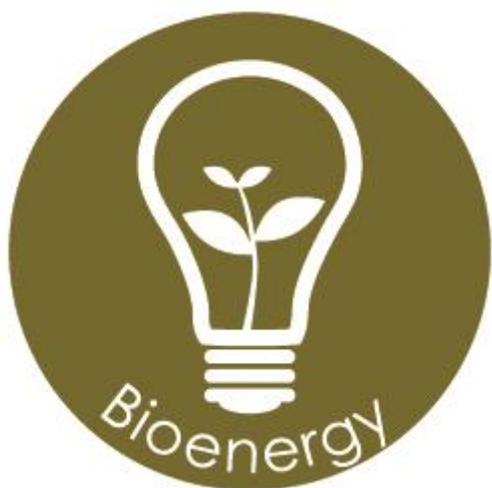


## News Review



**Issue Eighty-Five**

**April 2019**

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

# Contents

Policy.....	4
Markets.....	6
Research & Development.....	8
Biomass Heat and Power.....	11
Biogas.....	12
Events.....	14
Prices.....	16

# Foreword

Welcome all to April's Bioenergy News Review.

In order to promote to uptake of renewable energy, incentives are required to stimulate the preferred markets and support additional costs incurred by early adopters or developers of certain high efficiency technologies. In general, these come from government in the form of tariffs and subsidies. For bioenergy, one of the main incentives here in the UK was the Feed-In Tariff or FIT. Under this scheme, generators would receive financial support dependent on how much electricity was generated and extra if it was "fed in" to the National Grid. Unfortunately, the FIT scheme closed to new applications at the end of March, so no longer offers support. This has left developers in difficulty, as without any financial incentive or public support, more complex technologies like AD still don't offer acceptable returns.

We reported last month on the consultation on "The future for small-scale low-carbon generation" which is a market-based support mechanism. However, the AD industry has not reacted positively to these proposals, and have made calls this month for Government to introduce a Contracts for Difference (CfD) scheme aimed at small-scale renewables generators. As things stand, the UK's CfD allows renewable generators to "bid" a price they are willing to be paid for their renewable electricity, with the lowest price winning out, ostensibly saving the Government money while also providing support for the sector. However, due to economies of scale, larger-scale generators have an advantage in this system, being able to afford lower tariffs for the electricity they produce; a privilege that small-scale generators do not have. By introducing a separate CfD scheme for small-scale generators, the UK's government could counteract this effect, widening the scope of renewable electricity available for the grid – of which bioenergy is a key part, being able to generate at all times. It remains to be seen what the Government's next step will be in supporting bioenergy, but according to December's Ofgem statistics, 290 megawatts' worth of electricity has been supported by the FIT scheme, and going forward, any such additional capacity at this scale would be unsupported.

At the other end of the supply chain, however, there is exciting news: energy provider Shell Energy – a recent rebrand of First Utility – have announced that all of their customers will be offered 100% renewable electricity as standard across all tariffs. Obviously, once it reaches the consumer, all electricity is the same, but the fact that a provider is able to offer this is testament to the extent of renewable electricity deployment in the UK. Bioenergy and other renewables continue to make up increasing amounts of the UK's energy picture, which lends credence to claims made recently by the National Grid that the UK could have a "zero-carbon" grid by the end of 2025. If this ends up being the case, it will be a massive achievement.

Read on for the latest news.

# Policy

## REA releases first instalment of bioenergy strategy

The first instalment of the REA's industry-led Bioenergy Strategy for the United Kingdom has been released. This exercise aims to set out a clear vision for the role bioenergy has to play in the decarbonisation of the UK's energy requirements across power, heat and transport up to 2030 and beyond.

Bioenergy is seen as a major contributor to cutting emissions and boosting green jobs in the UK today. Bioenergy, which uses sustainable biomass and biofuels produced from wood, crops and food wastes, is already the UK's leading source of renewable energy, meeting 7.4% of our total energy needs. Only wind exceeds its output in the renewable power sector. This deployment has established a portfolio of technologies which are tried and tested and stimulated cost reductions so that bioenergy options provide some of the lowest-cost renewable solutions.

Bio-based fuel technologies are estimated to cut 19.7 million tonnes of CO<sub>2</sub>e per year, replacing £21 billion worth of fossil fuels and supporting 46,000 jobs throughout the UK.

The issues around the sustainability of bioenergy are seen to be better understood and industry has worked with government to put in place what are deemed to be strict and comprehensive sustainability management systems which ensure that bioenergy leads to very substantial reductions in greenhouse gas (GHG) emissions while complying with wider sustainability objectives.

Click [here](#) for more information.

## Calls for small-scale CfD scheme to replace UK's FIT

On the day the Feed-In Tariff (FIT) came to an end, the trade body for the UK's anaerobic digestion (AD) industry called on the government to introduce a bespoke low-carbon Contracts for Difference (CfD) scheme to support small-scale renewable technologies.

AD plants generate renewable electricity, heat, and natural fertiliser by treating organic wastes and energy crops. They also offer a range of other benefits including greenhouse gas mitigation from avoided waste emissions, income diversification for farmers, and energy and food security.

The UK's AD industry currently has capacity to power 1.2 million households, offering flexible, baseload power, but has the potential to generate 75 terawatt hours of energy with the right support. Ofgem's latest quarterly report, published in December, showed that the FIT had supported 290 megawatts of AD capacity.

Click [here](#) for more information.



*Wikimedia Commons*

## Frustrating delays to Irish renewable heat support scheme

Delays in the opening of the second phase of Ireland's Support Scheme for Renewable Heat (SSRH) is creating frustrations for pig and poultry farmers who want to invest in the scheme.

CEO of the Irish Bioenergy Association (IrBEA) Sean Finan has said that an installation grant was introduced under the scheme in 2018, however, the vital second phase of the scheme has still not been introduced. He said this was despite a commitment from the government that it would be launched in late 2018 or early 2019. The second part involves an operational support for biomass boilers and anaerobic digestion heating systems.

A spokesperson for the Department of Communications, Climate Action and Environment stated that a formal State aid notification to the European Commission has been "submitted and it is intended to open the second phase of the SSRH for applications in the first half of this year, subject to the State aid process."

Meanwhile, over 92 applications have been lodged for the new grant scheme to install energy efficient dairy technologies on farms.

The average spend on the applications lodged with the Sustainable Energy Authority of Ireland (SEAI) was €12,500, when the grant scheme closed for new applications. It's estimated that the average grant will be €5,000 with the 40pc grant payable.

Click [here](#) for more information.

---

## Positive outlook for bioenergy despite policy hurdles?



*Geograph*

Energy Live news featured a guest blog by Linda Taylor, Group Marketing Director of AMP Clean Energy.

2018 was seen as quite a challenging year for biomass. The Government's Clean Air Strategy threatened to tarnish the reputation of the technology, and question marks raised around how 'green' biomass is and controversy over 'wet wood' have all served to further muddy the waters.

However, two important reports released last year, forecast a positive outlook for the future potential of bioenergy. The Climate Change Committee estimated that bioenergy's total contribution to UK total energy could more than double by 2050. And the IEA Technology Roadmap report said that modern bioenergy is an essential component of the future low carbon global energy system if global climate change commitments are to be met. However, it also stated that current uptake of bioenergy was far too low to achieve this.

And 2019 is shaping up to be a great year for biomass with the industry and renewables lobby coming together to fight its corner. The Renewable Energy Association announced that rather than wait any longer for the Government's

long overdue Bioenergy Review, it was launching its own far-reaching Bioenergy Strategy.

As the Government looks to find the answers to the growing issue of heat decarbonisation, biomass is waiting in the wings – a proven world-renowned technology which could help the UK deliver on its renewable heat targets. Across Europe there have been countless examples of biomass being deployed at scale to help countries meet, and even exceed heat targets. Of course, the industry needs the financial incentives and policy framework in place to replicate the success of its European counterparts.

The main challenge facing biomass is that the current financial incentive, the RHI, will close to new entrants in 2021, and the uncertainty this is creating could have negative repercussions throughout the industry and its supply chain. The other legislative challenge is the current review BEIS is undertaking into stopping RHI support for new biomass projects in urban areas as a result of the Clean Air Strategy.

Click [here](#) for more information.

---

# Markets

## Renewable energy offered as standard in UK



*Pixabay*

Bioenergy insight reports more than 700,000 British households have been switched to 100% renewable electricity, as Shell announced the rebrand of First Utility as Shell Energy.

Electricity from renewable sources, including biomass, wind and solar, will be offered as standard to existing and new customers, in addition to discounts at Shell service stations across the UK.

Shell acquired First Utility in 2018. The newly rebranded company will offer additional smart home technology solutions throughout the year, including the already available smart thermostats and at-home electric vehicle charging options.

Shell Energy will offer 100% renewable electricity as standard across all tariffs. According to the company, its renewable electricity is certified by Renewable Energy Guarantees of Origin.

Click [here](#) for more information.

---

## UK's Energy Statistics for 2018 published

Provisional energy statistics for 2018 indicate total UK energy production was 3.7 per cent higher than in 2017. This increase, the fourth in successive years, was due to rises in output from oil, bioenergy and waste, wind and solar. Coal output fell to a record low level, whilst output from gas and nuclear also fell. However, total primary energy consumption for energy uses was 0.6 per cent lower than in 2017 on an absolute basis.

Of electricity generated in 2018, gas accounted for 39.4 per cent (down 1.0 percentage points compared to 2017) and coal 5.0 per cent (a fall of 1.6 percentage points on 2017). Nuclear's share decreased by 1.3 percentage points on 2017 to 19.5 per cent.

Renewable electricity generation was 111.1 TWh in 2018, a record high, an increase of 11.8 per cent on the 99.3 TWh in 2017, largely due to increased capacity. Renewables' share of electricity generation increased by 3.9 percentage points on 2017 to 33.3 per cent, also a record high. Renewable electricity capacity was 44.4 GW at the end of 2018, a 9.7 per cent increase (3.9 GW) on a year earlier.

Low carbon electricity's share of generation increased from 50.1 per cent in 2017 to a record high of 52.8 per cent in 2018, driven by growth in renewable generation due to increased capacity.

Click [here](#) for more information.

---

## Bioenergy employment in the US



*Geograph*

National Association of State Energy Officials and the Energy Futures Initiative released a report in March that details current employment in a variety of U.S. energy sectors, including ethanol, other biofuels and bioenergy.

According to the report, corn ethanol fuels employment represented approximately 3 percent of the U.S. fuels workforce in 2018, accounting for 35,055 jobs and adding approximately 500 jobs last year. Within the sector, agriculture accounts for 15,795 jobs; with manufacturing accounting for 9,795 jobs; wholesale trade, distribution and transport accounting for 6,553 jobs; and professional and business services accounting for 2,801 jobs. Together, agriculture; manufacturing; and wholesale trade, distribution and transport accounted for more than 91 percent of workers in the corn ethanol fuels sector, while professional and business services accounted for 8 percent.

Employers in the corn ethanol fuels sector expect more than 10 percent growth this year.

Click [here](#) for more information.

---

# Research & Development

## National grid research predicts "zero-carbon" grid by 2025



*Geograph*

The National Grid Electricity System Operator (NGESO) has published their RIIO-2 Ambitions document. The document outlines what the NGESO are hoping to achieve and how this will be realised and implemented across the entire system. RIIO

(Revenue=Incentives+Innovation+Outputs) sets price controls to determine the amount they can earn from the services they provide. The business plan they are currently preparing covers RIIO-2, which runs from April 2021 for five years.

Highlights from the report include the landmark announcement that in the analysis the UK will have an electricity system that can operate carbon free by 2025.

Click [here](#) for more information.

---

## Drax research warns UK may miss decarbonisation targets

Every conceivable' renewables record was achieved in 2018, but Drax warns it's not enough. The UK is at growing risk of missing legally binding climate targets after the pace of decarbonisation slowed last year, new analysis has concluded.

The warnings, which compound others from a raft of industry groups and energy watchdogs, come despite "every conceivable" renewable energy record, with the exception of those relating to hydro generation, falling last year.

Those findings are published within the latest Drax Electric Insights report, published in conjunction with Imperial College London, which reveals that last year's average carbon intensity stood at 217g/kWh.

That figure was roughly 8% lower than 2017's grid carbon intensity, amounting to the slowest rate of annual decarbonisation witnessed since 2013.

The period from 2014 – 2016 was something of a golden period of decarbonisation of the UK's power supply as increasing quantities of wind and solar generation came onstream. In 2016 alone the average carbon intensity slid by 85g/kWh, more than four-times the 20g reduction recorded last year.

The UK has a legally binding commitment to reduce grid carbon intensity to an average of 100g/kWh by 2030, a figure which would require a 6% drop each year over the next decade.

However, Drax and Imperial College have warned that current projections show that grid carbon intensity is expected to slide by just 5% over the coming years as new renewables and nuclear projects slump.

Click [here](#) for more information.

## Power sector leads UK decarbonisation



*Wikimedia Commons*

BEIS released a publication providing the latest estimates of 1990-2018 UK greenhouse gas emissions which are presented in carbon dioxide equivalent units.

The provisional estimates suggest that in 2018, total UK greenhouse gas emissions were 43.5 per cent lower than in 1990 and 2.5 per cent lower than 2017.

The provisional emissions figures rely on provisional estimates of carbon dioxide emissions based on UK energy statistics. In 2018, UK net emissions of carbon dioxide were provisionally estimated to be 364.1 million tonnes (Mt), 2.4 per cent lower than the 2017 figure of 373.2 Mt. Carbon dioxide (CO<sub>2</sub>) is the main greenhouse gas, accounting for 81 per cent of total UK greenhouse gas emissions.

The decrease in carbon dioxide emissions was driven by the continuing downward trend in emissions from power stations, with a 9.9 per cent decrease between 2017 and 2018. This is mainly as a result changes in the fuel mix used for electricity generation, away from coal and towards renewables. In 2018, carbon dioxide emissions from power stations, at 65.2 Mt, accounted for 18 per cent of all carbon dioxide emissions.

Only the energy supply and transport sector showed ongoing declines, while business sectors, residential and public sectors either showed no change or an increase in emissions year on year.

These provisional estimates are not used for any formal reporting of how the UK is performing against its emissions reduction targets, as this requires final estimates based on the UK's greenhouse gas inventory. However, these statistics give policy makers and other users an initial steer as to the trend in emissions between 2017 and 2018, which helps form an initial assessment of the extent to which the UK is on track to meet its GHG reduction targets.

Click [here](#) for more information.

---

## Government-backed Carbon Capture advisory group

Leading players from across the UK's carbon intensive energy, oil, and steel industries have joined together to form a new government-backed advisory group, in a bid to accelerate the development of carbon capture usage and storage (CCUS) technology.

The CCUS Advisory Group, which is backed by up to £1m of government and industry support, includes representatives from major corporates such as BP, Shell, Tata Steel, National Grid, Cadent, and Drax, the Department for Business, Energy and Industrial Strategy (BEIS) announced.

The new industry-led CCUS group has been tasked with addressing cost concerns by providing expert advice to the government on the financial frameworks needed to underpin investment and growth in the sector.

It will also provide advice on the potential incentives and regulations needed for the development of a UK market in CCUS, in support of the government's ambition, announced in November, to have the UK's first full carbon capture project up and running from the mid-2020s, it added.

The government has also confirmed £170m will go towards developing what it hopes to be the world's first net zero cluster of heavy industrial plants by 2040, with CCUS expected to play a key role. Nevertheless, the funding figure pales in comparison to the £1bn CCS competition which was scrapped by the government in 2015 by then Chancellor George Osborne.

Click [here](#) for more information.

---

## Italian and Indonesian oil companies to cooperate on bioenergy

Bioenergy International reports Italy-headed oil and gas major Eni S.p.A and Indonesian state-owned oil, gas and energy company PT Pertamina have signed a Memorandum of Understanding (MoU) to cooperate in the areas of the circular economy, low carbon products and renewable energies. The MoU will investigate synergies of their respective technologies, expertise and know-how, for jointly evaluating new collaboration opportunities for Eni and its subsidiaries Syndial and Versalis.

Eni and Pertamina agreed to explore opportunities and discuss collaboration in waste transformation processes and biomass valorisation processes, also leveraging Eni proprietary technologies such as waste to fuel, waste to hydrogen, sewage sludge conversion into biomethane production by anaerobic digestion, advanced biofuels from biomass and biochemicals from biomass.

Eni and Pertamina have also signed a Heads of Agreement for a Joint Venture aiming at the construction of an add-on grassroots biorefinery in Indonesia. In the context of this partnership, key terms of a Processing Agreement in Italian refineries have also been signed. This will enable HVO to reach the Indonesian market utilizing current Eni Ecofining Technology.

Eni has been operating in Indonesia since 2001 and currently has a large portfolio of assets in exploration, production and development.

Click [here](#) for more information.

---

# Biomass Heat and Power

## Another UK coal plant closes a unit



*Pixabay*

SSE is to close one of 4 units at Fiddlers Ferry. The company has stated challenging market conditions as the reason for the closure. The plant near Warrington has a total Capacity of nearly 2GW and the unit to be closed has a capacity of 485MW.

Only last month, EDF announced the closure of the 2,000MW Cottam site. The UK now only has 5 remaining coal sites in operation.

In related news, the Chancellor Philip Hammond has pledged to ban fossil fuels from heating systems in new homes built from 2025.

Heating homes from electric sources such as heat pumps could increase power demand from the sector to around 100 terawatt hours (TWh) a year by 2050, from around 27 TWh a year today.

Click [here](#) for more information.

---

## Lawsuit aims to remove biomass support from RED II

A coalition of environmental campaigners have launched a court bid to stop the European Commission treating forest grown wood as a renewable source of energy.

Plaintiffs from six countries have filed a lawsuit with the European General Court in Luxembourg, which seeks to annul the forest biomass provisions of the EU's 2018 Renewable Energy Directive (RED) II.

The case is designed to disqualify forest wood from contributing to the directive's target that 32 per cent of all electricity generated across the EU should be generated from renewable sources.

The plaintiffs challenge the directive's criteria for assessing greenhouse gas emissions, which they say fails to count the CO<sub>2</sub> coming out the smokestack when wood is burned.

They say that if this is taken into account, biomass plants emit more CO<sub>2</sub> per megawatt hour than fossil-fuelled power plants, including coal. While equivalent CO<sub>2</sub> can be sequestered by regrowth of woodland, replacing the trees that have been harvested can take over a century and will not happen if the land is converted to agricultural uses, according to the suit.

The plaintiffs are composed of groups representing communities in virgin forest areas of the EU and the USA who are concerned about the upsurge in demand for wood fuel as a result of the directive.

The case contends that increased forest cutting will exacerbate greenhouse gas emissions by reducing the capacity of this woodland to absorb and sequester carbon.

Click [here](#) for more information.

---

# Biogas

## AD plant powering Aberdeen venue goes live



*Geograph*

The development of The Event Complex Aberdeen (TECA) has reached another major milestone, as the energy centre that will provide the facility with clean, sustainable, and reliable energy goes live.

The multi-million-pound venue, which is being delivered by Aberdeen City Council and its development partner, Henry Boot Developments (HBD), is being constructed by Robertson Group. It will open this summer, providing a new world-class facility for Scotland close to Aberdeen International Airport and the new city bypass.

The 12,500-capacity main arena will host conferences, exhibitions and music concerts, and is expected to attract major artists and events to the city. The facility will also boast three further conference/exhibition halls, four multi-purpose conference rooms, and nine meeting rooms. The energy centre's combined cooling heat and power (CCHP) facility will use various technologies to provide power, heat, and cooling to TECA. At the heart of the CCHP is the largest hydrogen fuel cell installation in the UK. Originally pioneered by organisations such as NASA, fuel cell technology now provides a well-proven commercial heat and power solution, delivering significant air quality improvements over conventional power generation methods.

An anaerobic digestion plant will use agricultural crops, waste products, and food waste to produce renewable biofuel which will also feed into the CHCP. The energy centre has the potential to be expanded to supply sustainable energy to the remainder of the wider masterplan development area and surrounding neighbourhoods.

Click [here](#) for more information.

---

## UK's largest wood gasification plant begins operation

The Environment Journal reports that the largest wood gasifier plant in the UK is now fully operational.

The site in Ince, Cheshire, is owned by Bioenergy Infrastructure Group (BIG), and uses advanced gasification thermal treatment (ATT) technology.

Each year, the site will process up to 170,000 tonnes of waste wood, converting this fuel into 21.5MW of electricity, enough to power over 40,000 homes. BIG claim the plant will deliver a net reduction in greenhouse gas emissions worth around 65,000 tonnes of CO<sub>2</sub> per annum, the equivalent of taking more than 40,000 cars off the road.

Around 150 jobs were created during the construction of the new plant, which will be operated and managed by about 25 full-time employees.

In addition to Ince, BIG also owns and operates waste wood biomass plants in Birmingham, Northern Ireland and Widnes. They are also in the late stages of construction and development of new plants in Hull, Lanark in Scotland and Hoddesdon in Hertfordshire.

Click [here](#) for more information.

---

## Bio-isobutene gas provided to French winery

With a continuing drive to contribute to France's objectives in terms of reducing greenhouse gas emissions, Butagaz and Global Bioenergies are promoting bio-isobutene, an innovative bio-sourced gas.

As such, following the exclusive distribution of bottles containing bio-isobutene for the first time in France last year, Butagaz and Global Bioenergies have now come together to deliver for the first time bio-isobutene to the Héraclès winery, France's biggest organic wine cooperative.

As a leading French player in the multi-energy sector, Butagaz aims to become the go-to provider assisting all French citizens through their energy transition.

Supplying natural gas, electricity, wood pellets and of course propane and butane gas, Butagaz is continuing to diversify through its partnership with Global Bioenergies, a French company and pioneer in using renewable resources such as sugar beet to produce gaseous hydrocarbons through fermentation.

In this context, Butagaz and Global Bioenergies are offering to the Héraclès winery, France's leading connected and ecological wine producer, the first delivery of gas containing 3% bio-isobutene, a gas produced using biomass resources which can help to reduce CO<sub>2</sub> emissions by up to 40%.

Click [here](#) for more information.

---

## New contractor appointed for Hull gasification plant

The developer of a 240,000 tonnes-per-year capacity waste gasification plant in Hull, Energy Works (Hull) Ltd, has appointed engineering firm Black & Veatch to oversee the completion of the facility.

This comes after the original engineering, procurement and construction (EPC) contractor, MW High Tech Projects UK was removed from the project last month, with the developer citing 'significant delays' to the delivery of the plant.

Black & Veatch, through a joint venture with engineering and consultancy firm MWH Treatment, worked on the Ince Bio Power waste wood gasification facility in Cheshire. The facility recently became fully operational. Ince Bio Power has been developed by Bioenergy Infrastructure Group (BIG) – which is also a shareholder in the Hull gasification plant.

The Energy Works plant is designed to have a single fluidised bed gasifier feeding a boiler and steam turbine generator with feedstock preparation, storage and associated plant all located on site.

The MPT – mechanical pre-treatment plant – and fuel conveying system for Energy Works which receives the RDF prepared by suppliers from municipal and C&I waste, has been designed, manufactured and constructed by Sutco UK, part of the LM Group.

Construction of the Hull plant began in January 2016, but the facility has missed its initial 2018 deadline for completion. Hot commissioning of the plant began in April 2018, and in late 2018 the company said it expected the plant to be fully operational by Spring 2019. However, it has not confirmed if this timetable is still expected.

Click [here](#) for more information.

## Finance for Kent AD plant

Prestige Funds, a leading provider of private finance to the UK's agriculture, clean energy and SME markets, has announced it has agreed to a £23.2 million funding deal to finance the construction of a 2.5MWe (700 nm<sup>3</sup>/h biomethane) 'gas to grid' anaerobic digestion plant in the south England county of Kent. The plant will take approximately 20 months to build and is the second project to be announced in Kent in 2019.

The deal is the latest in a long series of financing agreements to fund anaerobic digestion (AD) facilities in the UK, which are helping farm, food and agri-businesses to process waste into energy. Prestige Funds, via its specialist asset backed direct lending fund, has approved £40 million of new lending in this sector in January and February alone.

Prestige is funding the project through Privilege Development Finance Limited, a provider of specialist asset-backed finance and part of the Prestige/Prime group of companies. Craig Reeves, founder of Prestige Funds, said: "Private lending funds are an important source of much-needed finance for clean energy projects of this kind. Around the country, biogas and other clean energy projects are being brought into being through the investment of private loan capital, helping Britain to meet its clean energy goals."

The plant, which has the support of the local municipal council, is to be run 100% on food and animal waste sourced from the local community and businesses. It will generate renewable gas that is ready for injection into the natural national gas grid, reducing the UK's reliance on imported fossil gas, and helping to meet the country's renewable energy and climate change targets.

Click [here](#) for more information.

---

# Events

## UK Green Gas Day 2019 Birmingham, 8th May 2019

The REA and CNG Services have been running Biomethane Day since 2012. It is the largest gathering in the gas-to-grid industry. With 90 plants having injected biomethane by the end of 2018 and 28 underway, "Green Gas" is starting to make a material contribution on the UK's path to lower carbon.

The focus of UK Green Gas Day 2019 will be to brief the industry on policy and technical developments relevant to all green gases, including biomethane, H<sub>2</sub>, bio-SNG and P2G (methane made from wind).

Click [here](#) for more information.

---

## All-Energy Glasgow, 15th-16th May 2019

All-Energy is the UK's leading renewable energy event, showcasing the latest technologies and services for the energy supply chain and both private and public sector energy end users, developers and investors. All-Energy generates invaluable connections between 7,000 buyers and 350 renewable solution suppliers.

Click [here](#) for more information.

---

## **World Waste to Energy and Resources Summit**

**London, 21st-22nd May 2019**

Now in its 8th year, the World Waste to Energy and Resources Summit has gained global recognition as the summit where deals are made and new partnerships formed between leaders of international waste management CEOs, developers, bankers, private equity financiers, and technology pioneers.

Click [here](#) for more information.

---

## **Biomass PowerON 2019**

**Copenhagen, 22nd-23rd May 2019**

The conference brings together biomass experts for 2 days of interactive presentations and networking sessions to share their knowledge of biomass to power conversions. The event will highlight the latest scientific achievements, economics and regulatory framework issues.

Click [here](#) for more information.

---

## **EUBCE 2019**

**Lisbon, 27th-30th May 2019**

The EUBCE is the leading platform for the collection, exchange and dissemination of scientific and industrial know-how in the field of biomass.

The EUBCE combines one of the largest biomass science and technology conferences with a high-quality industry exhibition, attracting biomass professionals from around the globe.

Click [here](#) for more information.

---

## **UK AD and World Biogas Expo**

**Birmingham, 3rd-4th July 2019**

As the largest international trade show dedicated solely to AD and biogas, UK AD and World Biogas Expo 2019 offers a unique combination of industry insight, innovation and investment opportunities for both the UK and international markets. UK AD and World Biogas Expo is unique in covering all sectors and regions where AD offers solutions – from UK farming to world mega cities, from local waste and water management to global energy generation and transport.

UK visitors will hear about the latest domestic market news, including policy and regulations, as well as discover international trends and developments. International visitors will be able to explore business prospects in the UK as well as showcase their success stories.

Click [here](#) for more information.

---

## **RWM Exhibition**

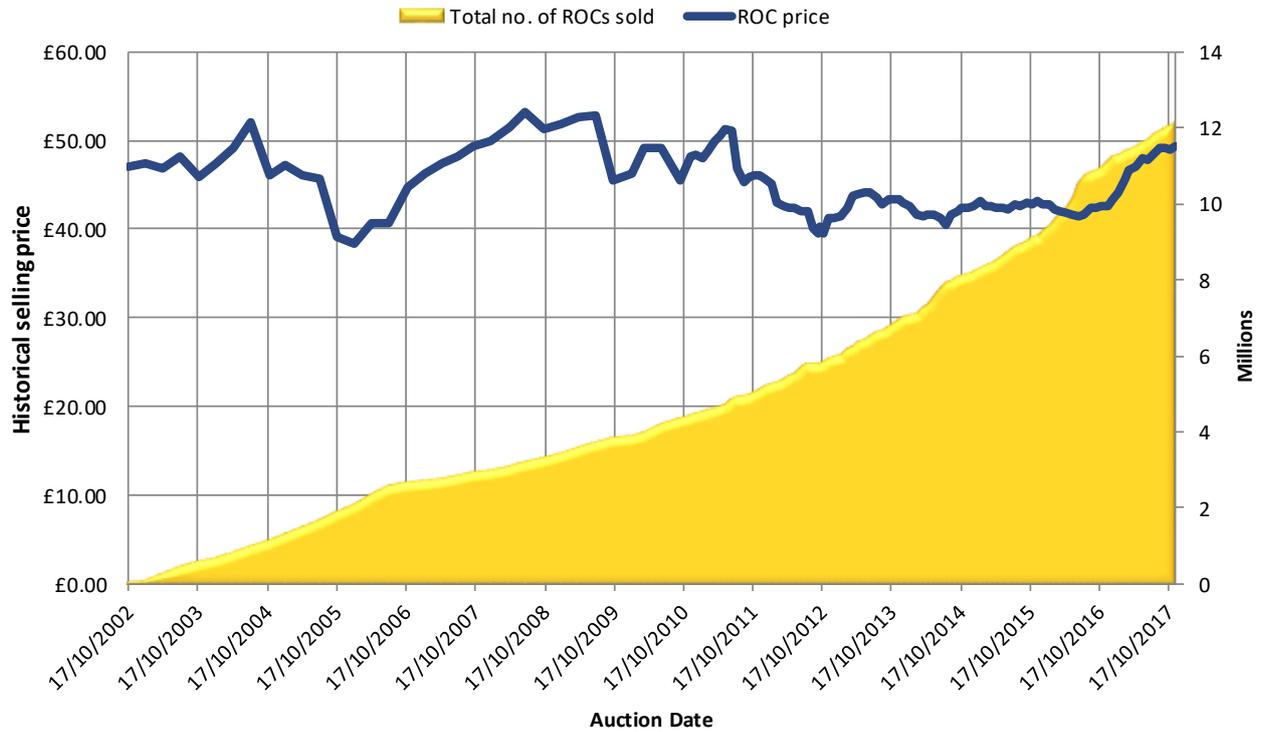
**Birmingham, 11th-12th September 2019**

Click [here](#) for more information.

---

# Prices

**Historical auctioned prices of ROCs in sterling pounds, and total amounts of ROCs historically sold.**



Click [here](#) for more information

## **Credits and Disclaimer**

NNFCC News Review is edited by Bob Horton for NNFCC subscribers. Feedback is welcome. The Review has been compiled in good faith and NNFCC does not accept responsibility for any inaccuracies or the products or services shown.

The Bioeconomy Consultants



**NNFCC**  
**Biocentre, York Science Park**  
**Innovation Way**  
**Heslington, York**  
**YO10 5DG**

**Phone: +44 (0)1904 435182**  
**Fax: +44 (0)1904 435345**  
**Email: [enquiries@nnfcc.co.uk](mailto:enquiries@nnfcc.co.uk)**  
**Web: [www.nnfcc.co.uk](http://www.nnfcc.co.uk)**  
**Twitter: @NNFCC**