

STROUD DISTRICT COUNCIL

COUNCIL

16 FEBRUARY 2023

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| Report Title | Decarbonisation of Stratford Park Leisure Centre, the Museum in the Park, Stroud and The Pulse, Dursley. | | | |
| Purpose of Report | To add the decarbonisation project for these important public buildings to the council's capital programme and thereby proceed using its match funding and the Salix grant, to implement the project. | | | |
| Decision(s) | Council RESOLVES to: a) Add the decarbonisation of Stratford Park Leisure Centre, the Museum in the Park, Stroud and The Pulse, Dursley, to the Capital Programme and b) Authorise the Head of Property Services, in consultation with the Chair of Strategy and Resources, Chair of Community Services and Licensing, and the Strategic Director of Resources to procure and award the contract for the works. | | | |
| Consultation and Feedback | The Head of Community Services, Operations Manager (The Pulse), Museum Development Manager and 2030 Manager are all supportive of the project. The Leader of the Council is also supportive of accepting the Salix grant and proceeding with the project. | | | |
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| Options | The council could decide not to proceed with these projects this year and to return the Salix grant. This could prejudice any future bids to Salix, should further funding phases become available. | | | |
| Background Papers | None | | | |
| Appendices | None | | | |
| Implications (further details at the end of report) | Financial | Legal | Equality | Environmental |
| | Yes | Yes | No | Yes |

1. Background

1.1. The Pulse, Dursley and Stroud's Stratford Park Leisure centres' heating and hot water is supplied by mains gas. The Museum in the Park is heated via pipework from Stratford Park Leisure Centre (SPLC) . SPLC's boilers are at least 24 years old with the Pulse's boilers having been replaced in 2004. Their DEC (Display Energy Certificates) ratings are D, D and C respectively. Not unsurprisingly, due to their size and the heat requirement of the swimming pools, the two leisure centres are the highest consumers of energy within the council's portfolio (although SLM meet the costs of utilities at Stratford Park up to a capped figure which is agreed annually through a cost benchmarking procedure).

- 1.2. In view of the Council's 2030 Strategy, its commitment to be an exemplar in investing in its own property and changing its policies and practices to achieve carbon neutrality and to build on the successful changeover to Water-Source Heat pumps at Ebley and Brimscombe Port Mills, a scheme to install air-source heat pumps at the leisure centres and the museum has been proposed.
- 1.3. This proposal is in accordance with the adopted Council Plan and specifically seeks to support the delivery of objective EC1.5; Explore and progress additional projects for carbon reduction.
- 1.4. Salix is the delivery body for the Government's Public Sector Decarbonisation Scheme (PSDS) and the Low Carbon Skills Fund (LCSF). Together the PSDS and LCSF provide grant funding to public sector organisations for heat decarbonisation and energy efficiency projects to reduce greenhouse gas emissions from public sector buildings.
- 1.5. In October 2022 the Council submitted a phase 3B PSDS bid to Salix for £4.69m to decarbonise Stratford Park Leisure Centre, The Museum in the Park and The Pulse, Dursley.
- 1.6. Salix met with officers and the council's consultant engineer in December to discuss the deliverability of our project. Having tested this, discussed risks and reviewed the technical element of the bid, a grant offer was confirmed in mid-January. The Council had to confirm acceptance within 10 working days of the offer.
- 1.7. In view of this timescale officers have accepted the funding offer, however, Salix are aware that this acceptance is subject to Council's approval.

2. The Project

- 2.1. The proposal is to replace the (end of life) gas boilers at these properties with air-source heat pumps.
- 2.2. Air-Source heat pumps have been successfully used in buildings across the country and other leisure centres and museums have installed them, some using Salix grant funding. Officers are currently gathering more information from other sites and users to learn from these projects. Swimming pools, in particular, require a significant amount of heat to bring them up to temperature, and although they are rarely emptied, a backup heating system may be required to cater for this. The museum also requires specific heat and humidity conditions to be maintained to safeguard its artefacts. As it is housed within a Grade II* Listed building this creates additional complexity to any heating scheme proposed.
- 2.3. The total cost of the project, based on air-source heat pump technology has been estimated at £5.33m.
- 2.4. Carbon savings have been estimated at 732 tonnes per annum by Salix. As the detail of their calculation isn't shared, our consultant engineers have estimated Carbon savings using the 'UK average carbon intensity of grid electricity' from the Ground Source Heat Pump Association's Carbon calculator, which is seen as a trusted benchmark in the renewables industry. These give figures of 35 grams CO² per kWh delivered heat, for gas (85% boiler efficiency assumed) and 215 grams for ASHP (Seasonal Co-efficient of Performance, SCOP, of 3.2 assumed). Estimated savings using this calculator are shown below:

Table 1: Estimated Carbon savings

| Site | kWh | Gas CO ² (tonnes [per year]) | ASHP (tonnes per year) | Annual CO ² saving | 20 year ASHP lifespan CO ² saving |
|--------------------|------------------|---|------------------------------|-------------------------------------|--|
| The Pulse, Dursley | 1,232,654 | 265.0 | 43.1 | 221.9 | 4,437.6 |
| SPLC and Museum | 2,681,012 | 576.4 | 93.8 | 482.6 | 9,651.6 |
| Totals | 3,913,666 | 841.4 | 136.9 | 704.5 | 14,089.2 |

*Consumption from b/w March 2021/Apr 2022

- 2.5. Whilst there remains the opportunity to design and cost ground-source heat pumps, this would be particularly problematic at The Pulse as there is not a large enough area of council owned land adjacent, to install these. In addition, they are generally much more expensive than air-source heat pumps and any additional costs would have to be met by the council as the Salix grant monies are fixed. Therefore, these are not recommended at the present time, but will be allowed for in the tender documents.
- 2.6. There is also the potential to separate the Museum in the Park from the Leisure Centre and provide it with its own plant and direct control over its own heating. However, this is likely to require an upgraded electricity supply to the Museum which may result in increased project costs.

3. Salix Grant

- 3.1. Unlike the Renewable Heat Incentive Scheme, which pays back the capital costs of the water-source heat pumps to the council over the long-term, Salix is grant funding which is drawn down through the project to meet the costs of installing the new infrastructure.
- 3.2. However, the council does have to commit 12% of the project costs as match funding and Strategy and Resources Committee recommended to approve funding of £700k, in order to meet this requirement plus some contingency, at its meeting on the 2nd February. This is subject to Council approving the addition of the project into the capital programme which will confirm both the council's match funding element and acceptance of the Salix grant to begin works.
- 3.3. The grant terms and conditions have been reviewed by One Legal and those specific to this project are based on the council's bid. The programme is challenging; this is, undeniably, a large project for the council to undertake and it has to be completed by 31st March 2024. Any expenditure beyond that date will not be funded by Salix – this is an absolute cut-off date for the grant funding so the council must be confident that it can deliver the project within the stated timescales and before appointing a contractor.
- 3.4. There are key milestones to be achieved before the council would be committed to delivering the project, namely; council approval, planning permission and Listed Building consent, DNO (distribution network operator) consent and the appointment of a contractor. The main project risks are set out in section 7 of this report and these will be reviewed and updated regularly.
- 3.5. The council is able to put forward changes to the programme (within the grant period) and the project specification/scope to be approved by Salix (this is not to be unreasonably withheld) as the project progresses.

4. Impact on facilities and customers

- 4.1. The Head of Community Services, the Operation Manager (The Pulse) and the Museum Development Manager have been consulted and are all very positive about supporting the project and will form the core of the project team. As set out in paragraph 5.4 of this report a project manager will be appointed to manage the project. The Strategic Director of Resources will be appointed as the project sponsor and will have overall responsibility for the delivery of the project.
- 4.2. SLM have been made aware of the project and have experience of Salix funded schemes at other centres and are open to working with the council to ensure the successful completion of the project at Stratford Park.
- 4.3. To facilitate the works required to switch from gas to the new plant it will be necessary to close centres for periods of time. Whilst at this stage those timescales are unknown the draft programme anticipates closures of up to a month per centre. Contractors will be instructed to stagger the close down of the leisure centres so as to minimise disruption.
- 4.4. Whilst closure cannot be avoided all of the officers involved in this project and their respective teams have become adept at managing closures through the pandemic. Using these skills officers will look to minimise disruption and find innovative ways to deliver services and programmes to customers.

5. Costs/ revenue

- 5.1. The estimated capital and revenue costs of the project are set out below. Revenue costs are based on an average of 4 weeks' income (noting that income changes depending on the time of year that closure takes place)

Table 2 : Project costs, SDC capital contribution and Salix grant

| Project Cost (budgeted) | £ |
|--------------------------------|------------------|
| Salix grant | 4,690,518 |
| SDC contribution | 609,549 |
| Total | 5,300,167 |

Table 3 : Estimated Revenue impact on facilities

| Estimated loss of revenue | Per week £ | Per month £ |
|--|-----------------------|------------------------|
| SPLC SLM estimate average through Oct – Dec | 38,750 | 155,000 |
| Museum in the Park Based on pre-Covid (higher) income January 2020 | 750 | 3,000 |

| | | |
|--|---------------|----------------|
| The Pulse Average loss of income from August to December | 32,500 | 130,000 |
| Total | 72,000 | 288,000 |

5.2. Moving off gas for heating and hot water reduces carbon emissions but will increase electricity consumption as electricity is required to power the air-source heat pumps. The estimated increase in electricity costs, at current tariff rates, is set out in the table below:

Table 4: Estimated increase in electricity consumption per annum*

| Stratford Park and Museum Current | | | | |
|---|---------|----------|---------|--------------------|
| | kWh | Tariff £ | Cost £ | |
| Gas | 2626378 | 0.21 | 562,045 | |
| Elec | 336098 | 0.89 | 299,463 | |
| TOTAL | | | 861,508 | |
| Stratford Park and Museum Proposed | | | | |
| | kWh | Tariff £ | Cost £ | Increase in cost £ |
| Elec (ASHP) | 750394 | 0.89 | 668,601 | |
| Elec (other) | 336098 | 0.89 | 299,463 | |
| TOTAL | | | 968,064 | 106,556 |
| The Pulse Current | | | | |
| | kWh | Tariff £ | Cost £ | |
| Gas | 1232654 | 0.21 | 263,788 | |
| Elec | 226897 | 0.90 | 204,207 | |
| TOTAL | | | | |
| The Pulse Proposed | | | | |
| | kWh | Tariff £ | Cost £ | Increase in cost £ |
| Elec (ASHP) | 352187 | 0.90 | 316,968 | |
| Elec (other) | 226897 | 0.90 | 204,207 | |
| TOTAL | | | 521,175 | 53,180 |

* Estimates Based on 2022/23 consumption. Source: Withycombe Designs

5.3. The costs for replacement gas boiler systems are estimated at £184k, close down times for installation would be similar and there would be no increase in electricity consumption.

5.4. The scale of the project requires that a full time project management resource be utilised to manage progress. A revenue sum of £64k is included within the draft budget to allow for recruitment of this position.

5.5. At current high electricity tariff rates the electricity required to power the air-source heat pumps is estimated to have a higher annual cost than the gas required to power the existing gas boiler system. Like all utilities costs this is difficult to forecast with certainty but at this stage it seems clear that operating a renewables based system will have a revenue premium to reflect the cost of reducing carbon emissions. The Medium Term Financial Plan will need to be updated on that basis.

5.6. The closure of the centres will have revenue implications for lost income as set out in the table above. This will be recorded through the budget monitoring process and where necessary the Strategic Director of Resources will identify appropriate sources of funding or reserves to meet those costs. This is a method which has already been established and used effectively in periods of Covid related closure.

6. Provisional Programme

6.1. The project lead-in is starting now, but the main project will take place in the 2023/24 financial year. The draft programme is set out below, however, this is currently being reviewed, with the quieter times of the year for the leisure centres and the museum's January close down, being targeted for closure and commissioning of the new plant.

Table 5 : Provisional Programme

| Delivery Milestone | Completion Date |
|---|------------------------|
| Project Approval (Council) | 16/02/2023 |
| Pre-Design Stage | 27/02/2023 |
| Tender documents finalised | 13/03/2023 |
| Out to tender (Framework or Open Tender with early notification) | 20/03/2023 |
| Tenders complete | 05/05/2023 |
| Orders placed | 22/05/2023 |
| Work in progress on site | 29/05/2023 |
| Completed on site | 02/02/2024 |
| Final Commissioning | 29/02/2024 |

7. Risks

7.1. The main project risks are set out in the following paragraphs.

7.2. Inadequate heat supply. The heat pump system may not provide enough heat or may not heat the building/pool up quickly enough. The heat pump system and radiators will be specified to ensure that the heat supply and warm-up times are suitably sized. Air and ground-source heat pumps are not a new technology and have been used effectively elsewhere. It may be possible to retain the gas boilers as a back-up system, but this would add cost and complication, and could diminish the carbon reductions and would require Salix's approval. Research is being undertaken into installations in similar buildings.

7.3. Disruption to occupiers during installation. The installation is likely to take place during the 2023/24 heating season, so will result in some disruption. Closures will be targeted for quieter months (August/December/January) and customers will be kept informed

throughout. Early indications from other sites are that close down could be for one to two weeks, with other intermittent closures in specific areas of the buildings.

- 7.4. Impacts on occupiers during operation. Occupiers may also be affected by a change in the behaviour of the heating system. For example, the heat pump will be designed to operate more consistently, so warm-up times may be increased slightly (a higher output heat pump system would avoid this but may not be cost-effective). Likewise, the internal temperature may be slightly lower than the existing internal temperature (again, a higher output heat pump would allow higher temperatures to be achieved but may not be cost-effective and will reduce the efficiency of the pumps).
- 7.5. Not meeting Salix deadlines. The Salix grant deadline may not be met and the council would have to meet any shortfall in funding. The deadline for drawing down grant funding is 31st March 2024. The ability to achieve this deadline will be known in terms of the contractor's programme once tenders are received and before the council appoints a contractor. This risk will need to be managed carefully and reported on throughout the project. Legal advice will be sought around the potential use of contract penalty clauses to try and minimise any risk to the council.
- 7.6. Consenting delays or difficulties. Planning permission and Listed Building Consent is required. Initial discussions have been held with the Development Management officer. An Architect has been instructed and is working on the design and will submit the planning and Listed building applications by mid-March. If Listed Building Consent is not granted the Museum could continue to receive its heat from the Leisure Centre or potentially be removed from the scope of the project. The draw down from the Salix funding will not exceed the Council's contribution and a contractor will not be appointed until the necessary consents are achieved.
- 7.7. Electrical Supply and DNO Approval. Approval is required from the National Grid (the DNO). Initial discussions suggest that the transformer/substation is sufficient at both sites. Early engagement will now take place with the National Grid following the energy monitoring of the sites (which was completed on 3rd Feb). There is a contingency of £10k for potential work.
- 7.8. Supply chain delays of equipment and labour. Early procurement and placement of orders will help to mitigate this, but it needs to be kept under review. Officers are considering three separate awards for the 3 sites, to mitigate against this risk.
- 7.9. Delays in programme leading to an extended closure of the facilities. This will lead to increased costs and an impact on customers. Good contract management and a communications strategy will help to mitigate this risk.
- 7.10. Higher capital costs than expected. This risk will mainly be addressed through the competitive tender process and the subsequent detailed design stage.
- 7.11. Abortive costs. There is a risk of abortive costs if the project doesn't proceed through its respective phases. However, this is unlikely to occur beyond the detailed design work, which makes up a small proportion of the overall costs (£160k). The council will need to

replace these gas boilers at some time in the near future and the work to design their replacement is valuable and takes it closer to achieving this.

8. Project Governance

- 8.1. The Council's project management processes will be followed; a project team of officers is being set up and a project board will be established, to include the Strategic Directors of Resources and Communities, and also, it is hoped, a Member champion for the project from the Community Services and Licensing Committee. Update reports will be presented to that Committee to include details of scheme progress, anticipated closure periods and communications plans.

9. Conclusion

- 9.1. The gas boilers serving these important public buildings are at end of life and will need to be replaced to help meet the council's 2030 commitment. The successful bid to Salix provides the council with an opportunity to bring in grant funding to both ensure the long term functionality of the buildings and invest in carbon reduction. Whilst the programme is clearly challenging, it is achievable. Successful competition would mean that the largest of the council's buildings will have been decarbonised, alongside works already completed at Brimscombe and Ebley Mills.
- 9.2. All the properties are suitable for installation of air-source heat pumps, the feasibility of installing these has been set out in the bid and tested by technical consultants for Salix. The heat pump systems are estimated to last for a minimum of 20 years and they will reduce CO² emissions by an estimated 14,652 tonnes over that time.
- 9.3. The move from gas will increase electricity consumption, but the council will continue to consider further energy saving measures including moving to 100% LED lighting and PIR sensors, timeclocks and increasing the solar PV arrays/ introducing solar battery storage. Whilst the bid does include a sum for installing cavity wall insulation at SPLC the financial limits within the PSDS scheme do not allow for these other measures to be included and officers will continue to seek alternative funding solutions for these.
- 9.4. It is, therefore, recommended that the council adds the decarbonisation of the leisure centres to the capital programme.

10. IMPLICATIONS

10.1 Financial Implications

Financial information for the project is set out in Section 5.

The Council contribution to capital works, including a small contingency over the match funding sum, is included within the budget to be considered by Council. This is paid for by borrowing repayable through the Minimum Revenue Provision over 10 years.

Project management costs are also included in the proposed revenue budget for 2023/24.

There will be revenue implications from the temporary closure of sites and estimates are made in this report. The Council has a strong track record of managing the impact of income reductions and the same techniques of effective budget monitoring and reserve management will be used for this project.

The ongoing revenue implication of this project will be from the potential increased cost of heating powered by electricity over gas, representing a financial commitment to meet the Council Plan objective of reducing carbon. The current estimate of this is shown within the report but is of course subject to a number of variables, most particularly around energy prices and the actual level of consumption. Clearly any further successes in reducing consumption would offset some of this cost. At its next revision, the Medium-Term Financial Plan will need to be updated to reflect the latest estimates of increased costs.

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10.2 Legal Implications

The Council's Contract and Procurement Procedure Rules will need to be followed when procuring the works and any professional support required to deliver the project. If the cost of the proposed works is likely to be above £5,336,937 or any services above £213,477 inclusive of VAT, then a fully competitive tender advertised on the Find A Tender Service (replacement for OJEU) or procurement via a compliant framework agreement will be required.

Any access requirements regarding landlord works contained in SLM's lease will need to be complied with. The Salix grant will need to be complied with when completing the works, but also in respect of any particular terms that need to be included in the procurement or contract documentation.

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10.3 Equality Implications

There are not any specific changes to service delivery proposed within this decision.

10.4 Environmental Implications

The report above sets out details of significant implications in section 9 in terms of decarbonisation and these ultimate aims of the project do support our commitment to do everything in our power to be carbon neutral by 2030.

Additionally, the following sets out details of significant implications identified by officers:

- Failure to add the decarbonisation of the Leisure Centres and Museum to the Capital Programme could be seen as a failure to acknowledge the 'emergency' declared and increase the risk of overall failure to deliver on the commitment made.
- Delivery of the project will make a significant positive contribution to reducing the causes of changing climate both by decreasing emissions and raising awareness of the need and means to do so
- The project will be a contribution to the whole district meeting the Paris Conference carbon emission reduction targets

Our social value procurement approach will support the project in terms of limiting environmental impacts in terms of the procurement of contractors to deliver the project.

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