

BABERGH DISTRICT COUNCIL

TO: CABINET	REPORT NUMBER: BCa/21/6
FROM: Councillor Elisabeth Malvisi – Cabinet Member for Environment	DATE OF MEETING: 8 June 2021
OFFICER: Cassandra Clements - Assistant Director Environment and Commercial Partnerships	KEY DECISION REF NO. CAB297

SPEND AGAINST THE CLIMATE CHANGE AND BIODIVERSITY EARMARKED RESERVE – WATER FILTRATION

1. PURPOSE OF REPORT

- 1.1 The approval of the Council's budgets for 2021/22 recognised a dedicated earmarked reserve for Climate Change and Biodiversity to be used to invest in projects that will support the Council's commitment to be carbon neutral by 2030. The purpose of this report is to seek approval for the following project where funding is required from this reserve.
- 1.2 This report is seeking approval of additional capital expenditure of £24,900 not currently included in the 2021/22 capital programme for the installation of a new backwash pool water cleaning system at Kingfisher Leisure Centre. The majority of which (£21,650) will be funded from the Councils Climate Change and Biodiversity Reserve, the remaining £3,250 will be funded from revenue – a reimbursement of our contribution to the Suffolk Climate Change Partnership.

2. OPTIONS CONSIDERED

- 2.1 To proceed with the installation of a new backwash pool water cleaning system.
- 2.2 To continue with the current sand filtration system.

3. RECOMMENDATIONS

- 3.1 That an increase to the capital budget of £24,900 for the installation of a new backwash pool water cleaning system at Kingfisher Leisure Centre and its partial funding of £21,650 from the Councils Climate Change and Biodiversity Reserve, be approved.
- 3.2 That the Cabinet Member for Environment in consultation with the Section 151 Officer, be given delegated authority to consider future proposals for spend and approve funding from the Climate Change and Biodiversity reserve.

REASON FOR DECISION

To reduce the Councils CO₂ emissions, in accordance with its commitment to be zero carbon neutral by 2030.

4. KEY INFORMATION

BACKWASH POOL WATER CLEANING SYSTEM

- 4.1 Kingfisher Leisure Centre currently has a standard sand filtration system which requires cleaning on a regular basis, this is done by a process called backwashing. Backwashing reverses the water flow through the sand in the filter and pushes trapped detritus out of the sand and discharges the resultant waste (grey) water into the drains. Once cleaned, the filters are put back online and the pool water levels restored to normal by back filling with fresh mains water.
- 4.2 During a typical week at Kingfisher leisure Centre, this process involves using between 35,200 and 46,900 litres of water. The amount of backwashing varies with bather loading i.e., the more bathers the more backwashing. Annually, between 1,500 and 2,000 m³ of this backwash greywater is flushed away. The process is extremely wasteful of energy and water and has relatively high maintenance costs.
- 4.3 Approval for additional capital spend of £24,900 is sought to install a new pool water backwash cleaning system. The proposed system will use the process of electrocoagulation to clean pool backwash water and will significantly reduce water consumption by reusing wastewater while also reducing energy consumption and carbon emissions by reducing the need to heat pool top-up water.
- 4.4 The new system will deliver the following benefits
- reduce annual CO₂ emissions between 6.4 and 8.6 tonnes per annum,
 - reduce pool energy consumption between 35,200 and 46,900 kWh per annum,
 - reduce water consumption between 1,500 and 2,000 m³ per annum, the equivalent of approximately 11 households per annum (based on 4 people per household).
 - demonstrate a practical corporate carbon reduction strategy to UK leisure industry,
 - contribute towards a carbon neutral building.
- 4.5 The table below shows current annual utility performance compared with the minimum and maximum estimated annual savings. In summary, the installation of the new pool water backwash cleaning system could save between 1.1% to 1.5% overall for gas and electricity usage.

	Current Performance kWh	Saving (minimum) kWh	Saving (maximum) kWh	Saving (minimum) %	Saving (maximum) %
Electricity	631,963	2,400	5,000	0.4%	0.8%
Gas	2,752,001	35,200	46,900	1.3%	1.7%
Total	3,383,964	37,600	51,900	1.1%	1.5%

5. LINKS TO CORPORATE PLAN

- 5.1 The Joint Corporate Plan identifies six strategic priorities as set out in the visual below. Environment is one of those six, and the success of the Councils' ambition on climate change is intrinsically interlinked with the strategies that underpin the other five priority areas of Housing, Communities, Well-Being, Economy and Customers.



- 5.2 The 2018/19 carbon footprint report identified that all four Leisure Centres operated by both Babergh and Mid Suffolk District Councils accounted for 32% of combined carbon emissions.
- 5.3 The Council declared a Climate Emergency in 2019 and the Cabinet's Carbon Reduction Management Plan was recently published. Proposal 6.4 of the Plan states:
- "We will develop and deliver a long-term Carbon Management Plan for all Council-owned (non-domestic) buildings and infrastructure, based on the findings of the audits, to reduce energy use and bring them to as close to zero emission as possible. The plan will identify potential energy and carbon savings, with associated costs, estimated payback and timeframes."*
- 5.4 By reducing water consumption and recycling heated water that currently goes into the drains, the proposed installation of a new backwash pool water cleaning system at Kingfisher Leisure Centre would minimise the consumption of fossil fuels, reduce energy use and make significant carbon savings.
- 5.5 The proposed water filtration installation will work alongside other carbon-saving energy generation measures currently being explored through the Government's Public Sector Decarbonisation Scheme which supports capital energy efficiency and heat decarbonisation projects within public sector non-domestic buildings.

5.6 Babergh District Council is set to make further significant CO₂ savings, following a £1.4m Government grant for carbon-saving measures at their leisure centres, and other buildings. Funds are expected to see solar PV panels and air source heat pumps installed on the council-owned sites so they can begin to move away from fossil-fuelled heating systems including Hadleigh Pool and Leisure and Wenham Depot. Separately, Kingfisher Leisure Centre is also expected to have a hybrid air source heat pump. The funds are thanks to the Government's Public Sector Decarbonisation Scheme.

6. FINANCIAL IMPLICATIONS

6.1 As the anticipated cost of the new electrocoagulation system falls below the £25k threshold required for competitive sourcing, the Council has already identified its chosen supplier.

6.2 The supplier is providing a guarantee, whereby if the proposed water and gas savings are not met then they will remove the system at no extra cost and fully refund the cost of the installation project.

6.3 As mentioned in section 4.4 of this report, one of the main benefits of this project would be to reduce the utility costs of the Council. The responsibility for payments of both the electricity and gas supply has been transferred across from our current leisure provider, Abbeycroft Leisure to Babergh District Council. Table 1 below gives a breakdown of the associated operational costs and savings.

Table 1

	Minimum saving (£)	Maximum saving (£)
Estimated savings		
• water	(3,825)	(5,100)
• gas	(2,992)	(3,987)
• electricity	(288)	(600)
Total annual saving	(7,105)	(9,687)
Operational costs consumables	1,250	1,250
Net annual saving	(5,855)	(8,437)

Total capital expenditure required for the installation is £24,900. The majority of which (£21,650) will be funded from the Councils Climate Change and Biodiversity Reserve, the remaining £3,250 will be funded from revenue – a reimbursement of our contribution to the Suffolk Climate Change Partnership.

6.4 Table 2 shows the anticipated reserve balance following approval of the backwash pool water cleaning system. Approval for the biodiversity mapping work and the tree canopy survey have been included in a separate report on today's agenda.

Table 2

	£
Balance @ 31 March 2021	-
Planned contribution to reserve - budget setting 2021/22	(143,000)
<u>Use of reserve in 2021/22</u>	
Backwash poolwater cleaning system (Kingfisher Leisure Centre)	21,650
Biodiversity Mapping work	12,250
Tree Canopy Survey	20,599
Balance @ 31 March 2022	(88,501)

7. LEGAL IMPLICATIONS

7.1 There are no legal implications arising from this report.

8. RISK MANAGEMENT

8.1 This report is most closely linked with the Council's Corporate / Significant Business Risk No.18 – the Council will not be carbon neutral by 2030. Key risks are set out below:

Risk Description	Likelihood	Impact	Mitigation Measures
BACKWASH POOL WATER CLEANING SYSTEM			
The additional investment in the electrocoagulation system does not deliver on expectations i.e., proposed savings on utility costs.	2 - unlikely	2 - noticeable	The supplier is providing a guarantee, whereby if the proposed water and gas savings are not met then they will remove the system at no extra cost and fully refund the cost of the project.
System not functioning correctly or to capacity	2- unlikely	3 – bad	That the system is regularly inspected and well maintained
This type of technology is an evolving field.	1 – highly unlikely	1 - minimal	It is difficult to identify supporting cases where the technology has been used effectively for this purpose.

9. CONSULTATIONS

9.1 No formal consultation has been undertaken to date.

10. EQUALITY ANALYSIS

10.1 In preparing this report, due consideration has been given to the Councils' statutory Equality Duty to eliminate unlawful discrimination, advance equality of opportunity and foster good relations, as set out in Section 149(1) of the Equality Act 2010.

11. ENVIRONMENTAL IMPLICATIONS

KINGFISHER LEISURE CENTRE

11.1 In the Carbon Management Reduction Plan, we stated we will increase energy conservation and sustainability across our major assets. The water filtration system would meet this objective by being an environmentally friendly 'invest to save' opportunity, that would significantly reduce water and energy consumption and hence CO₂ emissions. If the district is to become carbon neutral by 2030, investment in such technologies is going to be required, particularly as in this case, where the financial payback period is short.

12. APPENDICES

Title	Location
APPENDIX A - Electrocoagulation	Attached

13. BACKGROUND DOCUMENTS

BCa/19/57 6 July 2020 – Environment and Climate Change Task Force

BC/20/24 23 February 2021 – General Fund Budget 2021/22 and Four-Year Outlook