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Tonbridge Swimming Pool Boiler Replacement

1 Summary and Purpose of Report

1.1 To provide information to Members on efforts to replace the end-of-life gas boilers at Tonbridge Swimming Pool.

2 Corporate Strategy Priority Area

2.1 Efficient services for all our residents, maintaining an effective council.

2.2 The Council is responsible for maintaining the plant and equipment at Tonbridge Swimming Pool, which includes the heating system. The system needs to remain operational to avoid service disruption which may lead to customer complaints and significant lost revenue.

2.3 Sustaining a borough which cares for the environment.

2.4 The work to date has focussed on how the facility can be decarbonised in line with the Council's Climate Change Strategy.

3 Recommendations

3.1 Members are asked to note the contents of the report.

4 Introduction and Background

4.1 Tonbridge Swimming Pool was constructed in the mid-1990s and features fitness, teaching and toddler indoor pools, an outdoor pool, changing area, health suite, café and associated plant areas.

- 4.2 Tonbridge Pool is owned by the Council and included in the portfolio of leisure centres managed by the Tonbridge and Malling Leisure Trust (TM Active). Under the management agreement, the Council is responsible for the maintenance of the building fabric along with the replacement of the majority of plant and equipment.
- 4.3 As part of the Council's Climate Change Strategy, significant investment has recently been made in the facility through the installation of around 150 LED light fittings (estimated £7,100 savings in electricity usage per year) and 149 solar panels (estimated annual electricity generation of 65 MWhs with an annual saving of £13,175).

5 Decarbonising

- 5.1 Efforts to decarbonise the building have focused on replacing the two large gas boilers which provide the majority of water and space heating for the facility and which are original to the building, meaning they are now over 30 years old and are end-of-life (typically considered to be around 20 years). In addition, there are two smaller gas boilers which provide hot water for sinks and showers, which were replaced in 2018.
- 5.2 Members will be aware the Council was successful in obtaining grant funding via the Public Sector Decarbonisation Scheme (PSDS) for the installation of air source heat pumps at Larkfield Leisure Centre to replace the end-of-life gas boilers serving the fitness pool. At the time, feasibility work was progressed on a similar scheme at Tonbridge Pool with the view of including it in the same application.
- 5.3 However, the initial design work for an air source heat pump scheme estimated the cost of each tonne of carbon saved was well in excess of the threshold used by PSDS when calculating grants, meaning TMBC would have liability for around 70% of the project cost (approx. £1.8m).
- 5.4 The high costs were a result from the site challenges, primarily the lack of space both inside and outside the building footprint and also the high flooding risk meaning any external equipment would need to be installed at height.
- 5.5 Because each authority was only able to make one PSDS application (which could include multiple sites), the Council did not want to risk the Larkfield Leisure Centre scheme not being accepted due to the high cost of the Tonbridge Pool scheme and so it was not included. This proved to be the right approach as the application for the Larkfield scheme was successful and is currently being progressed.

- 5.6 At the time it was agreed we would look again at what options existed to decarbonise Tonbridge Pool by removing the end-of-life gas boilers, with a view to developing an initial design that could be used to apply for future rounds of PSDS funding. This work was included in the 2025/26 Annual Service Delivery Plan (ref: 1.3).

6 Feasibility Study

- 6.1 Design engineers were commissioned to undertake a feasibility study of the options to remove the main gas boilers and provide estimated costs. A range of options were considered, with seven progressing to a more detailed appraisal, each involving a greater or lesser extent of air or ground source heat pumps. The capital expenditure and resultant estimated impact on running costs were also estimated. A summary of the seven options can be found below.

Option	Technology Type	Capital Cost*	Annual saving / running cost*	tCO2e annual saving	Cost per tCO2e LT saved
1	Air source heat pump (low temperature)	£2,812,500	+£14,720	399	£353
2	Air source heat pump (high temperature)	£2,251,500	+£66,513	390	£289
3	Air source heat pump (cascade system)	£2,404,500	+£33,476	396	£304
4	Air source heat pump and gas boiler (hybrid system)	£1,734,000	+£66,668	292	£293
5	Ground source heat pump (low temperature)	£4,594,500	-£2,864	405	£454
6	Ground source heat pump (cascade system)	£3,754,500	+£18,940	402	£374
7	Air source heat pump and cascade gas boiler	£2,215,500	+£27,003	241	£460

tCO₂e – tonnes of carbon dioxide equivalent (a standard unit to measure and compare the warming impact of different greenhouse gases)

tCO₂e LT – tonnes of carbon dioxide equivalent over the Lifetime of the low-carbon heating technology

* Capital and running cost figures as of July 2025

- 6.2 In addition, the following options were initially considered but not taken forward to the more detailed appraisal stage:

Water Source Heat Pump

- 6.3 The design engineers suggested that an open-loop system would require significant water abstraction from the river which they felt would not be approved by the Environment Agency. A closed-loop system would reduce the environmental impact but due to the river's shallow depth would require approximately 1.8km of submerged loop piping.

Electric Heating

- 6.4 The design engineers commented this would result in high running costs due to relatively low efficiency and increased electrical demand. This may be appropriate as a backup or in a hybrid arrangement but not as a primary heating solution.

Biomass

- 6.5 The design engineers did not recommend this option due to insufficient space for plant and fuel storage, with the only suitable area for fuel access and delivery being constrained and impractical.

Solar Thermal

- 6.6 The design engineers did not feel this option was feasible being that there is insufficient roof space available for the number of solar thermal collectors required.

Summary

- 6.7 Members will note capital costs range from £1.734m to £4.594m. Only the ground source option 6 (£4.594m cost) delivers an estimated small revenue saving of £2,864, with the cheapest capital option 4 (hybrid system - £1.734m) estimated to result in an annual increase in running costs of £66,668.
- 6.8 Members should note some options, including the cheapest one, includes utilising a gas boiler alongside a heat pump.

- 6.9 A significant proportion of the capital cost would be for the electricity transformer upgrade – estimated at around £600,000. This would be a Council cost as the transformer would be supplying Tonbridge Pool only.
- 6.10 The design engineers also considered a like-for-like replacement with gas boilers and a reasonable estimate of this cost is £300,000. Modern gas boilers would be more efficient than the now 30-year old current boilers, which would result in reduced gas usage and therefore cost and CO₂. This increase in efficiency could potentially be around 20-30%, with modern boilers operating at over 90% efficiency.

7 Public Sector Decarbonisation Scheme (PSDS)

- 7.1 Members may be aware that the government withdrew the PSDS last year, which was the main source of grant funding for public sector organisations looking to decarbonise. No replacement funding arrangements have been announced nor any other external grant funding opportunities identified, meaning the Council would need to fund the entirety of the project.

8 Proposal

- 8.1 Due to the significant costs associated with all of the options outlined in the report, which the Council would need to fund itself, it is recommended that a scheme is brought forward to replace the end-of-life boilers on a like-for-like basis.

9 Other Options

- 9.1 The options considered are set out in the report. Due to the age of the current boilers, there is not a 'do nothing' option. Any failure of the existing boilers would also result in a significant period of disruption and a loss of income claim from the Leisure Trust.
- 9.2 Options can be considered for reducing the carbon footprint of the facility in other ways, such as investigating whether any additional renewable technology can be installed in the vicinity or reducing the amount of energy the facility uses through upgrades to existing plant, equipment and/or the building fabric.
- 9.3 The Council will also investigate the viability of other schemes across its estate to help offset, including the potential for solar canopies to help further reduce the demand for electricity supplied from the grid and provide an ongoing revenue saving.

10 Financial and Value for Money Considerations

- 10.1 The capital and revenue implications of the options assessed are set out in the report. It is important to note the figures are at July 2025 prices meaning by the time a project were to be progressed, costs could have increased through inflation.

- 10.2 One of the Council's current priorities is to deliver a replacement Angel Centre in Tonbridge prior to local government reorganisation. Due to the high capital cost of that project, the Council is needing to prioritise available funding in order to reduce the amount of borrowing that will be required to deliver the scheme. If one of the heat pump based schemes were progressed, it would likely divert between £1.734 to £4.594m away from the Angel Centre scheme, resulting in higher borrowing costs needing to be met.
- 10.3 A Capital Plan Scheme for a like-for-like boiler replacement scheme has been developed and was considered by Overview and Scrutiny Committee on 22nd January and subsequently Cabinet on 10th February 2026 as part of the budget setting process. Full Council will now consider the budget on 24th February 2026.

11 Risk Assessment

- 11.1 If the current boilers are not planned to be replaced then the risk of failures and service disruption increases, leading to customer complaints and potentially a substantial loss of revenue. Spare parts for the boilers are becoming increasingly difficult to source due to their age.
- 11.2 If financial resources are diverted from the replacement Angel Centre project it may put at risk the ability to demonstrate a sustainable business case for the project due to increased borrowing costs.

12 Legal Implications

- 12.1 It is not felt there are any legal implications associated with the contents of this report.

13 Consultation and Communications

- 13.1 This work has been progressed in full liaison with relevant internal services, the relevant Cabinet Members and TM Active.

14 Implementation

- 14.1 Should Members approve the Capital Plan Scheme for the like-for-like replacement, it is anticipated the work to replace the boilers would be undertaken in 2027/28.

15 Cross Cutting Issues

- 15.1 Climate Change and Biodiversity
- 15.1.1 Some impact on reducing emissions in support of carbon neutral by 2030 or enhancing the natural environment through the improved efficiency of modern boilers and resultant reduction in gas usage.

15.1.2 Climate change advice has been sought in the preparation of the options and recommendations in this report.

15.1.3 In 2024/25 Tonbridge Pool consumed approx. 2,500,000 KWh of gas. The level of usage would be reduced if new, more efficient gas boilers were to be installed.

15.2 Equalities and Diversity

15.2.1 The decisions recommended through this paper have a remote or low relevance to the substance of the Equality Act. There is no perceived impact on end users.

15.3 Other If Relevant

- Business Continuity / Resilience
- Healthy Lifestyles

15.3.1 Ensuring the facility continues to be available supports the substantial revenue generated by the site as well as customers accessing health and fitness services.

Background Papers	None
Annexes	None