

## Wiltshire Council

### Full Council

26 November 2019

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**Subject:** Wiltshire Council Carbon Reduction - Corporate Property Energy Efficiency and Generation Programme Phase 1

**Cabinet Members:** Cllr Richard Clewer - Deputy Leader and Cabinet Member for Corporate Services, Heritage, Arts, Tourism, Housing and MCI; and Cllr Ian Blair-Pilling – Cabinet member for ICT, Digitalisation and Operational Assets

**Key Decision:** Key

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#### Executive Summary

Council is asked to support a new energy efficiency and generation investment programme for the operational property estate recommended by Cabinet as part of the council's response to the 'Climate Emergency' and its declaration at the Full Council meeting on the 26th February 2019.

This is aimed at reducing the carbon emissions from the council's operational asset portfolio installing a raft of tried and tested solutions selected according to the building type and function. In addition, the programme includes the development of pathfinder projects designed to tackle residual carbon emissions.

This new programme builds on previous Invest to Save approach launched in 2012 and adopts an energy hierarchy approach made up of 4 key elements.

1. Limiting the influence of building users on energy use
2. Reducing how much energy is used with our buildings
3. Installing building integrated renewable energy
4. Off-site carbon reduction projects

Investment will be targeted at 138 buildings or sites within the operational asset portfolio, owned and used by the council to directly deliver services. Total budget cost to is projected to be £5.18m (including delivery costs) for deployment over 3 years. This investment would lead to indicative annual savings of some 1,930 tCO<sub>2</sub> and an annual revenue saving of approximately £500k. Investment and savings will be dependent on more detailed assessment of each site and the practical opportunities.

Successful delivery of the above programme will reduce carbon emissions and increase the amount of onsite renewable energy generation but will not eliminate emissions all together. In order to treat the residual emissions, the council can invest in larger renewable energy project in order to tackle residual emissions. Investigation into canopy-based solar panels at Salisbury Park and Ride sites has been selected as a pathfinder project. This would entail the

generation of solar electricity on the park and ride sites supplying electricity on a commercial basis to nearby third parties such as the Salisbury District Hospital. The recommendation is to support the development of the project to full business case for subsequent approval in 2020.

This report was considered by Cabinet on 8 October 2019, and the minutes of that meeting are available [here](#).

### **Proposal(s)**

- 1) To agree the addition of £5.2m capital funding to the Councils 2020 to 2023 Capital Programme to deliver the Operational Property Energy Efficiency and Generation Programme as a step towards achieving carbon neutrality for its operational property portfolio.
- 2) To note that a full business case for canopy-based solar panels at all viable Park and Ride sites will be presented to Cabinet for subsequent approval and to approve a provisional capital allocation of £3.5m from Councils 2020 to 2023 Capital Programme.

### **Reason for Proposal**

To deliver capital investment in the council's operational property which delivers carbon savings, cost reduction and delivers progress towards carbon neutrality for the council's Operational Asset Portfolio.

To develop an outline business case for a pathfinder project for canopy-based solar panels at viable park and ride sites to achieve 'proof of concept' off site carbon reduction project.

**Alistair Cunningham OBE**  
**Executive Director of Growth, Investment and Place**

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### **Purpose of Report**

1. This paper outlines the actions proposed by the Strategic Assets and Facilities Management (SA&FM) team to address the energy use in the council's operational buildings and to reduce the carbon emissions associated with running those buildings. This is part of the council's response to the 'Climate Emergency' and its declaration at the Full Council meeting on the 26 February 2019.
2. The paper details an approach to achieving the carbon neutrality from its operational property portfolio. The paper does not cover any proposals to address carbon emissions from other council operations such as fleet or waste. Likewise, the paper does not detail any examples of other actions which are within the council's sphere of influence and might also contribute to the tackling climate change such as local transport planning, core strategy planning policy or community engagement

### **Relevance to the Council's Business Plan**

3. This proposal is important to support our corporate priorities for demonstrating leadership as an innovative and effective council. The proposals, particularly relating to offsite carbon reduction projects, also demonstrate the council's commitment to a more commercial approach.

### **Background**

4. Council is asked to provide capital funding to support a new energy efficiency and generation investment programme. This is aimed at reducing the carbon emissions from the council's operational asset portfolio by installing a raft of 'tried and tested' solutions selected according to the building type and function.
5. In addition, there is a proposal to undertake a major programme of off-site carbon reduction projects that will tackle any residual carbon emissions from the operational

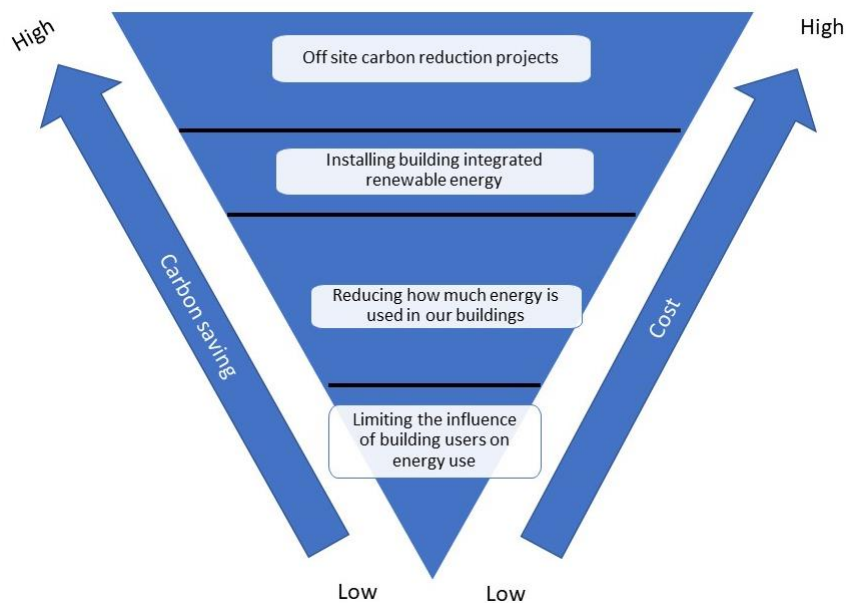
estate. The proposed pathfinder project is part of a longer list of similar projects which the council could implement. Investing in this programme could enable the council to move to a position of carbon neutrality for its operational property portfolio.

### **Previous Invest to Save Programme**

6. The council has been investing in the energy efficiency of its buildings for many years and has already installed numerous energy reducing technologies as well as renewable energy solutions across the operational estate.
7. In 2012, a multi-million pound 'Invest to Save' programme was established that saw the council invest in technologies such as Combined Heat and Power; Voltage Optimisation; oil to biomass boiler conversions; oil to gas boiler conversions; lighting upgrades; insulation upgrades and much more. This programme was initially funded using government backed Salix finance (an interest free loan available only to the public sector), but more recently has been incorporated into the ongoing maintenance and refurbishment work of SA&FM. Most recently there have been installations of LED lighting at Monkton Park, Bourne Hill and other major sites. Solar panels and biomass boilers have been installed at The Nadder and The Vale community campus.
8. This work has made significant inroads into reducing carbon emissions from the operational estate by both lowering the energy required and by decarbonising some of the remaining energy use. As a consequence, the councils reported carbon footprint has been decreasing year on year. The most recent carbon report covering 1st April 2018 to 31st March 2019 was 8,093 tCO<sub>2</sub> for the operational estate.
9. More recently, the council has secured all the electricity on its corporate contract from a green tariff with effect from 1st April 2020. This means that 100% of the council's electricity will be matched by the supplier with a certified renewable energy source. There is a premium that will be charged for this tariff which amounts to a total of £24,000 for the first year of the contract, from April 2020 to March 2021. The rate for the second year of the contract to March 2022 is currently unknown. The premium on this tariff has been rising at a disproportionate rate this year due to an increased demand from the market. It is also not known what the premium will be for the next contract from April 2022.

### **Operational Property Energy Efficiency and Generation Programme – Overall Approach**

10. The new programme of recommended works will take the 'Energy Hierarchy' approach to reducing carbon emissions and energy consumption. This will include 4 areas of work which are shown in figure one overleaf.



**Figure one: Energy Hierarchy**

### **Applying The Energy Hierarchy**

11. Limiting the influence of building users on energy use: This will be done by installing automatic controls for lighting, heating and cooling wherever possible; by ensuring that those controls are set at the correct level and that they are regularly monitored; and by standardising the type of controls fitted across the estate.
12. Reducing how much energy is used with our buildings: This will be done by installing standard energy reducing technologies wherever possible across all the operational estate. This includes solutions such as upgrading to LED lighting or improving insulation which will be relevant for many sites as well as solutions that are only relevant for a few specific sites, such as an upgrade to Variable Speed Drives at Leisure Centres. A glossary of the type of technologies that will be considered is at Appendix 1.
13. Installing building integrated renewable energy: Replacing as much as possible of the remaining energy used within a building with energy from a renewably generated source rather than from the grid electricity or gas means that the building will be responsible for emitting less carbon. The more energy that can be generated on site the less will be required from the grid. Therefore, this programme will install solar panels at every site where there is a viable business case. In addition, it will look at installing other renewable energy generation technologies such as wind turbines, hydroelectric solutions and biomass boilers if there are appropriate sites for them.
14. Off-site carbon reduction projects: Further benefits will be realised by undertaking a programme of synergistic projects such as district heating and power, solar installations, hydroelectric installations, energy crop and biofuel production and

supporting the move to low carbon transport. In addition to the significant carbon reduction there will be a return on these investments. Proposals being considered include canopy-based solar generation on Park & Ride sites in Salisbury. Other investment proposals could include installing district heating and power projects at a range of sites from social housing developments to strategic sites where the council holds a land interest.

### **Where Investment Will Be Targeted?**

15. The programme will be targeted within the operational asset portfolio from which the council directly delivers its services and covers 138 buildings or sites in the operational estate. The programme excludes those sites from which contractors deliver services on the council's behalf unless the council retains control over maintenance and energy bills. Such sites would include for example, local authority-maintained schools and leisure sites operated by Places for People Leisure.
16. Buildings and sites that are due for disposal or have a likely limited lifespan of council use have not been included in the programme.
17. A desktop assessment of the suitability of selected improvements is captured in Appendix 2. This shows shortlisted sites, current carbon foot print and suggested technologies which may be applicable.
18. The programme needs to be flexible enough to allow sites to move on or off the list if circumstances dictate (for example if a building becomes vacant and is recommended for sale). At the same time, more detailed analysis will need to be carried out to further decide which energy efficiency or low carbon solution is applied at each site.

### **Cost and Benefit**

19. Deciding which individual works to implement will be based on agreed prioritisation criteria. The highest priority will be given to work that reduces carbon as well as providing cost savings or generating income (some renewable technologies attract a subsidy that pays for the energy produced). Work that reduces carbon but provides no financial benefit will still be considered for implementation if the programme costs allow. In addition, work that saves money and improves sustainability but does not reduce carbon emissions (such as solutions that reduce water usage e.g. rainwater harvesting), could also be considered. The aim will be to ensure that for all installed solutions the ongoing maintenance liability is comparable (or preferably lower) than those systems being replaced. In addition, life expectancy of the solution will always exceed the payback period.
20. The costs and associated annual savings of the programme have been summarised in table 1 overleaf.

Solution	Indicative Cost	Indicative carbon saving tCO <sub>2</sub>	Indicative cost Saving	Indicative income from subsidy	Payback yrs
Air Handling	£175,000	45.00	£30,000	0	5.83
Water Blade	£6,000	50.00	£8,500	0	0.71
LED retrofit	£1,500,000	200.00	£165,000	0	9.09
PV installations	£1,100,000	210.00	£100,000	37,000	8.03
Solar Hot Water	£150,000	7.00	£2,400	21,000	6.41
VSDs	£100,000	130.00	£60,000	0	1.67
Insulation	£250,000	85.00	£20,000	0	12.50
Timer/controls	£100,000	140.00	£30,000	0	3.33
Window/door glazing	£15,000	2.00	£350	0	42.86
Solar shading film	£50,000	10.00	£4,500	0	11.11
Circosense (HWS)	£150,000	135.00	£25,000	0	6.00
Endotherm (HWS)	£200,000	370.00	£70,000	0	2.86
Biomass	£750,000	550.00	£0	65,000	11.54
Solutions will be considered but are highly dependent on-site constraints <sup>1</sup>					
Heat Pumps	tbc	tbc	tbc	tbc	tbc
Heat Recovery	tbc	tbc	tbc	tbc	tbc
Voltage Optimisation	tbc	tbc	tbc	tbc	tbc
<b>Totals</b>	<b>£4,546,000</b>	<b>1,934</b>	<b>£515,750</b>	<b>£123,000</b>	<b>7.66</b>

**Table one:** Operational Property Energy Efficiency and Generation Programme cost and annual savings

21. The projected programme cost is approximately £4.8m and would lead to indicative annual savings of some 1,930 tCO<sub>2</sub> and an annual revenue saving of £500k. In order to deliver this programme additional resource will be required in order cover feasibility and project management. This is estimated to be 8% cost of delivery (£384,000) of the overall budget bringing the total budget cost to £5.18m. Works would need to be phased over 3 years from April 2020.
22. It should be noted that additional income could be generated from subsidy depending on eligible technologies and continued Government support. Furthermore, given that energy prices are due to increase in future years, a further benefit of this programme is that it will insulate the council from the impact of future energy price rises. Both of these considerations strengthen the business case but neither has been quantified and included in the case for the programme.

<sup>1</sup> Costs and savings for these technologies are difficult to estimate due a range of factors that will influence the suitability of the technology at the site and its performance once installed

## Dealing with Residual Carbon Emissions

23. The implementation of the first phase of the programme will reduce carbon emissions and increase the amount of onsite renewable energy generation. However, the council will be left with residual carbon emissions from its operational portfolio which it cannot treat on site. Therefore, a carbon neutral operational portfolio is not achievable without considerable further action.
24. In order to deal with residual emissions there is a growing list of potential opportunities for the council to invest in renewable energy. Projects that generate low carbon heat or power can also reduce the carbon footprint of the organisation, either by directly avoiding the use of fossil fuels, or by exporting to other customers. A further benefit of investing is the financial returns that could be used for future projects, or to support the council's revenue position.
25. An outline business case has been produced exploring the viability of canopy-based solar panels at Salisbury Park & Ride sites, which is recommended as a pathfinder project. This would entail the generation of solar electricity on the sites, and selling electricity on a commercial basis to nearby third parties such as Salisbury District Hospital.
26. Although new to Wiltshire Council, these types of project have been developed successfully by other local authorities elsewhere in the country. The aim is to provide a viable project model for similar projects at other council sites in the future. Furthermore, this project could also deliver other benefits such as supporting sustainable transport objectives and the roll out of electric vehicles.
27. The Park & Ride projects are particularly attractive for the benefit of working with strategic partners and are likely to be eligible for both grant funding and 0% interest loan funding which would significantly reduce the lifetime project cost to the council, even compared with the relatively low cost of borrowing the council can access.
28. The maximum estimated capital cost to deliver the two projects is £3.5m. The simple payback of the projects is projected at 14 years based on the starting assumptions, with a useful asset life likely to exceed 30 years. The expected pre-finance net revenue over a nominal 25-year period is estimated to be up to £7.8m based on current prices for electricity.
29. It is recognised that the strategic cost of delivering national energy infrastructure improvements is likely to directly translate into increased energy prices in the coming years. Therefore, any project the council undertakes that displaces this electricity will therefore very likely become more attractive over its lifetime than current estimates suggest. When this is coupled with the long life of the asset the overall lifetime benefit is expected to be very attractive.



30. Full Council to note that a full business case for canopy-based solar panels at all viable Park and Ride sites will be presented to Cabinet for subsequent approval and to approve a provisional capital allocation of £3.5m from Councils 2020 to 2023 Capital Programme.

### **Safeguarding Implications**

31. These proposals do not have any specific safeguarding requirements.

### **Public Health Implications**

32. No significant implications have been identified.

### **Environmental and Climate Change Considerations**

33. This proposal seeks to address environmental concerns around climate change and energy consumption. These proposals will make a positive contribution to the environment.

### **Equalities Impact of the Proposal**

34. No significant implications have been currently identified. It is not anticipated that any of the energy efficiency and generation measures will have an equalities impact, however this would be continually reviewed and assessed through the delivery of the programme.

### **Risk Assessment**

35. A key risk to the Operational Property – Energy Efficiency and Generation Programme is adequate resourcing and the capacity to deliver multiple projects. Project management costs have been allowed for within the projected budget to mitigate this.
36. Development of the pathfinder project incur will expenditure (legal and project costs) in order to develop the full business case. This may ultimately become 'stranded cost' should the projects turn out not to be viable or the council chooses not to proceed.

### **Financial Implications**

37. To deliver this programme a capital budget of £4.8 million is required, the capital financing costs for this budget based on MRP of 50 years and Interest at 2.6% would be circa £0.221 million per annum.
38. The indicative savings/cost avoidance for the programme are forecast to be circa £0.5 million, therefore the savings can cover the borrowing costs and generate a saving for the Council. However, there will be a timing issue between the delivered savings and the requirement to pay back capital so revenue will need to be identified as part of 20/21 budget setting. A process will need to be developed to track the

savings/cost avoided to ensure that they are being delivered which will feed into subsequent budget setting rounds. Each project will need to be assessed as it comes forward to ensure it covers the borrowing cost as a minimum.

39. The Park & Ride pathfinder project will require specialist advice in order to cover the development of the full business case. Financial implications of this project will be considered as part of a future report.

### **Procurement implications**

40. Investment in operational portfolio, will be delivered via a range of different approaches. These will include delivery via term maintenance contractors under existing contract arrangements. In some instances, specialist advice, and goods will need to be newly procured. This will be established in line with the council contract rules in consultation with Strategic Procurement.
41. In respect of the off-site carbon reduction projects, the procurement implications will be addressed as part of the business case development

### **Legal Implications**

42. No legal implications have been identified at this stage identified in respect of implementing the energy hierarchy. The legal implications of any off-site carbon reduction project will be considered as part developing outline or full business cases, each of which will be subject to further ratification.

### **Options Considered**

43. Do nothing
44. Switch to renewable electricity supply and do not invest in energy efficiency. This approach would not do anything to drive efficiency or insulate the council against future price rises. It would also not do anything to address the carbon emissions from other fuels such as gas and oil.
45. Do not pursue projects which seek to tackle residual carbon emissions. Delivery of an 'onsite' approach only will not achieve carbon neutrality for the operational estate and leave the council with residual carbon emissions which it cannot be treated.

### **Conclusions**

46. The Operational Property – Energy Efficiency and Generation Programme offers a step towards achieving the carbon neutrality from its operational property portfolio. At the same time as delivering the carbon reduction, many projects will save energy and/or generate income. The pathfinder projects on Park & Ride sites will enable the council to off-set some of its residual carbon emissions. It will also provide a viable project model for similar projects at other council sites in the future.

47. This programme will help protect the council from future energy price increases and supports the council's response to the climate change emergency.

**Alistair Cunningham OBE**

**Executive Director of Growth, Investment and Place**

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### **Background Papers**

None

### **Appendices**

**Appendix 1:** Low carbon technologies terms and definitions

**Appendix 2:** List of buildings and opportunities

## **Appendix 1: Low carbon technologies terms and definitions**

Air source heat pump (ASHP) – Replaces existing boiler or electric heating. Uses compression and expansion of external air to provide heat within a building. Works on a similar principle to a fridge but in reverse. Lower carbon emissions than gas, electric or oil heating systems.

Air Handling Unit (AHU) upgrades – AHU's regulate air within heating and ventilation systems. They are often found in large or more complex buildings such as Leisure Centres and are major energy users. Upgrades will replace energy using components within the system with more efficient ones thus reducing energy and carbon.

Biomass boiler – A boiler that burns wood or another biomass rather than a fossil fuel such as gas. Biomass is considered to be zero carbon.

BMS system – A building controls system that can run the lighting, heating, cooling and ventilation to ensure comfort is provided with the minimum energy use.

Combined Heat and Power (CHP) – Similar to a car engine, this technology uses gas to generate electricity. As gas is cheaper than electricity and currently has a lower carbon factor, this produces electricity that is cheaper and with reduced carbon emissions.

LED lighting – A form of lighting that can replace existing lamps and requires less electricity to operate.

Ground source heat pump (GSHP) – Similar to ASHP but uses water that has been heated in the ground rather than air. Lower carbon emissions than gas, electric or oil heating systems.

Hot Water System technologies – Circosense – A device that ensures that hot water is only pumped around the system when it is needed rather than continuously. This saves on costs as well as carbon.

Hot Water System technologies – Endotherm – An additive to the heating system that improves the thermal contact and thus improves heat transfer rates. Less energy is required to heat the building so both carbon and costs are saved.

Hydroelectric system – A system that uses flowing water to generate electricity. The electricity that is generated is zero carbon. Will also save on the cost of electricity from the grid that would have been used.

Insulation methods – A method of cutting down on the heat lost through the structure or fabric of buildings – e.g. roof, walls, pipes etc. If less heat is lost, less energy is required to keep the building at a comfortable temperature.

Rainwater harvesting – A method of capturing and storing rainwater then using it at a site to replace the use of tap water. Common uses include flushing and garden use. Saves money on water bills.

Solar PV panels – convert light from the sun into electricity. The electricity that is generated is zero carbon. Will also save on the cost of electricity from the grid that would have been used.

Solar shading film – This is fixed to windows to reduce the heat from the sun in summer and will therefore reduce the energy required to cool buildings. Saves on both carbon and electricity costs where there are air conditioning units installed.

Solar thermal panels – uses warmth from the sun to provide zero carbon hot water rather than having to use gas or electricity. Will also save on the cost of gas or electricity from the grid that would have been used to heat the water.

Variable Speed Drive – a device that enables motors on fan and pumps (e.g. in large heating systems) to vary in speed as required rather than go at a constant top speed. Less energy is required to run at slower speeds.

Voltage Optimiser – a device that controls the voltage delivered to a building so that certain electricity using equipment within the building runs more smoothly and therefore uses less electricity.

Water blade – A device that fits in the end of a tap that reduces the amount of water delivered when the tap is used. Saves money on water bills and saves on energy (thus carbon) used in hot water taps.

Wind turbine – A device that can be mounted on a building or on a free-standing pole and generates zero carbon electricity from the wind. Will also save on the cost of electricity from the grid that would have been used.

## Appendix 2: List of buildings and opportunities

Sites	Air Handling	Water Blade	LED replacement	PV	Solar Hot Water	Heat Pumps	VSDs	Insulation	Timer/boiler controls	Window/door glazing	Solar coating	Circosense (HWS)	Endotherm (HWS)	CHP	Biomass	Heat recovery	Voltage Optimiser	Current Carbon Footprint	Carbon footprint per m <sup>2</sup>
westbury no 1 hawksworth park		✓	✓	✓		✓			☐	☐		✓	✓		☐	☐		tbc	tbc
Westbury Swimming Pool	✓	✓	✓		✓		✓	✓			✓	✓	✓					151.96	0.29
Tisbury Outdoor Swimming Pool			✓	✓								✓						24.25	0.25
Durrington Swimming Pool	✓	✓	✓	✓				✓			✓	✓	✓					265.70	0.25
Bradford on Avon Swimming Pool	✓	✓	✓	✓	✓			✓			✓	✓	✓					241.69	0.18
Devizes Needham House		✓	✓	✓							✓	✓	✓					134.86	0.13
Marlborough Leisure Centre	✓	✓	✓	✓				✓			✓	✓	✓					320.54	0.13
Royal Wootton Bassett Lime Kiln Sports Centre	✓	✓	✓	✓	✓			✓			✓	✓	✓					283.01	0.13
Trowbridge Clarendon Sports Centre	✓	✓	✓	✓	✓		✓	✓			✓		✓					383.30	0.13
Malmesbury Sports Centre The Activity Zone	✓	✓	✓	✓							✓	✓	✓					295.31	0.12
Devizes Leisure Centre	✓	✓	✓	✓	✓						✓	✓	✓					398.44	0.12
<b>Corsham Springfield Leisure Centre</b>	✓	✓	✓	✓		✓			✓				✓					325.20	0.12

Sites	Air Handling	Water Blade	LED replacement	PV	Solar Hot Water	Heat Pumps	VSDs	Insulation	Timer/boiler controls	Window/door glazing	Solar coating	Circosense (HWS)	Endotherm (HWS)	CHP	Biomass	Heat recovery	Voltage Optimiser	Current Carbon Footprint	Carbon footprint per m <sup>2</sup>
Evergreen Court		✓	✓	✓									✓					112.86	0.11
Warminster Sports Centre	✓	✓	✓	✓	✓		✓	✓			✓	✓	✓					254.69	0.11
<b>Salisbury Five Rivers Leisure Centre</b>	✓	✓	✓	✓	✓	✓			✓			✓	✓		✓			884.72	0.11
Chippenham Olympiad Leisure Centre	✓	✓	✓	✓							✓	✓	✓					619.73	0.11
Malmesbury Library		✓	✓	✓				✓					✓					24.21	0.07
Salisbury Bradbury House Respite Centre		✓	✓	✓	✓							✓	✓					42.01	0.07
Edgars Close			✓	✓				✓										67.50	0.07
Graham House			✓	✓														60.99	0.06
Salisbury City Hall Malthouse Lane	✓	✓	✓	✓	✓			✓			✓	✓	✓					137.16	0.06
Wilton Downside		✓	✓	✓				✓					✓					57.96	0.06
<b>Chippenham Monkton Park Offices</b>		✓		✓					✓		✓	✓	✓		✓			361.67	0.06
<b>Chippenham Wiltshire &amp; Swindon History Centre</b>	✓	✓	✓	✓		✓			✓		✓		✓		✓			209.94	0.05
Crane Lodge		✓	✓	✓				✓										53.66	0.05
Devizes Bradbury Manor Day Centre		✓	✓	✓	✓							✓	✓					28.34	0.05
Reindorp Lodge		✓	✓	✓				✓					✓					46.99	0.05
<b>Trowbridge County Hall</b>		✓	✓	✓	✓	✓	✓		✓				✓		✓			887.41	0.05
<b>Bourne Hill Council Offices</b>	✓	✓	✓	✓	✓	✓			✓			✓	✓		✓			172.41	0.04

Sites	Air Handling	Water Blade	LED replacement	PV	Solar Hot Water	Heat Pumps	VSDs	Insulation	Timer/boiler controls	Window/door glazing	Solar coating	Circosense (HWS)	Endotherm (HWS)	CHP	Biomass	Heat recovery	Voltage Optimiser	Current Carbon Footprint	Carbon footprint per m <sup>2</sup>
Salisbury Churchfields Depot		✓	✓	✓				✓					✓					90.25	0.04
Devizes Canon's House		✓	✓	✓				✓					✓					32.75	0.04
Calne Leisure Centre	✓	✓	✓	✓	✓						✓	✓	✓					111.79	0.04
Calne Library		✓	✓	✓									✓					35.65	0.04
Devizes Melbourne House Family Resource Centre		✓	✓	✓				✓					✓					16.64	0.04
Royal Wootton Bassett Library		✓	✓	✓									✓					22.06	0.04
Corsham Mansion House		✓	✓	✓	✓						✓	✓	✓					44.44	0.04
Tisbury Nadder Close Care Homes		✓	✓	✓	✓							✓						36.22	0.04
Salisbury Hayburn Wyke Family Resource Centre		✓	✓	✓				✓					✓					10.18	0.03
Amesbury Sports & Community Centre	✓	✓	✓	✓	✓		✓	✓			✓	✓	✓					46.89	0.03
Warminster Library		✓	✓	✓				✓					✓					33.67	0.03
Old Fire Station Enterprise Centre		✓	✓	✓								✓	✓					26.08	0.03
Westbury Library		✓	✓	✓				✓										17.61	0.03
Salisbury 26 Endless Street Coroners Court		✓	✓	✓				✓					✓					21.86	0.03
Devizes Library		✓		✓									✓					29.82	0.03
Amesbury Library		✓	✓	✓				✓		✓			✓					13.93	0.03
Bradford on Avon Library		✓	✓	✓							✓		✓					18.90	0.03
Westbury Leighton Sports Centre	✓	✓	✓	✓	✓			✓			✓	✓	✓					43.25	0.03
Westwood House		✓	✓	✓									✓					26.44	0.03
Devizes Kennet House Depot		✓	✓	✓	✓						✓	✓	✓					48.98	0.03
Warminster Highways Depot		✓	✓	✓	✓								✓					12.73	0.02
Marlborough Library		✓	✓	✓				✓					✓					11.30	0.02
Chippenham Parsonage Way Depot		✓	✓	✓				✓										24.56	0.02
Mere Lynch Close		✓	✓	✓				✓										19.01	0.02
<b>The Vale Community Centre</b>		✓		✓	✓		✓		✓			✓	✓					47.90	0.02





Sites	Air Handling	Water Blade	LED replacement	PV	Solar Hot Water	Heat Pumps	VSDs	Insulation	Timer/boiler controls	Window/door glazing	Solar coating	Circosense (HWS)	Endotherm (HWS)	CHP	Biomass	Heat recovery	Voltage Optimiser	Current Carbon Footprint	Carbon footprint per m2
Marlborough Salt Store <sup>2</sup>			✓	✓														0.00	
37 smaller car parks (various locations) <sup>3</sup>			<input type="checkbox"/>	<input type="checkbox"/>														0.00	
<b>Total</b>	<b>7,950.48</b>																		

<sup>2</sup> Site with minimal energy or uncalculated demand

<sup>3</sup> Sites where there is no calculated footprint (car park lights fed off streetlights network)