

The Bioeconomy Consultants



## News Review

Issue Sixty-Eight

November 2017

**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 to November's Feedstocks news review.

This month there is a lot of news from the policymakers over at the European Union, which has in some cases proved controversial. The EU's ENVI committee has recently voted to completely phase out crop-based biofuels by 2030, an issue that remains controversial as those who oppose crop-based biofuels believe their effect on land use is too great for the amount of greenhouse gas mitigation they achieve, while their supporters argue that, with proper management, land-use change can be minimised while still delivering significant emissions reductions. The vote was a close one, with the motion to phase out crop biofuels passing by 32 to 29, with the proposed legislation surpassing previous drafts of the revised Renewable Energy Directive, which had proposed a cap, but not phase-out, of crop biofuels. The vote wasn't all bad news however, as it also declined to add tougher sustainability criteria on biomass power, which NGOs had been lobbying for. The legislation still has several stages to go through before it becomes enshrined in EU law, and so there is still opportunity for amendment.

There is also controversy regarding the EU's decision to ban the use of palm oil in biofuels. The obvious rationale behind the ban is to de-incentivise deforestation caused by the production of palm oil, but opponents have argued that the issue is subtler than this, as a blanket ban on palm oil harms the producers of sustainable palm oil, even though they do not contribute to the problem at hand. One example is South America, where the majority of palm oil plantations are situated on reclaimed crop or pasture lands. Europe is a major market for palm oil producers in countries like Colombia, and the ban could substantially hurt them.

In other news, a story from the north of England reports that the Port of Tyne has received a new record pellet shipment, when in late October a shipment of over 60,000 tonnes landed at the port, to be delivered onward to Drax's biomass power station further south.

Read on for the latest news.

# Policy

## EU ENVI committee backs biomass power, snubs crop-based biofuels



*Geograph*

Reports by Biofuels News on proceedings of Policymakers in the European Parliament's environment committee (ENVI) indicate that they have voted in support of a proposal (by a small majority of 32 to 29 with 4 abstentions) for a total phase out of crop-based biofuels by 2030 while backing the use of biomass for electricity production. The ENVI vote on the revised Renewable Energy Directive, dubbed RED II, happened on the evening of 23rd October. RED establishes an overall policy for the production and promotion of energy from renewable sources in the EU. This proposition goes much further than the current REDII draft which the Commission proposed a cap on crop-based biofuels declining from 7% in 2021 to 3.8% by 2030.

The ENVI Committee voted to increase the EU's renewables target from 27% to 35% for the period 2021 to 2030, but did not impose tougher sustainability criteria on bioenergy, which NGOs had been calling for.

The committee's recommendation also sets stricter criteria for the use of municipal and industrial wastes for energy and excludes renewable energy support for refuse that is not separately collected. However, industry sources point out that despite all efforts of source separation, there will always remain some polluted biodegradable part of the residual fraction of industrial, commercial and municipal waste, which is not suitable for quality recycling or composting, where the only alternative treatment would be landfill.

The next stage of the process is consideration by the Industry, Research and Energy (ITRE) Committee, which leads on the opinion and is due to adopt its position on 28 November. The decision of both Committees will be important in how the European Parliament positions itself when it makes its final decision, expected to be finalised in December, however, this could stretch into 2018.

Click [here](#) for more information.

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## EU's separation of land use and bioenergy issues prompts anger

In a comment piece for EURACTIV, Sylvain Lhôte, director general at CEPI, the European association representing the forest fibre and paper industry, chastises the EU for failing to take a holistic approach by treating the LULUCF and renewable energy dossiers as separate and distinct issues.

The European Union is setting new accounting rules for carbon emissions or removals from land and forestry with its new land use, land use change and forestry regulation (LULUCF). Meanwhile it is also defining sustainability criteria

for the use of forest resources in the renewable energy directive. By doing so, the EU is outlining the pace of development for forest-based industries for decades to come.

Like LULUCF, the debate regarding RED II is showing signs of missing the big picture and is focusing narrowly on the risk of an 'energy dash for biomass', rather than on Europe's bioeconomy potential. Sustainable bioenergy is part of the bioeconomy, but the bioeconomy is much more than turning wood into energy. The reality is that the use of forestry resources has always involved producing energy from residues, production side-streams and low-quality wood or post-consumer waste. Today, 60% of the energy used in the European pulp and paper industry is generated this way, making the industry the number one industrial producer and user of biomass-based energy. At the same time progress in technology means that side-streams from the tree can now be converted into more valuable biochemicals and biofuels. There is an economic and resource efficiency rationale for using wood as a raw material 'first' and as an energy resource 'last'.

The climate mitigation effect of forests does not stop at the 'tree in the ground'. It also extends over the life cycle of products that are produced from the tree itself.

By substituting fossil-based products with forest-based solutions, kept in the circular economy loop, the climate mitigation effect would be boosted well above the 10% of EU greenhouse gas emissions captured today by our forests.

Click [here](#) for more information.

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## **Nigeria to build crop processing plant to reduce dependence on oil**

Nigeria plans to establish a \$1 billion crop-processing park supported by Turkish investors in the country's north as part of efforts to improve value and boost agricultural exports, according to the country's investment-promotion agency.

The Badeggi Crop Processing Zone in Niger state is expected to start in June next year, with an initial investment of \$250 million by a Turkish investor, deputy director at Abuja-based Nigerian Investment Promotion Council, Aminu Takuma, said. Additional funds of \$800 million will follow and the investor will operate the park on completion.

The facility will process more than 750,000 metric tons of crops including rice, maize, yam, cassava, groundnuts and peas every year, according to the agency. The government plans to set up 15 similar crop zones across the country.

President Muhammadu Buhari is trying to end the country's dependence on oil as it emerges from its worst economic slump in 25 years caused by a drop in the output and price of crude, which accounts for more than 90 percent of foreign income. The government's economic growth plan seeks to increase the contribution of agriculture to gross domestic product to more than 8 percent by 2020, from about 4 percent this year.

Goods will be transported from the crop-processing zone through the nearby Baro inland port on the Niger River, taking them down to the coast for shipment abroad.

Click [here](#) for more information.

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## Letter argues biofuel palm oil ban doesn't accomplish aims

Since plantations differ massively in environmental and social criteria, a general ban on use of palm oil in biofuels, as recently discussed by the European Union, would punish the wrong producers while having little impact on reducing deforestation, argues Jadbouy Ghazoul in Environmental Research letters to the Renewable Energy Journal.

Annually, the EU imports around seven million metric tonnes of palm oil from tropical countries, of which over 40% is used for biofuels.

In April 2017, the European Parliament voted to ban the use of palm oil in biofuels by 2020, ostensibly to limit the deforestation which has been blamed on the expansion of oil palm plantations. Norway has followed suit, with even tighter targets that ban the use of palm oil biofuels by public bodies by the end of 2017. The French environment minister has also pledged to stop "imported deforestation".

Many will welcome these policies, concerned as they are with the environmental damage attributed to palm oil production. Yet a simple ban ignores the complexity of issues that swirl around the oil palm debate. While environmental organizations have highlighted illegal and environmentally damaging activities by the oil palm industry in Southeast Asia, other palm oil producers risk being unfairly tarred with the same brush.

A more nuanced policy is required: one that rewards industries and countries that promote sustainable standards. The EU should therefore implement its ban selectively, discriminating among palm oil sources based on sustainability criteria. The EU's Renewable Energy Directive already provides a mechanism for such differentiation across all biofuel feedstocks. This

mechanism needs improvement, as it does not yet take sufficient account of biodiversity and social issues, and instead focuses on greenhouse gas emissions. Greater investments in traceability from production through to consumption are also required.

Click [here](#) for more information.

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## Markets

### Microbial fibre company begins trading

Nanollose Ltd, an innovative Plant-Free Cellulose technology company, has launched on the Australian stock exchange.

Nanollose plans to initially target the \$500 billion global textile industry as brands, retailers and manufacturers increasingly seek alternative and more environmentally sustainable materials. The Company plans to continue its development in fibre production over the next 8-12 months, whereby Nanollose will work towards a Plant-Free fibre that could become a more environmentally sustainable alternative to currently used fibres.

The current procurement of raw materials like cotton and wood to make fibres is highly resource intensive, and challenges continue to increase as crops like cotton require large amounts of water, land and pesticides. By contrast, Nanollose uses microbes that ferment biomass waste products from industries such as the food and beverage industries into cellulose fibres, in a process that requires very little land, water or energy.

Due to these significant issues with current fibre sources, Nanollose plans to initially target the

\$500 billion global textile industry as urgency from brands, retailers and manufacturers to seek and cultivate alternative fibre resources are increasing. The Nanollose technology also shows promise in other markets such as seed germination, medical products, personal hygiene and food. The Company has already developed a soil-less seed germinating technology that is intended to be launched in 2018.

Click [here](#) for more information.

### **AHDB analysis predicts continuing high UK wheat prices**



*Pixabay*

AHDB's review of Defra supply figures and recent price trends paint a picture of tightening supply with low discounts v futures, this is despite predictions of 5% higher output in current than in previous years. However, this is against the background of low UK wheat stocks. AHDB predicts supply demand balance to tighten further for a 2nd consecutive year in the UK. The strong demand from the bioethanol sector in the north east of England, driven by good ethanol prices (9% higher than same time last year) is cited as a contributing factor, as it is in this region and nearby Scotland that effects are most pronounced.

Click [here](#) for more information.

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### **Drax confirms sale of Billington Bioenergy**



*Billington Bioenergy*

Through the London Stock exchange Drax announced that it had agreed the sale of Billington Bioenergy (BBE) - a distributor of wood pellets in the UK heating market - to Aggregated Micro Power Holdings (AMPH), an AIM listed energy company specialising in the sale of wood fuels and the development of distributed energy assets, including biomass boilers and battery storage.

Consideration for the transaction is £2 million, comprised of £1.6 million of shares in AMPH and £0.4 million of cash. The sale of BBE is aligned with Drax's retail strategy, focused on the industrial and commercial and SME energy markets. However, through its shareholding in AMPH, Drax will retain an interest in the UK heating market, whilst gaining exposure to the development of small-scale distributed energy assets.

Click [here](#) for more information.

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## Enviva has strong third quarter



*Enviva*

Biomass Magazine reported on the release of Enviva Partners 3rd quarter financial results, which show net income up 18.7% on the same period last year, with sales up \$21m on a volume of 668 thousand tonnes of pellets sold. Adjusted gross margin per metric ton was \$46.49, down from \$56.88 during the third quarter of last year.

Enviva also announced the completion of Enviva Port of Wilmington LLC. This will handle pellet volumes produced at Enviva's Sampson plant, a third-party pellet facility, and from the pellet plant Enviva's sponsor is building in Hamlet, North Carolina.

With capacity to handle approximately 3 million tons of pellets annually, Wilmington's terminal capacity is a key platform to support the long-term demand growth expected from Asia and Europe.

The construction of the 600,000-metric-ton-per-year Hamlet plant continues to progress. The facility is currently expected to be operational during the first quarter of 2019. Production from the Hamlet plant is expected to supply MGT Power's Teesside Renewable Energy Plant under construction in the U.K.

Click [here](#) for more information.

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## Research & Development

### Research identifies sorghum varieties with higher ethanol yield than maize



*Pixabay*

Academic research at the University of Missouri Plant Sciences Division examined field trials of sweet sorghum, high biomass sorghum, maize and soy bean grown in rotation over 5 years on less productive marginal soils. Intermittent drought conditions were experienced in 3 out of the five trial years. Theoretical ethanol yields averaged across years from sweet sorghum and HBS were greater than from maize at both locations, and indicate that sweet sorghum has the greatest yield potential, but HBS yield was the most stable.

Click [here](#) for more information.

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## Report finds 27 million tonnes of bio-material available for use in Scotland

A report on the Biorefining Potential for Scotland commissioned by Zero Waste Scotland provides an insight into the circular economy opportunities for bio-based waste and by-products generated in Scotland. The report focuses on the availability of agricultural by-products (primarily manures), wastewater sludges, MSW and processing residues from the brewing industry, with a recommendation for more detailed analysis in other sectors where data is more difficult to abstract.

In the Biorefining Potential for Scotland report, bio-resource arisings in Scotland have been mapped to understand the scale and shape of the potential market. It shows there are 27million tonnes of biomaterials produced in Scotland every year (excluding forestry resources), with considerable scope of opportunity for development: thousands of tonnes of these valuable materials could be captured and put to high-value use. It also highlights opportunities for new job creation in Scotland, particularly in rural and coastal areas where many of the materials arise.

The report demonstrates that the bioeconomy has a key role to play in creating a more sustainable future where we use resources in the most efficient way and reduce waste. Many industries, including Scotland's food and drink sector, could benefit greatly from these opportunities.

The report builds on our earlier work to quantify potential investment opportunities in the Scottish bioeconomy. It is one of the key actions identified in the Biorefinery Roadmap for Scotland, published by Scottish Enterprise in 2015, which aims to increase industrial bioeconomy turnover to £900 million by 2025.

Click [here](#) for more information.

## Metsä bioproduct mill comes online



# Metsä

*Metsä*

Metsä Fibre, which is part of Metsä Group, has built a new bioproduct mill in Äänekoski in Central Finland. With a value of EUR 1.2 billion, the bioproduct mill is the largest investment in the history of the Finnish forest industry. It creates more than 2,500 jobs throughout the value chain in Finland, with 1,500 of them being new jobs.

The Äänekoski mill is the first next-generation bioproduct mill in the world. Its annual pulp production capacity is 1.3 million tonnes. In addition to high-quality pulp, it is producing a broad range of bioproducts, such as tall oil, turpentine, bioelectricity and wood fuel.

Potential new products created from production side streams include for example textile fibres and lignin products. The mill is designed to allow for a broad, diverse range of products manufactured by a unique bioeconomy ecosystem of companies.

Click [here](#) for more information.

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## Chinese farmers need trust to supply straw for biomass power



*Pixabay*

Given the abundant straw resources in Northeast China and the huge external costs associated with fossil fuels, straw-based biomass power plants have emerged as a popular alternative to coal-fired power plants. The sustainability of these green alternatives depends on straw supply from farmers, yet little is known about their perceptions regarding such supply because of a lack of cooperation in the supply chain. To better understand farmers' opinions on supplying straw, a study by Japanese economists and engineers examined their trust in middlemen, perceptions regarding risk in straw supply, the possibility of reducing transaction costs, and their willingness to supply straw. Data were collected from 275 farmers in the national bioenergy industry area in Wangkui County, Northeast China. The results indicated that education, income, and trust factors explained farmers' risk perceptions, the possibility that they will reduce transaction costs, and their willingness to supply straw. On the basis of the analysis, a model of the influence of trust on straw supply was established. The overall findings indicated that biomass power plants and middlemen must build trusting relationships with farmers to ensure sustainable biomass supply.

Click [here](#) for more information.

# Wood & Crop

## 2016 a record year for Enplus wood certification scheme

The European Pellet Council in charge of ENplus® management, announced a record year for the wood pellet quality scheme. With over 8.1 million tonnes certified worldwide in 2016 and 9.2 million tonnes anticipated by the end of 2017, ENplus® confirms its leading role in the global harmonisation of high quality wood pellets.

In 2016, ENplus® certified 366 pellet producers and 324 traders over 41 countries, with a positive trend confirmed by the projections for 2017 showing as many as 411 certified producers (+12%) and 359 traders (+11%). Producers from Australia and New Zealand have also applied for the first time.

Germany maintained its leading position with 1.7 million tonnes of ENplus® pellets produced. Russian demand for ENplus® certification is also remarkable. In 2016, the federation was the first non-EU28 country in terms of production, ranking in the top five worldwide. This trend was confirmed in 2017, with one of the most substantial increases in certified volume.

Regarding quality classes, over 90% of all certified production is sealed ENplus® A1, the scheme's highest grade. ENplus® A2 represents around 9%, while ENplus® B pellet production remains limited with less than 1% of the certified volume. This distribution clearly indicates that the European heating sector remains a market driven by premium quality pellets.

67% of All pellets used in the heating sector are ENplus certified.

Click [here](#) for more information.

## Update on US pellet production



*Wikimedia Commons*

The U.S. Energy Information Administration recently released the October edition of its Monthly Densified Biomass Fuel Report, covering production in July.

Respondents reported having a combined 11.9 million tons of operating capacity per annum. Capacity reached 2.3 million tons in the East, 8.7 million tons in the South, and 0.9 million tons in the West.

Facilities that submitted data produced 576,521 tons of pellets in July, including 111,651 tons of heating pellets and 464,870 tons of utility pellets.

In terms of feedstock, 20% was derived from roundwood, 13% from sawmill residues, 12% from wood processing residues and 55% from other residuals. Feedstock prices ranged from \$29.42 to £35.40/ton. The average price of domestic sales of pellets in July were £146.92/ton and £132.54 for export (the bulk of demand).

Click [here](#) for more information.

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## Port of Tyne receives record pellet delivery

The Port of Tyne has overseen the arrival of a record 62,000 tonnes of wood pellets, its largest ever single delivery.

The pellets, brought to the region on the bulk cargo vessel St Dimitrios after a 40day trip from Canada, were unloaded over five days before being delivered to Drax power station, near Selby, North Yorkshire. The port has handled over 7m tonnes of pellets since 2010.

Click [here](#) for more information.

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## Events

### **European Biosolids & Organic Resources Conference Leeds, 20th-21st November 2017**

Now in its third decade this event provides practitioners with an annual update on legislative changes; new technologies; best practice and site-experiences with existing technologies and an insight into relevant research in the science and engineering of biosolids and organic resources. The conference is attended by recognised experts from around the world both, as speakers and delegates.

The programme covers the latest innovations and updates of existing technologies. Presentations from respected industry experts and newcomers follow the development of technologies and legislation from inception to full-scale installations.

Click [here](#) for more information.

## **Energy from Waste 2017 London, 6th-7th December 2017**

A move towards greener energy makes Energy from Waste (EfW) a fundamental cog in energy provision. Supported by the Environmental Services Association (ESA) and European Suppliers of Waste to Energy Technology (ESWET), SMI's 10th annual conference on Energy from Waste will draw critical updates from those shaping the industry.

It will strengthen knowledge in key topics such as EfW feedstock, advanced waste gasification and new financing initiatives, whilst looking at the practicalities of community engagement schemes and keeping attendees at the forefront of technological breakthroughs to adapt to the growing need for sustainable energy.

Understanding current UK policy, potential changes after BREXIT and EU initiatives surrounding the circular economy will be a major focus, as will hearing a selection of case studies from international markets and local authorities currently implementing waste projects including the City of Westminster and the North London Waste Authority CHP Plant.

Click [here](#) for more information.

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## **Bioeconomy Investment Summit Helsinki, 14th-15th December 2017**

Over 30 speakers from across the globe will share their views on how we can bring together the economy and the environment.

New advances in technology mean that everything that can be made out of oil can be made from renewable, biological resources. There are huge environmental and business opportunities for a

wide range of industries: construction, chemicals, textiles, energy, plastics.

The bioeconomy gives us a unique opportunity for building a sustainable future. Our speakers will focus on what investment steps we need to take to make it happen.

Click [here](#) for more information.

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## **ECO-BIO 2018 Dublin, 4th-7th March 2018**

ECO-BIO 2018 will highlight the latest research and innovation towards developing industrially viable, safe and ecologically friendly biobased solutions to build a sustainable society.

A topical and comprehensive programme will include plenary and invited speakers, forum discussions, contributed oral presentations, a large poster session and exhibition.

The conference will bring together all concerned with the biobased economy to review industrial, academic, environment and societal approaches, discuss the latest research and progress, and encourage new research partnerships to enable new cascaded biobased value chains.

Click [here](#) for more information.

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## **2nd International Conference on Marine Biomass as Renewable Energy Glasgow, 5th-6th March 2018**

One source of biofuels has been identified as marine biomass or marine algae. Many researchers are working on the feasibility of using algae as a feedstock for producing bio-fuels. One example of biofuel from marine algae would be the conversion of Marine biomass to methane via anaerobic digestion, which can generate electricity. Another potential for algae is its potential for biodiesel.

One great characteristic of micro-algae is that it doesn't rely on soil and land. They thrive in water which is salty or dirty. Therefore, they do not need fresh water resources. Algae also have high growth rates, good growth densities which also makes them a good source for biofuels. Algae can be grown in a variety of climates and in different types of production methods. These can be from photo bioreactors, ponds and fermenters.

The conference aims to explore the challenges and opportunities in the area of marine algae as a source of biofuel. It will highlight the recent developments in research areas such as cultivation of marine algae and research & development of algal—biofuel production.

Click [here](#) for more information.

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## **World Bio Markets Amsterdam, 20th-22nd March 2018**

With governments committed to reducing emissions and consumers becoming more educated about where their products come from, there are opportunities for the bio-based sector to become a true contender to fossil oil. Yet long development times, lack of investment, and

challenges in attaining a secure and sustainable supply chain have made it difficult for the bio-economy to achieve commercial success.

This event provides a platform for the entire global value chain, from feedstock producers to consumer brands, to work together to overcome these challenges.

Click [here](#) for more information.

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## **EUBCE 2018 Copenhagen, 14th-18th May 2018**

We look forward to the 26th EUBCE in 2018 in Denmark and to the many vibrant topics that will be included in the agenda. The core of the traditional EUBCE conference will be held over 4 days.

There will however be an extension to the core conference and exhibition in order to showcase the many achievements in the field of full scale biomass utilisation in Denmark that are an integral and major part of the country becoming fossil-free by 2050. Members of the national organising committee will organise special technical visits to sites in the centre of the country where biomass is the key renewable feedstock into processes producing renewable energy, biofuels, biochemicals and biomaterials as well as integrating bioproducts into traditional established fossil-based systems.

Click [here](#) for more information.

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## **RRB 14**

### **Ghent, 30th May - 1st June 2018**

The 14th edition of the International Conference on Renewable Resources & Biorefineries will take place in Ghent, Belgium from Wednesday 30 May until Friday 1 June 2018. Based on the previous RRB conferences, this conference is expected to welcome about 350 international participants from over 30 countries.

Delegates from university, industry, governmental and non-governmental organizations and venture capital providers will present their views on industrial biotechnology, sustainable (green) chemistry and agricultural policy related to the use of renewable raw materials for non-food applications and energy supply. The conference further aims at providing an overview of the scientific, technical, economic, environmental and social issues of renewable resources and biorefineries in order to give an impetus to the biobased economy and to present new developments in this area.

The conference will provide a forum for leading political, corporate, academic and financial people to discuss recent developments and set up collaborations.

The three-day international conference will consist of plenary lectures, oral presentations, poster sessions and an exhibition. Companies and research organizations are offered the opportunity to organize a satellite symposium.

Click [here](#) for more information.

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# 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	215-266 (–↑)	60-83(↑–)	55-78(↑–)

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-17	138.9 (↓)					977.25 (↑)
Dec-17		160.5 (↓)		431.5 (↓)	343.5 (↓)	
Jan-18	142.0 (↓)					987.00 (↑)
Feb-18			380.7 (↑)			
Mar-18	143.6 (↓)	165.7 (↓)		449.0 (↓)	356.7 (↓)	998.00 (↑)
May-18	145.6 (↓)	169.5 (↓)	381.7 (↑)	460.0 (↓)	365.2 (↓)	1007.0 (↑)
Jul-18	147.9 (↓)			473.0 (↓)	373.0 (↓)	1015.5 (↑)
Aug-18			364.0 (↑)			1017.2 (↑)
Sep-18		172.2 (↓)		488.0 (↓)	380.0 (↓)	
Nov-18	145.6 (↓)		367.2 (↑)			
Dec-18		175.0 (↓)		507.0 (↓)	389.2 (↓)	
Jan-19	147.6 (↓)					
Feb-19			369.0 (↑)			
Mar-19	150.1 (↓)	178.2 (↓)				
May-19	151.0 (↓)	180.2 (↓)	372.5			
Sep-19		177.7 (↓)				
Nov-19	147.1 (↓)					

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

**Other biomass feedstock prices are available upon request, simply contact [enquiries@nnfcc.co.uk](mailto:enquiries@nnfcc.co.uk)**

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