OUTLINE BUSINESS CASE (OBC)

REPORT	Complete / select		
Report title	PSDS3b Schools Programme Business Case for Decarbonisation and Solar Rooftops		
Author(s) *(include position)*	Helen Butcher, Senior Low Carbon Energy Officer		
Portfolio holder (*change/add name if required)*	Cllr Marisa Heath, Cabinet Member for Environment, Natalie Bramhall, Cabinet Member for Property and Waste, David Lewis, Cabinet Member for Finance and Resources		
Executive Director (*change/add name if required)*	Katie Stewart, Exec Director, Environment Transport and Infrastructure, Leigh Whitehouse, Exec Director, Resources		
ENDORSED BY / CONSULTED	**Complete / select**		
Strategy Portfolio Manager	N/A		
PP Member *(AD)*	Brian Boundy		
Service(s) impacted	**1. Education**	**2. L&P**	**ETI**
Officers consulted – Finance Business Partner	Sarah Bryan	Louise Lawson	Jane Burns
Officers consulted – Service Head/Lead	Mike Singleton	Brian Boundy	Katie Sargent
Officers consulted – Executive Director	Rachael Wardell	Simon Crowther	Carolyn McKenzie
Officers consulted – Other			
Consulted Cabinet Member for *(insert portfolio title)*		Natalie Bramhall	Marisa Heath
CPP Member *(L&P Director)*	Simon Crowther, Director, L&P		
PROJECT OVERVIEW	**Complete / select**		
Project Manager	Helen Butcher		
Property/Properties affected *(include address)*	St Peters Centre, Englefield Beauclerc Infant School, Sunbury Worplesdon Primary School, Worplesdon Kingswood Primary School, Lower Kingswood Park Mead C of E Primary School, Cranleigh		
Project Activity # (*If applicable)*	Delivery of schools decarbonisation projects under Salix funding and installation of solar rooftops		
Key driver	Desired		
Reason(s) for key driver	To meet SCC target to be carbon net zero in operation as a county by 2050 and enable other schools to have the model to decarbonise. Also offering greater security of energy costs to schools		

FINANCE OVERVIEW	Complete / select
Is this a movement from pipeline to budget?	Partly This business cases relates to Greener Futures Capital Pipeline Additional funding comes from PSDS3b grant funding, and L&P Education Recurring Capital Maintenance budget
If Yes, enter name of pipeline scheme	Greener Futures Capital Pipeline
Is this an approval for spend on existing budget for significant spend?	Yes
If Yes, enter name of budget scheme	As above
Is this a **Delegated Decision** [1] for spend on an existing scheme/programme?	Yes Delegated decision to be put to Cabinet 27 June
If Yes, is the Delegated Decision Sheet attached as an Annex?	No, Delegated decision is subject to Cabinet approval 27 June (Draft Cabinet paper Annex A)
Total scheme cost in £m	£3.6 £0.95m Salix grant £0.75m L&P maintenance budget £1.9m Greener Futures capital pipeline

GOVERNANCE [2]: click on relevant check box(es) and enter meeting date(s)		
Property Panel: ☒	**Capital Programme Panel**: ☒	**Cabinet**: ☒

Date: 30 May 23	Date: 13 June 23	Date: 27 June 23 for delegated approval

[1] **Delegated Decisions:**	[2] **Approvals guidance:**
All Delegated Decisions must have a completed Delegated Decision Sheet attached to this OBC.	• Up to £250k: Strategic Capital Group (i.e. PP) with CPP noted • £250k - £1m: CPP approval • Over £1m: Cabinet approval If the scheme impacts more than two divisions, check with your Finance Business Partner on whether Cabinet approval is required.

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Property Panel assessment:

PP date	PP decision	Comments
	Choose an item.	

FIVE CASE BUSINESS MODEL

1. STRATEGIC CASE

1.1. Purpose of the report and project outline

This report seeks endorsement of the business case to undertake decarbonisation works and add solar rooftops to five maintained schools as part of developing the pilot for Surrey schools.

Surrey's Climate Change Strategy commits Surrey County Council to achieve net zero carbon emissions in its building operations by 2030. This will be done by investing in building decarbonisation works in corporate buildings and generating power through solar PV installations. While schools are outside of the scope of the 2030 target, they are included in the 2050 net zero for the county target and require prioritisation due to the impact of rising energy costs on school budgets and providing a pilot for other schools across the county to follow suit.

SCC has applied for and been successful in being awarded over £1m in grant funding to support this work. The Public Sector Decarbonisation Scheme (PSDS) funding is available because each of the schools has an aging heating system which will need to be replaced imminently and should be replaced with efficient low carbon electric heating rather than gas boilers. The conditions of the funding require that the work be undertaken by 31 March 2024. To minimise disruption and maximise benefit to the schools, undertaking as much work as practical in the school summer holiday this year is targeted.

The decarbonisation works include replacement of aging heating systems and upgrades to the building fabric to improve energy efficiency. Solar PV panels are also proposed for the rooftops to provide low cost energy to the schools. This will be paid for via a power purchase agreement (PPA) which supplies electricity to the school at a standard rate and additional revenue back to the council on electricity sold to the grid. The outcomes will be significantly reduced carbon emissions and energy use, with greater security of energy cost and supply for the schools.

The scope of work at each site is summarised in Appendix A.

How many electoral wards does this scheme affect?	5

1.2. Priority objectives and contribution to the Community vision for Surrey in 2030

Organisation strategy priority area – select all that apply	**Enter "X"**
Growing a sustainable economy so everyone can benefit	X
Tackling health inequality	
Enabling a greener future	X
Empowering Communities	

Contribution to the Community vision for Surrey in 2030 – select all that apply	**Enter "X"**
Children and young people are safe and feel safe and confident	
Everyone benefits from education, skills and employment that help them to succeed in life	
Everyone lives healthy, active and fulfilling lives and makes good choices about their wellbeing	
Everyone gets the health and social care support and information they need at the right time and place	
Communities are welcoming and supporting especially of those most in need and people feel able to contribute to community life	
Residents live in clean, safe and green communities where people and organisations embrace their environmental responsibilities	X
Journeys across the county are easier, more predictable and safer	
Businesses thrive in Surrey	
Everyone has a place they can call home with appropriate housing for all	
Well-connected communities with effective infrastructure that grow sustainably	
Transforming as a Council	X

1.3. Recommendations

It is recommended that Property Panel:

	Recommendations
1.	Endorses the business case to draw down from Greener Futures capital pipeline to fund decarbonisation measures and solar rooftops at five Surrey maintained schools
2.	Endorses this business case on the basis that responsibility for approval is delegated from Cabinet to Cabinet Members (Property & Waste and Environment) based on recommendation by CPP and Exec directors and subject to Cabinet approval on 27 June 23
3.	Endorses the use of the already developed PPA agreement to be used for these PSDS 3b schools

1.4. Reason(s) for recommendations

It is recommended that the Property Panel approves the project in order to:

- Allow SCC to benefit from Government grant funding to contribute towards the cost heat pumps and energy efficiency measures in the identified buildings, in order to reduce carbon emissions from these buildings.

- Fully fund solar PV on these sites, the renewable energy generated will offset the potential increase in energy expenditure from switching from gas to electric heating.
- Support 5 schools through the installation of heat pumps and solar PV, with grant funding and SCC financing, to further develop a workable school decarbonisation scheme.
- Provide valuable experience and lessons learned to be applied in future similar projects.

These projects are set out in the Greener Futures Climate Change Delivery Plan, which was approved by Cabinet in October 2021, and will deliver direct reductions in carbon emissions and generate energy savings for the Council and the schools in scope. The principles of accepting Government grant funding to enable such projects was agreed by Cabinet in April 2022 (Surrey's Greener Futures Grant Programmes). To make use of this year's funding and to maximise the financial savings, the projects need to be undertaken this summer and have a very short time scale for delivery.

The principles of this business case are due to be considered by Cabinet on 27th June, setting out the order of magnitude costs, the benefits, and the time constraints of the programme. The Cabinet paper requests that approval of this business case be delegated to CPP to enable the work to be procured and undertaken during the school summer holidays.

1.5. Implications of not undertaking the scheme and options considered

Option	Outline description
Option A	Do nothing.
Option B	Undertake the decarbonisation programme making use of grant funding
Option C	Undertake the decarbonisation programme, making use of grant funding, and add solar PV to the rooftops

For a full description of each option and pros and cons for each, refer to Appendix B.

1.6. Preferred option

Preferred option and key reason(s) why this option is recommended
The preferred option is Option C as it meets the goal of decarbonising the school buildings and reducing energy costs, taking advantage of time bound Government funding and reducing future costs.

1.7. Legal implications

Where overarching capital programme strategies are approved by Cabinet, Cabinet may delegate the approval of individual schemes over £1,000,000 to the relevant Cabinet Member(s) and Executive Director(s), subject to scrutiny of business cases by the Cabinet Programme Panel. Individual schemes should initially be reviewed by Capital Programme Panel and then be signed off by the relevant Executive Director(s). Final approval will be via the relevant Cabinet Member(s) via a formal delegated decision sheet which will be published and subject to call in processes.

In these cases, the Cabinet Member, Executive Director and Capital Programme Panel will also be responsible for ensuring, in consultation with Strategic Capital Groups, that the overarching strategy approved by Cabinet remains deliverable within the overall programme budget and that key metrics, will be delivered.

Individual schemes under the value of £1,000,000 can be approved by the Capital Programme Panel

1.8. Environmental sustainability

The proposed works mainly encompass conventional FM and building refurbishment work. Most of the work is inside the schools. Installation of solar PV panels on roofs and installation of externally mounted heat pump plant will follow conventional planning policy in terms of noise and visual impact etc. The works are not expected to be adversely affected by environmental conditions locally, nor effect environmental conditions off site. The exception to this is the proposal for ground source heat pump boreholes.

Ground source heat pumps involved drilling multiple boreholes around 140 meters into the ground each borehole has a small diameter at only 150mm each. Boreholes are drilled clear of trees and buildings and uses a non-pneumatic drill method, each borehole has polypropylene pipes inserted (same as gas main and water main pipes) and then filled with a biodegradable heat transfer solution which is environmentally safe in case of spillage or leak. Boreholes are backfilled and are non visible from the surface and the ground can be restored to original and continue to be used for vehicles, playing, grass or gardens. The boreholes' pipework are guaranteed for 50 years and have a life expectancy of 100+ years. This work is proposed at Worplesdon site. A desk top study has reviewed the local geological conditions for suitability. Before commencement on site, the contractor will undertake ground condition and borehole conductivity tests to confirm performance. Boreholes fall under permitted development as they are considered infrastructure like gas, water and electricity.

At all sites, the combination of the heat pumps, insulation measures and the solar PV will result in significant carbon savings from the identified buildings. This scheme will directly contribute towards our 2050 county net zero targets. This scheme will also lay the foundations for future carbon savings by developing the financial mechanism to install solar on Surrey's schools.

2. FINANCIAL CASE

2.1. Financial summary

Summary	Complete / select
Total scheme cost in £m	£3.6m
Is the scheme grant funded, or partly grant funded?	Yes
Is Surrey CC funding required?	Yes
If Surrey CC funding is required, will borrowing cost be self-funded?	Yes
Are there revenue savings or income associated on completion?	Yes

2.2. Capital cost profile and funding

Capex and Funding Profile	2022/23 £'m	2023/24 £'m	2024/25 £'m	2025/26 £'m	2026/27 £'m	2027/28 £'m	Total £'m
Total Scheme cost	**0**	**3.8**	**2.4**	**0**	**0**	**0**	**6.2**
Funded by:							
Third Party							**0**
Government Grant		0.95					**0.95**
Revenue Funding							**0**
SCC Funding Required - FM funding		0.6	0.15				**0.75**
SCC Funding Required - GF capital funding		0.8	1.1				**1.9**
Total Funding	**0**	**2.35**	**1.25**	**0**	**0**	**0**	**3.6**

Contingency and inflation	**Complete / select**
What level of contingency has been built into the above table? e.g. 10%	5%
Have you built in estimated inflation into the costs?	No (work start will be immediate)
If Yes, specify rate used and why	

Third party funding details	**Third party partner**	**Government grant**
Third party funding from	N/A	Salix PSDS3b
Is the funding secured?		Yes
If TBC, indicate when funding will be secured, e.g. by end Dec 2023		
Is the funding subject to a bid process?		No (bid completed and funding awarded)
If Yes, when does the bid process close, e.g. Dec 2023?		

Leave the table below blank if the scheme is **fully** grant or contribution funded.

Surrey CC borrowing/borrowing cost	**Complete / select**
Is it expected that borrowing costs will be offset (or partially offset) by income generation or revenue savings?	Partly
If Yes, how will this be covered? e.g. rental income, pricing, fees and charges, service cost savings etc.	Revenue will be received from a power purchase agreement with the schools.
All projects with borrowing costs need to be modelled in the "Capital Project Model" and verified by a Finance Business Partner. Has this been completed?	Yes The capital model is included as Annex 2

2.3. Efficiency savings / Value For Money / Revenue implications

(Cumulative)	2022/23 £'m	2023/24 £'m	2024/25 £'m	2025/26 £'m	2026/27 £'m	2027/28 £'m	Total £'m
Gross Savings/income (input positive)		**0.047**	**0.047**	**0.047**	**0.047**	**0.047**	**0.235**
Revenue Cost (input positive):							
Employees							**0**
Supplies and Services							**0**
Third Party							**0**
Borrowing Costs		0.04	0.046	0.045	0.044	0.042	**0.217**
Other							**0**
Total Costs	**0**	**0.04**	**0.046**	**0.045**	**0.044**	**0.042**	**0.217**
Net Savings or Income / Cost*	**0**	**0.007**	**0.001**	**0.002**	**0.003**	**0.005**	**0.018**

* Delete as appropriate: Net Savings or Income / Cost

Note that income to SCC is that generated by the PPA only. This assumes a rate to the schools of 21p/kWh. The PPA business case is included as Annex 3. It is expected that the efficiencies might be transferred to the corporate pot to pay for the borrowing costs associated with GF measures.

Demonstrating VFM	**Complete**
How will the scheme contribute to the Council's requirement to demonstrate we are improving VFM in the service provided?	These measures are being installed as the current heating systems in the identified buildings are at end of life and need to be replaced. The grant funding provides a proportion of the capital costs of the works. Furthermore, the fabric insulation measures are required to reduce the energy consumption of the buildings and these alongside the solar PV, which generates electricity, will reduce the operational energy consumption of the buildings, resulting in reduced energy costs. All of the work will be competitively tendered through compliant frameworks.

Revenue Savings / Income	**Complete / select**
Does the table in 2.3 include revenue savings - detail possible: - revenue savings - income generation	The table in 2.3 includes the savings to SCC, generated from revenue from the PPA only. There are also savings to the schools, predicted to be a total of £13,000 per annum at current energy prices.
Is there expected to be continuous estimated net revenue savings per year after completion, compared to the current 'as is' situation?	Yes
If so, what is the annual ongoing estimate of the saving	£47,000 SCC income from PPA only £13,000 to schools
Which Directorate / Service will take on the savings?	The schools will benefit from the savings on fuel use due to energy efficiency measures. The Council will benefit from revenue from a power purchase agreement connected with the solar generation.

Revenue Savings / Income	Complete / select
Is there a saving to the General Fund?	No
If Yes, has the saving been put forward to be included in revenue budget proposals?	

Revenue Costs – Temporary Incurred During Project	Complete / select
Does the table in 2.3 include temporary incremental revenue costs during the project?	No
If so, what is the total estimated cost over the project life?	
Have the above incremental costs been budgeted for?	
Which Directorate / Service will take on the budget for these costs?	
Will there be an arrangement for a virement (partial or full) to cover these costs from another Service?	

Revenue Costs – Ongoing Post Completion	Complete / select
Does the table in 2.3 include an incremental continuous net cost per year after completion, compared to the current 'as is' situation?	No Incremental revenue costs due to maintenance of equipment are expected to be the same as current costs or lower
If Yes, what is the annual ongoing estimate of the cost	
Have the above incremental costs been budgeted for?	Yes in current maintenance allowances
Which Directorate / Service will take on the budget for these costs?	L&P FM
Is there a proposal for a permanent virement if another Service is benefiting from the project?	No
Specify if the additional costs will be funded from:	N/A
Will this require additional growth, has this been captured within Service growth pressures?	N/A

2.4. Key deliverable metric

Key deliverable metric	
Annual savings in fuel costs	£65,000
Carbon savings annual total	147tCO_2e

3. SOCIO-ECONOMIC CASE

3.1. Social / non-financial benefits of undertaking the scheme

	Social / non-financial economic benefits to the Council and local residents
1.	In alignment with SCC Climate Change Strategy.
2.	Provides experience and lays foundations for further decarbonisation work across schools and corporate buildings – in particular with power purchase agreement scheme to enable SCC to obtain ROI for capital investment in solar for schools.
3.	Decarbonising schools has multiple educational benefits when linked to our Eco Schools programme. Schools are a key engagement group that can spread positive climate related messages within communities.
4.	Solar PV and heat pump structures will be visible to the local residents and businesses and allows SCC to set an example on decarbonisation and demonstrate the actions that we are taking.
5.	

3.2. Outcomes the project will deliver

	Outcomes
1.	Measurable carbon reductions achieved which will contribute towards our 2030 net zero target (corporate estate) and the net zero county target (corporate estate and schools)
2.	Positive return on investment from the solar installations which will result in reduced energy utility costs to the Council
3.	Energy utility savings for 5 schools in a time when school budgets are particularly stretched
4.	Creating a pilot scheme to test the financial and operational mechanisms for decarbonising Surreys schools. Enabling the Council to role this offer out to all schools providing ROI is achieved.
5.	

3.3. Benefit summary

Decarbonisation Projects

1. Under the PSDS3b SCC was successful in gaining grant funding for a programme of school buildings and a programme of corporate buildings. At all sites, boilers and heating systems were deemed to be nearing the end of their life and the heating systems are proposed to be replaced by air source heat pumps, removing the need to burn gas and making the buildings fit for the future. The projects at each site also include upgrades to the building fabric, such as wall or loft insulation and replacement of windows and lighting, to reduce the heat loss and energy consumption of the buildings.

2. As well as grant funding, some of these measures will be funded by FM forward maintenance, where they have been included in current agreed programmes, as they cover replacement works which would have been required in the next five years. The remainder of the funding will be provided from Greener Futures capital pipeline.

3. The portfolio of projects has been extensively reviewed between SCC's Greener Futures and Land & Property teams for value for money, operational urgency, deliverability, and against the medium-term property retention strategy. As a result, the schools programme will decarbonise five schools. Other schools, where grant funding was awarded but where the balance of carbon savings to economic viability was not favourable, have been removed from this current programme. These removed schools will be reconsidered for a future programme if a different business model can be found.

4. Specialist design for the schools projects is nearing completion. To provide best value and best quality from contractors, the building fabric works will be undertaken by the FM framework of contractors, tendered competitively. The heating works will be tendered competitively to specialist heat pump designers via a specialist framework.

5. Early appointment of the FM building contractors also allows them to undertake work in the summer holidays to minimise disruption in schools.

Solar Rooftop Projects

6. Generating power via solar PV panels on the roofs of buildings or ground mounted (such as solar car ports) is a key investment proposed by the Climate Change Delivery Plan. Solar provides carbon emission free energy to the site and reduces fuel costs for electricity which would otherwise have been taken from the grid.

7. This will be a significant programme of solar installations covering the 5 schools and will inform subsequent programmes to enable cost, quality and time efficiencies in the future.

8. Outline design for the solar arrays is underway. These will then be tendered competitively via a specialist framework.

9. In schools, where schools pay their own energy bills, a power purchase agreement will be offered. This allows schools to purchase electricity at a rate lower than a commercial provider (saving them money) while still providing savings revenue to SCC. CPP approved the solar PPA to be piloted in five primary schools allowing officers to develop the business case for wider roll out of the programme.

10. The power purchase legal agreement has been completed and the framework for setting utility rates with the individual schools is being negotiated.

Project Outcomes

11. On completion of the decarbonisation projects, the schools will see significant savings in energy use and in carbon emissions, as well as improved security over future gas prices.

12. As electricity is currently more expensive than gas, the savings in fuel usage may or may not result in overall reductions in current fuel bills at a particular site. (Fuel price differences are expected to lessen, favouring cost savings, but this is not guaranteed.) However generation of electricity by solar PV will offset any immediate increase in fuel costs due to the electric heating and will significantly reduce the site's electricity consumption from the grid, generating savings.

13. Using the PPA with schools offers them savings on their fuel bills overall while delivering decarbonisation measures that the schools would not otherwise afford.

14. Fuel savings and carbon emission savings will be monitored continuously via remote metering and recorded in SCC building management databases. This will allow analysis of the carbon savings and the overall cost effectiveness of the decarbonisation and solar measures over the next few years for feedback into future projects.

	Benefit description	How will success be measured? What are the Key Performance Indicators if applicable (KPIs)?	Benefit realisation date	Who is responsible for assessing benefit realisation? E.g. service	Is baseline data required*
1.	Energy reduction at corporate estate sites	kWh reduction per annum (in gas and electricity)	Annually in April	Net zero 2030 team	Yes
2.	Energy reduction at school sites	kWh reduction per annum (in gas and electricity)	Annually in April	Net zero 2030 team	Yes

* Description of baseline data needed	
•	
1.	Energy consumption data for the identified sites – this data is available through energy team (mostly from on site energy meters)

4. COMMERCIAL CASE

4.1. Risk management

	Risk description	RAG	Mitigation action/strategy
1.	There is a risk that prices received from contractors exceed the budgeted costs and change the business case.		Costs have been revised recently with designer and QS estimates of fully designed systems. Contingency is included. All works will be competitively tendered.
2.	One area of cost risk is in estimating costs incurred for electrical upgrades. These costs take some months to be confirmed by the Distribution Network Operator (DNO).		Costs for major upgrades have been estimated based on similar projects confirmed this year, so are realistic in terms of magnitude at any site. The number of sites which will require an upgrade has been estimated on the high side for caution
3.	Without a PPA, the schools may not see the cost savings of the decarbonisation programme		It is most beneficial financially for the schools if they enter into a power purchase agreement to allow installation of the solar PV and then pay for electricity via SCC. A draft PPA is available. Schools are generally receptive to the offer, however they have not yet had the opportunity to complete agreement to this route.
4.	Savings in energy use may not be realised		The programme replies on savings generated by reduced gas and electricity usage. There is a risk that the relative prices of utilities change in a way that reduces the predicted savings and extends the payback. This is possible, but the opposite is expected long term, i.e.

	Risk description	RAG	Mitigation action/strategy
			electricity prices will not rise as fast as gas, making the savings from decarbonisation works more favourable.
5.	Loss of Salix grant money if it cannot be spent before 31 March 24		This business case has to be approved in mid-June, in order not to delay the appointment of contractors to undertake work to the building fabric over the school summer holidays, during the peak solar generation period, and before the winter heating season. The works have been planned to maximise the work that can be done early and use the grant funding, against works that can be undertaken at a later date
6.	Solar generation is limited and therefore limits the savings which help to fund the works		Reviews of roofs and their suitability for solar PV so far have been only visual. If a structural survey identifies that a roof is not suitable or requires extensive upgrade then the savings potential will be reduced. Surveys will be the first activity of an employed contractor and suitability will be confirmed before any PV orders placed.

Cost risks	Complete / select
Are there any costs that could change, and render the proposal unaffordable?	Yes
If Yes, provide detail	DNO costs are outside SCC control and are very high per site. However a conservative estimate has been made thus far. Structural surveys of roofs may identify that extra work is required to enable installation of PVs. If solar generation from PV is much reduced then this significantly affects the savings achievable
Have you made any provision for dealing with the financing of any time or cost overruns?	The project has a short programme dictated by the grant funding deadline. This will minimise the cost and time over run potential.

4.2. Commercial case

Cost risks	Complete / select
Outline the required products/ services	The outline scope of work for each site is provided in Annex A
Can the proposal be effectively delivered through a workable commercial deal(s)?	Yes

Cost risks	Complete / select
If Yes, describe how you will leverage the best available deal	Building fabric works will be procured through the current FM frameworks, providing tried and tests best value. Heat pump and heating works and the solar installations will each be procured via frameworks of specialist suppliers to obtain best quality installations without attracting additional main contractor costs.
What procurement does the proposal require?	Procurement via frameworks
Give a brief outline of the procurement strategy. (not required to be included here, but you should consider the routes to market options, including what is possible under regulations)	As above
Is there a market to trade this service or product being purchased capital expenditure being incurred?	N/A
Are there any personnel implications? E.g. TUPE.	No
If Yes, give a brief outline.	

5. MANAGEMENT CASE

5.1. Delivery team

	Proposal role	Responsible	Department	Position
1.	Sponsor	Brian Boundy	Land & Property	Assistant Director
2.	Senior Responsible Officer- Commissioning	Melania Tarquino	Greener Futures	Strategic Energy Lead
3.	Senior Responsible Officer - Delivery	Stuart Clayton	Land & Property	Building Management Manager
4.	Programme Manager Commissioning	Jared Sneath	Greener Futures	Net Zero & Decarbonisation Programme Manager
5.	Programme (and Contract) Manager - Delivery	Richard Payne	Land & Property	Greener Futures Delivery Programme Manager
6.	Project Manager - Delivery	TBC	Land & Property	
7.	Procurement Lead	Rob Davis	Procurement	Strategic Procurement Manager

Resource availability	Complete / select
Is feasibility work required?	No, completed
What are the resources required to build up the proposal?	Proposals complete

Resource availability	Complete / select
Are these resources available?	N/A
Where will the resources be sourced from?	PMO Atkins
Are Line Managers aware that their staff capacity will be required?	Yes
Will the use of internal resource stop delivery of other Surrey CC outcomes/ priorities?	N/A
Are external resources required to deliver the scheme?	Yes as above
Is the Procurement process in place to procure external resource?	Yes

5.2. Timeframes

Key milestones	Start DD MMM YYYY	Complete DD MMM YYYY
Tender and award contract for fabric works	22 May 2023	1 July 2023
Fabric works on site	20 July 2023	30 Sept 2023
Tender and award contract for heat pump works	27 June 2023	10 Aug 2023
Tender and award contract for solar works	27 June 2023	10 Aug 2023
Solar works on site	30 Aug 2023	30 Sept 2023
Heat pumps works on site	20 Nov 2023	1 May 2024
Completion	30 June 2024	

Asset life and Componentisation	Complete / select
Estimated asset life.	20 year minimum
Will the asset have two or more components which will have different useful economic lives?	Yes, however this business case has been simplified by considering an average asset life of 20 years for all the components
If yes, please provide details,	*ASHP – 15 -20 Years* *PV Panels – 25- 30 Years* *Inverters – 10- 15 Years* *Insulation measures – 40 years* *LED lights – 20 years*

Appendices

Appendix A: Scope of Work

Appendix B: Consideration of Options

Annexes

Annex 1: Cabinet paper draft

Annex 2: Capital Model

Annex 3: PPA business case

Appendix A Scopes of Work

Beauclerc Infant School, Sunbury
A 30kWp array of PV panels will be installed on the flat areas of the roof, with the appropriate access, structure, inverters and metering. The existing end of life boilers will be replaced with two new air source heat pumps serving the space heating and hot water demand. The work includes the associated civil, mechanical and electrical works, upgraded controls and buffer tank. Some of the existing water filled radiator systems will be removed and new radiators installed. The incoming electrical supply will be upgraded to cover the heat pump electrical demand.
Kingswood Primary School, Lower Kingswood
A 45kWp array of PV panels will be installed on the flat areas of the roof and two of the south facing pitched roofs, with the appropriate access, structure, inverters and metering. Additional thermal insulation will be added to the available uninsulated roof spaces. Some of the lighting in the school is already low energy. The remaining lighting will be replaced for low energy LED and improved controls. The existing end of life boilers will be replaced with new air source heat pumps serving the space heating and hot water demand for the main school buildings (omitting the newer F Block). The work includes the associated civil, mechanical and electrical works, upgraded controls and buffer tank. The existing single pipe distributions systems and the older radiators will be replaced. Some point of use hot water heaters will be retained. The incoming electrical supply will be upgraded to cover the heat pump electrical demand with allowance made for a new sub station.
St Peters Centre, Englefield Green
A 10kWp array of PV panels will be installed on the flat areas of the roof only, with the appropriate access, structure, inverters and metering. Additional thermal insulation will be added to the roof spaces. The existing single glazed windows will be replaced with double glazing. The lighting throughout will be replaced for low energy LED and improved controls. The existing end of life boilers will be replaced with new air source heat pumps serving the space heating. In the largest space, a VRF system will be installed to provide summer cooling as well as heating. The work includes the associated civil, mechanical and electrical works, upgraded controls and buffer tank. The existing water filled radiator systems and single pipe distribution will be removed and new radiators installed. The existing point of use hot water heaters will be retained. The incoming electrical supply will be upgraded to cover the heat pump electrical demand.
Worplesdon Primary School, Worplesdon
A 150kWp array of PV panels will be installed on the flat areas of the roof, with the appropriate access, structure, inverters and metering.

Additional thermal insulation will be added to the uninsulated roof spaces and draught proofing improved.

The lighting throughout will be replaced for low energy LED and improved controls.

The existing end of life boilers will be replaced with new air source heat pumps serving the space heating and hot water demand of the main buildings excluding the new Aviary Building and Drama Block. The work includes the associated civil, mechanical and electrical works, upgraded controls and buffer tank. Some of the existing water filled radiator systems will be removed and new radiators installed.

The incoming electrical supply will be upgraded to cover the heat pump electrical demand with allowance made for a new sub station.

Park Mead Primary School, Cranleigh

A 42kWp array of PV panels will be installed on the flat areas of the roof, with the appropriate access, structure, inverters and metering.

The roof, ceilings and lighting will be replaced as part of a FM current project. The roof replacement will include improved roof insulation.

The remaining single glazed windows will be replaced with double glazing and internal insulation add to the curtain walling infill panels.

The existing obsolete oil boilers will be replaced with new air source heat pumps serving the space heating. The work includes the associated civil, mechanical and electrical works, upgraded controls and buffer tank. Some of the existing electric convectors and water filled radiator systems will be removed and new radiators installed. Existing point of use hot water heaters will be retained.

The incoming electrical supply will be upgraded to cover the heat pump electrical demand with allowance made for a new sub station.

Appendix B

Consideration of Options

Option	Outline description
Option A	**Do nothing** **Positives** - Save spending money from the capital pipeline. However the pipeline is set up to spend money on projects of this kind **Negatives** - SCC must return over £2m from the PSDS3b grant to Salix. This might harm SCC's relationship with Salix and/or reduce their trust towards SCC. - Financial benefits not realised – Council will continue to be impacted by rising energy costs. - Limpsfield Grange School and Park Mead Primary School will remain on expensive temporary boilers - Carbon emissions not reduced in line with 2030 target. - L&P must spend at least £1.3m to replace end-of-life gas boilers for a like for like replacement
Option B	**Install decarbonisation measures in schools** **Positives** - SCC can benefit from grant funding to contribute towards cost of installing decarbonisation measures - Surrey schools are supported to decarbonise their buildings, employing more energy efficiency measures and reduce their energy consumption - Educational benefits related to decarbonisation projects in schools **Negatives** - Switching from gas heating to electrically powered heat pumps (without solar to offset) may potentially result in energy cost increases due to the higher unit cost for electricity. - Capital expenditure from pipeline with long payback period
Option C	**Install decarbonisation measures in schools and install solar rooftops** **Positives** - SCC can benefit from grant funding to contribute towards cost of installing decarbonisation measures - Surrey schools are supported to decarbonise their buildings and reduce their energy costs - Revenue impact of switching from gas to electrically powered heat pumps is negated by installation of solar PV at sites and enables better security of energy supply and cost - Investment in solar in the county - Educational benefits related to decarbonisation projects in schools **Negatives** - Capital expenditure from pipeline with long (but lesser) payback period

Option A - No nothing

If the decarbonisation projects are not undertaken, the schools will still require new heating systems in the next couple of years. At Limpsfield Grange School and Park Mead Primary School, boilers have already broken down beyond repair and the schools are running with expensive temporary boilers. Surrey County Council does not want to install any new gas boilers and has made a commitment to low carbon heating systems. If the decarbonisation project is not undertaken now, then any replacement of the heating system will have to be made by FM without the advantage of the Salix Government funded grant.

The projects include work to the building fabric and to lighting to improve energy efficiency and reduce energy consumption. If the projects do not go ahead, the schools will continue to pay for the higher energy consumption. If the solar rooftops do not go ahead then the schools will not be able to take advantage of lower and more predictable energy costs.

Option B - Undertake the decarbonisation programme making use of grant funding

This option will enable the schools to have a new heating system and improved energy efficiency measures, reducing FM liability for these measures in the short term. SCC will be able to make use of Government grant funding for part of the capital cost. The running costs of the new systems are expected to be similar to those of the existing systems.

Option C - Undertake the decarbonisation programme making use of grant funding and install solar PV to rooftops.

This option will enable the schools to have a new heating system and improved energy efficiency measures and make use of Government grants. It will also enable the schools, via a power purchase agreement, to see reduced energy costs and more stable and predictable energy liabilities. The savings in energy costs will reduce the running costs for schools.

DO NOT DELETE. LEAVE BLANK FOR CPP ASSESSMENT ONLY:

Capital Programme Panel Assessment:

	Y/N
Does the proposed scheme demonstrate Value for Money?	
Does the proposed scheme meet the Council's Corporate Ambitions?	
Is the proposed scheme affordable?	
Does the proposed scheme support the Financial Resilience Plan?	

CPP Recommendation to the Asset Strategy Board:

Recommendation:	**Reason for recommendation:**
Based on the strength of the business case and Value for Money, CPP recommends that the proposed project **is / is not recommended** for inclusion in the Capital Programme	

Post Implementation Review

Post implementation review required?	Y/N
If YES, date of review to CPP	