



Thriving Council Committee

Date 30th July 2026

Subject: Guildhall Boiler Replacement Options Appraisal

Report by:

Director of Corporate Services (S151 Officer)

Contact Officer:

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Executive Summary:

This report seeks approval to replace the Guildhall's ageing boilers and upgrade the photovoltaic (PV) system. The existing boilers, installed in 2007, are beyond their lifespan, unreliable, and increasingly costly to maintain.

Two options have been considered.

Option 1 (recommended) replaces the boilers with modern high-efficiency gas units and upgrades the PV system at a total cost of approximately £145k inc. contingency. When approved this will be fully funded from the Maintenance of Facilities and the Climate Change reserves. It offers immediate cost savings, improved efficiency, and low delivery risk.

Option 2 introduces a hybrid heating system with air source heat pumps, delivering greater carbon reduction but at a significantly higher cost of circa £205k inc. contingency, with added complexity and limited additional financial benefit.

Recommendation: Approve Option 1 as the most cost-effective, deliverable, and low-risk solution.

Appendices to Report

- Appendix 1 – Guildhall Boiler Business Case.

RECOMMENDATION(S)

That Thriving Council Committee approve-

1. One of the following two capital scheme expenditure and financing options;
 - a. The draw down of £145k including contingency (**Recommended option 1**) for gas for gas replacement of the existing boilers alongside additionally replacing and upgrading the existing rooftop photovoltaic array. The draw down is to be funded as £70k Maintenance of Facilities reserve for the boiler replacement and £75k from the Climate Change Reserve
 - b. The draw down of £205k including contingency (**option 2**) from Maintenance of Facilities reserve to install a hybrid air source heat and gas heating system alongside additionally replacing and upgrading the existing rooftop photovoltaic array. The draw down is to be funded as £70k Maintenance of Facilities reserve for the boiler replacement and £135k from the Climate Change Reserve
2. An amendment to the capital programme for 2026/27 to create a new capital scheme for 'Guildhall Boiler Replacement' with a total scheme cost of either £145k or £205k depending on the option chosen in recommendation 1.

1 Introduction

2 Introduction

- 2.1 The purpose of this report is to seek Member approval for the replacement of the existing heating plant at the Guildhall, Gainsborough and to also include the replacement and upgrades to the existing Photovoltaic (PV) system.
- 2.2 The current gas boilers at Guildhall (installed 2007) are now beyond their expected operational life of approximately 15 years. They are increasingly unreliable, out of warranty, and spare parts are becoming difficult and costly to obtain. Planned replacement is therefore required to mitigate the risk of system failure, avoid reactive and more expensive emergency works, and ensure continuity of service delivery within the Council's primary operational building.
- 2.3 The council currently holds £145k identified within its Strategic Asset Management Plan to be drawn down from the Maintenance of Facilities Reserve and the Climate Change Reserve for the replacement of the Guildhall heating system on a gas for gas basis and the replacement and upgrades to the Guildhall PV system.
- 2.4 A detailed appraisal has been undertaken comparing two viable replacement options:
 - **Option 1:** Like-for-like gas boiler replacement (gas-for-gas) at circa £70k additionally replace and upgrade the PV array at up to £75k
 - **Option 2:** Hybrid system (gas boilers with air source heat pump) at circa £95k additionally replace and upgrade the PV array at up to £75k

3 Option 1 (Recommended) – Gas for Gas Replacement and PV Upgrades

- 3.1 Option 1 is for the replacement of our existing boilers with modern high-efficiency condensing gas boilers improving system efficiency without altering the building's heating distribution system.
- 3.2 Due to advances in technology over the last 18 years gas condensing boilers have improved in efficiency by up to 30%. Which whilst naturally reducing usage and their carbon impact. Based a reserved assumption of a 15% efficiency factor this would reduce running costs by approximately £1,075.
- 3.3 Saving could reach about £2,150 a year if the full 30% efficiency is achieved with controls and lower flow temperatures.
- 3.4 This saving combined with the additional saving provided from the PV upgrades would increase savings even further with an additional saving of circa £8,000 saved in electricity.

- 3.5 The new proposed gas for gas system sees us replaced the existing 2x Viessmann Vitocrossal 240kw with 3x smaller 150kw Ideal evomax 2 cascade boilers.
- 3.6 There are a number of reasons for selecting this set up and system which would be subject to a fully compliant tender process should we proceed;
- Easier transportation into the roof plant room meaning no need for a crane. The existing boilers can be dismantled in situ.
 - boilers add greater resilience should one breakdown. Currently if one of our boilers breaks down in very cold weather, 1 boiler cannot keep up with demand.
 - A cascade system provides greater control and in turn greater energy efficiency through modulation. Rather than just having a modulation of 5-1 on 240kw boilers, (therefore min output is 50kw), we can stage out the boilers on the cascade as demand drops, and then still modulate the last boiler 5-1 so all the way down from 450kw to around 10-15kw.
 - Ideal Boilers are a local reputable supplier based in Hull meaning parts are easily sourced compared to the current German Viessmann boilers where a lot of parts are special order.
- 3.7 An indicative quote for the supply and install works of this option has been received at £52,108. Please note these excluded oncosts such as getting the old boilers down off the roof however these have been included within Option 1's budget figure in this report.

4 Option 2 – Hybrid System and PV Upgrades

- 4.1 Option 2 is for the Installation of 2x 40kw air source heat pumps (ASHP) to meet base heating demand in the slightly warmer months, supplemented by 3x smaller 90kw gas boilers during peak winter conditions.
- 4.2 The way this system is designed to work is during slightly cooler months the ASPHs will be able to manage most of the buildings heat demand reducing the reliance on gas. Then as the temperature drops to gas boilers will modulate as supplementary heating.
- 4.3 Indicative costs suggest a supply and install cost of circa £95k plus enabling works and on costs such as existing boiler dismantling. **Please note:** The quote received to support a hybrid option is subject to final design so carries some cost uncertainty.
- 4.4 Running a hybrid system alongside upgrading the PV at Guildhall means not only does it marginally reduce our reliance on fossil fuels it also reduces our carbon emissions by approximately 15.2 tCO₂e a year, roughly 39% when compared with the option 1 alternative.
- 4.5 Rough estimates indicate a possible increase in energy bills of circa £5,400

- 4.6 The hybrid option delivers only a marginally greater reduction in energy bills because electricity is more expensive than gas, and the Council's energy procurement arrangements secure a particularly competitive gas price.
- 4.7 It is worth noting that without the inclusion of the PV upgrade in this project initial figures indicate running a hybrid system alone could increase energy bills by circa £7,200.

5 Comparative Summary

5.1 4

Option 1: Gas for Gas + PV	Option 2: Hybrid + PV
Capital cost of circa £145k including contingencies and on costs	Capital cost of circa £205k including contingencies and on costs
Heating emissions: about 38.3 tCO ₂ e a year, down from about 45.0 tCO ₂ e, in line with the 15% efficiency gain.	Heating emissions: Additional saving against Option 1: about 15.2 tCO ₂ e a year, roughly 39%.
Lowest capital cost and within existing identified budgets.	Higher capital cost requiring additional funding.
Proven, reliable technology with low delivery risk.	A clear, defensible carbon cut of about 36% on heating, well aligned with the Climate Strategy.
Best simple return of the options at today's prices and Immediate financial savings.	Gives the successor authority under LGR a partial decarbonisation pathway to extend, rather than a retrofit to start from scratch.
Simple installation with minimal disruption.	Cost uncertainty due to new technology and need for final designs.
Continued reliance on fossil fuels.	Greater technical and delivery complexity.
Limited contribution to climate strategy objectives.	Performance dependent on building conditions and specialist design.
Exposure to future gas price increases.	Not achieving the gains anticipated once in a real world scenario.

6 Conclusion and Recommendation

- 6.1 Both options are technically viable and deliverable. The hybrid system offers clear environmental benefits and supports long-term decarbonisation objectives; however, it requires higher capital investment and introduces additional complexity and risk.

- 6.2 The gas-for-gas replacement remains the most financially prudent and lowest-risk option, delivering immediate efficiency improvements and cost savings within the available budget envelope.
- 6.3 Therefore, it is recommended members approve option 1, the draw down of £145k including contingency from the Maintenance of Facilities reserve (£70k) and the Climate Change Reserve (£75k) for gas for gas replacement of the boilers alongside additionally replacing and upgrading the existing rooftop photovoltaic array.
- 6.4 Members should note that Option 1 does not meet the Council's prior commitment that the Guildhall will be heated from a renewable energy source by 2028. If approved, members are asked to note that this commitment will be superseded. Option 2 (hybrid) is the option that advances that commitment and the net zero pathway, at higher capital and revenue cost.

7 Alternative Options

	Option	Rational for not recommending
1	Run existing boilers to failure (Do nothing).	• Instead of being a flagship building under LGR it could be at risk of mothballing and in turn limiting residents access to vital services. • Potential loss of income from paying tenants within the building • Negative publicity • Loss of face2face council services should the building have to close • This would increase cost in the long run dealing with issues or replacement in a reactive manner. • It would contravene our Strategic Asset Management Plan and our Maintenance Policy • Cause operational disruptions such as having to send staff home or reorganise committee meetings should the heating breakdown in the winter • Struggle to organise repair or replacement works in a timely manner due to gas engineer availability in a winter. • Not having a fit for purpose building to hand over under LGR • Under LGR The building will continue to be a public building or let so if it were to be leased or sold the boilers, due to their age would be replaced as part of these

		negations or reduce the value of the buildings resale. • Leaving the boilers to failure, means vulnerable customers do not have a warm, comfortable space for refuge or to access services. • Negative publicity of a head office closure.
2	Do nothing and further develop design regarding air source heat pump or hybrid system.	• Risk of current boilers breaking down in the meantime causing the issues mentioned above • High capital cost attributed to a full heat pump system and the need for additional building fabric upgrades • Lack of evidence to support effectiveness of a hybrid system • Additional complexities introduced with a hybrid system.
3	Install gas for gas boilers without the PV upgrades.	• The existing PV is becoming outdated and inefficient • The upgraded PV helps to reduce guildhalls carbon footprint due to increased efficiencies in the technology. • The money is available and set aside for the purpose of upgrading the PV system.

ASSOCIATED IMPLICATIONS

Legal:

All works to be procured & subject to a fully compliant tendering process.

Financial: FIN/60/27/TC/BK

If the recommended option (option 1) is approved the £145K will be fully funded using £70k from the Maintenance of Facilities reserve for the boiler replacement, and the remaining £75K from the Climate Change reserve for the PV system. At the end of the MTFS period (2031/32), if this is approved, the balance on the Maintenance of facilities reserve would be £491,500 and the balance on the Climate Change reserve would be £282,200.

Option 1 could also provide revenue savings of approximately £9.1k. This is due to electricity savings of £8k and reduced running costs of £1.1k (based on a reserved assumption of a 15% efficiency factor).

Members are asked to approve an amendment to the capital programme for 2026/27 to create a new capital scheme for 'Guildhall Boiler Replacement'.

Staffing:

The works proposed as part of the decision do not pose any staffing or human resources implications

LGR implications:

The proposed option 1, which is recommended, could negatively impact a future shadow authority's climate-related goals, particularly if they are working towards ambitious net zero targets such as 2030, which is now fast approaching and leaves limited time to implement significant carbon reduction measures.

Conversely, pursuing a do-nothing option would increase the risk of the building becoming unfit for purpose. This may be viewed by a future authority as an unacceptable operational risk, potentially leading to building closure or mothballing and a consequential reduction in service accessibility for local residents meaning residents will have to travel further to access services.

The gas for gas option provides a future authority with a building they know is fit for purpose with a new energy efficient heating system that will last for years to come encouraging them to look at other authorities operational buildings which may not be up to the same standard.

Equality and Diversity including Human Rights:

The works proposed as part of the decision do not pose any equality, diversity or human rights implications

Data Protection Implications:

The works proposed as part of the decision do not pose any Data Protection implications

Climate Related Risks and Opportunities:

The Council's Environment and Sustainability Action Plan 2025 includes a published commitment that “by 2028 the Guildhall will be heated using a renewable energy source,” as a milestone toward becoming a net zero council by 2050. This is a material consideration for the decision.

Option 1 (gas-for-gas) installs new gas boilers with an expected life of 15 to 20 years. It improves efficiency but continues to heat the building with a fossil fuel, so it does not meet the 2028 commitment and represents a step away from it. If Option 1 is approved, the Council should formally review and, if necessary, restate that commitment, and should note that the successor unitary authority under Local Government Reorganisation is likely to inherit a decarbonisation obligation for the building and may need to fund a further retrofit within the life of the new boilers.

Option 2 (hybrid) introduces an air source heat pump, a recognised renewable heating technology, supported by the upgraded solar array. It does not remove gas entirely, but it heats the majority of the building's demand from a renewable source. It provides a partial and extendable pathway to the 2028 commitment and to net zero, and aligns with the likely expectations of the successor authority.

In summary, the principal climate risk attaches to Option 1: a publicly stated commitment would be unmet and a further retrofit would likely be required. The principal climate opportunity attaches to Option 2: measurable progress against the commitment now, while the capital is available and ahead of Local Government Reorganisation.

Section 17 Crime and Disorder Considerations:

The works proposed as part of the decision do not pose any crime and disorder considerations

Health Implications:

The works proposed as part of the decision do not pose any health implications

Risk Assessment:

Risk	Option 1	Option 2
System failure during transition	Low	Medium
Cost overrun	Low	Medium – High
Technology performance risk	Low	Medium
Exposure to energy price volatility	Medium (gas)	Low - Medium

Not aligning with successor authorities net zero aims under LGR	Medium	Low
Relying more heavily on gas than anticipated	N/A	Medium
Leaving the boilers to failure, means vulnerable customers do not have a warm, comfortable space for refuge or to access services..	N/A	Medium
.Negative publicity of a head office closure if we do not replace	N/A	N/A

Title and Location of any Background Papers used in the preparation of this report:
None

Call in and Urgency:

Is the decision one which Rule 14.7 of the Scrutiny Procedure Rules apply?

i.e. is the report exempt from being called in due to urgency (in consultation with C&I chairman)

Yes

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No

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Key Decision:

A matter which affects two or more wards, or has significant financial implications

Yes

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No

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