

Written evidence from Melton CLP (MET0030)

Introduction

Melton Renewable Energy is one of the leading independent generators of renewable energy in the UK. Its landfill gas to energy (LFGTE) business, Melton CLP, owns and operates 19 LFGTE facilities across the UK with a total net installed capacity of 54MW.

Melton CLP takes naturally occurring landfill gas, made up of typically 50% methane and 50% carbon dioxide and generates low-carbon, domestic and baseload electricity

24/7, 365 days a year, bolstering the UK's energy security and preventing environmentally damaging gases from escaping into the atmosphere.

By capturing methane to use in its operations, Melton CLP plays an important role in reducing harmful emissions in line with recent commitments made at COP28 and the recommendations of the Climate Change Committee's 6th Carbon Budget's Balanced Pathway to implement policy which targets increased methane capture rates from 68% in 2018, to 80% in 2050.¹

Like all major LFGTE businesses in the UK, Melton CLP's sites are supported by the Renewable Obligation Certificate (ROC) scheme, which, under current policy, is due to expire from 2027. It is generally agreed that since the implementation of the ROC support scheme, methane capture rates have increased, and the UK has become a global leader in methane capture from landfill sites.

With the ROC scheme expiring from 2027, LFGTE facilities will be forced to shut, leading to increased methane emissions and the possible mismanagement of landfill gas at a time when Government is seeking to increase methane capture rates.

Our reasons for submitting evidence to the Lords' Environment and Climate Change Committees' Methane inquiry are several. We want to provide perspectives from the LFGTE sector on the positive and transformative impacts the ROC scheme has had on supporting the LFGTE sector to capture and utilise methane since its introduction in 2002. Our submission seeks to stress the negative consequences of the end of ROCs and the subsequent closure of LFGTE operations if an alternative means of revenue support is not offered. The submission advocates for continued support for LFGTE and argues that preserving existing, mature technologies as a much more cost-effective way of maintaining and improving methane capture rates in the UK.

Relevant questions & answers

¹[The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/publication/the-sixth-carbon-budget-the-uks-path-to-net-zero/)

Q 15. To what extent is there existing regulation in each emitting sector to mitigate methane emissions, and how well is this working?

The UK is a world leader in the capture and utilisation of methane from landfill sites. The waste sector is the second largest emitter of methane, accounting for 30% of emissions in 2022. That same year landfill waste alone accounted for nearly 80% of methane emissions from the waste sector, with the remaining 20% coming from wastewater treatment and composting. As such, landfill gas to electricity (LFGTE) operators play a key role in methane capture efforts and have helped the waste sector deliver the largest emissions reductions of any sector in the UK since 1990, producing 75% less methane in 2020 when compared to 1990 figures, a reduction of 47MtCO₂equivalent (MtCO₂e).²

This reduction has been made possible by operators like Melton CLP, which captures naturally occurring landfill gas, made up of typically 50% methane and 50% carbon dioxide, to generate sovereign, low-carbon, baseload electricity 24/7, 365 days a year, while also preventing harmful gases from escaping into the atmosphere and contributing to climate change.

Like most of the LFGTE sector, Melton CLP's operations are supported by the Renewable Obligations Certificate scheme (ROCs) which was introduced in 2002 to encourage the generation of renewable electricity from a variety of sources, including from landfill gas. When ROCs was introduced methane emissions from landfill sites stood at 61 MtCO₂e. By 2022 those emissions had fallen to 13.5 MtCO₂e.³ ROCs is a perfect example of the Government's emissions reduction policy working effectively to mitigate emissions, while also delivering societal benefits in the form of baseload energy.

ROCs will expire from 2027, and there is currently no replacement mechanism planned. This situation will leave LFGTE operators across the UK, including Melton CLP, without revenue support, rendering sites uneconomical and forcing closures. This situation will not only lead to the removal of around 400MW of low-carbon electricity, it will also cause a significant reduction in methane capture rates across the country, to the detriment of the UK's global leadership status in this respect.

As the Committee recently heard in an Oral Evidence session held on the 27th of March, The Association for Renewable Energy and Clean Technology commissioned

consultants to model what would occur if there was a 1% change in methane capture rates. The finding was that over a 10-year period, this would result in the release of 1.1 million tonnes of CO₂ equivalent, which would translate into £321 million in financial value, according to the Government's green bank approach.⁴

² [United Kingdom methane memorandum - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/103111/United_Kingdom_methane_memorandum_-_GOV.UK_(www.gov.uk).pdf)

³ [final-greenhouse-gas-emissions-tables-2022.xlsx \(live.com\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/103111/final-greenhouse-gas-emissions-tables-2022.xlsx)

As shown by the Government's own methane memorandum (November 2022), ROCs has been a key factor in lowering methane emissions from the waste sector⁵. Its termination will also put an end to a period of high methane capture rates. This will be a direct contradiction of the recommendation of the Climate Change Committee's 6th Carbon Budget's Balanced Pathway to implement policy to help increase UK capture rates from 68% in 2018, to a targeted 80% by 2050.

Methane capture has significant benefits to slowing down climate change in a cost-effective way through existing technology and infrastructure. According to the UN's Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions report, 40% of current methane emissions could be avoided at no net cost and available measures could reduce methane emissions by up to 45% by 2030.⁶

Current policy to mitigate methane emissions from the waste sector is working well, showing progressive results and has the potential to continue delivering methane abatement at scale to slow down climate change. Plans to terminate ROCs, however, with no replacement mechanism in place will result in increased methane flaring and reduced low-carbon energy production.

Q 21. What further progress could be made in the waste and waste management sector on reducing methane emissions? Are there interventions and/or technologies that could bring emissions down?

One key intervention that should be made in order to maintain the high capture rates, delivered by the waste sector, following the planned termination of ROCs, is the introduction of a fixed term support mechanism for landfill gas operators. This would give generators the planning certainty to make the required investments in technology, which allows for gas to be cleaned to a higher standard and improves the efficiency of methane capture and energy generation. Additionally, this will enable landfill operators to continue generating low-carbon electricity, to support the UK's net zero transition.

Previously Defra has issued a call to the sector, encouraging investment in operation and technological upgrades, which Melton CLP welcomes, as it looks to further improve its methane capture capabilities. To make such long-term investments, however, we

need assurances from the Government that our operations will remain financially viable post 2027, through an alternative revenue support mechanism.

Q 22. Given the regulations already in place for methane reduction in the waste sector, why are emissions from the waste sector static over recent years? Are existing regulations monitored and enforced?

⁴ committees.parliament.uk/oralevidence/14597/pdf/

⁵ [United Kingdom methane memorandum - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/103111/United_Kingdom_methane_memorandum_-_GOV.UK_(www.gov.uk).pdf) ⁶[GMA.pdf](#)

Plans to terminate the ROCs in 2027 and the failure to offer alternative revenue support, thus far, have caused a significant lack of certainty among LFGTE operators. This has, in turn, stalled investment decisions, which would otherwise allow for engines to be upgraded and allow for more efficient methane capture and continues to disincentivise operators from working to improve capture rates. Once alternative support is extended, and such decisions become financially sensible, methane capture rates are likely to see a sustained increase, as has been demonstrated over the last 20 years.

Another reason may be the declining volume of methane at some landfill sites, as they slowly decrease in size, thanks to Government policy to reduce the amount of biodegradable waste sent to landfill. This is, however, an incredibly slow process, and methane volumes will reduce at a rate of around 2% pa, meaning LFGTE is still necessary to manage methane emissions.

Q 23. Is the UK on track to meet the Government's deadline of all local authorities collecting food waste separately from landfill by March 2026?

The UK is not on track to meet the Government's deadline for all local authorities collecting food waste separately from landfill by March 2026. The Local Government Association recently released a study, which shows that 67% of local councils do not believe they would be able to achieve net zero goals with current support from Government.⁶ Additionally, the recent Government announcement for funding for councils to introduce weekly food waste collection acknowledges that plans would allow for food waste to be collected from most, but not all households by 2026.⁷ This means that landfill sites will be operational past the deadline set by Government, which will further extend the need for landfill gas operators to capture methane from those sites.

Indeed, previous Government experience in the UK has shown that these targets are difficult to achieve, with the Scottish Government initially aiming to ban all biodegradable waste going to landfill by 2021 and having to delay it to 2025, due to the unfeasibility of the timeline.

Even if this deadline was to be met, landfill operators would need to be active for years to come, in order to capture the methane produced by the last bit of waste disposed in 2026, with methane beginning to be emitted within a year following disposal and continuing its evolution over the following decades.

This is why Government must plan for the long term and not allow landfill operators to shut following the planned termination of ROCs in 2027 but provide

⁶ [Government urged to get rid of red tape to help councils to act on climate | Local Government Association](#)

⁷ [New £295m for councils to introduce weekly food waste collections - GOV.UK \(www.gov.uk\)](#)

an alternative revenue support mechanism to enable them to continue capturing methane and producing low-carbon electricity.

Q 24. To what extent will improved methane captured at landfill sites, remain necessary to reduce methane emissions after this date?

Maintaining and improving methane capture is and will remain necessary to a great extent because it is crucial to reducing harmful greenhouse gas emissions to the atmosphere and slowing down climate change, as we try to reach our net zero targets.

Even if the UK meets its target for local authorities to collect food waste separately and not send it to landfill starting in 2026, methane emissions from those landfill sites will remain a key target for methane reductions. Biodegradable waste sent to landfill today will continue slowly breaking down and emitting methane for years to come. Given that local authorities are not on track to meet the 2026 target, methane capture at landfill is set to remain a key area for the reduction of greenhouse gas emissions in the coming years.

Once landfills stop receiving food waste they will continue dealing with other types of waste, including industrial waste and managing the changing nature of their industry. These expected changes will likely mean an increase in H₂S gas at landfill sites, which will in turn require further investment in carbon cleaning to safely process gas through operators' engines. At this stage supporting landfill operators, like Melton CLP, will remain the best value for money option for Government, as operators adhere to a gas cleaning standard that is not as expensive as the standard alternative technologies, like gas to grid must clean to.

Additionally, this will ensure continued electricity generation from landfill operators and avoid the difficult-to-replace loss of 400MW of low-carbon, baseload electricity, which the sector currently provides. According to the recent seventh Allocation Round of the CfD scheme (AR7) consultation, 1.3GW of onshore wind is due to go offline during the AR7 period, which is scheduled to commence in March 2025. Given the National Grid's indicative derating factor of onshore wind for 2023/24 of 8.20%⁸, only a small portion of this capacity can be called upon to produce energy at critical times. This

means that if the Government wanted to replace the 400MW of low-carbon, baseload power provided by the LFGTE sector, it would require an estimated 3.5GW of onshore wind capacity, three times that current available.

Melton CLP has the ambition to make the necessary investments in the technology, which will enable improved methane capture rates and the continued production of low-carbon electricity. To do this however, it needs to receive guarantees from Government through a post-ROC revenue support scheme in

⁸ [Electricity Capacity Report 2022.pdf \(emrdeliverybody.com\)](#)

the short to medium term, while Government develops a longer-term policy pathway to support landfill operators.