



OPENNESS AND TRANSPARENCY REGULATIONS 2014

RECORD OF OFFICER DECISION TAKEN UNDER DELEGATED POWERS

TITLE OF OFFICER TAKING DECISION	Town Clerk Hayley Townsend
NATURE OF DECISION	<p>05.05.23 Armadillo Youth Café (AYC) boiler replacement</p> <p>Climate and Planet Sub Committee, accepted quote for supplier 5, to replace the expiring gas boiler at AYC, with an electric emersion hot water system, and a zonal heating system, with A rated gas boiler, as the best option from the renewables and gas replacement investigation (see report). Quote for supplier 5 accepted to the approx. value of £14,833.32 (ex VAT) (final price TBC potentially subject to April 23 price increases)</p> <p>29.06.2023 – Update to C&P Members with final updated costs as outlined in 05.05.2023 decision:</p> <p>Viessmann boiler and associated parts £11,202.74p exc VAT</p> <p>Bristol Gas & Heating (including electric immersion works) £4,160 & £850 = £5,010</p> <p>Total costs £16,212.74</p>
DATE ON WHICH DECISION TAKEN	<p>05.05.2023</p> <p>29.06.2023 – Confirmed final price for works.</p>
REASONS FOR DECISION	<p>Urgent action required on the boiler replacement to safeguard use of the building for the community, following a series of recent system failures where an engineer was required to undertake urgent repairs (these boiler system failures have resulted in the closure/ reduction of Armadillo facility use and services provision, e.g. closure of the kitchen):</p>
DETAILS OF ANY ALTERNATIVE OPTIONS CONSIDERED AND	<p>Provided as part of Boiler replacement report.</p>

REJECTED	
<p>DETAILS OF ANY REPORT (INCLUDING BACKGROUND PAPERS) CONSIDERED IN REACHING THE DECISION.</p> <p>[NOTE: ANY RELEVANT DOCUMENTATION NOT DISCLOSING CONFIDENTIAL INFORMATION SHOULD BE ATTACHED TO THE DECISION NOTICE.]</p>	<p>Attached boiler report outlining background, alternatives, and considerations in reaching decision.</p>

Armadillo Youth Café – Boiler Replacement Report

1. Context

The Armadillo Youth Café (AYC) boiler was installed when the building was constructed in 2011. Since 2019, the boiler at Armadillo has required regular maintenance and repairs, beyond the average/ expected levels of maintenance for a boiler of its age.

In December 2022 the boiler experienced a significant failure of its back up system, and has reached a point of disrepair. In its current condition, the heating and hot water system can only run on the primary system. If the primary system were to fail, there is no back up system for heating and hot water. A failure of the primary system would result in the closure of the facility and the displacement/ closure of essential community services within.

2. Current Heating System

The current heating system is a gas powered, hot water system. The gas boiler provides energy to the heating (21 radiators) and hot water.

The existing system cannot be programmed to heat set areas of the building. The system is on (meaning all radiators are on whether there is a need to heat the radiator or not), or the system is off (no heating to any areas).

The current heating system, based in the plant room, causes excessive heat loss, which transfers into the first floor staff office, causing the office temperature to become very hot and uncomfortable for staff. In the summer of 2022, when the UK weather experienced extreme heat, the temperature of the office environment was unworkable, so staff had to work from downstairs/home, and additional cooling fans were bought to manage the office temperature.

3. Options for Replacement

In response to the YTC climate emergency declaration, it is a priority for YTC to investigate renewables in the first instance. If renewables are not suitable for installation, quotes will be sought for the most efficient/low energy replacement gas and/ or electric systems, that are best suited to the functions/facilities of the building.

a. Renewable Energy Assessment

The following types of renewables were investigated:

- i. Solar panels – due to the living/sedum roof at Armadillo, solar panels cannot be installed;
- ii. Ground source heat pump – a significant area of ground is required for this system. The area in the garden and

surrounding grass verges, owned by SGC, are not large enough to accommodate this system;

- iii. Infrared – cannot be attached to the current heating system, as it would require a complete replacement/ removal of the existing system, resulting in increased costs and the current system becoming obsolete. This system cannot provide energy to heat hot water; an additional hot water heating system would be required;
- iv. Air Source Heat Pumps (ASHP) – the best location for an ASHP unit would be in the sports and recreation area in the garden. This would reduce the area available for user’s recreation, and due to risk of damage to the ASHP, ball sports could not take place in this area. However, an ASHP could be installed and kept safe from damage, if ball sports were not permitted in the garden. An ASHP would replace the function of the boiler; it would not improve the current system controls.

x7 quotes from renewable companies were sought. x2 suppliers visited AYC:

1. Supplier 1 provided a remote estimate;
2. Supplier 2 provided a full quote – ASHP connection to existing system.

b. Gas

The specification for all gas boiler suppliers, was to recommend and provide quotes for the most energy efficient gas boiler and heating/ hot water systems, with the highest energy performance rating/ efficiency available in the UK market, with recommendations for new systems, and/or adapted systems that were compatible with the current energy system. This specification was set to achieve the following Climate and Planet targets:

- i. to minimise wastage of the existing heating system (a 21 unit radiator system that was not at the end of its life cycle);
- ii. to maximise opportunities to reduce energy use and reliance on non renewable gas at Armadillo.

10 quotes were sought from gas boiler suppliers. The following x3 quotes were returned:

- iii. Supplier 3 – replace boilers - no system upgrades, controls/ systems to remain as is. Recommended product Vaillant ecoTECH Plus 48Kw – A rated <https://boilerhut.co.uk/vaillant-boiler-range/vaillant-ecotec-plus-boiler-review/>

iv. Supplier 4 - replace boilers - no system upgrades, controls/ systems to remain as is. Recommended product Worcester 8000 35KW boilers <https://boilerhut.co.uk/worcester-bosch-boilers/worcester-bosch-greenstar-8000-style-gas-boiler-review/#:~:text=Holds%20an%20'A'%20energy%20efficiency,it%20perfect%20for%20larger%20homes>

v. Supplier 5 – replace boilers and installation of a zonal heating system, allowing for heating controls to be adjusted/switched off where areas of the building are not in use. Option for YTC to order equipment directly from supplier, removing cost of VAT. This system includes a separate emersion heating system for hot water, powered by electricity. Recommended product Viessmann Vitodens 200-W 49kw <https://boilerhut.co.uk/viessmann-boilers/viessmann-vitodens-200-w-review/>

a. Quotes were received from the following suppliers (in alphabetical order):

- i. Bristol Gas & Heating Ltd
- ii. Eco Green Partners
- iii. Hewer
- iv. Pass & Totterdell
- v. Swift Mechanical

c. Quotes received were for the following values (in ascending order):

System	Quote Value	Vouchers or discount	Actual or estimate	Supplier ref
Gas	£8,211.66 (ex VAT)	N/A	Actual	4
Gas	£14,833.32 (ex VAT)	Order equipment directly from supplier to remove VAT charge	Actual	5
Gas	£16,624.25 (ex VAT)	N/A	Actual	3
ASHP	£25,987.40 (ex VAT)	£5,000 (Boiler upgrade scheme – not guaranteed)	Actual	2
ASHP	£60,000	£5,000 (Boiler upgrade scheme – not guaranteed)	estimate	1

4. Climate and Planet assessment of gas boiler quotes – new section

a. Technical specification assessment of gas boiler quotes

The following comparison of gas boilers was undertaken, to identify the most energy efficient gas boiler, in terms of technical specification, from the quotes provided for gas boilers.

Supplier 5		Supplier 3		Supplier 4	
Manufacturer	Viessmann	Manufacturer	Vaillant	Manufacturer	Worcester Bosch
Model	Vitodens 200-W	Model	ecoTEC Plus	Model	Greenstar 8000 Style Gas
Condensing	Yes	Condensing	Yes	Condensing	Yes
Efficiency Rating	98%	Efficiency Rating	89.3%	Efficiency Rating	94%
Energy Efficiency Class	A Rated	Energy Efficiency Class	A Rated	Energy Efficiency Class	A Rated
LPG Compatible	Yes	LPG Compatible	Yes	LPG Compatible	Yes
Warranty	Up to 10-year comprehensive warranty*	Warranty	5 year standard warranty	Warranty	Up to 12 years when installed by an accredited engineer
Central Heating Max. Output	35 kW	Central Heating Max. Output	38 kW	Central Heating Max. Output	35 kW
mg/kwh	39	mg/kwh	55	mg/kwh	35

b. System assessment of gas boiler quotes

The following system assessment was undertaken, to identify the most energy efficient system, in terms of system controls, from the quotes provided for gas boilers.

Supplier	Is the heating system proposed, able to provide zoned heating controls, to reduce energy use by turning off heating in areas of the building, that are not in use/ do not require heating?	Is the heating system proposed, able to isolate water heating from radiator heating?	Is the heating system proposed, able to run off electric to provide either hot water or heating?	Is the system proposed, able to be turned off/ timed off, when radiator heating is not required, e.g. in the summer months?
Supplier 3	No	No	No	No
Supplier 4	No	No	No	No
Supplier 5	yes	yes	Yes – hot water heating system is electric (to be supplied by the YTC “green” energy tariff)	yes

5. Outcome and Recommendation

On assessment of options for renewable energy installation, the most viable renewable option was an Air Source Heat Pump (ASHP). To ensure the ASHP is not damaged, and can perform to its maximum potential, ball sports would no longer be permitted in the Armadillo garden, causing significant disruption to facility use and associated benefits of outdoor recreational space/activities, for facility users.

Due to the existing gas heating and hot water system in Armadillo, and the requirement to preserve outdoor recreational space, for the enjoyment and improved health of building users, regrettably, it is not possible to install a renewable energy generation system at Armadillo, to replace the existing gas boiler (heating and hot water system).

Following the outcome of the renewable assessment, gas boiler quotes were sought, specification is outlined above in 3.b. Gas boiler product and system quotes were scrutinised against YTC Climate and Planet targets, to identify the system and boiler, that provided the best opportunities for:

1. energy efficiency,
2. reduction of energy usage,

3. reduction of reliance on non-renewable gas.

It is **RECOMMENDED**:

YTC accept the quote provided by supplier 5, to the value of £14,833.32 (ex VAT) with the following Climate and Planet justification:

1. This quote/ system provides additional benefits to heating/ energy usage controls at Armadillo that neither the ASHP, or alternative gas replacement quotes can address or improve. In providing a zonal heating system, where heating can be temperature controlled and switched off by zone, heating controls for the building can be managed in line with building use, lowering the overall use of energy and gas at Armadillo;
2. The hot water heating system will be powered by an electric emersion system, meaning hot water will no longer be heated by gas, a 100% reduction in gas use for water heater heating;
3. When not needed to heat the building e.g in summer months, the gas boiler can be turned off/timed off, removing Armadillo's use of gas for approx. 50% of the year;
4. This option reduces disruption to facilities/ users, as the boiler replacement will be located within the plant room, not within users recreational areas;
5. The recommended boiler product had the highest percentage energy efficiency class, up to 98% efficiency (all product efficiency ratings are an "approx." or "up to" measurement, as efficiency can be compromised by improper installation), and low MG input per KWH output.

6. Budget

To fund the replacement boiler costs, to the value of £14,833.32 (ex VAT), the following budget allocation is **RECOMMENDED**:

- a. £4,833.32 from 2023/2024 Building Fund Budget
- b. £10,000 from Major Projects sinking fund earmarked reserves, which is designed for Major Projects including Armadillo building works.

7. Delegated powers

Subject to acceptance of the recommendation made to the Climate and Planet Sub Committee, the boiler replacement will be actioned immediately; due to the urgency of need for replacement, to safeguard use of the building for the community, following a series of recent system failures where an engineer was required to undertake urgent repairs (these boiler system failures have resulted in the closure/ reduction of Armadillo facility use and

services provision, e.g. closure of the kitchen):

- a. **Delegation to the Town Clerk:** *The Town Clerk shall have the power to take action as necessary between Meetings of the Full Council, Committees, Sub-Committees, Project Steering Group Committees and Working Groups provided that such action is in accordance with the policy of YTC and is within budget;*
- b. **Repairs Delegation:** *to enable the swiftest mechanism for routine repairs and maintenance to be undertaken, expenditure connected to capital repairs and maintenance to Town Council assets (eg, play areas, building, sports equipment, sculptures etc) be committed without the need for specific council approval, providing they can be met within budget (including reserve);*
- c. **Climate and Planet delegation (responsible to Environment & Community Committee):** *The Sub-Committee has delegated authority to deal with the following matters to conclusion, subject to YTC policy and budget:*
 - i. *Discussing, implementing and monitoring actions taken by Yate Town Council in order to work towards its pledge to transition to net carbon zero by 2030.*
 - ii. *To adapt Yate Town Council's approaches for the town to transition towards resilience by 2030 and to work with and support the community to do this.*