ANAEROBIC DIGESTION

Policy & Market Report

April 2024

ADBA

ADBA Policy & Market Report

April 2024

Our Policy and Technical Team

Wasundara Doradeniya | Policy Analyst: Energy and Decarbonisation

Flávio Ascenco | Technical Support Manager

Sarika Jain PhD | Policy Lead

Pradeep Monga PhD | Senior Adviser and Policy Director

Contact the Policy Team via policysupport@adbioresources.org

Contents

Chair's Foreword

Biogas has been the fashionable sector in the United States and the European Union ever since Russia's invasion of Ukraine made gas prices soar. The EU set a target for a tenfold increase. US states like California introduced requirements for green gas to be mixed into fossil gas. BP and Shell spent billions on biogas acquisitions. The International Energy Agency projects that biogas will be the second fastest growing renewable after solar, beating wind.

At long last there are real signs that the British government too is beginning to recognise the benefits for energy security and climate change of having a home-grown, turn-on and turn-off renewable. From a low point in 2020 when the UK government managed to produce a policy document on energy security without even mentioning biogas, we now have a thoroughly sensible set of questions in the Government's biomethane consultation. This is real progress, but anybody marking Whitehall's card would still have to say "Could try harder".

The prize is enormous. In the short run, the UK sector has just expanded capacity by 16.7 per cent in a year despite a small fall in the number of plants (as they get bigger and bigger). If we grow by the lowest projection of the IEA, we will still overtake nuclear power in terms of terawatt hours of output in 2031. Not even the Chinese could build a new nuclear power station in that time, but biogas can literally build hundreds of new plants the length and breadth of this country using feedstocks like food waste and manures and slurries that would otherwise merely heat up the planet with quick-acting methane.

Those plants create jobs in rural areas with low incomes. They help with levelling up as well as tackling climate change and providing security of supply. With a clear lead from the government – a biogas volume target, greater ambition on growth, easing of planning and permitting, and sensible support that recognises the public benefits of green gas – we can get to our targets. Big solutions do not have to come in big packages: lots of biogas plants add up to a big and practical solution.

Since we are (probably) in an election year – indeed, barely six months away from the likely poll date - we have a good opportunity to get our message across. ADBA has been asking MPs and their rivals – we are not party political – to visit their local AD plants and see for themselves what biogas can offer, and to sign up to the ADBA roadmap for high biogas growth over the period to 2030 and beyond. This is a time for all of us in the sector to blow our own trumpets loud and clear. Perhaps the most important point is that it is not enough for politicians to set ambitious targets for far-off dates when they will not be around to be held to account: we need a succession of practical steps now to move the sector onto a high growth trajectory. We are on a long and exciting journey, but like all such journeys, it has to begin with small but sure steps.

Chris Huhne | **Chair, ADBA**

Executive Summary

ADBA's bi-annual Policy Report summarises the current position of the Anaerobic Digestion (AD) industry. The Report provides an overview of the current AD market by comparing development to previous years, outlines significant policy and regulatory updates from the past six months, and provides an insight into future market development.

Market Overview

At present, there are 720 AD plants in operation in the UK – of which 575 are generating electricity, 6 are generating heat, and 139 are upgrading biogas to biomethane. The total number of AD plants is 3 lower than that of last year's update. This is a net result of new AD plants coming online and some AD plants closing/consolidating due to the end of the support schemes such as RO and FiT. However, the total combined installed biogas capacity of the AD plants has increased to 3,285 MW compared to last year's 2,814 MW, an increase of 16.7%, as a result of several large scale biomethane plants that were commissioned in 2023 and 2024.

Overarching Strategic Policy

Several major developments have occurred in the policy landscape for the AD sector in the UK, including the Simpler Recycling consultation outcome, the Future Policy Framework for Biomethane Production, the outcome of the Green Gas Support Scheme's (GGSS) Mid Scheme Review, and the Scottish draft Bioenergy Policy Statement. These policies are a step in the right direction, indicating that the UK and devolved governments are taking a holistic approach to promote and support the anaerobic digestion industry. The initiatives demonstrate a strong positive commitment to fostering sustainable energy sources and waste management practices. If these comprehensive policy frameworks are implemented, the AD sector can anticipate continued growth and development, contributing to the UK's efforts towards a more circular economy and renewable energy targets.

While the Spring Budget 2024 lacked any direct game-changing policies for AD, the overall economic direction of falling inflation, and boosted public sector productivity pointed toward an improved operating landscape for the sector. However, the Autumn Statement 2023 provided a more mixed outlook, with incentives for business investment through permanent expensing against profits but limited explicit support for biogas. Positive developments included adopting UK ETS reforms, plans to address electricity grid connection delays, and a new exemption for AD electricity from the Electricity Generators Levy.

Future Policy Framework for Biomethane Production

Soon after the launch of the much-awaited response to last year's GGSS Mid-Scheme Review, Department for Energy Security and Net Zero (DESNZ) published the critical call for evidence on Future Policy Framework for Biomethane Production, seeking industry feedback to develop a new policy framework for supporting biomethane production after the current Green Gas Support Scheme concludes in 2028. This framework aims to facilitate sufficient biomethane volumes to meet carbon budgets, enable optimal pathways to net zero, bolster energy security, and ensure environmentally sustainable production practices. The government is exploring various elements, such as underutilized revenue streams, production methods, sustainability criteria, and improvements to planning and permitting processes.

Energy

Green Gas Support Scheme (GGSS)

DESNZ published the government response to the Green Gas Support Scheme's mid-scheme review on 25th January 2024. The key outcome of this response is that the GGSS will be extended by nearly 3 years to March 31, 2028, providing more time for AD projects in development to get up and running. This addresses a major request from ADBA and the industry during the mid-scheme review in May 2023. Other key decisions include maintaining current tariff levels, commissioning deadlines, and waste feedstock thresholds, continuing digestate management requirements without restrictions on ammonia mitigation, supporting methane leakage reduction measures, denying eligibility for CHP plant conversions to biomethane injection, and allowing exemptions for heat pumps in heat deduction calculations.

Transport

Call for Evidence on Infrastructure for Zero-Emission Heavy Goods Vehicles and Coaches

In October 2023, the Department for Transport (DfT) issued a call for evidence seeking industry input on the infrastructure requirements and challenges involved in transitioning the UK's heavy goods vehicle (HGV) and coach fleet to zero-emission technologies by 2050. In response, ADBA highlighted the crucial role that biomethane can play as a transitional fuel for decarbonising the HGV sector. Key points emphasised include biomethane's substantial greenhouse gas emissions reductions compared to diesel while allowing continued use of existing engines and infrastructure, the limitations of solely focusing on battery electric and hydrogen fuel cell vehicles in the near term, the existing nationwide natural gas fuelling network that supports biomethane adoption, the real-world examples of major companies already transitioning HGV fleets to biomethane, and the recommendation for policies to further incentivise expanded biomethane production and use as an immediately deployable solution to reduce emissions while zero-emission technologies continue developing.

Climate

Environment Agency Methane Action Plan 2024 to 2026

On 10th April 2024, the Environment Agency published its Methane Action Plan 2024-2026, outlining measures to reduce methane emissions from sectors it regulates in England. We welcome this Plan as positive news for the AD biomethane industry. Key elements in the Plan include improving emissions data quality and monitoring for AD, progressively issuing updated environmental permits with Best Available Techniques (BAT) to minimise methane releases from AD facilities, potentially expanding BAT standards like leak detection and repair (LDAR) requirements across the AD sector, and collaborating with ADBA and others on areas like methane capture from farms and biogas-to-hydrogen conversion. Overall, the plan is comprehensive and shows a commitment to tackling a potent greenhouse gas that aligns with the UK's Global Methane Pledge goals. ADBA welcomes the plan as it is vital for realising the full climate benefits of AD and biomethane.

CCC Letter to Parliament: Advice on the Third Carbon Budget Carry-Over

The Climate Change Committee (CCC) has advised the UK government not to use the surplus of 391 $MtCO_2e$ achieved in meeting the Third Carbon Budget to weaken upcoming carbon budgets. While acknowledging the role of the pandemic's economic impacts, the CCC stresses maintaining strong decarbonisation momentum across sectors like transport, buildings, and industry. ADBA agrees that readily available solutions like AD, which recycles organic wastes into renewable energy and fertilisers while cutting emissions, including particularly harmful methane emissions, must be rapidly scaled up to contribute to the required emissions reductions this decade.

CCC Assessment on UK Emission Reduction Targets

The CCC's latest assessment highlights not only some positive policy developments, like the Zero-Emission Vehicle (ZEV) mandate, but also the increased risks of missing the UK's 2030 and 2050 emissions targets following recent government announcements. While the ZEV mandate will boost electric vehicles, ADBA advocates for more balanced policies incentivising biomethane fuel to maximise transport decarbonisation across all vehicle types. Overall, the CCC finds credible plans covering only 28% of required reductions and urges stronger policies and renewed climate leadership to get the UK on track for net zero by 2050.

Scotland Draft Bioenergy Policy Statement Consultation:

The Scottish Government's new consultation outlines proposed policies for utilising bioenergy resources like biogas and biomethane to achieve net zero targets through 2045. It recognises the vital current and future roles of the AD sector, utilising underutilised waste feedstocks in the short-medium term and potentially deploying carbon capture longer-term for negative emissions. Key elements include estimating available feedstock supplies, highlighting the need for clear UK biomethane policy post-2028, and seeking input on supporting energy crop cultivation. The consultation provides an opportunity for the Scottish AD industry to ensure its sustainable growth is supported.

Agriculture

Update to Agricultural Transition Plan

In January 2024, Defra published its Agricultural Transition Plan update 2024, setting out some major updates to the Plan since Brexit. Following the UK's departure from the EU, agricultural policy has been reformed through the Agricultural Transition Plan, which was originally published in 2020. The 2024 update sets out plans and priorities for the next phase, which include Productivity and innovation, Scale, and Ambition. These three priorities each include their own reforms to help the government achieve its aims of maintaining domestic food production, enhancing farm productivity, delivering outcomes for the environment and climate, reducing agricultural greenhouse gas emissions, and improving the health and welfare of livestock for increased productivity, food security, and exports. The updates to the Agricultural Transition Plan are significant for the anaerobic digestion sector, as it can influence the availability and policies around utilisation of agricultural feedstocks like manures and slurries.

Waste and Wastewater

Government Response to the Consultation on Consistency in Recycling in England

After significant delays, in October 2023, the UK government published its official response to the consultation on 'Consistency in Household and Business Recycling in England', confirming new requirements for local authorities in England to provide weekly separate food waste collections from households by the end of March 2026, and for businesses by the end of March 2025. While allowing co-collection of food and garden waste with some exceptions, the government has reiterated anaerobic digestion as the preferred treatment method for food waste. ADBA welcomes this clarity, which will support the AD industry by increasing feedstock supply, helping to meet renewable gas targets under the Green Gas Support Scheme, and contributing to energy, food, and waste sector decarbonisation goals.

Call for Evidence on Scottish Circular Economy and Waste Route Map to 2030

In January 2023, the Scottish Government launched a consultation on its 'Circular Economy and Waste Route Map to 2030', outlining strategic aims and actions around reducing waste, modernising recycling, decarbonising disposal, and strengthening the circular economy. In its response, ADBA criticised the lack of prominence and support given to anaerobic digestion despite epitomising the circular model by recycling methane-emitting organic wastes into renewable energy, fertilisers, and captured bioCO_2. ADBA urged greater policy prioritisation and incentives for AD's deployment as a vital circular solution contributing to Scotland's net zero ambitions across multiple sectors.

Regulatory Update

The Environment Agency (EA) issued a new guidance update requiring permit holders to integrate climate change risk assessments and adaptation plans into their site management systems. In the case of new permits issued after April 2023, this must be done immediately, while existing permit holders have until April 2024 to conduct climate risk evaluations considering scenarios like rising temperatures and extreme weather events and plan mitigation measures accordingly. The guidance provides sector-specific examples, including updates following the extreme weather of 2022, to assist operators in developing robust climate resilience strategies.

Additionally, the EA has updated its statutory guidance for AD facilities, clarifying requirements around minimum distances from sensitive receptors when composting digestate fibre in the open air. These revisions aim to ensure AD plants properly account for and manage environmental risks from their operations under changing climate conditions.

Market Overview

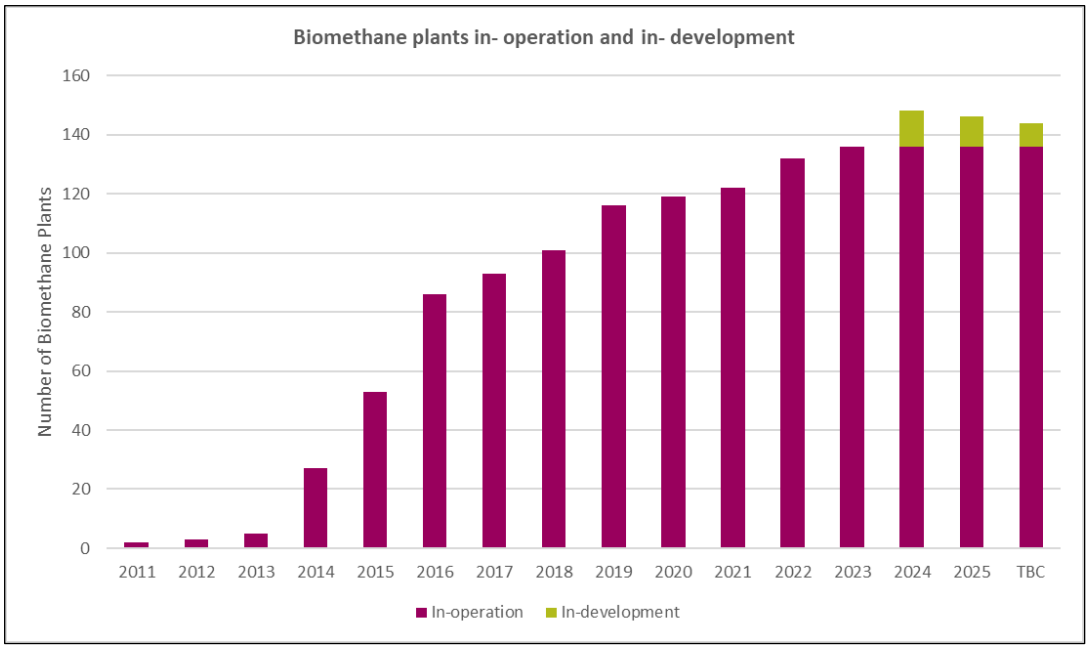
This chapter outlines the current anaerobic digestion (AD) market and key developments over the last six months.

Snapshot: The AD industry today

At present, there are **720 AD plants** in operation in the UK – of which 575 are generating electricity, 6 are generating heat, and 139 are upgrading biogas to biomethane. The total number of AD plants is lower than that of last year's update, as some AD plants have been closed due to the end of support schemes like RO and FiT. However, the total combined installed biogas capacity of the AD plants has increased to **3,285 MW** compared to last year's 2,814 MW, increase of 16.7%, as a result of several biomethane plants that started commissioning in 2023 and 2024.

Electricity/ heat/ biomethane	No. of operational plants	Capacity	
Excluding sewage plants			
Electricity/ CHP plants	421	493	MWe
Heat-only plants	6	0.4	MWth
Biomethane plants	125	96,809	m^3/ hr
Total	**552**	**2,200**	**MW_{biogas}**
Sewage sludge plants			
Sewage sludge CHP plants (Excluding CHPs on biomethane sites)	154	383	MWe
Biomethane sewage plants	14	12,899	m^3/ h
Total	**168**	**1,086**	**MW_{biogas}**
Total (all sectors)			
Electricity/ CHP	575	875	MWe
Heat-only	6	0.4	MWth
Biomethane	139	109,708	m^3/ hr
Total	**720**	**3,285**	**MW_{biogas}**

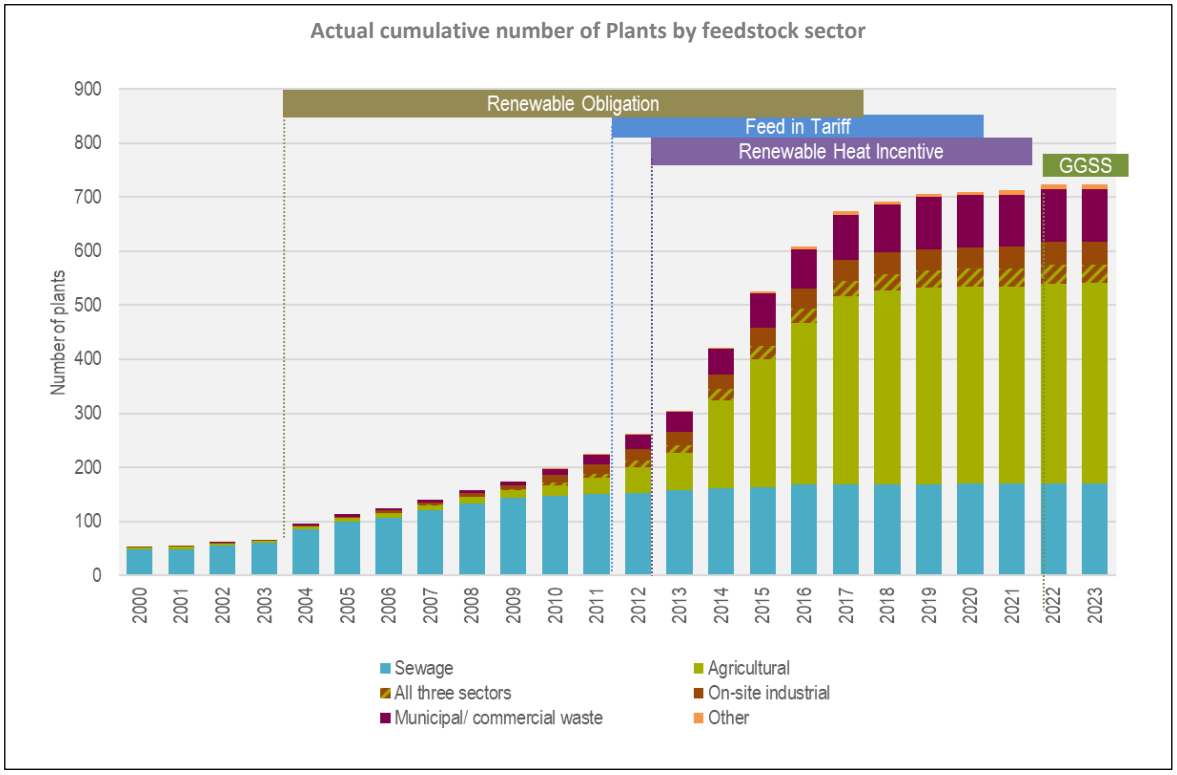
Biomethane-to-grid plants



From Q1 2023 to Q1 2024, 7 new biomethane plants started commissioning to the grid, taking the total to 139 operational biomethane plants in the UK. In total, 30 biomethane plants have applied for a connection to the gas grid and are likely to commission gas within the next couple of years. These plants have a projected capacity of up to **33,200 m³/h**.

Pipeline of the Green Gas Support Scheme (GGSS): In Q1 2023, 1 biomethane plant became fully registered under the Green Gas Support Scheme (GGSS). Ofgem states that there is another AD plant now in stage 3, potentially available to come online under the scheme towards in the next few months.

AD Plants by Feedstock Capacity



The chart above shows the growth profile of the various feedstock sectors since 2000. Over this period, the number of plants accepting agricultural feedstocks (including manures, crop residues and/or bioenergy crops) has expanded to become the AD industry's most common type of plant, with 409 plants.

While the number of sewage plants has not increased significantly in recent years, with 166 plants, they represent the second-largest market segment. An estimated 93% (Biomass Strategy, 2023[1]) of wastewater produced in the UK is treated within these AD plants, so plant numbers are unlikely to grow substantially.

Over the last year, the total number of sewage treatment AD plants has decreased from 170 in 2023 to 166. This is due to the early closing down of 4 plants as they approach the end of the term in Renewable Obligation. We expect the total number to be reduced further over the next few years as many of the existing early-accredited CHP plants come to the end of term in Renewable Obligation starting in 2027. While the number of plants may reduce, the sewage capacity treated will remain the same as the capacity from closed-down plants will be redistributed among other plants within the same operator in the region.

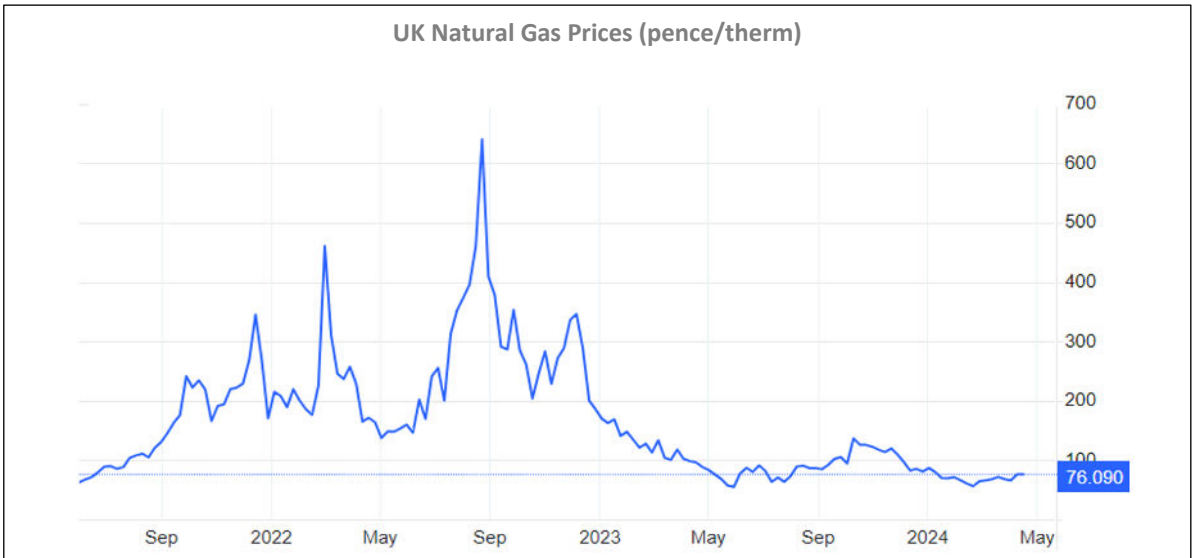
[1] Biomass Strategy, 2023 (https://www.gov.uk/government/publications/biomass-strategy)

Future market prices

Gas Prices

The UK wholesale natural gas market has witnessed remarkable volatility over the past two years. As of April 2024, prices hover around 76 p/therm, representing only a modest decrease from the 84 p/therm levels seen in April 2023. However, the market experienced a major spike in late 2023, with prices surging as high as 140 p/therm amid supply constraints and heightened demand. The most turbulent period was in 2022, when an unprecedented energy crisis gripped the region. During this time, wholesale gas prices reached historic peaks of 800 p/therm as Russia's invasion of Ukraine disrupted supplies and Europe raced to build stockpiles ahead of winter. While the current 76 p/therm price appears relatively stable compared to last year's late rally, it remains well above long-term averages, underscoring the market's vulnerability to geopolitical shocks and supply shortfalls.

UK natural gas futures spiked above 81 p/therm, reaching the highest level since 5th January 2024. This surge aligns with an upward trajectory in the European benchmark price for natural gas. This is in line with the escalating geopolitical tensions as Iran carried out attacks against Israel over that weekend, with Israel poised to retaliate, though the exact nature of their response remains uncertain. Concurrently, an unexpected shutdown at Norway's Nyhamna gas processing facility temporarily curtailed gas flows. Furthermore, meteorological forecasts indicate lower wind speeds and colder temperatures across Europe. The region's supply risks persist due to Russian attacks on Ukrainian gas storage sites, while imports of liquefied natural gas (LNG) from Asian countries, including 6.61 million tons from China in March, are rising.



Source: Trading Economics, April 2024

Electricity Prices

New projections from Cornwall Insight show electricity prices in Great Britain are unlikely to return to pre-2022 levels until the late 2030s. This prolonged price increase is driven by surging electricity demand as homes and transport switch from fossil fuels to electricity over the next decade.

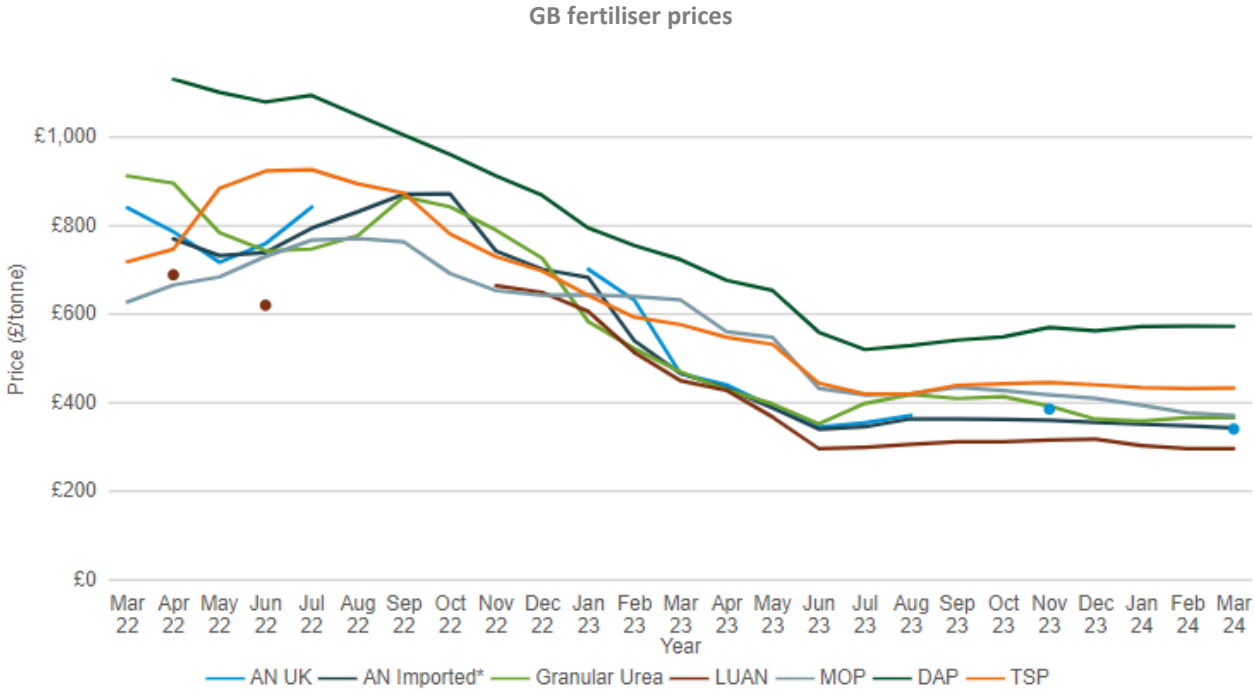
In the near term, adding low-carbon energy sources like renewables should lower prices somewhat, potentially dipping below £100/MWh by 2028. However, from 2030 onward, the transition to electrification will accelerate, requiring more backup power from gas plants during periods of low renewable generation.

Source: Cornwall Insight

Fertiliser Prices

Fertiliser prices reached their peak in July 2022 in response to the Russian invasion of Ukraine (and reflecting the cost of natural gas as the key feedstock for synthetic fertiliser). Prices of all fertiliser types have been reduced reflecting the fallback in fossil natural gas prices, and future prices are expected to maintain high-than-usual levels due to the cost of energy and other market factors influencing resource availability.

There has been a slightly increasing trend in UK fertiliser prices since June 2023. This is important for the AD sector because the crisis has encouraged farmers to look seriously at alternatives like AD digestate, and this learning will not be undone.



Source: *GB Fertiliser Prices - Agriculture and Horticulture Development Board (AHGB) 2024*

Carbon Permit Prices

Globally, roughly 12.5 billion metric tonnes of carbon permits were exchanged throughout 2023, similar to 2022. However, high prices in markets such as Europe and North America increased the overall value. In contrast, the value of the UK Emissions Trading Scheme (UK ETS) fell by 22% to 36.4 billion euros, which is roughly 35% lower than its 2022 average. With the recent decline, the UK carbon price now trades at its biggest-ever discount to the EU.

The low carbon prices in the UK, which have fallen to an all-time low, send the wrong signal about the country's commitment to net zero emissions. A strong and stable carbon price is essential to drive investment towards low-carbon technologies and promote the adoption of sustainable energy sources. If carbon prices remain low, it may weaken the economic incentive for businesses and investors to prioritise the development of the zero-emission industries, as conventional fossil fuel-based energy sources would become relatively cheaper.

However, it is important to note that the government has expressed its commitment to legally binding targets for reducing carbon dioxide emissions to net zero by 2050, along with interim targets. Additionally, it is

expected the UK's carbon price to rise in the latter half of the decade as the emissions trading scheme is tightened, with the number of allowances auctioned set to decrease significantly by 2027.

Weekly average carbon prices on the European and UK Emissions Trading Schemes (EU converted to GBP)

Source: [Electric Insights Quarterly Report for Q2 2023]

ADBA Engagement with Stakeholders

ADBA Quarterly Meeting with DESNZ

As a part of our regular engagement with the government, on 5th March 2024, the ADBA Policy team met with representatives from the Department for Energy Security and Net Zero (DESNZ) to discuss several important issues impacting the UK biomethane industry. The meeting proved to be a very successful one, with the discussion revolving around the government's approach to gathering evidence from the industry for the call for evidence and getting resolutions for concerns raised by our members.

Key outcomes of the meeting include:

- **Future Biomethane Framework**

DESNZ provided an update on the eagerly awaited Future Biomethane Framework, which will replace the Green Gas Support Scheme (GGSS) post-2028. The Call for Evidence on the new framework closes on 25th April 2024, with DESNZ aiming to conduct public consultation within the next year. A key focus is establishing a clear vision for biomethane's role through 2050 and moving beyond narratives solely around fuel flexibility.

ADBA is collating feedback from our working groups and members to provide a comprehensive response. We highlighted the importance of coordinating engagement to avoid duplicating efforts with DESNZ's workshops. Representing our diverse members and finalising supporting data modelling remains an ongoing challenge as we prepare our consultation response.

- **GGSS Annual Tariff Review**

We discussed improving the data input for DESNZ's Annual Tariff Review process. Last year's response rate to the data collection template was low. ADBA provided specific comments to include additional CAPEX and OPEX cost line items. We also suggested ways DESNZ could modify the template for evidence collection and provide more guidance to increase industry comfort levels with sharing financial information.

- **Biomethane and EU Renewables Policy**

Our External Affairs team discussed the pressing issue raised of the potential for the European Commission (EC) to exclude certification of non-EU biomethane feedstocks for import into the EU renewables market. While an extension was granted, there is still a lack of clarity around the EC's reasoning and concerns.

DESNZ is escalating this with UK trade missions and coordinating with other impacted nations like Ukraine and Ireland. However, more evidence is needed on the full sector impact if the UK is ultimately excluded from the certification scheme. ADBA will disseminate questions from DESNZ to members to gauge impacts and advocate for the UK's inclusion in policy discussions. We have also requested a meeting with the UK's lead negotiator to understand the EC's position better.

- **Farm Productivity Grant Exclusion**

One of our members raised concerns about the recent Improving Farm Productivity grant round excluding AD plants from eligibility criteria despite the grant's goal of reducing environmental impact and emissions. ADBA discussed this with DESNZ, who suggested taking it up directly with Defra as they administer the grant scheme. However, we're also encouraged to include feedback on such policy inconsistencies in our responses to the Biomethane Framework Call for Evidence.

ADBA will continue working closely with DESNZ to ensure our members' voices are represented as these critical policies evolve. We appreciate DESNZ's collaborative approach and open lines of communication. Please stay tuned for more updates and let us know if you have any feedback to contribute.

ADBA Quarterly Meeting with Ofgem

On 22nd February 2024, ADBA held its quarterly meeting with Ofgem, the Office of Gas and Electricity Markets, to discuss several key scheme updates impacting our members.

Key outcomes of the meeting include:

- **Green Gas Support Scheme Mid-Scheme Review**

Ofgem provided an update on the recently completed mid-scheme review for the Green Gas Support Scheme (GGSS). While the new amendments won't be applied until the regulatory changes are finalised, it's important for operators looking to apply that the existing November 2025 deadline still stands.

Ofgem is keen to understand how many ADBA members will submit applications in the coming months ahead of that cut-off date. To assist with their planning, we would like to ask our members to email policysupport@adbioresources.org with any feedback on the GGSS plans.

- **Non-Domestic Renewable Heat Incentive Insights**

On the Renewable Heat Incentive (RHI) front, Ofgem expressed interest in tapping into the sector's insights around potential risk areas for the non-domestic RHI scheme. We will be reaching out to members to gather this feedback in the near future.

The next quarterly meeting with Ofgem is scheduled for May 2024. ADBA greatly values our collaborative relationship and ongoing dialogue with the regulator. We'll continue keeping members apprised of all important scheme developments and advocacy efforts.

Engagement with Environment Agency (EA)

We have been in communication with the Environment Agency (EA) regarding several key initiatives aimed at enhancing methane emission monitoring and control measures across the AD sector. Open and constructive dialogue has been maintained to address critical areas of concern.

Leak Detection and Repair (LDAR) Systems: A major focus has been on the implementation of LDAR systems at AD facilities. These systems play a crucial role in identifying and mitigating methane leaks, which contribute to greenhouse gas emissions and represent a loss of valuable biogas resources. We have worked with the EA to provide industry insights and feedback on the practical aspects of deploying LDAR systems, ensuring that the requirements are both effective and feasible for plant operators.

Methane Satellite Monitoring: Another area of collaboration has been the utilization of satellite monitoring technologies to detect and quantify methane emissions from AD sites. As these remote sensing capabilities continue to advance, they offer a valuable tool for regulators and operators alike to identify potential emission hotspots and prioritise mitigation efforts. At this stage is premature to rely on Satellites but ongoing progress and innovation will improve this. Our engagement with the EA has centred on understanding the technical capabilities of these systems, addressing data accuracy and interpretation challenges, and exploring how satellite monitoring can be effectively integrated into the regulatory framework.

Emissions Control Measures: Beyond leak detection and monitoring, we have also been actively involved in discussions around broader emissions control measures for the AD industry. This includes reviewing best available techniques (BAT) for methane capture and utilisation, evaluating the potential for implementing more stringent permitting conditions, and exploring innovative technologies or operational practices that can further reduce emissions from AD facilities.

Throughout these engagements, our primary goal has been to ensure that any proposed measures or regulations are practical, cost-effective, and aligned with the industry's commitment to sustainable operations and environmental stewardship. We have provided valuable insights into the operational realities and technological capabilities of AD plants, as well as the potential economic impacts of any new requirements.

By maintaining an open dialogue and collaborative approach with the Environment Agency, we aim to strike a balance between robust environmental protection and the continued growth and viability of the anaerobic digestion sector in the UK.

Scottish Government NET Feasibility Study Workshop

On 25th January 2024, the ADBA policy team was invited to participate in a workshop organised by the Scottish Government, to discuss the Negative Emissions Technologies (NET) feasibility study published on 30th November 2023 – Click here to view. The workshop aimed to provide different stakeholders with an opportunity to understand and discuss key aspects of the study, which indicates that NETs can play a crucial role in achieving sustainability goals and mitigating the effects of carbon emissions in Scotland.

The workshop was attended by representatives from various organisations, including the Direct Air Capture Coalition (DACC), and covered topics such as biochar, Direct Air Carbon Capture and Storage (DACCS), and the potential for Carbon Capture and Storage (CCS) from bioenergy in Scotland. The discussions highlighted the Scottish Government's commitment to developing policies and frameworks to support the NET sector, with a focus on collaboration between the Scottish and UK governments.

One of the key points discussed was the potential for Scotland to become a hub for NET implementation, particularly in the areas of biomethane and bio-CO_2 capture. The study identified over 1,000 sites in Scotland that emit bio-CO_2, presenting a significant opportunity for the AD sector to contribute to Scotland's net zero targets.

It is evident from the workshop that the Scottish Government recognises the importance of NETs, particularly in the AD sector, in achieving its climate change goals. The ADBA policy team will continue to engage with the Scottish Government and other stakeholders to ensure that the AD industry's interests are represented in the development of NET policies and frameworks.

The workshop also highlighted the need for collaboration between the Scottish and UK governments, as well as the private sector, to unlock the full potential of NETs in Scotland and the wider UK. The ADBA policy team will continue to advocate for supportive policies and market designs that incentivise investment in NET technologies, particularly in the AD sector.

Arup Workshop on Baseline Review for Biomethane and Hydrogen Interactions

The ADBA policy and technical team were invited to participate in a virtual workshop organised by the gas distribution networks (GDNs) and Arup on 19th March 2024. The workshop aimed to review the baseline and literature review for the ongoing project titled "Biomethane and Hydrogen: Maximising the Role of Green Gas," which explores how biomethane can be managed and used in areas of the gas network that are converted to dedicated hydrogen.

The workshop provided an important opportunity for stakeholders to review the baseline review conducted by Arup and provide feedback to inform the ongoing work. The ADBA policy and technical team actively contributed to the discussions, focusing on the key areas including ADBA assumptions for the full potential scenario development.

The workshop facilitated a productive dialogue between the ADBA policy and technical team, the GDNs, Arup, and other stakeholders. Our contributions aimed to ensure that the project accurately captures the potential of biomethane and its integration with hydrogen in the future gas network infrastructure.

Defra Co-Design Workshops Series

ADBA policy and technical team is currently engaging in the co-design workshop organised by the Department for Environment, Food and Rural Affairs (Defra). This workshop aims to bring together stakeholders who are directly impacted by the agricultural water quality regulations, allowing for a collaborative approach to designing and shaping future policies.

Co-design is a valuable tool employed by Defra to involve relevant parties in the policy-making process at an early stage. By understanding diverse perspectives and co-designing a shared vision, Defra seeks to simplify and reform agricultural water quality regulations, such as the Silage, Slurry, and Agricultural Fuel Oil (SSAFO) regulations, the Nitrate Pollution Prevention Regulations (NPPR), and the Farming Rules for Water (FRfW). Additionally, the insights gathered from this co-design process will influence broader regulatory policies within the farming sector, including potential future air quality measures.

Our participation in this co-design workshop allows us to contribute our expertise and advocate for the interests of the AD sector, ensuring that the proposed regulatory reforms take into account the unique challenges and opportunities faced by our industry.

By participating in this co-design workshop, we aim to collaborate with Defra, the EA, and other stakeholders to develop practical and effective solutions that address the complexities of agricultural water quality regulations while promoting sustainable practices within the farming and AD sectors.

We will continue to keep you updated on the progress and outcomes of this co-design process, as it represents a valuable opportunity for the ADBA to shape the future regulatory landscape and contribute to the development of policies that support the growth and success of our industry.

POLICY UPDATE 1: OVERARCHING STRATEGIC POLICY

[CALL FOR EVIDENCE] Future policy framework for biomethane production

On 29th February 2024, DESNZ launched a critical call for evidence on the Future Policy Framework for Biomethane Production – Click here to view. This call for evidence seeks feedback from the AD industry to develop a new policy mechanism that will support the growth of the biomethane sector after the current Green Gas Support Scheme (GGSS) ends (last applications in 2028). The call for evidence ran for 8 weeks and closes on 25th April 2024.

This call for evidence document outlines the UK government's plans to establish a new policy framework for biomethane production aimed at supporting the country's net zero and energy security goals. The rationale behind this framework is that biomethane production from the AD of organic wastes provides upstream environmental benefits and downstream decarbonisation across sectors such as heat, transport, and power generation.

While the existing support schemes, the RHI and GGSS, are expected to support around 8 TWh of biomethane injection by 2030, the government's Biomass Strategy outlined the need for 30-40 TWh of biomethane production by 2050 to meet net zero targets effectively. The government expects biomethane injection from conversions or expansion of existing CHP plants to contribute towards this target along with the newly built biomethane plants. Given the support for CHP plants under Renewable Obligation (RO) and Feed-in-Tariff (FiT) are coming to an end starting in 2027 and 2029, respectively, many plants are already considering conversion or expansion to generate and inject biomethane. Aiming to support this, this consultation further seeks evidence to assess the value for money, technical potential and carbon abatement potential of CHP conversions and to provide support to those plants that are nearing the end of the term in existing schemes.

Key Elements

The key objectives of the proposed biomethane policy framework are to:

- facilitate sufficient biomethane volumes to meet carbon budgets,
- enable optimal pathways to net zero; and
- bolster energy security.

Additionally, the framework aims to ensure environmentally sustainable biomethane production with reduced emissions and adherence to stringent environmental standards. It also seeks to promote efficient and cost-effective production from a societal perspective and enable a commercially viable biomethane market without relying on direct subsidies.

The policy development process will be guided by several principles, including sustainability, security, adaptability, commercial viability, and compatibility with wider energy and environment policies. The consultation acknowledges various barriers and challenges currently faced by the biomethane industry, such as uncertainty over future demand, environmental impacts, supply chain issues, and grid capacity limitations.

Revenue streams: The consultation seeks views on underutilised revenue streams from AD, including digestate, carbon capture for utilisation, and gate fees for feedstocks. ADBA will address these in our response to the consultation, emphasising the importance of these by-products and the challenges the industry faces when commercialising them.

Production methods: The consultation document further considers various production methods for biomethane, including AD plants (encompassing larger plants, combined heat and power conversions, and small-scale/on-farm AD), advanced gasification technologies, landfill gas capture and upgrading, and other emerging technologies. Potential costs and incentive mechanisms such as Contracts for Difference (CfDs),

Supplier Obligations (SOs), grants and loans, or hybrid options are being explored. Importantly, any future policy framework must ensure proper valorisation of all the environmental benefits provided by anaerobic digestion, including recognising and incentivising the greenhouse gas emissions reductions achieved through biomethane production and use, and carbon capture for utilisation and storage, under the UK ETS.

Sustainability Criteria: Sustainability considerations are a crucial aspect of the proposed framework. These include prioritising feedstocks based on sustainability criteria (costs, greenhouse gas emissions, air quality, land use, and water requirements), ensuring proper management of digestate and addressing issues like ammonia emissions, nutrient balancing, and plastic contamination, as well as mitigating fugitive methane emissions from the production process.

Planning and Permitting: Furthermore, the consultation addresses the need to improve the planning process for AD plants by addressing stakeholder concerns, reviewing environmental permitting regulations, and exploring the development of overarching plant standards. It also highlights the importance of addressing grid capacity constraints, propanation requirements, and locational considerations for biomethane injection.

This consultation seeks stakeholder evidence and views to inform the development of the new biomethane policy framework, which is expected to be in place in the next few years. Our policy team has prepared a briefing note on the consultation document along with the full list of questions to help you understand the full scope of the consultation – Click here to view

Our Key Messages

ADBA welcomes this consultation and believes it represents a major opportunity to advance the growth of the AD and biomethane sector in the UK, helping the sector reach its full potential within the next decade. AD is a circular solution to manage organic wastes while mitigating climate change, supporting energy and food security, levelling up rural economy, and providing employmet. We have highlighted this message throughout our response to this consultation. In addition, our response will emphasise the following key messages.

- DESNZ has underestimated biogas potential – the 30TWH target is not ambitious enough – and the speed with which the sector can expand. We need to establish a higher target in line with our 1000 new plants by 2030. We need a sense of urgency, considering the importance of methane reduction to curb global warming.
- The government must move away from stop-start policy support and provide long-lasting schemes that are not time-limited. This approach will encourage the build-up of developers and skills necessary for sustained expansion.
- Multiple support mechanisms are needed to support different parts of the industry, including agriculture, sewage, municipanl solid waste, and commercial/industrial sectors. Policymakers should not hesitate to adopt and use more than one policy tool to encourage the sector. If the volume target is ambitious, the Government will need a suite of tools to meet it, such as UK ETS Allowances, Contracts for Difference (CFDs), and Supplier Obligations on using fossil gas.
- Stop unfair taxes on biogas. DESNZ rightly acknowledges that biomethane is unfairly penalised as it is charged the same ETS cost as fossil gas. We call for an offsetting measure, such as providing biomethane producers with allowances, which would simply offset this penalty.

We thank all the members who responded to our call for feedback on this call for evidence. We will publish our official response shortly after the deadline for the consultation (i.e. 25th April 2024).

Biomass Strategy

On 10th August 2023, DESNZ published a long-awaited Biomass Strategy, laying out a comprehensive vision for utilising biomass in achieving the UK's legally binding net zero targets – Click here to view. Our analyst team has prepared a comprehensive briefing note that will give you an overview of the contents of the Biomass Strategy – Click here to view.

Biomass, encompassing organic materials like crops, wastes, and residues, emerges as a versatile resource across various sectors. The strategy reaffirms the government's commitment to biomass sustainability, proposing advanced sustainability criteria and a cross-sectoral framework. By examining biomass availability, the strategy underscores the significance of both domestic and imported sources. The strategy further emphasises the priority use of biomass in challenging sectors, supported by incentives and future transitions toward advanced technologies like Bioenergy with Carbon Capture and Storage (BECCS).

ADBA Chairman, Chris Huhne, welcomed the Strategy stating that,

> *The UK Government has been uniquely slow – by comparison with both the United States and the European Union – to encourage biogas, now included in the Biomass strategy, as part of the energy transition. This is a welcome if belated recognition of the priority uses to meet net zero, but more targeted support is needed to unlock the potential of key biogas feedstocks. Manures, slurries and agricultural residues are the biggest areas of growth for the biogas industry, but the potential will be untapped without ministerial heft and push.*

The Biomass Strategy's focus on sustainability and resource availability is crucial for the AD sector. As a key player in utilising organic waste and residues, AD can benefit from increased biomass supply and reduced costs. The emphasis on sustainable feedstocks aligns with the sector's goals of efficient waste management and renewable energy production. The sector's growth can be further boosted through collaboration with government initiatives and integration into the broader bioeconomy, potentially creating a circular model that aligns with the strategy's objectives.

Biomass Sustainability

The strategy highlights the government's history of promoting biomass across energy sectors with stringent sustainability criteria. Future actions are proposed to fortify these criteria, reflecting evolving sustainability concepts. The Strategy commits to developing and implementing a cross-sectoral common sustainability framework upon stakeholder consultation, which ADBA is keeping an eye out for.

Biomass Availability

The strategy acknowledges the complexity of predicting biomass availability, given its diverse sources. Domestic and imported sustainable biomass are identified as essential contributors to achieving net zero goals. Collaboration among government, businesses, and biomass producers is encouraged to enhance biomass supply.

The AD sector is well-positioned to benefit from increased biomass availability. The strategy's call for collaboration aligns with the sector's potential to transform organic wastes into valuable energy and resources. By partnering with biomass producers and businesses, AD facilities can secure a stable supply of feedstocks, promoting growth and aligning with the strategy's objectives.

Priority Use of Biomass

Given the limited nature of sustainable biomass, the strategy advocates prioritising its use in sectors where it offers the greatest benefits. Biomass uses that enable carbon capture and storage should be prioritised to support net zero goals as it can play a major role in decarbonising hard-to-decarbonise sectors with limited alternatives.

- In the short term, the UK will continue to provide incentives for biomass in power, heat and transport.
- In the medium term (to 2035), biomass will further support the sixth carbon budget goals, transitioning away from unabated uses towards BECCS where possible.
- Modelling indicates biomass + BECCS will contribute significantly to net zero targets in the long term by creating negative emissions.

The strategy indicates a continuing role for biomass in the medium term to support sectors like heat and power. This is positive for anaerobic digestion, which can process biomass waste streams into renewable biogas. However, the long-term focus on BECCS could limit growth potential unless anaerobic digestion facilities adopt carbon capture technologies. Overall, anaerobic digestion is likely to grow as a contributor to UK renewable energy in the medium term, but its long-term prospects could improve further with the addition of carbon capture capabilities.

Bioenergy, Carbon Capture and Storage (BECCS)

The Biomass Strategy recognises BECCS as a significant technology for capturing and storing CO_2 while generating low-carbon energy. The strategy further acknowledges the global presence of BECCS and its potential to deliver negative emissions while highlighting the government efforts to support BECCS development across the UK.

> *Biomass is already a key component of our energy supply, with bioenergy generating 11% of the total electricity supply in 2022. But its future potential is extraordinary: It is a renewable source that can be used across all three energy sectors (transport, heat, and electricity) and non-energy sectors. It can deliver low-carbon energy, displace fossil fuel use in materials, and produce negative emissions when combined with carbon capture and storage.*
>
> *Graham Stuart, Minister of State for DESNZ, states in the Foreword of the Strategy.*

Biomass Uses Across the Economy

The strategy underscores the pivotal role of biomass in renewable electricity generation, biomethane production, heating solutions, low-carbon transport fuels, industrial decarbonisation, and even the emerging bioeconomy. Biomethane is recognised as a circular economy driver through anaerobic digestion processes, and the broader potential of biomass-derived products is highlighted.

The strategy's recognition of biomethane's role in energy security and circular economy aligns directly with the anaerobic digestion sector's objectives. As a contributor to biomethane production, the sector can actively participate in decarbonising multiple sectors. By integrating into the broader bioeconomy, the sector can explore new avenues for waste-to-resource conversion, aligning with the strategy's vision.

In conclusion, the Biomass Strategy offers a roadmap for leveraging biomass to achieve net zero targets. Its impact on the anaerobic digestion sector could be substantial if it is followed through with government action to speed planning, permitting and grid connections, and underpin financial support.

Spring Budget 2024

On 6th March 2024, Chancellor of the Exchequer Jeremy Hunt presented the Spring Budget 2024.It contained a number of economic policies and fiscal measures aimed at boosting growth, reducing inflation, and getting debt under control in the UK – Click here to view.

While overall, the Spring Budget lacked any new game-changing policies for anaerobic digestion, the overall economic direction of falling inflation, and boosted public sector productivity points toward an improved operating landscape compared to the last couple of years. AD businesses will likely need to monitor future

budget cycles and policy developments to capitalise on potential funding and incentives aligned with the UK's net zero ambitions.

Autumn Statement 2023

The Autumn Statement 2023 was presented by Chancellor Jeremy Hunt on 22nd November 2023 – Click here to view. This was mainly about making the best of some tight constraints. As such, it was in line with the "pragmatic" and "proportional" approach highlighted previously by Prime Minister Rishi Sunak. The key theme was the need to boost business investment, and the decision to allow permanent expensing against profits for corporation tax is a big incentive if you already have profits. The key constraint was not to send the bond market into the sort of tailspin that ended Liz Truss' tenure as prime minister.

For clean energy, though, the glass seems half full, half empty. There is much more work to be done to ensure a joined-up approach.

The climate strategy is seen working from two channels. The first includes pooling together public and private funds for investment in decarbonising infrastructure and innovating technologies. The second channel backs this by freezing or reducing levies. The key highlights included:

- Aside from adopting reforms set by the UK ETS Authority, which will reduce permits available for purchase from the government between 2023 and 2025 by 45%, the scheme will cover emissions from waste to energy by 2028. To strengthen the system in place, suggestions from the consultation on Carbon Border Adjustment Mechanism will be adopted (results to be released soon).
- The Connections Action Plan , in collaboration with Ofgem, should reduce the time it takes for viable projects to connect with the electricity grid – Click here to view. Though not as severe as electricity connection delays, ADBA members have previously raised concerns regarding the severe delays they are facing when trying to obtain timely connections to the gas network, but this has not yet been addressed in the plan. Our policy team communicated these concerns to the DESNZ, Ofgem, and the National Grid ESO on multiple occasions this year, and we are happy to see some progress in this aspect from the government.
- New electricity generation from AD will be exempt from the Electricity Generator Levy if substantive decisions to proceed are made on or after 22 November 2022. The technical note on this investment exemption was also published alongside – Click here to view, and the legislative draft is expected in an upcoming Finance Bill. As you may recall, the Electricity Generators Levy introduced last Autumn Statement imposed a 45% tax on "extraordinary revenues" made by electricity generators in the wake of recent turmoil across the energy market. Since its publication, ADBA has engaged with the Treasury to raise its concerns with the proposal and highlight the impact it would have on the industry in its failure to account for increased operational costs and distorted feedstock markets. While the new investment exemption is positive news for the sector, it will only be helpful if there is a new support mechanism available for the CHP AD developers. At present, there is no government support available for the AD electricity generators, which is a major obstacle to the growth of the sector in areas like on-farm biogas, where there is the biggest potential for feedstocks.
- Unlike the Spring Statement, the Autumn Statement has given special provisions to off-shore wind rather than nuclear energy. The government aims to bring legislation that would increase the financial leverage of The Crown Estate, aiming to unlock 20-30GW of offshore wind seabed rights by 2030 and floating wind in the Celtic Sea through the 2030s. Taken together with the previous announcement that the Government will raise the cap for bids under the support scheme (contracts for difference), this is a pragmatic step forward for offshore wind. But there is still not enough recognition – in stark

contrast with the EU and the USA – of the potential for biogas in all its forms (including electricity generation).

- A funding pool of £4.5 billion will be allocated, commencing in the 2025-26 fiscal year and spanning five years. The support will be directed towards carbon capture, utilisation and storage, electricity networks, hydrogen, nuclear and offshore wind. Again, there was no explicit commitment to support biogas.

For ADBA, the Autumn Statement raises hopes because the Government is slowly moving toward supporting energy independence and security as well as decarbonisation. However, there is much more work to be done to highlight the enormous potential of the biogas sector in UK government circles.

POLICY UPDATE 2: ENERGY, TRANSPORT & CLIMATE

ENERGY

Green Gas Support Scheme (GGSS)

Government Outcome to the Mid-Scheme Review

DESNZ published the government response to the Green Gas Support Scheme's mid-scheme review on 25th January 2024 – Click here to view.

The key outcome of this response is that the GGSS will be extended by nearly 3 years to 31st March 2028, providing more time for the AD projects to get up and running. This addresses a major request made by the ADBA and the industry during the mid-scheme review in May 2023.

Other key decisions include:

- Maintaining the current tariff guarantee levels and commissioning deadlines, giving flexibility given supply chain challenges
- Keeping the 50% minimum threshold for biomethane production from waste feedstocks,
- Continuing current requirements around digestate management while avoiding restrictions around ammonia mitigation techniques,
- Supporting measures to reduce methane leakage from GGSS plants based on evidence,
- Not providing eligibility for conversion of combined heat and power (CHP) plants to biomethane injection under the scheme.
- Allowing exemptions for heat pumps in heat deduction calculations

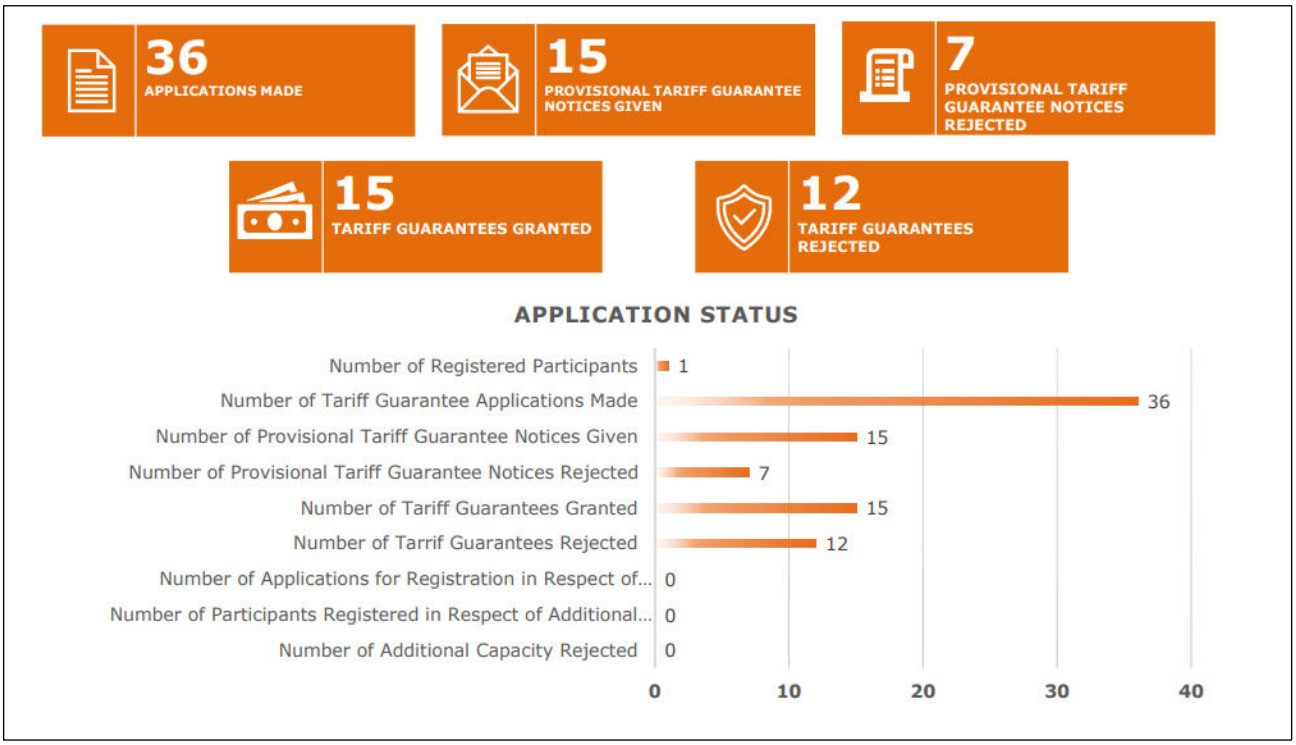
Overall, the response shows DESNZ has listened to ADBA's recommendations, especially around extending the scheme timeline to 2028. This provides much-needed certainty for the AD industry to deploy new biomethane production capacity.

While ADBA would still like further support in areas such as CHP conversions, this outcome allows the GGSS to continue its important role in reducing greenhouse gas emissions and improving air quality through green gas production.

Application Status

On 31st January 2024, Ofgem released their ninth quarterly report of the Green Gas Support Scheme (GGSS) – Click here to view. This report covers the ninth quarter since the scheme launch, from 1 October to 31 December 2023. During this time, **36 applications for tariff guarantees** were submitted and 3 were registered to the scheme (1 participant and 2 under review at stage 3). Based on these applications, around £49.4m of the Scheme's budget for 2025/26 has been allocated.

Further details about the application status are below.



ADBA will continue to engage with Ofgem on a regular basis to receive updates on the GGSS. We invite all our members to share their feedback on the scheme via policysupport@adbioresources.org email. These will be shared as anonymised feedback with Ofgem, to help them improve the scheme in future.

Feed-in-Tariff

Headline Statistics for FIT Year 13, Q4

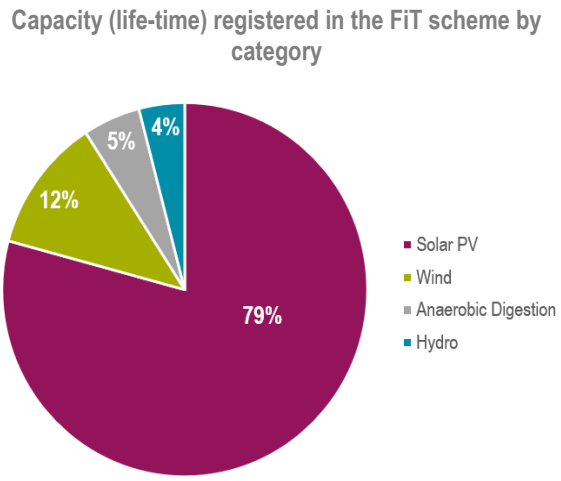
Ofgem on 14th December 2023 published their Feed-in-Tariff Quarterly Report for the second quarter of FIT year 14, covering the period from 1st July 2023 to 30th September 2023 – Click here to view.

Headline statistics reported include:

- Number of FIT installations registered this quarter: 32 (A considerable decrease from 41 in the previous quarter)
- Total number of registrations on the scheme since the beginning: 870,050
- Total installed capacity of the quarter: 4.3 MW (A significant drop from 8.3 MW in the previous quarter)
- Total installed capacity of the scheme: 6,487 MW
- Amount of FIT Export and Generation payments claimed: £ 551,394,360
- Total levelisation fund value: £ 514,501,675

FIT generators receive support for 10 to 25 years, depending on the technology type, capacity when their installation was commissioned, and whether it was previously accredited under the Renewables Obligation scheme.

As of 30th September 2023, a total of 485 FIT installations have now reached the end of their support period and exited the scheme. The expired installations are all micro-CHP technology types which are eligible to receive support for 10 years. The number of installations exiting, withdrawn or removed from the scheme this quarter was higher than the new registrations added during the same period. This led to a small decrease in the total number of installations. The total number of FIT installations decreased by 21 from 870,071 in the previous quarter to 870,050 this quarter.



Within the scheme's lifetime, the capacity by category spans as follows. While solar PV makes up the major portion of it, AD accounts for a 4.61%.

Renewable Obligation (RO)

RO Scheme Levels for 2024/2025

DESNZ, on 26th March 2024, announced the revised level of the Renewables Obligation for the 2024-2025 period in Great Britain and Northern Ireland. The new levels came into force on 22nd March 2024 and replaced the ones announced on 27th September 2023.

The Renewables Obligation requires electricity suppliers to present a specified number of Renewables Obligation Certificates (ROCs) for each megawatt hour of electricity they supply to customers. This helps support renewable electricity generation in the UK.

For 2024-2025, the level of the obligation will be:

- 0.491 ROCs per MWh in Great Britain, based on the current 100% exemption for Energy Intensive Industries (EIIs)
- 0.192 ROCs per MWh in Northern Ireland

The Renewables Obligation aims to incentivise renewable energy use and help the UK meet its climate change targets. Setting the obligation level is an important part of determining the support available to the renewables industry. This announcement provides clarity to electricity suppliers and generators regarding the scheme for 2024-2025.

TRANSPORT

Renewable Transport Fuel Obligation (RTFO)

RTFC Market

Generally, RTFC prices rose significantly over the course of 2019 – more than doubling in price from 11.7p/RTFC at the start of the year to 29.7p/RTFC by the end. Throughout 2020, RTFC prices remained high and relatively steady, fluctuating between 25p and 30p per certificate. At its lowest, the price fell to 23.7p/RTFC in March 2020, associated with the Covid-19 outbreak, yet recovered quickly. By summer 2020, the RTFC value increased to 28p – just shy of the scheme's initial buy-out price of 30p per certificate, in place to minimise the economic impact on the end user.

However, considering that the certificates' value neared the 30p buy-out price for a prolonged period of time, the DfT increased the buy-out price to 50p from January 2021 to avoid fuel suppliers from opting to buy out of the obligation and revert back to fossil fuels.

In years 2021 and 2022, the certificate price consistently surpassed 30p per certificate. In 2023, RTFC values experienced a steep drop, reaching a four-year low. The certificates have been offered on the market at a price of 16.75p. Furthermore, actual trading levels have fallen to around 15p per certificate – the lowest point since March 2019. Currently, the RTFC price is around 15p per certificate.

This significant price decline in RTFC certificates reflects the current market dynamics and potentially signals shifts in supply, demand, or regulatory factors influencing the renewable transport fuel sector. The last time RTFC prices were this low was over four years ago, highlighting the magnitude of the recent market movement. Industry participants and analysts will monitor these price trends closely as they risk impacting investment decisions and compliance strategies within the renewable fuel industry.

[CALL FOR EVIDENCE] on Infrastructure for Zero-Emission Heavy Goods Vehicles and Coaches

Department for Transport (DfT) on 19th October 2023 published a call for evidence on 'Infrastructure for Zero Emission Heavy Goods Vehicles and Coaches' – Click here to view. This consultation sought input from industry stakeholders on the infrastructure requirements, challenges, and potential solutions for transitioning the country's fleet of heavy goods vehicles (HGVs) and coaches to zero-emission technologies by 2050. With road freight a significant contributor to the UK's greenhouse gas emissions, the government aimed to gather evidence to inform policies that will enable the deployment of zero-emission trucks and buses at scale across Britain. Key areas covered include assessing infrastructure needs, understanding barriers to adoption, identifying opportunities for cross-sector collaboration, and exploring the role of transitional technologies on the pathway to full heavy-duty vehicle decarbonisation.

ADBA submitted our official response to the call for evidence on 14th December 2023, highlighting the crucial role that biomethane can play as a transitional fuel in decarbonising the HGV sector in the UK.

Some key points emphasised in our response include:

- Biomethane provides substantial greenhouse gas emissions reductions of up to 80% compared to diesel for HGVs while allowing continued use of existing heavy-duty engines and fleet infrastructure. We argued that biomethane should not be phased out along with fossil fuels.
- A focus solely on zero tailpipe emission vehicles limits future HGV technology options to only battery electric and hydrogen fuel cells, regardless of the full lifecycle emissions of those technologies. We recommended a technology-neutral approach considering the full well-to-wheel emissions.

- Biomethane leverages the already existing nationwide natural gas fuelling infrastructure across the UK, avoiding the need to build entirely new recharging/refuelling networks for battery electric and hydrogen trucks.
- In the near term, battery electric and hydrogen fuel cell trucks face significant technological limitations and lack of infrastructure readiness to support widespread heavy-duty transport decarbonisation by 2040.
- Major companies like John Lewis, Hermes, ASDA, and others are already rapidly transitioning HGV fleets to use biomethane due to its emissions reductions and cost savings compared to diesel.
- We recommended policies to further support and incentivise expanded biomethane production and use as an immediately deployable solution to reduce HGV emissions while other zero-emission technologies continue developing.

With this response, we aimed to ensure policymakers recognise biomethane's vital transitional role over the next 15-20 years as part of an effective technology-neutral strategy to fully decarbonise the freight transportation sector in the UK by 2050. Failing to leverage biomethane's strengths risks severely disrupting vital goods movement during a prematurely forced transition.

[CONSULTATION OUTCOME] Zero Emission Vehicle Mandate

The Government, on 28th September, released its official outcome of the consultation on a zero-emission vehicle (ZEV) mandate and carbon dioxide (CO_2) emissions regulation for new cars and vans in the UK. The consultation ran from 30th March to 24th May 2023 – Click here to view. The UK Government, the Welsh Government, the Scottish Government, and the Department for Infrastructure (NI) are working together to set a minimum transitional pace, guarantee a sufficient supply of vehicles for consumers, and provide investment certainty for deploying auxiliary infrastructure. This response outlines their joint strategy in detail.

This new plan requires 22% of new car sales to be zero-emission vehicles (ZEVs) by 2024. This will steadily increase to 100% ZEV sales by 2035. The plan aims to accelerate the transition to electric vehicles (EVs) and align the UK with major economies like France, Germany, and Canada.

The 2035 deadline provides certainty for automakers and time for the used EV market and charging infrastructure to grow. It is expected to trigger £6 billion in private charging investment. The UK already has over 48,000 public chargers, with 300,000 targeted by 2030.

The policy supports the UK's world-leading ambition to eliminate fossil fuel vehicles. It builds on over £2 billion in government EV investment. 20% of August 2022 new car sales were already zero-emission, showing progress. Overall, the plan provides a clear regulatory framework and incentives to accelerate EV adoption in the UK, supporting the net zero emissions goal while giving time for the market and infrastructure to develop.

When it comes to ZEVs, the government's approach to all vehicles with tailpipe emissions, including HGVs to be phased out, is worryingly ill-informed and risks failing to deliver on the policy objective to decarbonise HGV transport. While the ZEV for cars and vans is a necessary step in the right way, the government's Zero Emission HGV phase-out that came out in November 2021 is not ideal as the policy's dual emphasis on air quality precludes the role of ready-to-use low-carbon fuels, such as biomethane, currently leading the decarbonisation of HGVs.

CLIMATE

Methane Action Plan 2024 to 2026

The Environment Agency (EA) published its Methane Action Plan for 2024-2026 on 10th April 2024, outlining steps to reduce methane emissions across sectors it regulates in England – Click here to view. As a major contributor to climate change and global warming, curbing methane is crucial for meeting the UK's climate goals and its commitment under the Global Methane Pledge to cut emissions by at least 30% from 2020 levels by 2030.

The plan has three key objectives: improving data measurement and monitoring, maximising regulatory effectiveness to drive emissions reductions, and collaborating with external partners. Several aspects are particularly relevant for the AD biomethane industry.

Data Improvements: The Environment Agency will work with ADBA and others to enhance emissions data quality, update emissions factors, create a national database for emissions from regulated sectors like AD, and support monitoring technology development like optical gas imaging.

Regulatory Effectiveness: Notably, the agency plans to progressively issue new and updated environmental permits to around 120 AD facilities treating sewage sludge, ensuring Best Available Techniques (BAT) are implemented to minimise methane releases. BAT standards covering leak detection and repair could be expanded across the AD sector.

There are also proposals to develop BAT conclusions specifically for biogas grid injection infrastructure in collaboration with the Health and Safety Executive.

Collaboration: The Environment Agency will engage with relevant trade associations including ADBA, innovative companies, and universities on topics like methane capture from farms and biogas-to-hydrogen conversion - opening opportunities for knowledge sharing.

Overall, the Methane Action Plan demonstrates a welcome commitment to addressing a potent greenhouse gas. ADBA is pleased to see a comprehensive roadmap that tackles data gaps, fortifies regulation, and emphasises partnership across the AD biomethane value chain.

We look forward to continuing our close collaboration with the Environment Agency as the UK strives to achieve substantial methane reductions by 2030 in line with the Global Methane Pledge. Mitigating methane emissions is vital for maximising the climate benefits of AD and biogas utilisation.

CCC Letter to the Parliament: Advice on the Third Carbon Budget Carry-Over

According to the Climate Change Committee's (CCC) announcement on 28th February 2024, the UK has met the Third Carbon Budget (2018 to 2022) with a surplus of 391 MtCO_2e, which is mainly assisted by the "economy-shrinking effects of the pandemic". Despite congratulating the government on meeting its legal obligations for 2018-2022 in the letter to the Rt Hon Graham Stuart MP, the previous Minister of State for Energy Security and Net Zero in DESNZ, the CCC warned unequivocally in its letter to Right Hon Graham Stuart MP, the Minister of State for Energy Security and Net Zero, that this surplus should not be used to weaken upcoming carbon budgets – Click here to view.

Keeping the UK on an ambitious path of accelerated decarbonisation across all major sectors is essential, the committee stressed. While power sector emissions have fallen rapidly with the phase-out of coal, progress has stalled in areas like transport, buildings and industry. We agree with CCC that maintaining strong momentum

through the Fourth and Fifth Carbon Budgets is critical to delivering on the UK's legally binding Net Zero 2050 commitment.

This announcement reinforces the need to double down on readily available decarbonisation solutions such as AD that can drive rapid emissions reductions over the next decade. As a mature circular economy process, AD recycles organic wastes into renewable heat, power, green transport fuel and bio-fertilisers – cutting emissions from multiple sectors while generating sustainable energy. AD provides a circular waste management solution while also decarbonising some of the hardest-to-abate sectors in the UK including energy, agriculture, and transport.

According to our analysis, the AD sector, at full potential, can save 27 $MtCO_2e$ by 2030, equivalent to offsetting 13 million cars off the road annucally. With strategic policy support, the established UK AD industry can quickly scale up biogas and biomethane production to make a significant contribution to the emissions reductions needed this decade. On this front, we are delighted that DESNZ published the call for evidence for Future Policy Framework for Biomethane Production . This consultation, will be critical in shaping the future of AD and biomethane production in the UK. We aim to produce a robust response to this call for evidence that ensures the needs of AD operators and the wider bioresources industry are recognised.

We reiterate the CCC's advice that, rather than risking a loss of momentum, the government must accelerate the deployment of shovel-ready green technologies like AD and biomethane to cut emissions in the coming years. Surplus emission reductions like these must be considered the norm, and the government must aim to achieve a surplus in the upcoming carbon budgets as well.

CCC Assessment on Progress on UK Emission Reduction Targets

The Climate Change Committee (CCC) on 12th October 2024, provided an update on the UK's progress towards its emissions reduction targets in 2030 and 2050. Their assessment highlights some positive policy developments but also increased risks of missing the targets following the UK Prime Minister's recent announcements.

Professor Piers Forster, Chair of the Climate Change Committee, said:

> *We remain concerned about the likelihood of achieving the UK's future targets, especially the substantial policy gap to the UK's 2030 goal. Around a fifth of the required emissions reductions to 2030 are covered by plans that we assess as insufficient.*
>
> *Recent policy announcements were not accompanied by estimates of their effect on future emissions nor evidence to back the Government's assurance that the UK's targets will still be met. We urge the Government to adopt greater transparency in updating its analysis at the time of major announcements.*

The CCC highlights some real policy progress, like confirmation of the Zero Emission Vehicle (ZEV) mandate and a deal for industrial electrification at the Port Talbot steelworks. Implementing an Emissions Trading Scheme cap aligned with net zero is also seen as a positive step. There were also commitments in the Prime Minister's speech to improve energy infrastructure planning and electricity grid connections, although details are still lacking.

However, while ADBA agrees that the ZEV mandate will increase electric vehicle uptake, it poses challenges for the anaerobic digestion and biogas sector. The mandate's focus purely on battery electric vehicles means AD and biomethane are obstructed from reaching their full decarbonisation potential in transport. With biomethane able to provide renewable fuel for heavier vehicles like buses, trucks and rail, the ZEV mandate risks missing an opportunity to maximise emissions reductions across the whole transport sector. ADBA

advocates for more balanced policies that also incentivise biomethane use could help AD play an expanded role in achieving the UK's climate goals.

While CCC highlights the implementation of the ZEV mandate as positive news, they iterate that the other announcements have increased risks to meeting targets. This includes exemptions to fossil fuel boiler phase-outs in homes, delays to fossil fuel car phase-outs, and failure to support offshore wind in the latest CfD auction round. The CCC estimates these changes mean the UK is still unlikely to meet its Nationally Determined Contribution of a 68% emissions reduction by 2030. Plans are insufficient to cover 17% of required reductions, unchanged from June 2022.

CCC further assessed that, while risks to buildings (please clarify) decarbonisation have markedly increased, this has been approximately balanced by improved prospects for industrial decarbonisation. The Zero Emission Vehicle mandate's contribution to transport decarbonisation has now been firm since its publication, but risks have grown for reducing emissions outside this policy. Risks around delivering renewable electricity generation have also increased.

Credible plans to meet the 2030 emissions reduction target have increased from 25% to 28% covered, thanks to the Zero Emission Vehicle mandate. However, potential damage to electric vehicle consumer and investor confidence from the Prime Minister's announcements partly offsets this. While the overall increase in credible plans is positive, the government must expand coverage further and boost consumer confidence.

Ruling out demand-side measures like shifting transport modes or dietary changes reduces the options for cutting emissions. This heightens overall delivery risks and removes flexibility in how future targets can be met. While the Prime Minister rejected specific proposals like compulsory car-sharing and meat taxes, the CCC continues to recommend supporting sustainable consumer choices. This can be done by engaging the public and making low-carbon options more affordable, attractive and convenient.

As a technology that is available today, AD has the potential to contribute 30% of the carbon savings required to meet the UK's legally binding targets for 2030 set in the 5th Carbon Budget. For this to be a reality, it is essential that clear and ambitious biomethane policies implemented along with long-lasting support are provided. In conclusion, while the CCC assessment shows some progress, UK climate policy risks going in the wrong direction. Stronger policies and restoration of UK leadership at upcoming COPs are urged to get on track for net zero by 2050.

[CONSULTATION] Scotland | Draft Bioenergy Policy Statement

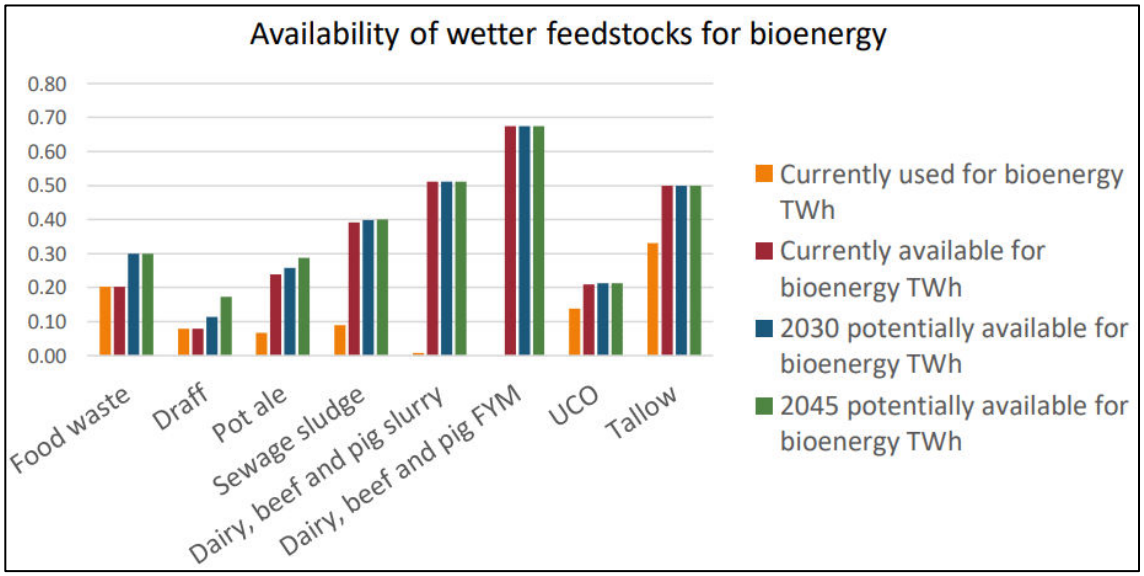
On 20th March 2024, the Scottish Government published a major new consultation on the Draft Bioenergy Policy Statement – Click here to view. This lays out proposed policies and priorities for the use of bioenergy resources in Scotland through 2045 as part of achieving their net zero targets. The consultation will end on 12th June 2024

The consultation covers a wide range of topics highly relevant to the AD sector in Scotland, including:

Role of biogas and biomethane:

- It clearly recognises the vital role of the AD sector in Scotland's circular economy. The sector generates value from waste and by-product feedstocks to produce biogas and biomethane.
- In the short-medium term, up to 2035, it is expected that new biogas AD plants utilising currently underutilised waste resources like manures, slurries, food waste, etc. will be deployed.
- Longer term beyond 2035, it identifies biogas AD with carbon capture and storage (CCS) as having significant potential for delivering negative emissions that will be required to offset residual emissions.

Feedstock Supply:



- It provides data estimating 0.73 TWh/year of currently available wet AD feedstocks in Scotland, such as manures, slurries, distillery residues, food waste, etc. Of this, only 0.45 TWh is presently utilised.
- Looking ahead, the research has suggested no expected increases in the availability of wetter resources up to 2045 (primarily used in anaerobic digestion for biogas and biomethane production), but that about 2TWh/year of the currently available resources are underutilised.
- Separately, it analyses scenarios for increasing Scotland's overall domestic biomass supply through the planting of perennial energy crops like short rotation coppice (SRC) willow and miscanthus.
- In addition, this policy document also emphasises the importance of considering the location of bioresource production in relation to its intended use. Transporting bioresources can be a challenging and expensive, especially when dealing with wet bioresources. Furthermore, road transport is a major contributor to emissions and the cost of transportation increases with distance.

Support Policies:

- It highlights the importance of the UK Government providing clarity on future policy mechanisms to support biomethane production after the current Green Gas Support Scheme ends in 2028.
- It states that the Scottish bioenergy policy will align with the UK Government's plan to develop a new, strengthened cross-sectoral sustainability framework for biomass supply.

Opportunities and Challenges:

- It identifies the emerging opportunities for the AD sector around capturing the CO_2 from biogas for either utilisation in products like food/beverages or permanent storage via CCS.
- However, it notes the challenges of transporting wet AD feedstocks efficiently and cost-effectively, requiring plants to be located near sources.
- It directly seeks stakeholder views on policies or measures that could encourage the planting of energy crops at commercial scales in Scotland to increase domestic biomass supply.

Other Key Factors:

- It lays out six draft guiding principles for using bioenergy resources in Scotland, including prioritising waste feedstocks and hard-to-decarbonise sectors.

- It discusses pathways and scenarios for progressively phasing out unabated combustion of biomass in favour of BECCS applications combining biomass with carbon capture technology.

Overall, this consultation lays out a potentially ambitious but still evolving role for the biogas/AD sector in contributing to Scottish bioenergy supply and net zero goals. It sees opportunities around scaling up AD deployment using currently underutilised waste feedstocks in the short-term, while also deploying carbon capture on AD facilities and potentially using energy crops as feedstocks longer-term.

However, many of the key details around future long-term policies, commercial frameworks, and levels of government support still need to be determined through this consultation process and subsequent decisions.

Given the important implications for the future of the Scottish AD industry, it is critical that ADBA members provide feedback to ensure the final policies support the sustainable growth of this sector. Please reach out to our policy team via policysupport@adbioresources.org to provide feedback on this consultation.

[Northern Ireland] Consultation on Emission Reduction Targets and Carbon Budgets

On 21st June 2023, the Department of Agriculture, Environment and Rural Affairs (DAERA) launched a public consultation on Northern Ireland's 2030 & 2040 Emissions Reduction Targets and first Three Carbon Budgets and seeking views on Climate Change Committee (CCC) Advice Report: The path to a Net Zero Northern Ireland – Click here to view. ADBA officially responded to this consultation on 11th October 2023, emphasising the pivotal role the AD sector can play in enabling Northern Ireland to meet its ambitious climate goals across energy, agriculture, land use, waste management and other sectors.

Key Points Highlighted in our response:

- **Scaling up AD is critical for immediate decarbonisation:** ADBA stressed the Climate Change Committee's recommendation for Northern Ireland to accelerate decarbonisation efforts immediately. AD is highlighted as a mature, ready-to-deploy technology that can start decarbonising hard-to-abate sectors like agriculture.
- **Unlocking AD's full potential:** To reach its full potential of producing 3,500 GWh of biogas by 2050, ADBA urged the Northern Ireland Executive and UK Government to provide significant policy support and address barriers around planning, grid connectivity, finance, and feedstock supply.
- **Overcoming barriers:** ADBA identified major challenges like negative public perception, grid constraints, limited gas infrastructure, high costs, and skill shortages. Recommendations include education, streamlined processes, infrastructure investments, long-term strategies, and training programs.
- **Supporting the stretch ambition scenario:** ADBA backed the CCC's Stretch Ambition Scenario, emphasising AD's ability to reduce emissions across energy, transport, agriculture, and land use sectors through biomethane production, carbon capture, and biofertiliser utilisation.
- **Prioritising the speculative agriculture pathway:** ADBA advocated for the Speculative Agriculture pathway over Direct Air Capture, highlighting AD's strengths in decarbonising livestock farming through manure management, biofertiliser usage, and energy crop cultivation.
- **Sector-specific contributions:** ADBA provided recommendations aligned with the CCC's advice for various sectors, underscoring AD's role in renewable energy, biomethane injection, carbon capture, waste diversion, and industrial decarbonisation.

Through its comprehensive response, ADBA has reinforced the vital importance of fully supporting the anaerobic digestion industry to help Northern Ireland achieve its ambitious net zero targets while ensuring a just transition for agriculture and other sectors.

POLICY UPDATE 3: AGRICULTURE & WASTE

AGRICULTURE

Update to Agricultural Transition Plan

On 5th January 2024, Defra published its Agricultural Transition Plan update 2024 – Click here to view. As stated by Rt Hon Steve Barclay, the Secretary of State for the Environment, Food and Rural Affairs, this update "*[sets] out the biggest upgrade to farming schemes since the UK has had the freedom to design [its] own schemes*."

Following the UK's departure from the EU, agricultural policy has been reformed through the Agricultural Transition Plan, which was originally published in 2020. The 2024 update sets out plans and priorities for the next phase, which include:

- Productivity and innovation
- Scale
- Ambition

These three priorities each include their own reforms to help the government achieve its aims of maintaining domestic food production, enhancing farm productivity, delivering outcomes for the environment and climate, reducing agricultural greenhouse gas emissions, and improving the health and welfare of livestock for increased productivity, food security, and exports. The steps to achieve each of the three priorities are outlined below.

- **Productivity and innovation**

Investment in innovation will support farmers to acquire new technology, equipment, and infrastructure to allow changes in their businesses more easily. A core pillar of productivity and innovation is the Environmental Land Management (ELM) Scheme, which has been designed to encourage farmers to improve farm resiliency and productivity. The Farming Investment Fund has also awarded millions of pounds to farmers to invest in technology that supports productivity, animal health and welfare, and slurry management. Improvements funded include those that are part of anaerobic digestion (AD) systems, such as slurry management technologies.

- **Scale**

Scale is prioritised to make environmental schemes and regulations fairer and more attractive for farmers. By early 2024, Defra expects to have 39,000 farmers in environmental schemes. Progress will be maintained by keeping payment rates fair and up to date, consistently paying for creation and maintenance actions, increasing scheme flexibility, implementing targeted improvements, improving farmer and land management services, and allowing free choice in schemes.

These goals are being actioned through the Sustainable Farming Incentive (SFI), which underwent major changes in 2023. Most notably, the changes to the SFI allowed farmers more freedom of choice. With 23 paid-for actions, farmers are now able to select the combination of actions right for them and their land. SFI actions, such as those under nutrient management or soil health, include incentives that support technologies within the AD sector.

- **Ambition**

Defra will achieve its ambitious targets by offering actions that support a wide range of target outcomes. By recognising that no two farms are alike, farmers will be granted access to various options within schemes, including 50 new ones. Other key elements needed to reach this goal include increasing Higher Tier type agreement capacity, increasing incentives and offering premiums to farmers, and improving access to farmer

support and advice. Defra maintains evidence that there is still significant unmet demand to take effective action on farms. As more farmers begin to participate in schemes and gain access to the benefits that the government's environmental budget offers, even more opportunities arise for the AD industry, particularly small-scale and on-farm AD.

The Agricultural Transition Plan elaborates on each of these three categories in-depth and explores how they can be achieved in tandem.

We at ADBA are looking forward to the implementation of the Plan's goals and changes. The agricultural sector remains closely tied to the anaerobic digestion industry, and these exciting advancements offer a number of pathways to align them even further. Of particular relevance is the focus on the use of sustainable fertilisers. The treatment of manure through anaerobic digestion offers a valuable solution to both air and water pollution. Noting the Agricultural Transition Plan's focus on investment in agricultural technology, ADBA is confident in AD's ability to manage agricultural waste, decarbonise the agricultural sector, and transform manure into a spreadable fertiliser in the form of digestate.

First Sustainable Farming Incentive (SFI) Early Payment Received

On 18th October 2023, the first farmers signed up for the new Sustainable Farming Incentive (SFI) received their early payment, as confirmed by Defra. These early payments are worth 25% of the annual value of farmers' agreements. Impressively, farmers have received them only one month after the start of applications in September.

For those farmers whose agreements started on 1 October 2023, payments have been administered to help them improve their cashflow and ensure that the new and improved SFI is working for their farm business.

Secretary of State for Food and Farming Thérèse Coffey expressed her delight about the number of new agreements already in place for the SFI, while Farming Minister Mark Spencer said that they will continue processing applications "as quickly as possible."

The 2023 SFI full guidance was published earlier this year in June. One notable change stated that SFI actions no longer include the addition of organic matter; instead, action SAM1 only covers assessing, testing and producing a soil management plan for organic matter within soils – Full information can be found here. The action aims to help farmers optimise their use of organic sources of crop nutrients, meaning that it may encourage farmers to use nutrients supplied by digestate. For further details about the guidance – Click here to view.

The news of these initial payments marks the beginning of an exciting time for farmers. The changes to the SFI will allow farmers more freedom of choice. With 23 paid-for actions, farmers are now able to select the combination of actions right for them and their land.

The government is also expected to continue making improvements to its Environmental Land Management schemes to ensure that they are optimised for farmers.

Digestate, one of the by-products of AD, acts as a valuable source of organic matter in soil, may improve soil moisture retention, and serves as an excellent replacement for synthetic fertiliser. Because the SFI actions for nutrient management are focused on encouraging more effective usage of organic sources of crop nutrition, they pose a beneficial opportunity for the AD sector. Farmers may use digestate from AD both to increase their use of organic fertiliser and decrease their emissions from synthetic fertiliser.

WASTE

[CONSULTATION OUTCOME] England | Consistency in Household and Business Recycling

On 21st October 2023, Defra published the government response to the 'Consistency in household and business recycling in England' consultation to set guidelines for local authorities to roll out food waste collections – Click here to view. The response addressed a number of key topics, including timelines and funding for separate food waste collections. Through the consultation process, Defra has confirmed both of the following new duties for local authorities: the requirement to deliver weekly food waste collections from households and the requirement to collect garden waste (in accordance with section 45A of the Environmental Protection Act 1990) where there is a duty to collect garden waste.

Notably, businesses and non-domestic premises must have food waste collections in place by 31 March 2025. Households, including flats, will follow by the end of March 2026 and then micro-firms by the end of March 2027. These dates may be subject to exceptions, and there will be an upcoming consultation to address them.

Taking into consideration the announcement from Prime Minister Rishi Sunak in September, councils will have the option to collect food and garden waste together, streamlining recycling into a simpler process and forgoing the need for a written assessment. In the case that a local authority chooses to co-collect food and garden waste from households, it must be ensured that food waste is collected for free on a weekly basis. There will be further consultation on providing an exemption to allow food and garden waste to be collected together in a singular bin. These exemptions would apply to both household and non-household municipal premises and are to be confirmed in upcoming regulations.

With no response from Defra since 2021, this announcement comes after a significant delay that had resulted in a state of paralysis for local authorities. Without clear timeframes and funding information, they had been unable to work toward their legal targets proactively. These updates offer the long-awaited clarity for local authorities that will allow them to begin the appropriate preparation for the significant changes in their waste collection services. The initial deadline for these developments was originally this year, so it is of the utmost importance that the 2025 rollout is final.

As such, ADBA welcomes the announcements made by the government and would like to reiterate that it is essential that no further delays follow. Charlotte Morton OBE, Chief Executive of the Anaerobic Digestion and Bioresources Association (ADBA), said:

> *About time! – was our first reaction as separate food waste collections have been on the agenda for many years now, with the deadlines repeatedly delayed. It's a great step forward to establish a circular economy around food waste and food production for the benefit of all and to ensure increased energy and food security in England. We're all winners in this and it is imperative that no further delays are incurred in rolling out separate food waste collections.*

The AD industry has long since been ready to engage with local authorities to treat their separate food waste collections. AD, which simultaneously addresses some of the nation's most pressing problems — including the cost-of-living crisis, soaring energy prices, energy security, and climate change — is a ready-to-use technology equipped to transform organic waste such as food and garden waste into biomethane, bio-CO_2, electricity, heat and a sustainable biofertiliser, digestate. According to the published response, AD serves as the government's preferred method of treatment for food waste, as it "presents the best environmental outcome for treatment of unavoidable food waste, due to the generation of biofuel and digestate." The response is the start of a vital opportunity to allow the AD industry to close the loop between waste and energy by reducing methane emissions from food waste and producing renewable biogas.

Indeed, these announcements also offer uplifting news for developers, who are required under the Green Gas Support Scheme to generate 50% of biomethane from waste. With the imminent introduction of separate food waste collections and consequential support of the AD industry, the government will demonstrate its dedication to energy and food security while meeting the waste sector's Net Zero targets.

[CONSULTATION] England | Exemptions and Statutory Guidance for Simpler Recycling

On 20th November 2023, ADBA submitted our formal response to Defra's private consultation on exemptions and statutory guidance for Simpler Recycling in England. We were invited as a relevant body to give views on the proposed exemptions from the requirement to separately collect the recyclable waste streams and statutory guidance for Simpler Recycling.

This invitation came shortly after the government response to the 'Consistency in household and business recycling in England' consultation on 21st October, which set out guidelines for local authorities to roll out food waste collections. Defra confirmed both of the following new duties for local authorities: the requirement to deliver weekly food waste collections from households and the requirement to collect garden waste where there is a duty to collect garden waste. The publication of this response came after a significant delay.

ADBA used the invitation to respond to the Simpler Recycling private consultation as an opportunity to reaffirm our stance that food waste and garden waste should always be collected separately. Using data from WRAP, we argued that separate food waste collections reduce food rising in the first place and increase community engagement with food waste collection, thereby increasing overall capture rates.

It is ADBA's priority that the reduction of food waste takes precedence and that any food waste generated is recycled through AD rather than having its value wasted when processed through landfill, incineration, or EfW.

Our response highlighted that, at present, most AD plants in the UK use wet AD technology; at times, the fibrous and woody material found in garden waste can interfere with the biological process of a wet AD digester. However, we also called on Defra to support the development of new dry AD capacity, a type of digestion that can recycle both food waste and garden waste.

With dry AD, food and garden waste that has been separately collected can be merged again post-collection to be recycled together through dry AD. The development of dry AD sites would present a great opportunity to improve the management of green waste in the UK, and the benefits are clear:

One million tonnes of garden waste could generate approximately 1.0 TWh of green energy – and there were 6.8 million tonnes of garden waste available in 2021. Garden waste is England's untapped energy source; by treating those 6.8 million tonnes of waste through dry AD, an additional 6.8 TWh of biogas could be used to heat nearly 567,000 homes, generate electricity, and power our way to net zero.

ADBA also responded by supporting the provision of non-plastic, compostable caddy liners as good practice and that local authorities should provide these liners for free—though only if they meet the compostable standard to avoid introducing contaminants to the soil.

[CALL FOR EVIDENCE] Scotland | Scottish Circular Economy and Waste Route Map to 2030

Call for Evidence: Summary

The Scottish Government launched an important consultation on its Circular Economy and Waste Route Map to 2030 on 18 January 2024. This route map sets out the strategic direction for implementing a comprehensive vision of Scotland's circular economy from now until 2030. The call for evidence ran for 8 weeks and concluded on 15 March 2024.

Scotland has committed to achieving Net Zero emissions by 2045. The Nation has made significant progress towards reducing emissions across sectors, including the waste management sector. Over the past decade, the total amount of waste going into landfills has reduced by over a third, and greenhouse gas emissions from waste have reduced by 76% in 2021 compared to 1990.

While the progress is significant, the climate emergency and ongoing energy crisis have posed additional challenges to the current pathway. Acknowledging this, the Scottish Government proposed implementing this Route Map as part of its response to the rising challenges.

Measures in the Route Map are grouped under 4 strategic aims across the span of the waste hierarchy:

- **Reduce and Reuse Waste:** This includes measures like delivering an intervention plan to reduce household food waste generation and developing a Product Stewardship Plan to tackle the environmental impacts of priority products.
- **Modernise Recycling:** Proposed actions involve facilitating a co-design process for high-performing household recycling services, reviewing compliance with commercial recycling requirements, and conducting research to optimise waste management systems.
- **Decarbonise Disposal:** The Route Map plans to develop a Residual Waste Management Plan to guide lower carbon options for unavoidable waste. It also aims to minimise carbon impacts of Energy from Waste through a Sector-Led Plan.
- **Strengthen the Circular Economy:** This covers strategic oversight for the delivery of a circular economy through actions like developing a Circular Economy Strategy every 5 years and reviewing and refreshing Scotland's Waste Data Strategy's action plan.

The Route Map outlines multiple key objectives under these 4 strategic pillars for which the Scottish Government proposes 'priority actions' that are critical to the progress and 'further actions' that will complement these priority actions.

AD is an established and well-recognised circular economy technology with the added benefit of producing carbon-negative renewable energy. It is disappointing to see the lack of recognition the sector has received from the Scottish Government in this Route Map.

ADBA Response to the Call for Evidence

On 15th March 2024, ADBA submitted its formal response to this consultation. In the comprehensive response, ADBA argued that the AD sector should be given greater prominence and support as a key circular economy solution for Scotland.

The response highlighted how AD epitomises the circular economy model by recycling organic wastes into renewable energy, biofertilisers, and captured carbon dioxide. Despite the significant economic and environmental benefits AD provides, the technology received little to no mention throughout the consultation document.

ADBA's response aimed to rectify this oversight across the consultation's key sections:

- Reduce and Reuse

While supporting proposals to reduce food waste, ADBA recommended including AD as the best management solution for the unavoidable food waste that will still arise. Mandatory food waste reporting can improve data on organic waste levels.

- Modernise Recycling

AD can sustainably recycle large volumes of food and other organic wastes, yet its role was overlooked. ADBA urged including specific AD actions to increase organic waste recycling.

- Decarbonise Disposal

AD's benefits in avoiding methane emissions, producing renewable energy, and creating biofertilisers were highlighted. ADBA stated that AD warrants much clearer policy prioritisation among waste solutions.

- Strengthen Circular Economy

While supporting circular economy targets, ADBA criticised the call for evidence's lack of inclusion of AD, which provides circular solutions across multiple sectors like energy, agriculture, and transport. Please recheck

The response also recommended policy support measures for AD, such as financial incentives, streamlined permitting, reduced taxes on renewable gases, and minimum recycling requirements. ADBA stressed that greater government backing for AD is vital for Scotland to achieve its net zero and circular ambitions.

ADBA will continue advocating for the anaerobic digestion industry and its pivotal role in building a truly circular economy in Scotland.

REGULATORY UPDATE

Biowaste Quality Protocol

Currently, ADBA is communicating with the Environment Agency and The Association For Renewable Energy and Clean Technology (REA) to adjust the quality protocol of biowaste. We will provide further information as we progress in the process.

[GUIDANCE UPDATE] Develop a Management System: Environmental Permits

On 3rd April 2023, the Environment Agency released updated guidance for environmental permitting on developing a management system that is resilient to climate change impacts – Click here to view. This guidance clarifies when permit holders need to integrate climate adaptation planning into their site management systems based on when their permit was issued:

- For permits issued on or after 1st April 2023 - climate adaptation must be incorporated into the management system right away.
- For permits issued before April 2023 - operators have until 1st April 2024 to conduct a climate change risk assessment and update their management system.

Why is this update important?

The latest UK climate projections show we can expect more extreme weather events like heatwaves, heavy rainfall, coastal flooding from rising seas, and increased storm frequency in the future. These changes could significantly impact industrial operations and compliance with permit conditions.

The new guidance requires operators to evaluate how climate change may affect their site activities, operating procedures, the surrounding environment and local communities over the lifetime of the permitted activity. Operators need to plan for climate resilience by:

- Assessing risks from a 2^0C rise in global temperatures by 2050 and 4^0C by 2100,
- Considering multiple climate hazards occurring simultaneously,
- Developing plans to adapt operations, testing the effectiveness of controls,
- Reviewing and updating climate adaptation plans regularly.

Essentially, permitted facilities must weave climate change preparation into their core management system to anticipate and mitigate potential risks. The Environment Agency provides sector-specific climate risk examples to guide operators through this process.

[GUIDANCE UPDATE] Adapting to Climate Change: Industry Sector Examples for Risk Assessment

On 17th May 2023, a new update was added to this guidance to reflect on extreme weather events – Click here to view. This guidance includes sector guides for each industry, containing examples of possible impacts and mitigation measures. Operators can use these examples when developing or reviewing their management system.

These example risk assessments have all been updated following the extreme weather events of 2022 that saw intense storms and record-breaking daily temperatures. As a result, they now provide additional impacts and suggested mitigation measures.

[GUIDANCE UPDATE] Statutory Guidance on AD Including use of Resultant Gas & Storing Digestate

On 13th March 2023, 3 statutory guidance under this sector were updated.

- SR2021 No 7: anaerobic digestion facility, including use of the resultant biogas – waste recovery operation

In the standard rules permit, added to the introductory note under the minimum distances from sensitive receptors '250 metres of the nearest sensitive receptor where any further treatment takes place by composting digestate fibre in the open'.

- SR2021 No 8: on-farm anaerobic digestion facility using farm wastes only, including use of the resultant biogas – installations

In the standard rules permit, changed the text in the introductory note under the minimum distances from sensitive receptors and in condition 2.2 from '250 metres of the nearest sensitive receptor where any processing or storage of digestate fibre is in the open' to '250 metres of the nearest sensitive receptor where any further treatment takes place by composting digestate fibre in the open'.

- SR2021 No 9: on-farm anaerobic digestion facility, including use of the resultant biogas – waste recovery operation

In the standard rules permit, changed the text in the introductory note under the minimum distances from sensitive receptors from '250 metres of the nearest sensitive receptor where any processing or storage of digestate fibre is in the open' to '250 metres of the nearest sensitive receptor where any further treatment takes place by composting digestate fibre in the open'.

END OF REPORT

Annex 1: Glossary of Terms

ADQP	Anaerobic Digestate Quality Protocol
BCM	Biomethane Certificates
BECCS	Bioenergy with Carbon Capture and Storage
BEIS	Department for Business, Energy and Industrial Strategy (Currently known as DESNZ)
CCC	Committee on Climate Change
CCUS	Carbon Capture, Utilisation, and Storage
CfD	Contract-for-Difference
CHP	Combined Heat and Power
DACCS	Direct Air Carbon Capture and Storage
DAERA	Department of Agriculture, Environment and Rural Affairs of Northern Ireland
DEFRA	Department for Environment Food and Rural Affairs
DESNZ	Department of Energy Security and Net Zero (Previously known as BEIS)
DfE	Department for the Economy
DfI	Department for Infrastructure
EfW	Energy from Waste
ELM	Environmental Land Management
ESS	Environmental Standards Scotland
ETS	Emissions Trading Scheme
FiT	Feed-in-Tariff
FPC	Fixed price certificates
GGL	Green Gas Levy
GGR	Green Gas Removal
GGSS	Green Gas Support Scheme
HGV	Heavy Goods Vehicle
MRV	Monitoring, Reporting, and Verification
$MtCO_2e$	Million Tonnes of Carbon Dioxide Equivalent
NECD	National Emissions Ceiling Directive
NETs	Negative Emission Technologies
NIEA	Northern Ireland Environment Agency
PAC	Public Accounts Committee
REGO	Renewable Energy Guarantees of Origin
RHI	Renewable Heat Incentive
RO	Renewable Obligation
ROC	Renewable Obligation Certificate
RTFC	Renewable Transport Fuel Certificates
RTFO	Renewable Transport Fuel Obligation
SEPA	Scottish Environment Protection Agency
SFI	Sustainable Farming Incentive
WRAP	Waste & Resources Action Programme
ZWS	Zero Waste Scotland

ADBA | Anaerobic Digestion and Bioresources Association | THE ENERGY BEHIND THE AD REVOLUTION adbioresources.org

ANAEROBIC DIGESTION AND BIORESOURCES ASSOCIATION LTD.

Office CH5, Fifth Floor, Riverside Building, County Hall, Westminster Bridge Road, London SE1 7PB, UK

T: (+44) 020 3176 0503 **F:** (+44) 0844 292 0875 **E:** policysupport@adbioresources.org **W:** www.adbioresources.org

Follow us on Twitter: @adbioresources