

<b>TITLE</b>	<b>Climate Emergency Action Plan – Update on capital projects (Dinton Activity Centre replacement provision &amp; Addington School expansion)</b>
<b>FOR CONSIDERATION BY</b>	The Executive on Thursday, 30 July 2020
<b>WARD</b>	Bulmershe & Whitegates; Hurst
<b>LEAD OFFICER</b>	Deputy Chief Executive - Graham Ebers
<b>LEAD MEMBER</b>	Executive Member for Climate Emergency - Gregor Murray

## **PURPOSE OF REPORT (INC STRATEGIC OUTCOMES)**

The report outlines the current proposals (a) to deliver a carbon positive and energy positive facility at Dinton Pastures, with achieving a carbon offset of 39.4tCO<sub>2</sub> annually (9.4tCO<sub>2</sub> positive per annum) and 944tCO<sub>2</sub> over the life time of the asset (81.6t CO<sub>2</sub> positive across the life cycle) and (b) to install additional PV panels to the new building at Addington school which will enable a carbon offset of 7.3t CO<sub>2</sub> annually and 64t CO<sub>2</sub> across the lifecycle).

This development will act as a flagship facility exceeding the target of a net zero carbon dioxide emission building by generating more sustainable energy than it uses. There are also opportunities to promote this building as an exemplar site that can be used to demonstrate good practice and to educate residents, school pupils and businesses on good sustainable development practice.

## **RECOMMENDATION**

That the Executive:

- 1) takes note of the proposals and the anticipated outcomes;
- 2) confirms the decision to invest in the carbon neutrality proposals in Dinton Activity Centre and Addington School to significantly reduce the carbon emission of the new buildings in line with the Council's net zero carbon by 2030 target
- 3) approves an additional capital budget of £483,900 financed by borrowing and fully repaid from savings generated through reduced energy costs.
- 4) notes that the annual financial cost reductions in excess of the capital financing costs will be set aside to provide for component replacement in future years.

## **EXECUTIVE SUMMARY**

### Dinton Pastures

A capital scheme was initiated in autumn 2019 to start the design works for a new activity centre, to replace the current dilapidated facilities at Dinton Pasture (the activity centre) which are dated and do not support the usage and aspirations of the community.

In line with the Climate Emergency Initial Action Plan adopted by this Council earlier in the year, the design of the DAC was subjected to a thorough “carbon neutrality” review and as an outcome of this review, a set of recommendations were presented in April (Appendix A). The key recommendations include using environment friendly technology such as air source heat pumps, increased use of natural ventilation, alterations to the domestic hot water systems and significant increase in provision of photovoltaic cells using both the roof of the building and the proposed car park areas.

The implementation of the recommendations will see an overall reduction of energy usage of the facility by 126% - thereby making the facility energy positive – the first in the Borough within the portfolio of the Council’s community assets. The overall cumulative carbon reduction, as a result of the interventions, will be 130% - essentially creating a corporate facility which will be operationally carbon positive.

#### Addington School

The expansion of the current facilities at Addington School was taken by the Council in January 2019 and the works are anticipated to be completed by summer 2020. The options to incorporate the CEIAP were subsequently subjected to a design review which identified that by incorporation of additional roof mounted PV panels to the new build it is possible to reduce the operational carbon emission of the facility by almost half (a 49.7% reduction) as well as achieve an energy efficiency of 46% when compared with conventional gas.

## BACKGROUND

The current capital programme approved the construction of a new activity centre at Dinton Pastures – the existing facility is dated, dilapidated and does not have the capability to support the usage and aspirations of the community. A scheme was initiated in autumn 2019 to start the design works for a new activity centre. After some significant public consultation a planning application was submitted.

In line with the Climate Emergency Initial Action Plan adopted by this Council earlier in the year, the design of the DAC was subjected to a thorough “carbon neutrality” review and as an outcome of this review, a set of recommendations were presented to the CEAP Investment Board in April (Appendix A). The key recommendations include using environment friendly technology such as air source heat pumps, increased use of natural ventilation, alterations to the domestic hot water systems and significant increase in provision of photovoltaic cells using both the roof of the building and the proposed car park areas.

On the 18<sup>th</sup> July 2019, Wokingham Borough Council declared a Climate Emergency, by tabling a motion submitted by Council Leader, Cllr. John Halsall. The motion received unanimous support and seeks to make Wokingham Borough carbon-neutral by 2030. On 23<sup>rd</sup> January 2020, this Council adopted a Climate Emergency Initial Action Plan (CEAIP) - a working document, this first version of our Climate Emergency Action Plan sets out the initial steps Wokingham Borough can take towards becoming net zero carbon by 2030, including positive environmental changes that will improve the quality of life of all our residents and help to avoid the impacts of climate change.

As set out in the CEAIP, the Council has identified eight key priority areas (below) to focus on for reducing CO<sub>2</sub>e :

1. Reduce Carbon Dioxide Emissions from Transport
2. *Reduce Carbon Dioxide Emissions from Domestic and Business Property* – Green Bank Project - a key component of this target would see the Council to implement the necessary measures to improve the current energy usage of its own corporate properties and aims to become net zero carbon by 2030.
3. *Generate more Renewable Energy in the Borough*
4. *Create a Local Plan that Specifies Net Zero Construction and Infrastructure* - All major residential and commercial developments will be expected to deliver high sustainable construction standards. Policies to enable this will be embedded in the upcoming Local Plan Update (LPU). Major developments will embrace innovative sustainable design solutions for energy efficiency and low carbon energy generation and use.
5. Increase the Levels of Carbon Sequestration the Borough Through Greening the Environment
6. Engage with Young People and Support Sustainable Schools
7. Reduce Waste Sent to Landfill
8. *Encouraging Behaviour Change* - As a community leader, the Council will set an example and set high standards in becoming net zero carbon. This includes its own estate but also its policies, service delivery and investment decisions.

### Dinton Activity Centre

The Dinton Activity Centre carbon neutrality proposals align with a number of key priority areas (as highlighted in bold above).

The proposed intervention will seek to create a carbon positive and energy positive building, by using the current available national trends and datasets, and adopting the following technological enhancements :

1. Utilisation of air source heat pumps (ASHP) and air-to-water technology (AtW) for heating the facility during winter months – as compared against a more conventional form of heating, this is forecasted to reduce the carbon emission by 5% annually and decreasing the energy demand 4% per annum.
2. Integration of hot water system with the ASHP heating system – as compared against a more conventional form of generating hot water, adoption of this methodology is forecasted to reduce the carbon emission by 20% annually, with an anticipated energy efficiency of 30% per annum.
3. Increased use of natural ventilation – by increasing the use of natural ventilation a 5% reduction of carbon emission is predicted, with a 4% decrease in energy need per annum.
4. Increased provision of roof mounted PV panels – by utilising the full extent of the roof space available the scheme will look to install 48 arrays of 400W solar panels – this will reduce the carbon emission of the facility by 12% and at peak availability will enable 12% reduction of energy usage of the facility when compared against a more conventional design.
5. Installation of car park PV ports – By installing circa 270 of 335W car port mounted PV panels at the car parking area adjacent to DAC, it is anticipated that at peak times these will generate just over half of the operational energy required for the entire facility (circa 55%), and will reduce the carbon emission by 62% when compared against a conventional methodology.

A combination of all of the above, in short, will see an overall reduction of energy usage by 126% - thereby making the facility (with all of the above interventions) an energy positive facility – the first in the Borough within the portfolio of the Council's community assets. The overall cumulative carbon reduction, as a result of the interventions, will be 130% - in other words, these interventions will essentially create a corporate facility which will be operationally carbon positive.

### Addington School

The construction of the new build facilities is nearly completed, with an anticipated hand over in readiness for usage from September 2020. The proposed intervention will look to add 36.7kW PV panels to the roof of the new facility it is estimated that at peak times these will generate just under half of the operational energy required for the new build facility (circa 46%) and will reduce the carbon emission by almost half (49.7%) when compared against a conventional methodology. The overall reduction in carbon offset, across the life of the new build, is expected to be 64t based on current national trend dataset, with an estimated annual reduction of 7.3t CO<sub>2</sub>.

### Next Steps

The completed facilities, including the interventions above (subject to securing planning consent), are expected to be ready for use towards the end of the year.

### **BUSINESS CASE**

- The business case for the decision including evidence of need  
The business case for the interventions has been presented in Appendix A.

- Any options that have or are being considered

In the event that the interventions as detailed previously are not pursued, the new facilities constructed will not be carbon-neutral, thus not aligning with the CEIAP.

- What the risks associated with the decision are;

There are no further additional risks associated with the decision.

- Any timescales associated with the decision;

The detail design and procurement of the works necessary will commence pending the decision.

- What the expected outcomes are

Creating a new activity centre at Dinton Pastures which when fully operational will achieve a carbon offset of 39.4tCO<sub>2</sub> annually (9.4tCO<sub>2</sub> positive per annum) and 944tCO<sub>2</sub> over the life time of the asset (81.6t CO<sub>2</sub> positive across the life cycle). For Addington new build, the overall reduction in carbon offset, across the life of the new build, is expected to be 64t based on current national trend dataset, with an estimated annual reduction of 7.3t CO<sub>2</sub>.

## FINANCIAL IMPLICATIONS OF THE RECOMMENDATION

***The Council faces severe funding pressures, particularly in the face of the COVID-19 crisis. It is therefore imperative that Council resources are focused on the vulnerable and on its highest priorities.***

	How much will it Cost/ (Save)	Is there sufficient funding – if not quantify the Shortfall	Revenue or Capital?
Current Financial Year (Year 1)	£483,900	No	Capital
Next Financial Year (Year 2)	Net £0 (Running costs and income)	Yes	Revenue
Following Financial Year (Year 3)	Net £0 (Running costs and income)	Yes	Revenue

### Other Financial Information

#### **Dinton Pastures Activity Centre Project**

Dinton Pastures climate emergency project initial costs are £422k. This will be funded by borrowing initially with the debt costs and interest costs fully repaid by the annual savings generated from the energy reduction. This will be funded over the building's useful life of 45 years.

The Executive are also asked to approve the creation of a sinking fund which will allow the Council to set aside the additional savings each year to cover the capital replacement costs estimated to be c£150k and need replacing every 15 years. All costs are fully funded with the savings generated from the energy reductions.

Please note as per the Quarter 1 Capital monitoring report 2020/21, that there is a recommendation to increase the budget for the original Dinton Pastures activity centre as per item 1 to that report. This is covered by borrowing initially and repaid from increased income generation over life of the asset.

On simplified annual average, the key financial information is as below:-

- Annual revenue costs including financing charges : £21.6K
- Annual revenue savings including income generated :£22.1K
- Annual Surplus (or short fall) : £0.5K

### **Addington School Project**

Addington School climate emergency project initial costs are for £61.9k. This will be funded by borrowing initially with the debt costs and interest costs repaid by the annual savings generated from the energy reduction. This will be funded over the buildings life of 45 years. The Council are also looking into more favourable borrowing arrangements (e.g. 0% Salix Energy Loans) to further reduce costs.

The Executive are also asked to approve the creation of a sinking fund which will allow the Council to set aside the additional savings each year to cover capital replacement costs estimated to be c£55k and need replacing every 15 years. All costs are fully funded with the savings generated from the energy reductions.

On simplified annual average, the key financial information is as below:-

- Annual revenue costs including financing charges - : £3.6K
- Annual revenue savings including income generated :£3.8K
- Annual Surplus (or short fall) - £0.2K

The cost of replacement components have been factored within the viability testing of both the schemes.

A number of assumptions and trend projections sourced from various national database have been used to forecast the lifecycle financial models.

### **Stakeholder Considerations and Consultation**

The intervention proposals have been presented to the Executive Member for Climate Emergency. The delivery of the interventions will be overseen by the capital project delivery governance and reported to the Climate Emergency Officer Group.

### **Public Sector Equality Duty**

No alterations to the initial EIA envisaged

### ***Climate Emergency – This Council has declared a climate emergency and is committed to playing as full a role as possible – leading by example as well as by exhortation – in achieving a carbon neutral Wokingham Borough by 2030***

This is a key step in demonstrating this Council’s commitment towards achieving a carbon neutral Wokingham Borough and towards setting the standards. By delivering a carbon positive and energy positive community facility before the end of the year this Council will be leading by example.

### **List of Background Papers**

Appendix A – Carbon neutrality proposals – Dinton Activity Centre & Addington School

<b>Contact</b> Arnab Mukherjee	<b>Service</b> Business Services
<b>Telephone</b>	<b>Email</b> Arnab.mukherjee@wokingham.gov.uk