

Committee Report



PURPOSE: Policy Options Report

KEY OR NON-KEY DECISION: Key decision over £500k

COMMITTEE: Environment and Sustainability Committee

DATE: 26 September 2024

TITLE: Green Gas

Ward(s): City Wide

Officer presenting the report: Helen Reed **Job title:** Head of City Leap Client and Energy Service

Committee Chair: Cllr Martin Fodor

Executive Director lead: John Smith: Executive Director for Growth & Regeneration

Proposal origin: BCC Staff

Purpose of Report:

1. To seek approval for the use of 'green gas' as a carbon offsetting mechanism.
2. To approve the extent of green gas usage across the council estate.
3. To agree the procurement mechanism to be used to secure supplies of green gas.

Evidence Base / Options to consider:

Bristol City Council (BCC) Gas use

1. Natural gas is the council's largest provider of heat and hot water across the BCC estate.
2. The council has significantly reduced the use of gas through ongoing energy efficiency measures, and has a programme to replace gas heating with heat pumps and district heating. However, the council expects to have to continue to use gas as a heating fuel for some years.

Gas decarbonisation measures

3. The combustion of natural gas to heat our buildings is one of the largest sources of the council's greenhouse gas emissions, generating 7,388 tonnes CO_{2e} across all BCC gas usage in 2023/24.
4. Options to decrease BCC's gas-related carbon emissions include:
 - a. Energy efficiency measures to reduce gas demand. A programme of ongoing energy efficiency and decarbonisation measures, as approved at the September 2023 Cabinet meeting, is under way, but this will not remove all demand for gas.
 - b. Replacing gas with an alternative heat source. The leading options are heat pumps (electrification of heat) and district heat networks (DHN). Work in progress will displace some, but not all, council gas demand with heat pumps and DHN connections.
 - c. Use of alternative heating fuels such as Hydrogen. Work is in progress to allow hydrogen blending in the GB gas grid, but current appliances can only cope with blends of up to 20% hydrogen. The use of green hydrogen (produced from the electrolysis of water using renewable energy) would help displace some council emissions, other forms of hydrogen

production have associated carbon emissions.

- d. Carbon offsets. This would involve the purchase of carbon credits under an accredited offset scheme, typically involving investment in carbon reduction measures such as re-forestation or renewable energy, on a tonne-for-tonne basis. There are risks over the reputability of carbon offsetting schemes, and any carbon reduction achieved would be indirect, ie paying to reduce someone else's emissions, for the greater good of all.
- e. Use of green gas to displace natural gas. The council has been using limited volumes of green gas (10% of current demand) for some years as a way to reduce its carbon emissions. An increased use of green gas would provide a quick route for achieving significant further reductions in carbon emissions.

Green Gas

5. It is not possible to purchase green gas directly, it will typically be bought under a green gas certification scheme, under which producers are paid to inject equivalent volumes of green gas into the GB gas grid (see Appendix A). This indirect procurement has implications for how the carbon reduction is measured, but it is generally accepted that reductions in carbon emissions from the indirect procurement of green gas can be counted towards an organisation's carbon reductions.
6. Green gas is a very low carbon fuel, but it is not a zero-carbon option. It should be seen as a transition measure, to enable BCC to reduce its gas-related carbon emissions pending the installation of long term measures including the electrification of heat and the expansion of the district heat network to other BCC buildings.
7. Green gas attracts a cost premium, currently £46k per year from an overall £2.8M BCC gas spend. The cost of green gas certificates is driven by market availability and demand, and there is a risk that these costs could increase over the term of the BCC gas supply contract.

Scope of green gas use

8. As the deadline for achieving carbon neutrality targets approaches, a decision is needed on whether to continue or expand the use of green gas use as a decarbonisation measure, and if so, how this is to be procured.
9. The scope of green gas usage could include:
 - a. Discontinuation of green gas use. Stopping the use of green gas would increase the council's effective carbon emissions (by 689 tonnes/yr), but would achieve a cost saving (£46K per year).
 - b. The current green gas supply is targeted at the council's largest gas using sites, City Hall and the two crematoria (which account for 39% of gas demand for sites within the 2025 carbon neutrality target). The scope of green gas usage could remain targeted at just the largest gas consumers, where it will have most effect. This is the status quo option, resulting in no increase over current costs (subject to future gas certificate prices) but no additional benefit in carbon reductions.
 - c. Even with energy efficiency and decarbonisation measures in progress, there will be a significant volume of gas demand from sites included within the council's 2025 carbon neutrality target. Expanding the use of green gas to all these sites will offset their gas-related carbon emissions, supporting the achievement of a key environmental target.
 - d. Housing sites are not included in the 2025 carbon neutrality target, they have a later 2030 target. The migration of these sites to green gas could be deferred until the renewal of the council gas supply contract in 2028.
 - e. Schools have their own energy budgets, but are supported by BCC through a bureau service,

which gives them access to BCC energy contracts. Schools are also operating to a 2030 carbon neutrality target. Green gas could not be imposed across all Schools as they are governed independently, but Schools already have an option to adopt Green Gas through BCC supply contracts if they wished to do this.

10. The recommended option would be to expand the use of green gas to all sites within the scope of the council's 2025 decarbonisation target. This would reduce BCC's carbon emissions by 2007 tonnes CO_{2e}/yr, at an additional cost of £88K/yr (taking the total green gas spend to £134K/yr).

Procurement of green gas

11. The September 2023 Cabinet gave approval for renewing the council's gas supply contracts for four years from September 2024. This included provision for the procurement of additional green gas to meet the council's 2025 Carbon Neutrality target. This green gas could be procured as:
 - a. 'Bundled' certificates, ie Renewable Gas Guarantee of Origin (RGGO) certificates included as part of the gas supply contract. This is the approach used in the current green gas supply.
 - b. 'Unbundled' certificates, bought separately from the gas supply contracts. Unlike as with electricity, there is not a single regulator-backed green certificate scheme for gas; RGGO is one of a number of reputable schemes available. Direct purchase of unbundled certificates opens options for specifying aspects such as the feedstock used to generate the green gas used by the council.
 - c. 'Sleeving', ie the direct purchase of green gas from the producer, who then injects the green gas bought by the council into the wider gas network; this would still be an indirect supply of green gas, but could be targeted at supporting local green gas producers. The BCC Generation Dynamic Purchasing System set up in 2022 does include options to procure green gas directly from local producers. However, there is likely to be only a very limited supply of locally produced green gas in the Bristol area, so this may not provide a significant proportion of BCC's continuing gas requirements, but it could support the local development of green gas production.
12. Green gas is produced by the breakdown of organic material in the absence of oxygen, a process known as anaerobic digestion (see Appendix A). The organic material used can be waste products such as farm waste or food waste, or it can be 'fuel crops', ie crops grown specifically for the purpose of being used as a fuel for anaerobic digesters.
13. Buying 'unbundled' green gas certificates is an untested approach for the council, but this approach could offer the council options for specifying how its green gas has been produced, eg waste v fuel crops (noting that this might have cost implications). This would require a separate tendering exercise to appoint a broker or certificate provider. It would be advisable to carry out soft market testing to ascertain the level of interest from the market and the range of providers available, to report back on the cost implications of this approach and options available.
14. The recommended approach would be to procure unbundled green gas certificates if affordable, or failing that, to procure bundled green gas certificates (RGGOs) from the BCC gas supplier as before.

Officer Recommendations:

That the Environment and Sustainability Committee:

1. Approves the expansion of the use of green gas to meet the gas demand of all BCC sites included within the 2025 Carbon neutrality target as a decarbonisation measure.

Contractual:

1. Authorises the Executive Director for Growth and Regeneration, in consultation with the Chair and Deputy Chair of the Environment and Sustainability Committee, to vary existing gas supply contracts or to procure and award contracts for the dedicated supply of green gas, in-line with the procurement routes and maximum budget envelopes outlined in this report.
2. Authorises the Executive Director for Growth and Regeneration to invoke any subsequent extensions/variations specifically defined in the contract(s) being awarded, up to the maximum budget envelope outlined in this report.
3. Authorises the Executive Director for Growth and Regeneration to carry out market testing of procurement options to inform the procurement approach to be used for securing council green gas supplies.

Corporate Strategy alignment:

1. These measures support the Corporate Strategy 2022-2027 Theme 3 Priority ENV1 Carbon Neutrality and links to the Theme 7 Priority ED06 Estate Review in helping to decarbonise essential residual energy supplies.
2. These measures support the Mayor's Climate Emergency Action Plan 2019 to "Commit to the Council being carbon neutral for our direct emissions by 2025".

City Benefits:

1. These measures contribute to delivering One City Goal 81 - Bristol City Council is carbon neutral for direct energy and transport emissions.

Consultation Details:

1. Bristol City Council Climate Change and Sustainable City Service has been consulted on carbon offsetting policy and options, and on the scope of council carbon neutrality targets.

Background Documents:

- [Corporate Strategy 2022-27 \(bristol.gov.uk\)](https://www.bristol.gov.uk/corporate-strategy-2022-27)
- [Mayor's Climate Emergency Action Plan 2019](https://www.bristol.gov.uk/mayors-climate-emergency-action-plan-2019)
- One City Plan - [Dashboard - Bristol One City](#) (Goal 81)
- September 2023 Cabinet approval for renewal of the council's gas supply for 2024 – 2028 - [ModernGov - bristol.gov.uk](https://www.bristol.gov.uk/moderngov)
- Officer Executive Decision on the award of a gas supply contract for 2024 – 2028 - [ModernGov - bristol.gov.uk](https://www.bristol.gov.uk/moderngov)
- September 2023 Cabinet approval for a Bristol City Council Corporate Estate Decarbonisation Programme [ModernGov - bristol.gov.uk](https://www.bristol.gov.uk/moderngov)

Revenue Cost	£134k per annum (£536k over 4 years)	Source of Revenue Funding	New funding required into directorate
Capital Cost	£0	Source of Capital Funding	n/a
One off cost <input type="checkbox"/>	Ongoing cost <input checked="" type="checkbox"/>	Saving Proposal <input type="checkbox"/> If yes - existing or new saving? Choose an item. OR Income generation proposal <input type="checkbox"/>	

1. Finance Advice: This report requests approval to expand the use of Green Gas in place of natural gas to reduce carbon emissions. In total the Council would be paying a premium of £134k each year in order to use Green Gas instead of Natural Gas reducing carbon emissions. The council already spends £46k each year on Green Gas to reduce carbon emissions by 689 tonnes per year. The report recommends increasing that spend by £88k to £134k each year further reducing the Council's carbon emissions by 1,318 tonnes to 2007 tonnes a year. This proposal has been separately included in the Medium Term Financial Plan budget planning for 2025/26 onwards but it has not yet been confirmed as affordable.

Finance Business Partner: Ben Hegarty, Finance Business Partner Growth and Regeneration, 6 September 2024.

2. Legal Advice: Whenever the council procures supplies of goods, it must comply if the value is over certain thresholds with either its own procurement rules and/or the Public Contracts Regulations (or the Procurement Act 2023 if procured on or after the 28 October 2024). The relevant officers will need to seek legal advice to ensure that this requirement is met.

Legal Team Leader: Sinead Willis, Solicitor and Team Manager – Commercial and Governance Team, comments provided on report 31 July 2024.

3. Implications on IT: I can see no implications on IT regarding this activity.

IT Team Leader: Alex Simpson – Lead Enterprise Architect, 6 August 24

4. HR Advice: There are no HR implications evident

HR Partner: Celia Williams, HR Business Partner, 29 July 2024

APPENDICES

Appendix A – Further essential background / detail on the proposal	YES
Appendix B – Equality Impact Assessment (EqIA)	YES
Appendix C – Environmental Impact Assessment (Environmental Impact Assessment	YES
Appendix D – Decision Risk Assessment	YES
Appendix E – Exempt Information	NO
Appendix F – Details of consultation carried out - internal and external	NO
Appendix G – Options appraisal matrix	YES
Appendix H – Business case / financial analysis	NO