

Decision Pathway – Report

PURPOSE: [Key decision](#)

MEETING: [Cabinet](#)

DATE: 05 September 2023

TITLE	Gas supply renewal		
Ward(s)	Citywide		
Author: Helen Reed	Job title: City Leap Client Lead		
Cabinet lead: Cllr Kye Dudd, Cabinet Member for Climate, Ecology, Waste and Energy	Executive Director lead: John Smith, Interim Executive Director Growth & Regeneration		
Proposal origin: BCC Staff			
Decision maker: Cabinet Member			
Decision forum: Cabinet			
Purpose of Report:	<ol style="list-style-type: none"> To seek approval to renew the Council’s natural gas supply contract. 		
Evidence Base:	<p>Contracting</p> <ol style="list-style-type: none"> BCC’s natural gas supply is provided through a framework contract with the Laser Public Sector Buying Organisation (Laser), with TotalEnergies as the appointed supplier. This contract expires on 30th September 2024. Because of the way the Council’s gas is procured, a decision is needed by September 2023 (12 months ahead of expiry) on continuing natural gas supplies beyond the expiry of this contract with the contract being in place to allow gas purchases to be made by our proposed supplier by the end of September 2023. The current contract operates on a flexible procurement basis, as approved at the January 2022 Cabinet. This means that gas for BCC use is bought through a number of smaller separate purchases spread over a number of months before and after the contract start date, rather than being based on a single price for the entire volume set on the renewal date. The purchase of the gas is best left to experienced traders to manage, and so as part of the contractual arrangements most buying organisations provide a third party trading desk who can manage the gas trades on behalf of the Council. This would be the case with the proposed framework contract with Laser. Further detail as to how a flexible procurement contract works is set out in Appendix A. Flexible procurement involves a more complex pricing mechanism, but can secure a better price than a fixed/firm price contract. In order to maximise the benefits of a flexible procurement model, robust ongoing monitoring of gas demand is essential. The alternative options to extending the flexible procurement arrangements are: <ol style="list-style-type: none"> Run a tender for a fixed price contract directly with a supplier; or Run a call-off under the Council’s Dynamic Purchasing System. An analysis of these contracting options has been carried out and is summarised in Appendix A. It is recommended that the Flexible procurement contract is the best option for the Council. Officers in the Energy Supply team have reviewed options for other framework providers and concluded that Laser are the best match for the Council’s requirements. Further details of this appraisal are set out in Appendix A. <p>Demand</p> <ol style="list-style-type: none"> The expected value of the contract will depend on the quantity of gas demand over the contracting period. 		

Gas demand estimates have been provided to Laser to help assess the future costs of the contract. To arrive at these estimates the Energy Supply team has predicted future usage based on current gas demand. This has been determined by two different methods, a weather-corrected four year average and projecting forward last year's demand. Both methods arrive at slightly different but reconcilable volumes.

8. This estimate has then been adjusted to reflect assumptions made as to the impact of planned measures that will reduce BCC's gas demand over the next contracting period. Overall gas demand is expected to fall significantly as:
 - a. BCC sites are connected to the growing District Heat Network (DHN), replacing current gas-fuelled heating systems
 - b. Gas boilers come to the end of their operational life and are replaced with either a DHN connection or with electric heating (heat pumps/electric boilers)
 - c. Improvements in energy efficiency are achieved as a result of City Leap-delivered projects
 - d. BCC sites are closed or disposed as a result of estate rationalisation.
9. As part of BCC's commitment to carbon neutrality, our City Leap Strategic Partner, Ameresco Ltd, is developing a programme of decarbonisation works across the Corporate Estate, which is detailed in a separate report. This programme of works includes connections to the DHN and replacement of gas boilers with electric heating as well as energy efficiency measures. Further detail as to the expected reduction in demand is set out in Appendix A and details around the proposed measures and their associated costs are set out in a cabinet report being brought to September cabinet "Corporate Decarbonisation Programme".
10. This ongoing reduction in demand will need to be factored into the replacement gas supply contract.

Costs and Key Assumptions

11. In assessing the cost of the new contract, the assumptions set out above have been factored in. As the gas demand reduction measures are not yet based on a detailed programme of works over the contracting period, the profile has been based on an assumed average level of reduction based on the current proposed measures.
12. In the event that the assumptions as to reduced gas demand are incorrect there is a risk that BCC gas demand could exceed forecasts. This will have a direct impact on immediate costs, but although there are demand variation tolerances set in the supply contracts, participation in a much larger gas portfolio via Laser protects BCC from possible cost penalties if BCC demand varies significantly from that forecast. This risk is mitigated by the opportunity for the Council to re-set demand periodically under the contract. To do this accurately will require regular monitoring both within year and over the Medium Term Financial Planning cycle.
13. Based on the assumptions made for demand, the Energy Supply team expects the Council's required gas volumes over the contracting period to be approximately 162 million kWh, as against an expected 204 million kWh if no gas demand reductions were made.
14. Current gas, heat, and electricity costs have been used to estimate future costs. These estimations have used two average prices (one for winter and one for summer) calculated across October 2022 to March 2024. Costs include estimated variable charges (the level of which are impacted by demand), standing charges and delivery charges.
15. The energy market is stabilising, albeit at twice historic rates, but it remains difficult to forecast future energy costs to any degree of certainty. As such there is a risk that gas prices could be substantially higher or lower than these averages. Prices have been estimated conservatively based on current and recent rates. The flexible procurement route proposed helps in an uncertain market as against a fixed price contract, as it spreads risk of price variation across a number of smaller purchases.
16. On the basis of the cost and demand assumptions set out in this report, the total forecast cost of gas over the proposed four year contract period would reduce from £23M at current gas demand levels to £19M, an 18% cost reduction. The prices used to calculate this figure allows for the demand reductions outlined above and increased Green Gas (see Carbon Neutrality section below). This reduction will be offset by additional costs for Heat (from charges related to connection to the DHN) and additional electricity demand (for heat pumps),. Connections of Council buildings to the DHN will be subject to future decision making processes, . but assumptions on connection dates have been built into the model and assumed costings.

Carbon Neutrality

17. Despite the reductions in gas demand outlined above, BCC gas use on the Corporate estate (ie sites within scope of the 2025 target for carbon neutrality as set out in the Council's Climate Emergency action plan in 2019) will still be responsible for 2,212 tonnes of CO_{2e} emissions per year in FY 25/26, dropping to an expected 1,693 tonnes by FY 27/28. It is therefore proposed that Green Gas, which is considered to be a carbon neutral fuel, will act as a transitory heat supply for those properties unable to be decarbonised by other means by 2025, with further decarbonisation plans to be developed as additional funding sources become available.
18. Previous BCC gas supply contracts included 10% 'Green Gas' (biomethane) provision. This was reduced to just the three largest gas consuming sites in the current supply contract (City Hall and the two crematoria), which together account for around 6% of total BCC gas demand, but 31% of gas demand for sites within the scope of the 2025 Carbon neutrality target. This incurs a cost premium of £39K per year. Going forward, the Council will be seeking a 100% Green Gas supply for sites included within the 2025 Carbon Neutrality target, subject to the availability of Green Gas and affordability within budget.
19. Biomethane is produced from various forms of waste, or by anaerobic digestion of agricultural waste, food waste, or 'fuel crops'. Green Gas supplied in natural gas contracts is usually based on the availability of Renewable Gas Guarantees of Origin (RGGO) certificates, so it may not be possible to set a particular source of green gas production.
20. There is a risk that there may not be sufficient Green Gas available to meet all the BCC demand within scope for the 2025 Carbon Neutrality target, or that the Green Gas available might be considered too expensive. Officers will work with the appointed supplier to determine the volumes of affordable Green Gas available that would contribute towards achieving the Carbon Neutrality target.

Hydrogen

21. A UK Government announcement is expected in 2023 on blending Hydrogen (H₂) into the existing natural gas network. This is expected to be a relatively low blend (low % H₂) initially, but will increase as the Hydrogen supply network develops. Most current gas appliances will operate with up to a 20% H₂ blend.
22. Hydrogen produced at present in the UK is mostly 'Blue' hydrogen, derived from fossil fuels with associated carbon capture technology, but UK Government energy strategy is encouraging the development of more 'Green' hydrogen (H₂ produced by electrolysis of water using renewable energy sources).
23. It is too soon to say how gas suppliers will manage and invoice for H₂ in the gas supply, there may just be a simple blended price as with petrol blends. However, if there is an option for specifying the source of any Hydrogen included in BCC gas supplies, the Council should opt for 'Green' Hydrogen, where possible and affordable, as this will further contribute to achieving Carbon neutrality targets.

Cabinet Member / Officer Recommendations:

That Cabinet:

1. Authorises the Executive Director Growth & Regeneration, in consultation with the Cabinet Member for Climate, Ecology, Waste and Energy, to renew the BCC gas supply contract for up to four years, on a flexible procurement basis, noting the values and amounts as outlined in this report and that any budgetary pressures once prices are confirmed will be raised and require management during the medium term financial plan setting.
2. Note the expected reduction in demand for natural gas over the new contract lifetime due to connections to Bristol's district heating Networks, replacement of gas boilers with heat pumps, improved energy efficiency measures (as set out in the BCC Corporate Estate Decarbonisation Programme), and estate rationalisation, may require additional investment or budget for which further approval will be sought as required.
3. Authorises the Executive Director Growth & Regeneration, in consultation with the Cabinet Member for Climate, Ecology, Waste and Energy, to take all steps required to secure the provision of a 100% 'Green Gas' supply for all BCC sites within the scope of the 2025 Carbon Neutrality target (including procuring and awarding contracts over the key decision threshold), subject to affordability and availability at an estimated

cost of £546K (included in the overall total contract value). This would include both biomethane and hydrogen produced from electrolysis of water using renewable energy sources (Green Hydrogen).

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 reduce energy demand across the Council’s own estate and decarbonising 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 support the decarbonisation of heat as envisaged in the One City Climate Strategy
2. These measures contribute to delivering One City Goal 81 - Bristol City Council is carbon neutral for direct energy and transport emissions

Consultation Details:

1. Property/Building Practice/Corporate Landlord
2. Sustainable City

Background Documents:

1. [January 2022 Cabinet](#) – Future Energy Supply (Item 18) – move to Flexible procurement for gas
2. BCC Corporate Strategy 2022-2027 - bristol.gov.uk/files/documents/761-corporate-strategy-2022-27/file
3. Bristol City Council, Mayor’s Climate Emergency Action Plan 2019 - [file \(bristol.gov.uk\)](https://bristol.gov.uk)
4. One City Climate Strategy - [one-city-climate-strategy.pdf \(bristolonecity.com\)](https://bristolonecity.com)
5. One City Goals - [Dashboard - Bristol One City](#)
6. [UK ETS: Carbon prices for use in civil penalties, 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk)
7. Renewable Gas Guarantees of Origin (RGGO) certificates - <https://www.greengas.org.uk/certificates>
8. [The hydrogen colour spectrum | National Grid Group](#)
9. [British energy security strategy - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

Revenue Cost	£19M	Source of Revenue Funding	Utilities Purchase
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"/>	Income generation proposal <input type="checkbox"/>

Required information to be completed by Financial/Legal/ICT/ HR partners:

Overview

The report seeks approval for a 4 year gas contract for the authority, covering usage of gas by the General Fund, Housing Revenue Account (HRA), Schools and Avon Fire & Rescue (AFR) for a total estimated cost of £19 million, with a direct cost to the council of £18.3 million over the 4 year period.

Alternative options have been considered, however, the industry advice is a leading factor in the procurement approach being adopted and is considered to provide the Council with the better value for money.

Gas costs present a significant budgetary pressure with substantial in year overspend currently forecast at P4. This contract whilst supporting mitigation of some of the current pressure through improved rates, will still present a significant pressure to the authority that will require management through the Medium Term Financial Strategy.

Gas usage is anticipated to fall as upgrades and carbon efficiencies are progressed and the analysis of the cost of this contract incorporates those assumptions.

Given both the assumptions around gas usage and the volatility of prices scenario testing has been applied. Variation

that could be seen as a result of the assumptions in the contract costing indicate that the contract sensitivity could be between £17.1 million and £20.7 million, whilst sensitivity testing around gas prices indicate a contract sensitivity between £17.9 million and £19.7 million.

Within the contract is an assumption that green gas will be increased to the benefit of the Council's net zero objectives. This is an additional cost, as green gas is a premium consumable, amounting to £546,000, and this is included in the £19 million contract cost estimate.

Detail

This report is looking for authority to enter in a 4 year gas contract, rather than identify and agreeing funding arrangements to cover the cost of our gas purchase. Any additional funding requirement will need to be considered as part of the Medium Term Financial Plan (MTFP) review process and in consultation with the Housing Revenue Account (HRA), the schools who use the schools' energy purchasing arrangements, and Avon Fire and Rescue (AFR).

This contract includes gas bought for the General Fund, HRA, schools that subscribe to our energy club, and other clients including AFR. The HRA, schools and clients (apart from AFR) are recharged their full costs. AFR are billed directly by the supplier so these costs do not go through BCC's accounts.

External advice indicates that it would not be cost effective to fix this contract as the rates would be considerably higher, if available at all. Appendix A sets out the different procurement options and why a flexible procurement option has been selected.

The financial modelling has used 2 average prices: one for the winter season and one for the summer season. The price per KW per season includes all costs - both estimated variable charges, standing charges and any other delivery charges.

Below are the estimated rates that have been calculated for the 4 year contract period, compared with those used in the MTFP for 23/24 and the latest forecast rates for 23/24:

	Cabinet Report Rate per KWh	MTFP Rate per KWh	Forecast Rate at P4 (based on 4 months actual for summer) per KWh
Summer	11.75	14.03	11.58
Winter	11.04	13.21	11.98

The rates applied during the development of the MTFP were based on assumptions of future markets at that time, which have now subsequently changed due to economic and geo-political events. In Autumn 22 when the MTFP was being prepared the future rates being quoted by industry experts were considerably higher than they are now, hence the fall compared to both the Cabinet Rate and the Forecast Rate.

Whilst it is difficult to predict, market prices are now more stable than a year ago and the industry expectation is that they will remain at about the current levels for the duration of the contract. However, it should be noted that the market can be volatile. The potential impact of such changes has picked up in sensitivity testing (see below and in Appendix A) and will need to be considered within the MTFP update and in year forecasting.

The estimated value of the contract over a four year period is £19m. This is based on the assumption that the quantity of gas required is expected to fall over the 4 years from current levels due to: BCC sites connecting to the growing District Heat Network (replacing current gas-fuelled heating systems with heat ones); gas boilers come to the end of their operational life and are replaced with either a DHN connection or with electric heating (heat pumps/electric boilers); improvements in energy efficiency projects; and BCC sites are closed or disposed as a result of estate rationalisation.

Assumptions in relation to the timing of the above measures to reduce gas consumption have been made in the financial model. If these assumptions are incorrect, or there are delays to the roll out of the replacements and upgrades, there is a risk that BCC gas demand could exceed forecasts. This will have a direct impact on immediate costs, although there are demand variation tolerances set in the supply contracts. Additionally, participation in a much larger gas portfolio via Laser protects BCC from possible cost penalties if BCC demand varies significantly from that forecast. This risk is mitigated by the opportunity for the Council to re-set demand periodically under the contract. To do this accurately will require regular monitoring both within year and over the MTFP cycle. If none of the measures to reduce gas consumption were delivered there could be an additional pressure of £4m over the life of the contract based on the assumptions in the financial model i.e. an increase from £19m to £23m over the lifetime of the contract. However, if the rates anticipated in the MTFP were to continue for the whole of the 4 years and there was no reduction in gas consumption this could result in a cost of £27m.

The breakdown of £19m is shown below:

Projected Expenditure over the life of the 4 Year Contract has been analysed across the usage groups as follows:

	Estimated Split of Expenditure for the 4 Years of the contract
	£m
General Fund	5.7
HRA	9.2
Schools	3.4
BCC costs	18.3
Avon Fire and Rescue	0.7
ESTIMATED CONTRACT VALUE	19.0

Based on this the average annual spend relating to the General Fund is £1.4m. This exceeds the annual budget and the estimated annual pressure is shown in the table below. Alternative mitigations and any additional funding requirement to reduce or offset this pressure, will need to be considered as part of the Medium Term Financial Plan (MTFP) review process. Similar considerations will be required for e Account (HRA), the schools who use the schools' energy purchasing arrangements, and Avon Fire and Rescue (AFR).

	Annual Implications Based on Cabinet Rates and Averaging Efficiencies Over the Contract
	£m
General Fund	£1.40
Budget	£0.44
Potential Overspend	£0.96

The estimated annual spend for the other ring fenced accounts is shown below.

	£m
HRA	£2.28
Schools	£0.85
AFR	£0.17

The overall contract value of £19m includes a cost for the supply of green gas in relation to the Corporate estate (i.e. sites within scope of the 2025 target for carbon neutrality as set out in the Council’s Climate Emergency action plan in 2019). Green Gas, which is considered to be a carbon neutral fuel, would act as a transitory heat supply for those properties unable to be decarbonised by other means by 2025, with further decarbonisation plans to be developed as additional funding sources become available. Green Gas attracts a cost premium and has been modelled at a capped rate of 1.66p pkwh. Which equates to £546k over the lifetime of the contract. This presents an additional cost against a budget that is already significantly pressured.

Sensitivity analysis on the key assumptions in the financial model is outlined in Appendix A. This covered testing the main assumptions on price, energy efficiency, impact of boiler replacement, impact of site closures and a combination of the above. The contract value range identified as a result of the sensitivity analysis is between £17.1m and £20.7m as shown below.

Scenario Tested		Resulting Whole Contract Value over 4 years
Combined effect	5% increase in gas prices, 2% energy efficiency gain, 2% boiler replacement gain, 2% site closure gain	£m 20,662,037
	5% decrease in gas prices, 4% energy efficiency gain, 4% boiler replacement gain, 4% site closure gain	17,140,802

The single factor which potentially has the biggest impact on the contract value is a change in gas prices as shown below:

Scenario Tested		Resulting Whole Contract Value over 4 years
Gas prices	5% increase in gas prices	£m £19,748,498
	5% decrease in gas prices	£17,930,172

Finance Business Partner: Alison Bennett, Interim Finance Business Partner, Growth & Regeneration 24th August 2023.

Sarah Chodkiewicz, Head of Financial Management, Deputy s151 Officer 24th August 2023

2. Legal Advice: Whenever the council purchases goods, works or supplies and the value is over certain thresholds, it must procure those goods, works or services in compliance with applicable public procurement legislation. The applicable legislation is currently the Public Contracts Regulations 2015 (the PCRs) however it is likely that within the next year these will be repealed and replaced by the Procurement Bill (the Bill).

The value of the gas purchased by the Council pursuant to this report will exceed the thresholds set under the Public Contracts Regulations and is likely to exceed the applicable thresholds under the new Procurement Bill once this

comes into effect) and so compliance with either the PCRs or the Bill is likely to be required. Officers should liaise with the procurement team and if necessary the legal team to ensure this occurs.

Legal Team Leader: Sinead Willis, Commercial and Governance Team Leader, comments on report as at 2 August 2023

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

IT Team Leader: Alex Simpson – Lead Enterprise Architect, 2 July 2023

4. HR Advice: I have reviewed the cabinet report and can confirm that no HR implications are evident in the proposals.

HR Partner: Chris Hather MCIPD, HR Consultancy Manager - Growth and Regeneration 22 August 2023

EDM Sign-off	John Smith, Executive Director Growth and Regeneration	28 th June 2023
Cabinet Member sign-off	Cllr Kye Dudd, Cabinet Member for Climate, Ecology, Waste and Energy	10 th July 2023
For Key Decisions - Mayor's Office sign-off	Mayor's Office	7 th August 2023

Appendix A – Further essential background / detail on the proposal Further detail on contracting options, sensitivity analysis for gas demand reduction measures, and risk management	YES
Appendix B – Details of consultation carried out - internal and external	NO
Appendix C – Summary of any engagement with scrutiny	NO
Appendix D – Risk assessment	YES
Appendix E – Equalities screening / impact assessment of proposal	YES
Appendix F – Eco-impact screening/ impact assessment of proposal	YES
Appendix G – Financial Advice	NO
Appendix H – Legal Advice	NO
Appendix I – Exempt Information	NO
Appendix J – HR advice	NO
Appendix K – ICT	NO
Appendix L – Procurement	NO