below 20 MW for solid biomass fuels and 2 MW for gaseous biomass fuels, unless member states decide otherwise.

The GHG savings criteria for biofuels, biogas and bioliquids begin at 50 percent before 2015, and increase to 60 percent after 2015 and 65 percent after 2021. For electricity, heating and cooling production from biomass fuels, the GHG reduction criteria are set at 70 percent after 2021 and 80 percent after 2026. Percentage reductions are compared to fossil fuels.

The REDII will now be published in the Official Journal of the Union and will enter into force 20 days after publication. Member states will then have to transpose the new elements of the directive into national law 18 months after its entry into force.

Click [here](#) for more information.

US departments encourage Congress to recognise biomass carbon-neutrality

Biomass magazine reports that on Nov. 1, leaders of the U.S. EPA, UDSA and U.S. Department of Energy sent a letter to Congress describing the agencies' work to ensure consistent federal policy on forest biomass energy and promote policies that encourage the treatment of biomass as a carbon-neutral energy solution.

The letter, delivered to the House and Senate Committee on Appropriations, references the Consolidated Appropriations Act of 2018, or H.R. 1625. The law included congressional direction and emphasis on the importance of the U.S. forest sector to the energy needs of the country.

The policy requires EPA, USDA and DOE to ensure that federal policy related to forest biomass is consistent across all federal departments and agencies, and recognizes the full benefits of the use of forest biomass for energy, conservation, and responsible forest management. It also directed the agencies to establish clear and simple policies for the use of forest biomass as an energy solution, including policies that reflect the carbon-neutrality of forest bioenergy and recognize biomass as a renewable energy source, provided its use for energy production does not cause conversion of forests to non-forest use. The law also encourages private investment throughout the forest biomass supply chain, encourages forest management to improve forest health and recognizes state initiatives to produce and use forest biomass.

Click [here](#) for more information.

US environmental groups claim oversight in feedstocks land-use monitoring



US National Park Service

Environmental groups want the EPA to change the method used to account for land-use changes associated with the Renewable Fuel Standard, alleging in a petition that the agency hasn't followed the law.

Under the Energy Independence and Security Act that includes the RFS, crops produced for biofuels are required to be grown on land farmed prior to the passage of the act in 2007. The restriction was designed to prevent the cultivation of native grassland.

The groups claim in the petition that EPA has failed to verify that ethanol or biodiesel is produced with feedstocks grown on eligible cropland and not native grassland. Instead, they said, the agency measures the amount of total land in cultivation for food and biofuels to gauge if it stays below 2007 levels.

The groups have asked EPA to use an individual compliance system that requires biofuel producers to show that each feedstock source is grown on EISA-compliant land, or land that was cleared or cultivated prior to 2007.

The groups claim more than 7 million acres of wildlife habitat have been converted to cropland since 2007.

Click [here](#) for more information.

UK government celebrates first ever "Green Week"

The UK government kicked off the first ever Green GB & NI Week by asking the Committee on Climate Change to advise on setting a date for a net zero emissions target.

This makes the UK one of the first in the G7 to formally explore setting an even more ambitious target than its current one.

It follows a report from the Intergovernmental Panel on Climate Change (IPCC), showing more rapid action is needed to reduce greenhouse gas emissions to avoid devastating risks of climate change to health and global prosperity.

Some of the UK's biggest business names - from financial services to the high street – are among 60 business pledges to tackle climate change during the first-ever Green GB & NI Week.

Pledges range from installing solar panels on office roofs to provide power for thousands of homes, to overhauling fleets of diesel trucks.

Announcements include HSBC pledging £250m investment in solar parks and wind farms, while the John Lewis Partnership committed to overhauling its 500-strong fleet of trucks - turning its current diesel lorries into bio-methane clean machines by 2028.

KPMG will replace all single-use plastic cups in every hot drinks dispenser with compostable or paper cups, saving three million plastic cups per year, while Lidl and Tesco launched new zero-deforestation soy policies – setting out how zero-deforestation commitments will be implemented by 2025.

Click [here](#) for more information.

Christmas TV advert highlighting palm oil use banned



Wikimedia Commons

A Christmas advert highlighting the impact of palm oil on the environment will not be shown after it was deemed "too political".

Deeside-based food firm Iceland wanted to use a Greenpeace animation telling the story of rainforest destruction and the impact on the orangutan.

But it was not approved by Clearcast, the body which assesses adverts against the UK Code of Broadcast Advertising.

Clearcast said the advert "contravened the prohibition on political advertising", which included "an advertisement which is inserted by or on behalf of a body whose objects are wholly or mainly of a political nature" - referring to its origins as a Greenpeace advert.

Click [here](#) for more information.

Markets

Despite increase, Stobart still not supplying to capacity

Biomass magazine reports on Stobart's latest financial results which shows that while biomass volumes sold have increased year-on-year, Stobart said that continuing challenges around the commissioning of third-party power stations means that the company's infrastructure has been underutilized. According to Stobart, two major plants in Widnes and Tilbury, U.K., experienced unplanned outages during the first half of the year. The company also noted commissioning started later than expected at the Margam and Templeborough, U.K., plants, and indicated the development of Port Clarence has been delayed until early 2019.

Stobart said it is continuing to work to maintain the integrity and viability of the supply chains it has created for these plants. Although the company said it is challenging to accurately forecast the successful operation of third-party power plants, it expects further progress during the second half of the year.

According to the company, Stobart Energy has long-term agreements in place to supply 2 million metric tons of biomass fuel per year, with the capacity to supply 3 million metric tons per year by fiscal year 2022.

Click [here](#) for more information.

Stora Enso acquires Swedish cellulose company

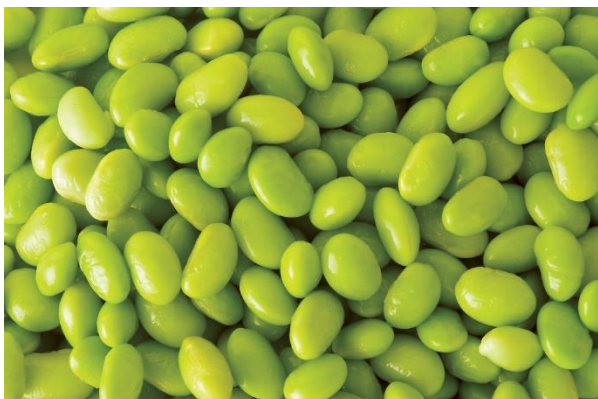
Stora Enso has increased its ownership up to 100% in the Sweden-based company Cellutech AB. The company specialises in the development of new materials and applications based on cellulose, micro-fibrillated cellulose (MFC) and other wood-based components.

The acquisition of Cellutech supports Stora Enso's vision of replacing fossil-based materials with renewable ones originating from wood. The acquired company works, among others, in the areas of foams for packaging and hydroponics where the markets are continuously growing. Cellulosic foams can, for example, be used in packaging to replace polystyrenes which are the most widely used plastics.

Established in 2013, Cellutech is an agile team of eight scientists and researchers serving as a link between academia and industry. Cellutech was formed to take world class scientific research developed at SweTree Technologies and Wallenberg Wood Science Centre and develop the ideas into commercially successful technologies and products.

Click [here](#) for more information.

Record Brazilian soybean exports expected



Flickr

Brazilian exporters are forecast to sell a record volume of soybeans this year as China's appetite for the oilseed remains strong amid a trade war with the United States, according to a report by Reuters.

Shipments from Brazil, the world's largest exporter of the oilseed, are expected to surpass 80 million tonnes in 2018, Reuters reported.

China imposed a 25% tariff on U.S. soybeans in July in retaliation for Washington slapping duties on Chinese goods.

The report said the situation shows China's trade war with the United States is compelling Brazilians to sell more of their grains in months of the year when the U.S. crop is already available.

Click [here](#) for more information.

Research & Development

Algae "switch" to increase starch production

Large-scale production of algae derived starch could be possible, thanks to new research by the Tokyo Institute of Technology (Tokyo Tech) and Tohoku University, Japan, reported in Biofuels news.

This algae-derived starch is a valuable resource for the production of biofuels and other biomaterials.

According to a statement, the team have found a 'switch' affecting the level of starch content in algae.

Focusing on the unicellular red alga *Cyanidoschyzon merolae*, the team demonstrated that starch content could be dramatically increased through the inactivation of a protein kinase known to play a key role in cell growth.

According to the Tokyo Tech statement, the results could be hugely important in scaling up biofuel and value-added biochemical production.

Click [here](#) for more information.

Strategies to improve biorefinery yields of different feedstocks



Pixabay

Refineries to convert biomass into fuels often rely on just one feedstock. If the refineries could accept more than one feedstock, it would greatly benefit refinery operation. Scientists at the Great Lakes Bioenergy Research Centre investigated how five different feedstocks affected process and field-scale ethanol yields. Two annual crops (corn stover and energy sorghum) and three perennial crops (switchgrass, miscanthus, and restored prairie) were pre-treated using ammonia fibre expansion, hydrolysed, and fermented separately using yeast or bacteria.

They found that both biomass quality (chemical composition, moisture content, etc.) and biomass yield affected how much ethanol each acre (or land area) produces. However, the effect differed. Biomass quality was the main driver for the ethanol yields for high-yielding crops, such as switchgrass. Biomass yield was the main driver for the ethanol yields for low-productivity crops, such as corn stover. Therefore, to increase ethanol yield for high-yielding crops, focusing efforts on improving biomass quality or conversion efficiency may be prudent.

For low-yielding crops, focusing on increasing biomass yield may be the best strategy. When measuring the amount of ethanol produced during fermentation, most feedstocks fell within a

similar range, especially when scientists used bacteria to ferment the biomass. In total, the results of this study suggest that a lignocellulosic refinery may use a variety of feedstocks with a range of quality without a major negative impact on field-scale ethanol yields.

Click [here](#) for more information.

BBSRC commits funding to bioeconomy networks

Moving to a low carbon economy in the coming decades requires a shift from using fossil resources to provide power, fuel, chemicals and materials.

BBSRC, with the support of EPSRC, have committed £11 million to fund 6 unique collaborative Networks in Industrial Biotechnology and Bioenergy (BBSRC NIBB) to support, encourage, and facilitate this essential work.

From seaweed to metals, these multidisciplinary networks will drive new ideas to harness the potential of biological resources for producing and processing materials, biopharmaceuticals, chemicals and energy.

In 2014, BBSRC funded 13 Networks in Industrial Biotechnology and Bioenergy (BBSRC NIBB). Based on the outstanding achievements of these Networks, in 2018, BBSRC Executive agreed to support a second phase of networking activities in Industrial Biotechnology and Bioenergy.

The second phase of the BBSRC NIBB will continue to build capacity and capability in the UK supporting research and translation in biologically based manufacturing, with the aim of continuing to foster collaboration between academic researchers and business at all levels, in order to find new approaches through excellent research to

tackle research challenges and help deliver key benefits in industrial biotechnology and bioenergy.

The Networks will run from 2019 to 2024, will provide flexible funding for Proof of Concept projects, and are open to new members throughout their lifetime.

Click [here](#) for more information.

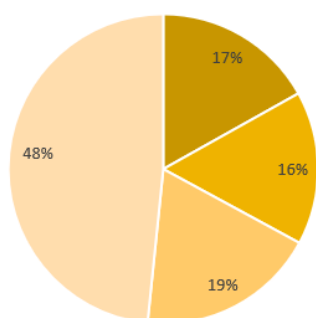
Wood & Crop

US wood pellet supply

The US energy information administration published monthly updates on biomass use in domestic and export pellet production.

Latest information for the calendar year show the vast majority of the 4.2 million pellets sold in the US in 2018 to date, have been derived from wood by-products and forest harvest residuals.

Feedstock sourced



- Roundwood/pulpwood quantity (tons)
- Sawmill residuals quantity (tons)
- Wood product manufacturing residuals quantity (tons)
- Other residuals quantity (tons)

77% of pellet sales were for export markets. Prices returned to typical levels for long term contracts (\$180-190/tonne, UK delivered) following price falls in May.

Falling crop supplies in UK and EU

AHDB reports that prolonged dry conditions and warmer than average temperatures across large swathes of Europe have raised concerns for the coming years rapeseed crop. A bleak outlook for the crop was given in the latest European Commission MARS bulletin, stating that 'only a minority of areas are in good condition'. This could already affect EU production in 2019, further tightening supplies following a difficult year in 2018. Estimated production for 2018 came in at 19.7Mt, a 10% reduction from 2017.

Central and north eastern France, northern and central Germany, western Poland and northern Czech Republic are among the areas where winter crop emergence is expected to be impacted and these represent key areas of production.

The UK wheat supply and demand balance is forecast to tighten for the third consecutive season in 2018/19, driven by a greater fall in total availability, according to initial forecasts from AHDB released yesterday. At 2.170Mt the UK wheat balance is 20% lower on the year.

Total availability of wheat in 2018/19 is forecast to fall by 5% or 882Kt on the year to 17.504Mt, predominately driven by an estimated drop in production, and to an extent a decline in imports (-5%) and opening stocks (-5%). Provisional results from the Defra Cereals and Oilseeds Rape Production Survey record UK wheat production for 2018 at 14.086Mt, 751Kt lower than year earlier levels.

Falls in use in the bioethanol sector following the announced closure of Vivergo Fuels, are expected to be countered to some extent by increases in feed demand by at least 2% to counter lower forage supplies after the dry summer. However, the increase in wheat demand is anticipated to be somewhat capped by an expected rise in maize demand, due to its relatively low price to other cereals (currently £18.30/t discount over feed wheat).

The current competitiveness of maize means that we may continue to see increased use of the grain in animal feed production. Subdued maize prices globally will also probably continue to act as a resistance to price gains in other key grains.

Slight tightening of wheat stocks

AHDB reports that the major wheat exporter stocks-to-disappearance ratio (a measure of stocks relative to consumption and exports) in 2018/19, tightened further following the last USDA supply and demand release, albeit marginally. The ratio dropped 0.1% to 13.6%, driven by significantly tighter Kazakhstani opening stocks. Stocks-to-disappearance remains the tightest since 2007/08.

Forward predictions could be affected by further global developments (Australian and Argentinian wheat performance) but the ratio reflects current market sentiment which suggests prices will remain high.

AEG to build CoalSwitch plants in US



Max Pixel

London-based Active Energy group recently announced it has entered into a joint venture (JV) agreement with U.S.-based Georgia Renewable Power LLC for the installation of CoalSwitch facilities. GRP currently operates a bioenergy facility in North Carolina and is developing two projects in Georgia.

The JV will install CoalSwitch manufacturing facilities at GRP's three power plant sites in North Carolina and Georgia. AEG's CoalSwitch process converts low-value forestry and agricultural waste into high calorific, high-bulk-density biomass pellets via a multistep process.

The JV plans to install CoalSwitch facilities at each site within the next three years, each with a production capacity of 25 metric tons per hour. Depending on feedstock availability and market opportunity, the JV said it could expand CoalSwitch capacity in the region to 100 metric tons per hour in the future.

In addition to the installation of CoalSwitch plants at the three GRP locations, the joint venture also plans to create LitterSwitch pellets, a beneficiated pelletized fuel derived from poultry litter, and develop several coproducts. In addition, the JV, through AEG, plans to develop a commercial market for high-density baled dry wood chips.

Click [here](#) for more information.

Enviva to supply Mitsubishi with pellets

Bioenergy Insight reported that Enviva has announced it is to be the sole supplier of imported wood pellets to Mitsubishi's Japanese biomass plant.

As one of the world's largest producers of wood pellets, Enviva owns and operates wood pellet processing plants and deep-water export terminals in the South-eastern United States.

Enviva announced that it is set to start work with global automotive company Mitsubishi in late 2022 and will continue for at least 15 years. After previously working together on a take-or-pay off-take contract to supply 630,000 metric tons per year (MTPY) of wood pellets, Mitsubishi agreed to a firm deal. The new agreement makes Enviva the exclusive, long-term imported biomass fuel supplier to the Aioi Bioenergy Corporation, a joint venture between Mitsubishi Corporation Power and Kansai Electric Power Co. The venture sees both companies working together to convert an existing oil-fired power plant to biomass.

The new contracts state that Enviva will supply approximately 180,000 and 450,000 MTPY of wood pellets to the Japanese plant.

Click [here](#) for more information.

Funding granted for Canadian pellet plant

The Canadian government has revealed plans to invest \$15 million in Granule 777 Inc. The funds will go towards helping the company build Canada's first fully integrated industrial wood pellet and sawmill complex.

In a news release, the government also announced a repayable contribution of \$5 million to help Granule 777 buy production equipment.

Once the complex is built, the mill will manufacture 210,000 metric tons of wood pellets per year; use 450,000 metric tons of biomass; and create 40 new jobs for mill operations.

Click [here](#) for more information.

Fire prevention regulations settled for waste wood sector

The Environment Agency has approved the first sector-specific guide on Fire Prevention Plans (FPPs) for sites handling waste wood, it has been confirmed.

The Wood Recycling Association (WRA), which confirmed the news, said the document outlines the different fraction sizes of waste wood that may be stored and the differences in their storage requirements, as well as talking about seasonality challenges faced by the industry and how to explain these in an FPP.

The exact contents of the guide will be revealed in December, but it will outline the different fraction sizes that can be stored

Previously, there were concerns that FPPs were hindering many in the wood recycling industry.

Click [here](#) for more information.

Other Feedstocks

UK government to take action on food waste



Wikimedia Commons

The UK Government will set up a pilot scheme to reduce food waste. The scheme will be supported by £15 million of additional funding which has been allocated to tackle food waste.

Currently around 43,000 tonnes of surplus food is redistributed from retailers and food manufacturers every year. It is estimated a further 100,000 tonnes of food - equating to 250 million meals a year - is edible and readily available but goes uneaten. Instead, this food is currently sent away for generating energy from waste, anaerobic digestion, or animal feed.

The pilot scheme will be developed over the coming months in collaboration with businesses and charities. The scheme will launch in 2019/20.

The scheme will specifically address surplus food from retail and manufacturing. This is just one part of the problem - food waste in the UK totals 10.2 million tonnes per year, of which 1.8 million tonnes comes from food manufacture, 1 million

from the hospitality sector, and 260,000 from retail, with the remainder from households. Further action to cut food waste from all sources is being considered as part of Defra's Resources and Waste Strategy, which will be published later this year.

Defra is commissioning work to improve the evidence base around food waste, including understanding why more surplus food is not being redistributed. This work will inform the design of the scheme, ensuring it drives down food waste in the most effective possible way.

The new scheme follows the £500,000 Food Waste Reduction Fund announced in December last year to support the substantial reduction of food waste throughout England.

In July this year it was announced that funds have been awarded to eight charities across the country. The Food Waste Reduction Fund grants will help provide the essential resources needed to expand their important work, and will further inform development of the new scheme.

Click [here](#) for more information.

Improving algal productivity by increasing CO₂ uptake

Researchers have begun work on a \$2.1 million project that aims to increase algae yield by improving carbon dioxide utilization. The three-year project is part of an effort led by the Department of Energy's Office of Energy Efficiency & Renewable Energy to improve the cost-competitiveness and environmental sustainability of microalgae-based fuels and products.

For mass cultivation purposes, microalgae are typically grown in large, shallow ponds that allow light to penetrate the water to the algae cells. Like

plants, algae require sunlight, CO₂, and nutrients to grow. To supply CO₂, air is sparged, or pushed through small holes in a tube, into the bottom of pond. Using this delivery method, much of the CO₂ bubbles to the surface and is wasted, rather than being used by the algae.

To improve delivery of the CO₂ to the microalgae culture, researchers will work to design a polymeric membrane containing an enzyme that will convert CO₂ into water-soluble bicarbonate, which the algae can use to grow. This membrane will transfer CO₂ into the water much more effectively than sparging.

The project will also develop a computational model that predicts when and where in the pond the algae will grow fastest, allowing the bicarbonate to be targeted to those locations. To avoid excess delivery of the bicarbonate, a laser monitoring system devised by an NREL partner will detect when there's too much CO₂ at the surface of the pond.

Once the delivery method is perfected, the algae will be modified to be able to keep up with the increase in bicarbonate. The team is leveraging two approaches to improving the algae. The first will genetically engineer the algae to uptake and metabolize bicarbonate faster than they normally would. The other will utilize a natural selection approach that involves selecting genetically superior strains as algae are grown in bicarbonate-rich environments.

A life-cycle assessment to gauge environmental sustainability of the process and a techno-economic analysis to estimate cost will determine whether the team succeeded in improving cost-competitiveness through their CO₂ utilization improvements.

Click [here](#) for more information.

Events

Energy from Waste London, 4th-5th December 2018

SMI's eagerly awaited 11th Annual Energy from Waste conference will bring together international waste management operators, developers, bankers, private equity financiers, technology providers and industrial end users for two days of intensive networking, discussing developments that are needed in technology, financing and infrastructure to ensure the solutions are available to fast track the growth of the industry worldwide.

With a specific focus on how new technology can help EfW projects overcome their challenges and operational problems and an update on where the industry fits within the circular economy. This year's event will give all attendees a broad, in-depth insight into all aspects of the market, with a consideration on how Brexit will affect exports of RDF. Finally, the conference will also address the fundamental changes to funding associated with energy from waste and how this is impacting the market.

Click [here](#) for more information.

ADBA National Conference

London, 11th December 2018

The ADBA National Conference returns this December at a time of major shifts in the UK and abroad. Climate change, Brexit, the end of the Common Agricultural Policy in the UK and other economic and environmental changes present the UK anaerobic industry (AD) with both opportunities and threats for the future.

The conference will discuss how we can build a strong, resilient and adaptable AD sector that will operate to the highest standards and thrive in the face of domestic and global challenges.

Click [here](#) for more information.

Plant Based Summit

Lyon, 22nd-24th May 2019

In May 2019, Plant Based Summit will launch its 5th edition in Lyon, with an even sharpened positioning on the innovation, the co-development and its operational implementation for the necessary deployment of bio-based products. It will be the opportunity for the participants to contribute to the evolution of plant-based, green and sustainable chemistry!

At Plant Based Summit, each stakeholder in the biobased economy is able to share, find the best solutions to fit its own specific place and development stage, enabling it to make the decisive leap forward, thus contributing to empower the biobased economy.

Click [here](#) for more information.

Feedstock Prices

UK spot prices of bagged wood pellets, and wheat and barley straw. Arrows indicate rise ↑, unchanged – or fall ↓ from previous month.

Date	UK Wood Pellets Delivered	UK Ex-Farm Barley Straw	UK Ex-Farm Wheat Straw
	(£/tonne, 5% VAT)	(D1000) (£/tonne)	(D1000) (£/tonne)
10 Feb	287-316 (↑--)	60-80 (---)	45-65 (---)

For wood pellets prices we considered UK pellet traders selling prices.

For details on straw spot prices, see <http://www.farming.co.uk>

UK (LIFFE), French (MATIF) and US (CBOT) future prices for wheat, rapeseed, maize, and soybean. Arrows indicate rise ↑, unchanged – or fall ↓ from previous month's predictions.

Date	UK (LIFFE) Feed Wheat (£/tonne)	MATIF Wheat (€/tonne)	MATIF Rapeseed (€/tonne)	CBOT Wheat (cnts/bsh)	CBOT Maize (cnts/bsh)	CBOT Soyabean (cnts/bsh)
Nov-18	169.0 (↓)					
Dec-18		200.0 (↓)		505.5 (↓)	367.5 (↑)	
Jan-19	170.9 (↓)					888.75 (↑)
Feb-19			375.7 (↓)			
Mar-19	172.8 (↓)	203.7 (↓)		514.7 (↓)	378.2 (↓)	902.25 (↑)
May-19	174.0 (↓)	205.0 (↓)	377.0 (↓)	523.0 (↓)	385.7 (↓)	915.50 (↑)
Jul-19	174.4 (↓)			531.7 (↓)	392.5 (↓)	928.00 (↑)
Aug-19			370.5 (↓)			932.50 (↑)
Sep-19		187.7 (↓)		542.2 (↓)	393.7 (↓)	933.00
Nov-19	156.1 (↓)		373.5 (↓)			
Dec-19		189.7 (↓)		556.5 (↓)	399.0 (↓)	
Jan-20	158.1 (↓)					
Feb-20			375.0 (–)			
Mar-20	159.5 (↓)	192.0 (↓)				
May-20	160.4 (↓)	193.2 (↓)	375.0			
Sep-20		190.5 (↑)				
Nov-20	155.7 (↓)					

For details on future prices see <http://www.hgca.com>

Other biomass feedstock prices are available upon request, simply contact enquiries@nnfcc.co.uk

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