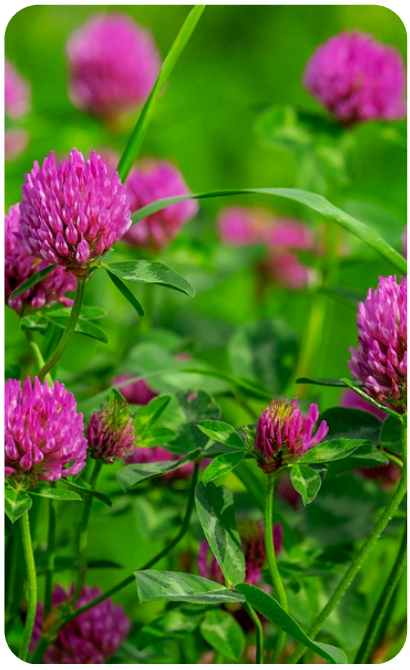
NEWS REVIEW

December 2025

Bioenergy

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

Announcements & Commentary



Research & Development

Providing clients with a strategic view of feedstock, technology, policy and marketing opportunity across the bioeconomy.

Contents

FOREWORD

Welcome readers, to this month's Bioenergy News Review.

As the festive season approaches, we are reminded that Christmas brings more than just cheer - it generates a massive surge in the UK's household waste stream, particularly food waste. This presents a critical challenge and a significant opportunity for the bioenergy sector. The estimated 230,000 tonnes of food waste created during the holidays, if improperly handled, would contribute over 160,000 tonnes of CO_2e to the atmosphere. However, Anaerobic Digestion (AD) offers a powerful solution, transforming unavoidable leftovers - from turkey bones to bruised sprouts - into vital resources. By diverting this festive output to AD plants, we can generate enough renewable electricity to power approximately 36,000 homes while producing nutrient-rich biofertiliser to support sustainable agriculture.

Maximizing this potential hinges on maintaining the integrity of the feedstock. The influx of festive waste can also bring an increase in contaminants, which poses an operational challenge for AD facilities. Biocon group, a UK-based AD consultancy, emphasizes the importance of clean inputs: plastics, including "compostable" materials that often fail to degrade in AD systems, must be rigorously excluded from food waste bins to preserve the quality of the resulting digestate. Even challenging inputs like Christmas trees, while technically possible, require specialised processing such as shredding or hydrothermal pretreatment as well as only being included in small volumes alongside other materials. As an industry, the collective focus this season must be on efficient logistics, public education on source segregation, and leveraging AD technology to ensure that not a single piece of festive waste goes to landfill but is instead converted into green energy and sustainable soil.

The anaerobic digestion industry is not just growing in the UK and Europe, expansion can be seen worldwide.

For instance, Vanguard Renewables recently opened its River Falls facility in Wisconsin, USA, providing food and beverage companies across the Minneapolis-St. Paul region with a crucial and sustainable food waste disposal solution. Located on the Peterson Family Dairy farm, this advanced anaerobic digestion and depackaging site can process up to 275 tonnes of food and beverage waste - including both bulk and packaged products - per day. This turnkey approach, driven by growing regulatory pressure in states like Wisconsin and Minnesota such as Extended Producer Responsibility (EPR), will generate enough electricity to power 53,000 homes and businesses annually.

In Brazil companies managing municipal solid waste (MSW) and operating landfills are expected to invest around R$8.5 billion (approximately £1.4 billion) over the next five years in new biomethane production facilities. This massive projected investment is a direct result of the 2024 "Fuel of the Future" law, which mandates that 1% of fossil-based natural gas consumption be replaced with renewable gas annually until 2034. According to the Brazilian Waste and Environment Association (Abrema) estimates that the full utilisation of existing landfill infrastructure could eventually meet about 5% of Brazil's daily natural gas demand. Abrema is also pushing through collaboration with municipal authorities, the Public Prosecutor's Office, and the Court of Auditors to encourage towns still using open dumps - about 3,000 nationwide - to shift to 'sanitary' landfills equipped with biomethane plants.

Read on for the latest news

Policy

Common biomass sustainability framework: consultation document

@aaa187 via Canva.com

Biomass plays an important role in our energy system and in meeting our decarbonisation goals, generating around 10% of the UK's total energy supply across the power, domestic and non-domestic heat and transport sectors in 2024. The government only incentivises the use of biomass if it complies with relevant sustainability criteria as defined within existing support schemes and policies across multiple bioenergy sectors.

However, we are conscious of concerns around biomass sustainability and the need for levels of sustainability that are in line with latest scientific evidence or global best practice. For biomass to continue to play a role in supporting the government's ambitions to be a clean energy superpower and accelerate towards net zero by 2050, confidence in the sustainability of biomass must be improved. It is essential that effective sustainability standards coupled with robust monitoring, reporting and verification regimes continue to underpin biomass use in the UK to ensure positive environmental, economic and social impacts, both domestically and internationally.

Click here for more information

ADBA welcomes Energy Minister's Announcement of Green Gas Support Scheme extension plans as a significant vote of confidence for the biomethane industry

The Anaerobic Digestion and Bioresources Association (ADBA) welcomes today's UK Government announcement of their plans to extend the Green Gas Support Scheme (GGSS) by two years to 31 March 2030. The news was officially delivered by Lord Alan Whitehead, Minister of State for DESNZ, as he addressed the ADBA National Conference in Westminster this morning.

The extension of the GGSS provides essential policy stability for the UK's rapidly growing biomethane sector, safeguarding investment and ensuring the continued development of new and existing anaerobic digestion (AD) projects. At a time when the UK must accelerate progress towards its net zero targets, strengthen energy resilience and reduce dependence on fossil gas imports, today's commitment marks a significant vote of confidence in the industry.

Chris Huhne, Chair of ADBA, commented:

> 'This is exactly the certainty the industry needed. Today's announcement demonstrates that the Government recognises the critical role biomethane plays in delivering net zero and bolstering the UK's energy security. By extending the Green Gas Support Scheme, ministers are ensuring that investment can continue to flow and that new plants can continue to come online, delivering clean, reliable, home-grown gas. We now look forward to working with DESNZ on the long-term framework that will allow this industry to reach its full scale deployment.'

Click here for more information.

Markets

GGSS mid-scheme review: extending the scheme

@vistastudio via Canva.com

The Green Gas Support Scheme (GGSS) currently closes to new applications on 30 November 2025. The government is aware of various issues that are affecting the deployment of new anaerobic digestion plants under the scheme, including supply chain delays and challenges in securing food waste feedstocks.

In our GGSS: Mid-Scheme Review consultation, we proposed extending the scheme to 31 March 2026 to address some of these challenges. Following engagement with industry as part of this consultation, it is clear that the proposed extension length would be insufficient to mitigate most of the issues affecting deployment.

Ahead of our full government response being published, we are announcing that the scheme will be extended to 31 March 2028 as part of the Mid-Scheme Review. It is expected that this will provide sufficient time for prospective applicants to apply for and commission on the scheme before it closes...

Click here for more information.

Drax plans to convert part of its North Yorkshire power plant into datacentre

Drax has revealed plans to convert part of its power plant in North Yorkshire into a datacentre as soon as 2027 in response to the increase in demand for AI capability.

The FTSE 250 company behind Britain's biggest power plant told investors on Thursday that it had applied for planning permission to build a 100-megawatt datacentre at its site near Selby.

The centre is expected to use the land, cooling systems and transformers that were once dedicated to the power plant's coal generation before Drax converted its generators to burn imported wood pellets.

The first datacentre to be built on its site will draw electricity from the UK's national electricity grid, but in future there could be potential to use electricity from the Drax plant.

The company set out the plans to safeguard demand for its electricity in its latest trading update, weeks after the government signalled that it would curb the amount of electricity it would subsidise from 2026.

Click here for more information.

Teagasc unveils new study on agricultural feedstocks for Ireland's emerging biomethane industry

The report, produced under the FLEET Project (Farm Level Economic, Environmental and Transport Modelling of Alternative Feedstocks for Regional Anaerobic Digestion), delivers the most comprehensive assessment to date of the economic viability, environmental impact, and logistical challenges involved in using grass and animal waste as a feedstock for biomethane production at a national scale.

The report finds that while supplying grass silage to AD plants can be a competitive alternative to traditional cattle and sheep enterprises, profitability varies significantly by farm and depends heavily on the price paid to farmers for silage.

A survey conducted as part of the study revealed a strong willingness among farmers to supply 175,000 hectares of silage, well above the 110,000 to 130,000 hectares estimated to be required to meet Ireland's 5.7 TWh biomethane production target for 2030.

The study also highlights significant environmental benefits to increased AD adoption. Grass-based AD feedstock systems could reduce farm-level greenhouse gas (GHG) emissions by 50 to 98% per hectare on participating farms, driven largely by reductions in livestock numbers. Slurry-based AD feedstock systems were found to deliver emissions reductions as high as 11% per hectare.

Click here for more information.

Biomethane station data October 2025

ReFuels N.V., a leading European supplier of renewable biomethane (Bio-CNG) for the decarbonisation of heavy goods vehicles (HGVs), today published Bio-CNG station data for October 2025.

- A record 5,664 tonnes of Bio-CNG were dispensed from CNG Fuels' 16 public access refuelling stations, up 17% from 4,859 tonnes in October 2024 (14 stations)
- Average daily dispensed volume reached a record 183 tonnes, compared to 157 tonnes per day in the year-earlier period
- A daily average of 2,131 vehicles refuelled across the station network, an increase of 17% year-on-year
- Prices for Renewable Transport Fuel Certificates (RTFCs) averaged 28 pence, up 28% compared with 21.9 pence in October 2024 and 24.8 pence in September 2025.

Click here for more information.

EBA Statistical Report 2025

@Aflo Images via Canva.com

The European Biogas Association (EBA) today unveils the 15th edition of its Statistical Report, the landmark annual publication offering the most comprehensive assessment of biogas and biomethane markets in Europe. The 2024–2025 dataset underscores the strategic importance of biogases for Europe's energy independence and defossilisation pathway, while warning that persistent regulatory uncertainty is slowing the sector's growth at a decisive moment.

With EU-27 gas consumption at 332 bcm, and 273 bcm still imported, the report highlights the urgent need to scale domestic, renewable gas solutions. Biogases offer a direct pathway to reducing strategic energy dependence while increasing the competitiveness of Europe in its ambition to phase-out of fossil fuels...

Click here for more information.

Research and Development

Study shows waste cardboard is effective for power generation

@BLACKDAY via Canva.com

A new study has shown for the first time that waste cardboard can be used as an effective source of biomass fuel for large scale power generation. Engineers from the University of Nottingham have provided the first comprehensive characterisation of cardboard as a potential fuel source and created a new method to assess the composition of the material providing a practical tool for fuel assessment for cardboards. The study has been published in the journal Biomass and Bioenergy.

This research demonstrates that cardboard shows differences in physical and chemical properties, including lower carbon content, reduced heating value, and a high prevalence of calcium carbonate fillers, particularly in printed grades. The researchers have also developed a new technique to analyse the calcium carbonate content of cardboard.

Calcium carbonate is added to cardboard to improve its optical properties and stiffness, but forms ash during combustion which can reduce a boilers performance.. The novel thermogravimetric method was developed to measure calcium carbonate content, offering a practical tool for fuel assessment for cardboards...

Click here for more information.

New project will support Ukraine's energy security with Miscanthus biomass

A project facilitating a major international initiative to help Ukraine recover its energy security and rebuild a sustainable, low-carbon energy system by growing Miscanthus on abandoned land will launch in December 2025.

Miscanthus specialist, Terravesta, has announced the launch of the MERIT (Miscanthus Evaluation for Resilience, Innovation and Transformation) project, designed to help Ukraine's energy recovery by transforming abandoned and contaminated land into a renewable energy asset.

Locally grown Miscanthus will be used to supply small to medium-scale power plants, decentralising the energy infrastructure and making it less vulnerable to attacks. Miscanthus will also provide raw materials for the domestic building materials sector, decreasing dependence on imports...

Click here for more information.

A new approach to carbon capture could slash costs

Capturing carbon dioxide from industrial plants is an important strategy in the efforts to reduce the impact of global climate change. It's used in many industries, including the production of petrochemicals, cement, and fertilizers.

MIT chemical engineers have now discovered a simple way to make carbon capture more efficient and affordable, by adding a common chemical compound to capture solutions. The innovation could cut costs significantly and enable the technology to run on waste heat or even sunlight, instead of energy-intensive heating.

Their new approach uses a chemical called tris — short for tris(hydroxymethyl)aminomethane — to stabilize the pH of the solution used to capture CO2, allowing the system to absorb more of the gas at relatively low temperature...

Click here for more information.

Biomass Heat & Power

Powering sustainable manufacturing at our Milton Keynes site

@Chris Ware via Canva.com

When we moved into our new Milton Keynes site, we took the opportunity to rethink how we heat, ventilate, and manage waste across our entire operation. Sustainability has always shaped the way we work - not just our packaging, but in how we power our facilities and minimise our environmental impact.

That's why we partnered with Treco Ltd, one of the UK's leading biomass heating specialists, to design and install a fully integrated renewable heating system centred around a 300kW biomass boiler. This boiler, combined with a 12-ton pellet silo and thermal store, now provides reliable, low-carbon heat throughout our factory and warehouse.

The biomass boiler is just one part of a wider energy ecosystem we've built into our new site.
The system includes:

- A temperature-maintained thermal store, which holds hot water at a steady level for maximum efficiency
- A heat-exchange and fan system which converts the stored heat into warm air, maintaining stable temperatures and positive air pressure throughout our factory...

Click here for more information.

Results of the auctions for biomass plants and for solar in stallations on buildings and noise barriers that ended on 1 October 2025

The Bundesnetzagentur has today announced the results of the auctions for biomass plants and for solar installations on buildings and noise barriers. Both auctions closed for bids on 1 October 2025.

Klaus Müller, President of the Bundesnetzagentur:

> `The approval of the biomass package under State aid rules means that biomass plants with successful auction bids can now contribute more to integrating renewable energy into the market. The fact that the auction was oversubscribed shows how well the new rules on financial support have been accepted. There has been a reversal in the downward trend in the volume of bids for roof-mounted solar installations, with a slight increase in this auction round.'

Click here for more information.

USDA launches new regenerative pilot program to lower farmer production costs and advance MAHA agenda

U.S. Secretary of Agriculture Brooke L. Rollins, alongside U.S. Health and Human Services Secretary Robert F. Kennedy, Jr., and Centers for Medicare & Medicaid Services Administrator Dr. Mehmet Oz announced a $700 million Regenerative Pilot Program to help American farmers adopt practices that improve soil health, enhance water quality, and boost long-term productivity, all while strengthening America's food and fiber supply...

Click here for more information.

Energy from Waste

Don't let Christmas go to waste

As the UK gears up for another season of festive feasting, the nation is also heading towards the largest spike in food waste of the year. Two million turkeys, seven million mince pies and 17 million Brussels sprouts make up just part of the estimated 230,000 tonnes of food wasted over the Christmas season.

Despite a change in attitudes and legislation, much of this festive food waste risks ending up in landfill, where it will release over 160,000 tonnes of CO2e, that's the equivalent of over 110,000 additional cars on the road for a year.

But this worrying picture could be one of Christmas cheer, as leaders in the UK's circular economy, we're highlighting that this food waste could be transformed into renewable energy...

Click here for more information.

Advancing the circularity of plastics in the UK

A new report prepared by global sustainability consultancy Anthesis and commissioned by Resource Recovery UK (RRUK) highlights that removing plastics from the UK's residual waste stream is essential to cutting emissions, supporting local authorities through the expansion of the Emissions Trading Scheme (ETS) and unlocking growth in domestic recycling.

The report, Advancing the Circularity of Plastics in the UK, consolidates modelling, analysis and research from inhouse and industry experts to present a strong call to action for the UK Government. The timing is significant as the UK's Energy from Waste (EfW) sector prepares to join the ETS in 2028. The report warns that current EfW emission profiles could make costs for local authorities unsustainable unless the level of fossil-based plastics in residual waste is significantly reduced...

Click here for more information.

Auttapol fast-tracks Songkhla waste-to-energy plant to tackle garbage crisis

@Viktor Cvetkovic via Canva.com

Energy Minister Auttapol Rerkpiboon has moved to tackle Songkhla's mounting garbage crisis by ordering an early start-up of a waste-to-energy plant, which can burn 500 tonnes of waste per day and generate 9.9 megawatts of electricity.

Auttapol said that after floodwaters in Songkhla receded, they left behind extensive damage to homes and communities, with more than 50,000 tonnes of waste expected. The Energy Ministry recognises that the garbage crisis is causing serious problems for residents — from foul odours and hygiene risks to blocked roads — and has therefore instructed the Energy Regulatory Commission (ERC) to urgently coordinate with operators of ready waste-to-energy plants to bring them online ahead of schedule.

On December 7, TPI Polene Power Public Company Limited began operating its waste incineration plant to generate electricity, earlier than its original start-up date in January 2026. The facility can process 500 tonnes of waste per day and feed 9.9MW of power into the grid. The ERC has also been told to accelerate coordination with other licensed waste-to-energy projects that are ready to operate, so they can quickly help relieve the overflowing waste problem...

Click here for more information.

Biogas

Christmas trees, food waste and anaerobic digestion: Turning festive waste into biogas

@Brett Sayles via Canva.com

Christmas has a habit of turning the UK into a short, sharp waste factory. Extra packaging, extra collections, extra leftovers and a very familiar question in early January, "What on earth do I do with this tree?"

It turns out that a big chunk of that festive "waste" is actually a useful, energy rich feedstock. If it is captured properly, anaerobic digestion (AD) can turn seasonal food waste into biogas or biomethane, plus a nutrient rich biofertiliser that supports farming and land restoration.
We break down what can realistically go into AD over the festive period, what cannot, where Christmas trees fit in and the UK policy changes that are about to make food waste recycling the default for everyone.

Defra has put the UK's additional Christmas waste at over 3 million tonnes, year after year. At the same time, Defra has said around 30% more waste is generated at this time of year, which is a serious pressure test for local authority services and waste contractors...

Click here for more information.

New EnviThan gas upgrading projects launched in Bavaria, Bremen and Saxony-Anhalt

The order book of EnviTec Biogas AG shows three new contract signings with first-time customers in Germany. All newly secured projects involve gas upgrading plants that will be manufactured at EnviTec's Saerbeck site over the coming months. With the project in Biburg, Lower Bavaria, EnviTec Biogas is establishing a presence in the Bavarian market for the first time, following the construction of 112 plants across Germany. "The customer already operates a gas upgrading plant using water scrubbing technology, which will be decommissioned once our EnviThan upgrading plant has been installed," explains EnviTec Biogas Area Sales Manager DACH, Christian Eilert...

Click here for more information.

EDL Energy acquires GWE Biogas, strengthening UK renewable portfolio

EDL Energy has acquired GWE Biogas and its Sandhill Biogas Plant in East Yorkshire, one of the United Kingdom's most advanced anaerobic digestion (AD) operators.

Located near Driffield in East Yorkshire, the Sandhill Biogas Plant has been operating since 2011 and services local and national customers. The facility produces up to 750 cubic metres of biomethane per hour which is injected into pipelines operated by EDL Energy's sister company, Northern Gas Networks. It also features a 4.5MW combined heat and power (CHP) plant, generating electricity and heat onsite. This energy supports local industry, with the excess supplied to the national electricity grid. In addition, the facility uses advanced technology to capture approximately 5,000 tonnes of high-purity, biogenic CO_2 each year...

Click here for more information.

Vanguard Renewables opens River Falls facility for sustainable food waste disposal

Vanguard Renewables, a national leader in organics recycling and renewable energy production, has opened a new anaerobic digestion and advanced depackaging facility in River Falls, Wisconsin. The site provides food and beverage manufacturers, retailers, and processors across the Minneapolis-St. Paul region with a sustainable way to recycle food waste while reducing risk and improving efficiency.

Food and beverage companies in Wisconsin and Minnesota face growing regulatory pressure to manage organics responsibly and recover packaging materials. Both states are advancing policies such as Extended Producer Responsibility (EPR) for packaging and commercial organics diversion requirements, driving demand for solutions that ensure compliance and advance sustainability goals...

Click here for more information.

CETY launches HTAP™ platform for anaerobic digestion facilities to increase RNG production and convert digestate into biochar

Clean Energy Technologies, Inc., a clean energy technology company delivering scalable solutions in power generation, storage, waste-to-energy, and heat-to-power, today announced a dedicated HTAP™ based platform designed for integration with existing and planned anaerobic digestion (AD) and renewable natural gas (RNG) facilities. The solution enables AD operators to convert hard-to-digest biomass and AD digestate into additional renewable energy and carbon-rich biochar, improving the overall efficiency and economics of RNG production...

Click here for more information.

Brazil set to invest R$8.5bn in biomethane-from-waste over next five years

@Antonio Gravate via Canva.com

Brazilian companies managing municipal solid waste (MSW) and operating landfills are expected to invest around R$8.5 billion (approximately €1.6 billion) over the next five years in new biomethane production facilities, according to the Brazilian Waste and Environment Association (Abrema).

Currently, Brazil has nine biomethane plants converting landfill waste into renewable gas, with another 15 projects awaiting authorisation from the National Petroleum Agency (ANP) across the country.

The projected investment follows the 2024 approval of the Fuel of the Future law (14.993/2024), which sets incentives for replacing fossil fuels with renewable alternatives.

The legislation mandates that 1% of fossil-based natural gas consumption be replaced with renewable gas annually for ten years...

Pedro Maranhão, president of Abrema, has said:

> 'A market for biomethane has been established that supports decarbonisation, and this marks a major step forward for us'

Click here for more information.

Carbon Capture

Secretary of State for Energy Security and Net Zero approves Cory's CCS plans

@cacaroot via Canva.com

Cory has today received approval for its Development Consent Order application to build an industry-leading carbon capture and storage (CCS) project at its Riverside energy from waste facilities in Belvedere. Once captured, the carbon dioxide will be liquefied and transported via ship for permanent storage under the North Sea – this use of a shipping solution draws on the company's extensive maritime heritage and over 200 years of operating on the River Thames. Dougie Sutherland, CEO of Cory, has said:

> `Today marks a pivotal moment for Cory, for London, and for the UK. This will be the UK's largest waste-to-energy with CCS (WECCS) project, which will make a material contribution to London's decarbonisation efforts by capturing c. 1.4 million tonnes of CO_2 a year. The Independent Review of Greenhouse Gas Removals, published last month, highlights the vital role that WECCS will play in hitting the country's decarbonisation targets. This project will create high quality engineered carbon removals whilst also delivering an essential public service for our communities.'

Click here for more information.

Drax plans up in smoke as it chops carbon capture unit in half

Drax, the owner of Britain's biggest power station, is cutting more than half of its global division specialising in the controversial green technology known as carbon capture and storage.

The company, which switched its North Yorkshire power plant from burning coal to wood pellets in the 2010s, is scaling back its carbon capture operations as critics have become increasingly sceptical about their viability.

A cull of about 100 staff will hit jobs at both the main Drax group and its Elimini carbon capture business in the UK and America.

It marks a significant climbdown from Drax's hopes that by now it would be the world leader in the technology. In 2022 the company said it could be creating "tens of thousands" of jobs in carbon capture from 2024.

Click here for more information.

Hot air: carbon removals risk high costs and underdelivery in the UK

The UK has high ambitions for carbon removal projects scaling up in the 2030s – but risks spending billions on unproven technologies.The UK Government includes `carbon removal' technologies in its plans to meet net zero. Two specific technologies are expected to provide high volumes of carbon removals from the 2030s: bioenergy with carbon capture and storage in the power sector, and direct air carbon capture and storage. To date, ten projects aiming to deploy these technologies at commercial scale have been announced in the UK, including six government-funded pilot projects.

Click here for more information.

Events

21st - 23rd January 2026
8th Central European Biomass Conference CEBC 2026

CONFERENCE

Graz, Austria

Click here for more information.

4th - 5th March 2026
Energy from Waste Conference 2026

CONFERENCE

London, UK

Click here for more information.

10th - 11th March 2026
From Projects to Market: Scale Up CCUS, Connect Europe

CONFERENCE

Rotterdam, Netherlands

Click here for more information.

3rd - 4th March 2026
Carbon Capture Summit 2026

CONFERENCE

London, UK

Click here for more information.

4th March 2026
2026 Europe Forum on Carbon Capture and Storage

FORUM

Brussels, Belgium

Click here for more information.

25th - 26th March 2026
Future of BioLNG: Europe 2026

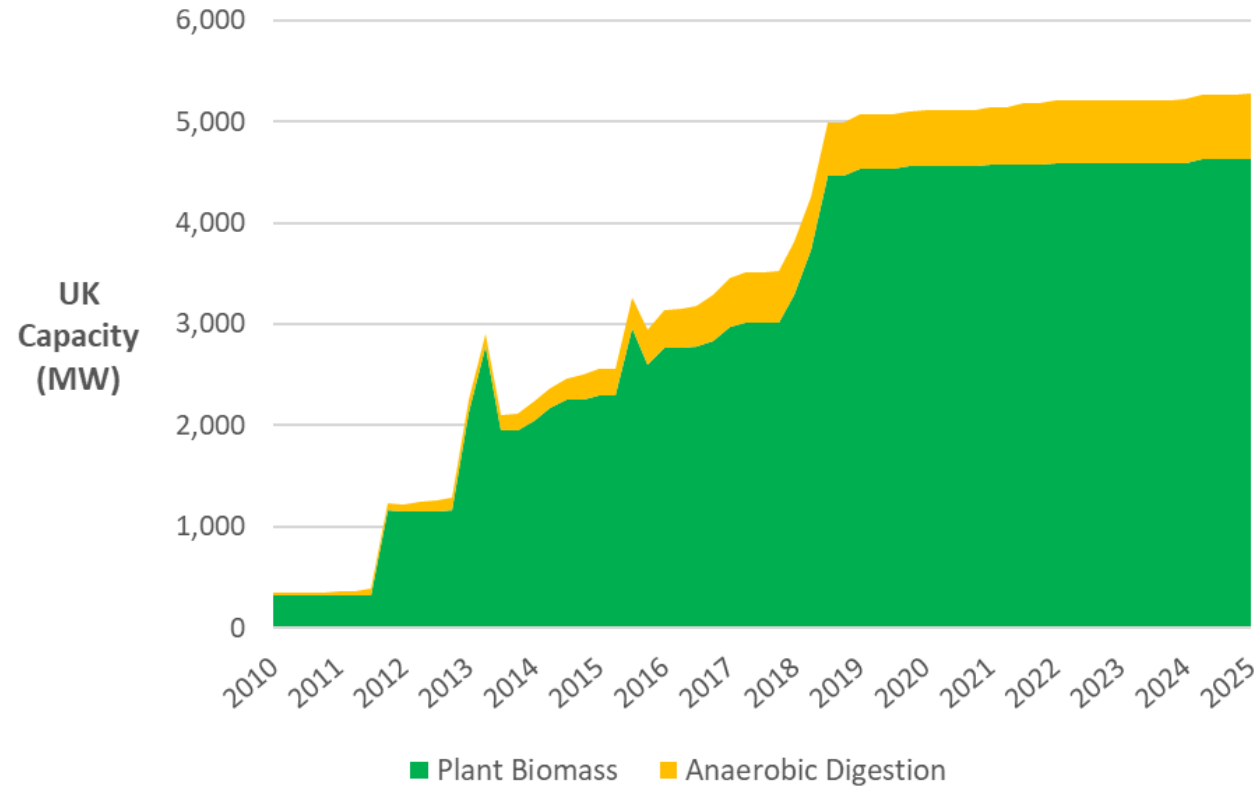
CONFERENCE

Turin, Italy

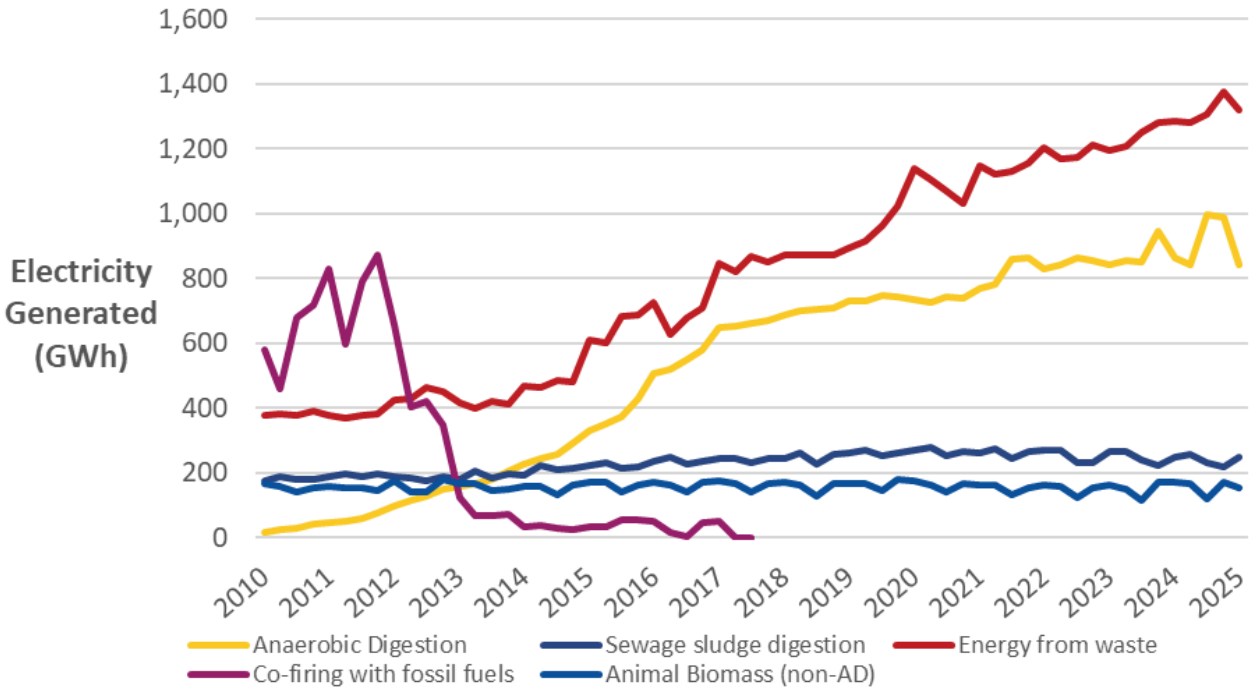
Click here for more information.

Deployed biopower capacity

Quarterly information on installed electricity generation capacity from plant biomass and AD (Office for National Statistics)



Quarterly information on UK renewable electricity generated from various bioenergy resources (Office for National Statistics)



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Alder Bio Insights is a leading international consultancy with expertise on the conversion of biomass to bioenergy, biofuels and biobased products.

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