

The Bioeconomy Consultants

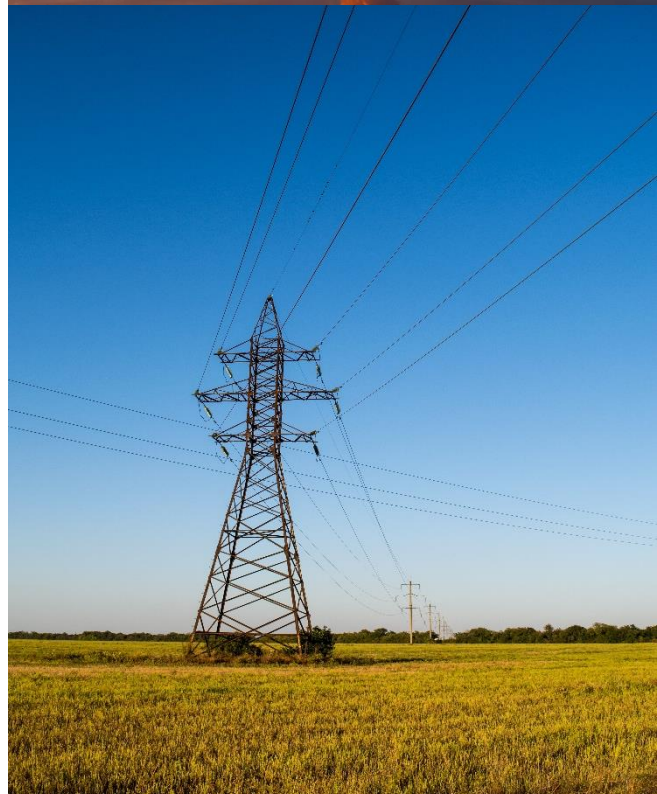


News Review

Issue Fifty-Five

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



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Foreword

Welcome to this month's edition of the NNFCC Bioenergy Market Review.

With ratification of the Paris Agreement right around the corner- marking the first legally binding global climate change reduction strategy- it's no surprise that developments in the bioenergy and low carbon sectors are coming in thick and fast all over the world. While Canadian Prime Minister Justin Trudeau was announcing that Canadian States which have no carbon reduction strategy will face a penalty carbon tax as of 2018, the German government were looking to increase the surcharge levied on German energy bills to reflect in the increase in the number of low-carbon installations across the country.

Carbon Capture and Storage has also stepped back in to the limelight, following publication of the Parliamentary Advisory Group on CCS's report which claims CCS has a key part to play in keeping decarbonisation costs at a minimum. When deployed with bioenergy, 'BECCS' (Bioenergy with CCS) can result in negative GHG emissions which may be crucial in limiting the earth's average temperature increase to well below 2°C as outlined in the Paris Agreement. This technology is exactly what Finnish research centre VTT are looking to develop, following their calculations that CCS could cost-effectively deliver one third of Finland's share of reductions in greenhouse gas emissions by 2050. VTT are looking specifically at 'Chemical Looping Combustion' with Bioenergy (Bio-CLC), a technology which can be developed in new plant. In a 'traditional' combustion system, fuels are burned in air that contains nitrogen (N₂) which remains in the flue gases following combustion. The presence of nitrogen however can complicate matters when trying to capture and subsequently store the CO₂ produced from combustion as is the principle in CCS. One way to overcome this is to 'avoid' the initial N₂ altogether by combusting fuel in an oxygen-rich environment. This is exactly what happens in a Bio-CLC system where oxygen is introduced in to a combustion chamber via 'oxidation-reduction' cycling of an oxygen carrier such as a metal oxide. Imagine two 'reactors' or 'chambers' – one containing an air supply with fine particles of iron oxide (Fe₂O₃ – the oxygen carrier) under fluidised bed conditions and the other reactor containing pulverised wood pellets (the fuel). The metal oxide is introduced in to the wood pellet reactor, supplying oxygen to the fuel enabling combustion. Following this, the now reduced iron then re-enters the oxidising reactor where it picks up more oxygen (from the air supply), becoming a metal oxide once again. This is then looped back to the wood pellet reactor to repeat the process all over again et voila: Chemical looping combustion! The gaseous products from Bio-CLC are for the large part only CO₂ and water vapour- from which CO₂ capture is hugely simplified.

While the Parliamentary Advisory Group on CCS lay claim that CCS offers economic solutions to decarbonisation, the economics of a different low carbon technology has dominated the headlines over the past few months: Hinkley C. Last month, the contract for the behemoth nuclear plant was signed off and now has the neon green light go-ahead. This event has left many unhappy including the Anaerobic Digestion and

Bioresources Association chief executive Charlotte Morton who has pushed for increased government support for anaerobic digestion in response to the contract sign-off. Morton's grief is understandable: while support for new large-scale AD installations generating electricity may be set to end following a government consultation, Hinkley has been awarded a 35 year guaranteed price contract with subsidies of £55/MWhe generated. Morton also points out that if AD was given more support, it could not only deliver at least 1GWe by 2020, but deliver it 5 years *earlier* than Hinkley, assuming the nuclear plant stays on schedule...

Read on for the latest market news.

Policy

Parliamentary Advisory Group concludes that CCS has a critical role to play in the lowest cost decarbonisation for the UK

The Carbon Capture and Storage Association (CCSA) welcomed the launch of the Parliamentary Advisory Group on CCS report "Lowest Cost Decarbonisation for the UK: The Critical Role of CCS". The Advisory Group is chaired by Lord Oxburgh, and members include representatives from all the main political parties, as well as a number of academic and industrial organisations. Dr. Luke Warren, Chief Executive of the CCSA, commented: "We very much welcome the report and agree with its conclusion that an effective UK CCS programme is essential to deliver the lowest cost decarbonisation to the consumer. The Advisory Group is right to point out the importance of CCS across the UK economy: CCS works and can compete on costs with other forms of low-carbon electricity; whilst the development of CCS infrastructure must be a central element of any industrial strategy that seeks a long-term future for energy intensive industries.

Click [here](#) for more information.

Transform the financial system to deliver sustainable infrastructure and reignite growth, says Global Commission

A major new report from the Global Commission on the Economy and Climate calls on governments and finance institutions to scale up

and shift investment for sustainable infrastructure as a fundamental strategy to spur growth.

"Investing in sustainable infrastructure is essential to solve all the world's most pressing problems," said Felipe Calderón, former President of Mexico and Chair of the Global Commission. "It's key to reigniting global growth. It's key to reducing poverty. And it's key to meeting the Paris Agreement. Infrastructure can be the pillar on which we build a sustainable economy, or it can crumble beneath us. It all depends on whether we get financing right, only then will capital fully shift in the low-carbon direction." The Sustainable Infrastructure Imperative: Financing for Better Growth and Development identifies the main barriers to financing sustainable infrastructure and lays out an action agenda for unlocking the capital required. The report was launched by President Felipe Calderón and Lord Nicholas Stern as well as other Global Commissioners at an event hosted by President Luis Alberto Moreno at the Inter-American Development Bank in Washington, DC.

Click [here](#) for more information.

India signs Paris climate agreement and aims to produce 10GW biomass power by 2022

India, the world's fourth-largest carbon emitter with its population of 1.3 billion people, has ratified the Paris agreement on climate change. India, who became the 62nd nation to join the deal, is responsible for 6% of the global CO2 emissions following China, which accounts for 28%, the US for 16%, and the European Union 10%. In terms of per capita CO2 emissions, 10 other countries are ahead of India, reports Hindustan Times. The agreement will enter into force on the 30th day after the date on which at least 55 countries accounting in total for at least an estimated 55% of global greenhouse gas

emissions ratify it. As part of the initial commitments to the agreement, India plans to reduce its carbon emission intensity – emission per unit of GDP – by 33-35% from 2005 levels over 15 years. It aims at producing 40% of its installed electricity capacity by 2030 from non-fossil fuels, which would mean India will have to shift significantly from coal-based power generation to renewable energy sources. It will have to produce 100GW from solar, 60GW from wind, 10GW from biomass and 5GW from small hydropower by 2022. Another commitment under the treaty requires India to increase its forest cover by five million hectares along with an improvement in the quality of green cover of an equal measure by 2030. The Paris agreement, signed in December 2015, requires the member countries to make binding commitments to curb CO2 emissions to keep global average temperatures from rising above 1.5°C as compared to pre-industrial measurements.

Click [here](#) for more information.

Canada to impose carbon tax from 2018 in bid to hit Paris goals

Canadian Prime Minister Justin Trudeau has confirmed his government will impose a mandatory carbon tax from 2018 onwards on all provinces that fail to implement their own carbon levy or emissions cap-and-trade systems. The announcement was made by Trudeau in the Canadian House of Commons, at the start of a debate on the ratification of the Paris Agreement, which Canada is expected to approve tomorrow. Trudeau said the new carbon tax will help Canada deliver the greenhouse gas emissions cuts it promised under the Paris Agreement. The country has pledged to cut its greenhouse gas emissions by 30 per cent from 2005 levels by 2030. Under the plans, from 2018 carbon pollution will cost \$10 per tonne, rising by \$10 a year until it hits \$50 per tonne in 2022. Any provinces that do not impose a

carbon tax or cap-and-trade scheme that meets this minimum standard will have the tax imposed by the federal government. "There is no hiding from climate change," Trudeau told parliament. "It is real and it is everywhere. We cannot undo the last 10 years of inaction. What we can do is make a real and honest effort - today and every day - to protect the health of our environment, and with it, the health of all Canadians."

Click [here](#) for more information.

Germany's 2017 green power surcharge to rise 8 percent

A surcharge levied on German consumers to support renewable power will most likely rise by around 8 percent next year, despite Government efforts to scale back support for green power, sources in the power transmission sector have said. The fee makes the biggest single contribution to financing Germany's Energiewende policy shift to more renewable power, raising 24 billion euros last year.

The surcharge, under the renewable energy act (EEG), will be 6.88 euro cents per kilowatt hour (kWh) in 2017, up from 6.35 cents this year, the sources have said ahead of an official statement from the country's network operators (TSOs). If this level is applied, an average household consuming 3,500 kWh a year will pay around 22 euros more per year, or a total of 286 euros including value added tax of 19 percent, toward the EEG. In 2016, the EEG accounts for about 22 percent of customers' total bill. The figure reflects the increase in renewable installations, such as wind turbines and solar panels which receive above-market payments in order to gradually make them competitive with conventional energy generation units whose output is priced by the wholesale market.

Click [here](#) for more information.

European Commission director urges bioenergy sector to seize low-carbon economy opportunities

The bioenergy sector should seize the opportunity to contribute more to the heating and cooling industries to help drive Europe towards a low-carbon economy, said Marie Donnelly, director for renewables at the European Commission. Her comments were made at the European Biogas Association's conference in Ghent, Belgium. She also warned that the bioenergy sector needed to make biogas and biomethane "more visible" in the low-carbon economy. Speaking to Bioenergy Insight at the side-lines of the conference, Donnelly said: "Bioenergy, biogas and biomethane are clearly solutions that are relevant for our decarbonisation agenda. They are particularly relevant in areas such as heating and cooling, which uses around 50% of our (EU) energy today. Bioenergy also has a significant role in transport. Transport takes up about one third of our energy consumption. Bioenergy is also relevant to the electricity sector where it is already playing an important role." Donnelly said she saw bioenergy contributing to Europe's renewable energy agenda for the long-term. She added: "I think it is absolutely essential that we get our sustainability criteria clear, in place and operating successfully. I think we should also assuage any concerns that stakeholders or NGOs have over the sustainability criteria. We should also bring on investments and support those investments. That will be needed to deliver the ultimate volumes we will need." Elsewhere, during her presentation at the conference, Donnelly said that agricultural and organic waste had a significant role to play in bioenergy's long-term future. She also said that a Renewables Directive was due out by the end of the year and bioenergy would feature prominently in it.

Click [here](#) for more information.

ADBA CEO urges UK government to back AD as Hinckley Point nuclear plant decision is unveiled

Anaerobic Digestion and Bioresources Association's (ADBA) chief executive Charlotte Morton has urged the UK government to support anaerobic digestion (AD) as it formally announced plans to go ahead with building a new £18bn nuclear power station in Somerset.

The new plant at Hinkley Point in Somerset is being financed by the French and the Chinese. In exchange, China wants to use its design for new UK nuclear stations. Jean-Bernard Lévy, group chief executive of French firm EDF, which is building the plant, said: "The decision of the British Government to approve the construction of Hinkley Point C marks the relaunch of nuclear in Europe." Commenting on the news, Charlotte Morton, chief executive of ADBA, told Bioenergy Insight: "It is remarkable that the government has proposed a subsidy of £0/MWhe for new baseload waste AD whilst offering a subsidy of £55/MWhe to Hinkley.

The government proposes to end support for new large-scale electricity AD plants in 2017, while Hinkley will be rewarded with a 35 year guaranteed price contract. By the late 2020s, AD would, if supported, be delivering the same amount of electricity as Hinkley. Significantly, however, AD would be delivering at least 1 GWe of this by 2020, five years before nuclear will have generated any power at all, even assuming it is on schedule, which is highly unlikely given the delays at Flammenville and Olkiluoto Island.

Click [here](#) for more information.

Markets

New Pöyry projection indicates 1,300GW of coal still operational globally by 2040 without radical change

A new Pöyry Point of View report highlights that, despite growing climate change concerns, global demand for coal has almost doubled since the Kyoto Protocol in 1997. The report argues that the future role of coal in the global energy mix must include co-firing with biomass and a renewed focus on Carbon Capture and Storage (CCS). The global coal fleet makes up around one third of total global electricity generation capacity and around 40% of total electricity generation. As energy demand increases with rising living standards in developing countries and a growing world population, coal's cheap and abundant nature means it is still an attractive source of electricity generation, in spite of global commitments to decarbonise. Pöyry analysis has developed a retirement profile for existing global coal capacity. The analysis reveals that without radical change, it is likely that the majority of coal-fired generation capacity will be with us for the foreseeable future, with the projection indicating around 1,300GW still in operation by 2040. Significantly, the Pöyry projection does not factor the several hundred GW of new coal which is under construction around the world and the many more that are still in planning. Matt Brown, Vice President at Pöyry Management Consulting, said, "Our research has revealed a worrying situation where we risk sleep walking into the mid-century having not addressed the challenges posed by coal to the environment. As world leaders gathered at COP21, there was an implied commitment to reach net-zero emissions by 2050. Without significant change, that commitment may be difficult to meet with the retirement portfolio we are projecting for coal. Increasing the coal

fleet's efficiency is very important but in addition we need to co-fire coal capacity with biomass and push harder on CCS. Sadly on CCS, we are in need of urgent practical progress when it comes to the appraisal and development of CO₂ storage sites and the economic model that makes costly CCS plants competitive with their carbon-emitting counterparts".

The global coal fleet is spread around the world, with 45% of capacity in China, 16% in the US, 9% in India and 8% in Europe - the remainder is distributed across many countries. Matt added, "If we want to keep the lights on and save the planet then governments and companies alike need to urgently address the coal conundrum".

Click [here](#) for more information.

Bio-power market set to rise to 165.2GW of installed capacity by 2025 as technologies advance

Despite a slump in annual additions, the global biopower market is set to show steady growth, at a compound annual growth rate of 4.4%, according to a new market study.

Research and consulting firm GlobalData forecasts the global installed biopower capacity to rise from 106.2GW in 2015 to 165.2GW by 2025. The company's latest report states that bioenergy is a niche market in the renewable energy industry, and is likely to grow at a significant rate in the future. The increases in global energy demand and climate change concerns are the primary growth drivers for the biopower industry.

Click [here](#) for more information.

Research & Development

Meet C-Capture Ltd., the 2016 National Winner of Shell Springboard



C-Capture

Shell's 2016 National Springboard winner, C-Capture has developed a new approach to capturing carbon dioxide (CO₂). Founder Chris Rayner talks about the innovation and his view on the opportunity and challenges for Carbon Capture & Storage (CCS) in the UK. Set up in 2009 as a spin-out from University of Leeds' Chemistry Department, C-Capture last month received £150,000 as the Shell Springboard National Winner for its innovation which removes CO₂ from industrial gas streams. The clean technology company has designed novel, low-cost solvents for use in carbon capture that help ensure commercial viability.

Chris Rayner explains that their carbon capture technology would save up to 50% of the energy and cost needed for traditional CCS solutions. "The most common technology for carbon capture today is through the utilisation of amines solvents – which can be very energy intensive and expensive," says Chris. "Our patented technology introduces new amine-free solvents for CO₂ capture that is significantly more efficient, and thus less harmful to the environment. We've essentially re-examined the chemistry process so that the engineering is significantly simpler." The sectors Chris has in mind for implementing CCS technology currently account for a quarter of CO₂ emissions in the EU. It can be applied in a number

of energy-intensive industries, from the oil and gas sector, to chemical manufacturing, as well as iron, steel and cement production. But the current hurdle for bringing the technology to market, Chris explains, is getting the proper infrastructure in place for CO₂ transportation and storage in the UK. Chris expects the UK will be ready to start taking on the task of implementing the necessary infrastructure for CCS within the next five to 10 years. "I like to think that our society has now accepted the significant impact of CO₂ emissions on our atmosphere. It is time for us to do something about it; and C-Capture has the technology ready to address the issue on a major scale once the infrastructure for transportation and storage is in place" says Chris. Once there is an infrastructure for CO₂ transport and storage, the only business challenge Chris foresees is a positive one – high demand. "If we are successful, we'll need to grow very quickly," says Chris.

The C-Capture team is currently focusing on deploying a separate biogas upgrading solution in the UK and Europe with several business partnerships in the works. The company's longer term ambition will be focused on CCS.

Click [here](#) for more information.

Project to Convert Waste Treatment Centres in to Bioenergy Factories

A project is seeking to develop an innovative process for enhancing biofuel production from municipal, agricultural and industrial waste. Methamorphosis, which was granted funding in 2014 by Europe's prestigious LIFE programme seeks to increment biogas production from municipal waste leachate by modifying and innovating processing techniques. The gas produced by this methanisation process is enriched for use as fuel in vehicles, which contributes to reducing greenhouse gas (GHG) emissions; in the future, it may be injected into the

natural gas grid. The project envisages the installation and operation of prototypes to increase biogas output and enrich its biomethane content at the Ecoparc 2 municipal solid waste treatment centre in Barcelona. The prototypes are based on three innovative technologies developed by FCC Aqualia. This new process aims to enhance efficiency while also reducing greenhouse gas emissions, by cutting energy demand by 70% and reducing CO₂ emissions by 80% with respect to conventional processes. ICAEN will assist in transferring the knowledge obtained from the project and in enhancing its replicability.

Click [here](#) for more information.

Biomass Heat & Power

VTT develops combustion technologies for biomass – aimed at negative emissions



VTT is seeking a carbon capture technology for Finnish power and heat production plants. The first pilots were implemented, using wood pellets, at VTT's Bioruukki and the results are promising. Finland is well on its way to achieving the 2020 climate goals, but it is already clear that the goals for 2050 are impossible to attain without major changes in energy production and other

industries. VTT has calculated that Carbon Capture and Storage (CCS) could cost-effectively cover one third of Finland's share of reductions in greenhouse gas emissions by 2050. More than 80 per cent of carbon capture measures would concern the burning or refining biomass, and the rest would concern the coal-intensive industry. Biomass is a renewable natural fuel that binds carbon dioxide from the atmosphere as it grows. If the carbon dioxide generated by burning of biomass is captured and permanently stored deep in bedrock, carbon dioxide can be removed from the atmosphere.

Chemical Looping Combustion (CLC) is a promising carbon capture technology suitable for new plants. This technology produces flue gas that consists of carbon dioxide and water vapour as a by-product. Since the gas contains no nitrogen, carbon dioxide is easy to separate and capture – unlike in alternative technologies. Biomass burning with the help of the CLC technology (Bio-CLC) is a new research area, and VTT's experiments in the sector are pioneering on a global scale.

Carbon capture consumes energy. However, the method based on oxygen carriers promises moderate energy consumption. The separation and capture of carbon dioxide become easier, when the fuel is combusted in a gas mixture without nitrogen provided by air. However, it takes a great deal of energy to produce oxygen from air. Researchers of CLC technology are therefore interested in how oxygen – embedded in some kind of carrier, such as metal oxide – could be fed into the power plant boiler.

Click [here](#) for more information.

Studstrup Power Station now fuelled by wood pellets

One of the biggest CHP plants in Denmark is ready to supply green district heating to Aarhus and the surrounding area, corresponding to the annual heating consumption of 225,000 residents. After over two years of intense work converting the Studstrup Power Station, Lars Christian Lilleholt, the Danish Minister for Energy, Utilities and Climate, inaugurated a power station able to use wood pellets instead of coal as fuel on Oct. 10. The recently completed conversion of Studstrup is the biggest single event in the entire green transformation of Aarhus. The switch from coal to wood pellets at Studstrup not only gives the biggest total CO2 reduction in Aarhus to date, but is also the biggest conversion to green energy sources in Denmark. Kristian Würtz, Alderman for the Department of Technology and Environment in Aarhus Municipality, looks forward to the massive benefits of switching from coal to wood pellets.

Click [here](#) for more information.

New Biomass Energy obtains majority interest in Mississippi plant

New Biomass Energy recently announced that it has acquired the majority interest in the Mississippi torrefaction plant and plans to continue the production of torrefied biomass. Initial production at the Quitman plant will supply 2,000 to 3,000 tons of torrefied wood for a test burn at Portland General Electric's plant in Boardman, Oregon later this year. New Biomass Energy is the industry leader in the production of torrefied biomass, an innovative renewable energy source that integrates seamlessly into existing coal-fired systems, enabling power plants to generate clean energy with low capital investment and short conversion time.

Click [here](#) for more information.

Biogas

Restaurant chain LEON dishes up 100 per cent renewable energy



LEON
NATURALLY FAST FOOD

Leon

Healthy fast food restaurant chain LEON has committed to using 100 per cent renewable electricity under a new green energy contract with Opus Energy. Energy provider Opus Energy announced that LEON has opted for its 100 per cent renewable tariff, as well as a fixed energy option to protect against fluctuations in the energy market and help the restaurant chain better plan its energy use. The contract means all of LEON's electricity needs will be met by generation from wind, solar, hydro and anaerobic digestion. "Partnering with a company with such a clear ambition on its renewable policy, making a conscientious choice in a highly competitive market, is refreshing for the industry," said Steve James, director of corporate solutions at Opus Energy. "At LEON they want to make it easy for people to eat well and live well, and by using our 100 per cent renewable tariff, LEON is tapping into a sustainable, clean energy source that lives up to its reputation as a fair and ethical business."

According to LEON's website, the chain gives itself a rating of 41 per cent for its energy efficiency and 54 per cent for its overall environmental impact, and has received two stars from the Sustainable

Restaurant Association (SRA). Co-founded by Henry Dimbleby - who is also a founder director of the Sustainable Restaurant Association - LEON opened its first restaurant in 2004 and now operates more than 35 outlets nationwide. The company is the latest in a string of high profile brands to shift to 100 per cent renewable energy supplies, as companies seek to curb their environmental impact, bolster their green credentials, and take advantage of falling renewable energy costs.

Click [here](#) for more information.

Biogen opens seventh AD facility at Merevale

Food waste processor Biogen has added to its network of anaerobic digestion (AD) facilities across the UK, with the opening of its 45,000 tonnes-per-year capacity Merevale plant near Atherstone in Warwickshire.

The facility – Biogen’s seventh – was opened by Lord Henry Plumb, former President of both the European Parliament and the National Farmers’ Union. The company also has AD plants in Bedfordshire, Northamptonshire, Hertfordshire, Denbighshire, Caernarfon and Rhondda. According to Biogen, its overall treatment capacity is now close to around 250,000 tonnes of food waste per year.

Feedstock for the Merevale plant is coming from household and commercial sources in the region – including Leicestershire county council, which has a five-year contract with the company for the treatment of food waste collected across the county.

Click [here](#) for more information.

Renewable gas market makes major breakthrough

Changes to key greenhouse gas reporting rules provide new opportunities for large organisations to show they have reduced their carbon impact by using biomethane. The Greenhouse Gas (GHG) Protocol is the global standard against which large organisations measure, manage, and report GHG emissions. In a major breakthrough the GHG Protocol has recently recognised that Green Gas Certificates, issued by the Green Gas Certification Scheme (GGCS), can support a business’s reporting of onsite GHG emissions. Through the use of Green Gas Certificates, which track the use of grid-injected biomethane, companies can now report near-zero GHG emissions for gas combusted onsite due to the biogenic nature of the biomethane being sourced. These changes are also backed by the CDP (formerly the Carbon Disclosure Project), which monitors and ranks companies according to greenhouse gas reductions. The CDP’s latest UK annual report states that 232 companies out of the FTSE 350 now disclose their GHG emissions output to the CDP.

The GGCS liaised closely with GHG Protocol team, based in Washington, and the CDP, to ensure that its Green Gas Certificates fulfil the reporting criteria of the Protocol. Research undertaken by leading environmental consultancy Ecofys for the GGCS helped ensure that the Scheme complied with the Protocol’s rules.

Click [here](#) for more information.

Energy from waste

GIB-financed Allerton EfW plant edges closer

Construction work on the long-delayed Allerton Park Waste Recovery Plant near Knaresborough is 'on track' for the facility to come on-stream in early 2018, waste firm Amey has revealed. The announcement follows a 'major milestone' in the plant's build this month (September) – with the construction of the chimney stack for the energy from waste line of the facility.

The plant is being developed on behalf of North Yorkshire and York councils to handle residual waste from the region under a 25-year £1.4 billion PFI contract signed with AmeyCespa in 2010. The facility is expected to be fully operational during 2018. It will incorporate a mechanical biological treatment (MBT) line, a 320,000 tonnes-per-year capacity incinerator and anaerobic digestion (AD) facilities.

Click [here](#) for more information.

Chinese eye UK energy from waste plants

Chinese investors are targeting the UK energy from waste sector with funds available at low rates to complete deals. Confirmation of interest in the UK has come from the Chinese-owned German-based business EEW Energy from Waste Ltd which is examining the UK energy from waste sector for acquisition opportunities. Interest from China in the UK comes after some speculation earlier this year that a Chinese company could buy Biffa, with the UK waste business now opting for a Stock

Exchange listing instead. However, the Chinese attention has now switched to UK energy from waste plants and the potential to acquire one or more. The move comes in the wake of the approval by Prime Minister Theresa May for China's involvement in the EDF Hinkley Point nuclear power project. Purchases in the UK are likely to be made via Germany's EEW (with the initials originally standing for E.ON Energy from Waste). EEW was bought by Chinese firm Beijing Enterprises Holdings Ltd (BEHL) for 1.4 billion euros (approx. £1.2 billion) in February this year. In June 2016 the Chinese-owned Silk Road investment fund acquired a 25% stake in the business.

Click [here](#) for more information.

Sainsbury's Food Waste Down 10%, Figures Show

Sainsbury's

Sainsbury's

Sainsbury's has published data showing food waste sent for energy recovery has been reduced by almost 10%, which the retailer attributes to operational efficiency within its supply chain.

The supermarket's food surplus and food waste data in 2015/16 shows that its charitable food donation partnerships have increased dramatically in the last year and now stand at over 1,000.

The surplus food converted to animal feed has seen a slight increase of 0.8%. The food waste that is converted to energy has gone down by 9.4%, as Sainsbury's says it continues to improve operational efficiency throughout its supply chain.

Mike Coupe, CEO, Sainsbury's commented: "Our values have been at the core of what we do at Sainsbury's since 1869 and they remain central to us today".

Click [here](#) for more information.

Events

European Bioenergy Future: 2016 Aebiom Conference, 16-17th November 2016, Brussels, Belgium



European Bioenergy Future 2016 provides a unique opportunity for business players to provide their innovative vision on the future of European bioenergy markets and for policy makers to inform businesses about the role bioenergy will play in the future energy policy framework

Click [here](#) for more information

Wood Heat 2016, 28-29th November 2016, Edinburgh, UK



Organised by the Wood Heat Association and the Renewable Energy Association, Wood Heat 2016 brings together all parts of the UK biomass heat

and CHP industry in a unique event designed to share and promote good practice. Wood Heat 2016 is a must attend event tailored for professionals from across the supply chain, including installers, specifiers and fuel suppliers

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SMi's 9th annual conference: Energy from Waste, 8th-9th December, in London, UK



Supported by the Environmental Services Association (ESA) and European Suppliers of Waste to Energy Technology (ESWET), SMi's 9th annual conference on Energy from Waste will bring together industry professionals and local councils working in waste, bioenergy, environmental services and infrastructure finance.

Click [here](#) for more information

Energy Now Expo 2017, 8-9th February 2017, Telford, UK



The Energy Now Expo, the renewable energy event organised exclusively for the agricultural

and rural communities, returns to the Telford International Centre, Shropshire, on 8th & 9th February 2017. Each year farmers and landowners from across the UK visit the event to seek out the latest opportunities, see how the technologies continue to evolve and understand the latest in related government policy. The event will once again be supported by the NNFCC and consist of a large exhibition, an advice clinic, a new product development zone, an education zone and a multi-streamed conference. The main theme of the 2017 conference will be “renewables in a post-subsidy world”, showcasing the benefits a well-chosen renewable energy scheme offers, with or without subsidy support, and examining the ways technologies and the industry as a whole are adapting to offer financially viable, sustainable options.

Click [here](#) for more information

25th European Biomass Conference & Exhibition 2017, 12-15th June 2017, Stockholm, Sweden



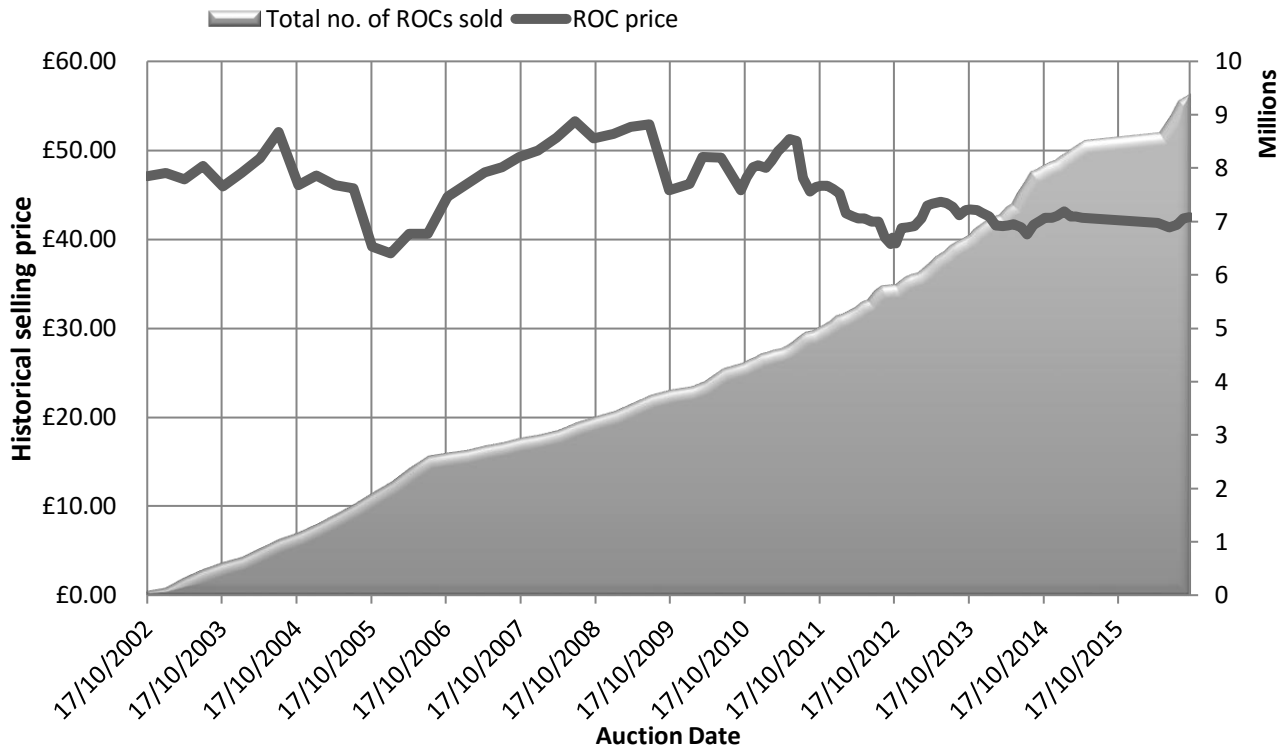
The EUBCE covers the entire value chain of biomass to conduct business, network, and to present and discuss the latest developments and innovations, the vision is to educate the biomass community and to accelerate growth.

The EUBCE will host a dynamic international Exhibition for companies and research labs to showcase their latest products and bringing scientists, technologists and key players together with leading Biomass industries and organizations.

Click [here](#) for more information

Prices

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



In this month's e-ROC auction the average ROC price increased 14p from last month to £42.48. 66,265 ROCs were sold and close to 25k ROCs did not meet their reserve prices.

The dates of the upcoming e-ROC auctions are:

- 27 October 2016
- 25 November 2016
- 22 December 2016

Click [here](#) for more information

Credits and Disclaimer

NNFCC Market Review is edited by Dr Paula McNamee for NNFCC members. 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.

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