TEWKESBURY BOROUGH COUNCIL

APPENDIX A

CN2030 YEAR 1 REVIEW & YEAR 2 ACTION PLAN

Context

- Report of carbon baseline for 2019 was developed in spring 2020
- High level 10 year Action Plan produced to identify pathways to 2030 carbon neutrality
- Full Council adopted the report and action plan in late July 2020
- Implementation of year 1 objectives commenced in August 2020
- Internal management team comprising Dept. CEO (then Head of Finance and Asset Management), Asset Manager, Facilities Officer and Low Carbon Consultant established, with often weekly progress meetings held

Year 1 Objectives from Action Plan

	Objective	Success Indicators	Outcome
1	Support the creation of Monitoring & Targeting processes across all elements to ensure the capture of accurate data alongside the finalisation of the ongoing emissions tracking system	Energy diaries created and in use	All energy diaries created, including SMT reporting graphs. TBC Officer populating with ongoing data
2	Specification for procurement and securing appropriate quotes (against procurement policy) for works relating to the Action Plan/Baseline Emissions Report recommendations	Documents produced to support procurement process	Completed and produced resulting from successful PSDS funding application
3	Production of full Business Case detail (prioritising emissions and finance) of all relevant Action Plan activities so as to support informed decision making	Produced Business cases	Being developed as required, however, initial success with PSDS bid £305,700 secured
4	Coordination of any necessary feasibility studies for the Heat Pump and/or Solar Panel scenarios to include: A) Network Operator position to supply capacity levels B) Planning for location of equipment for installation C) Contingency Plans (Battery Storage) D) Full cost report for recommended measures (estimated costs produced at application were verified by cost consultants, however Feasibility consultants suggest costs significantly higher. The actual position will not be fully known until procurement is complete	A) N/A – no network impact B) Pre plan map of sites C) N/A D) Known budgets for measures	N/A – no network impact Full Feas study complete N/A – not required Headline costs produced, exact costs to follow on procurement
5	Increase the level of sub-metering of services so as to enable accurate and specific reporting of impacts to be made	More granular data available	Not part of funding application. Delayed to yr 2
6	Regular production and presentation of update/progress reports to Full Council on at least a quarterly basis	Meetings held with positive feedback	Annual reporting to O & S and Executive
7	Ensure council representation throughout Gloucestershire as required at meetings or networks and feedback relevant information and actions	Meetings attended and PR conducted	1 x press release issued and attendance at Glos Local Nature Partnership

A look at the main specific outputs

1. Monitoring and Targeting – Energy diaries
2. Detailed surveys informing implementation plans: Domestic & Roses
3. Applications for External Funding
4. PSC: Low Carbon Skills Fund & the Public Sector Decarbonisation Scheme

1) Monitoring & Targeting

NB test data only

2a) Surveys for Domestic Estate

Summary of Recommendations

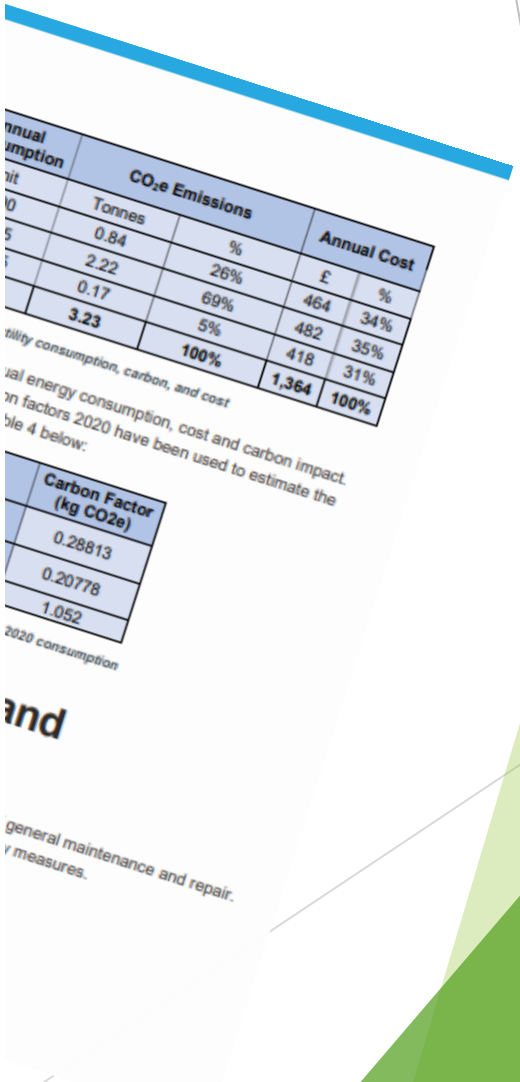
Building Fabric Measures	Saving (kWh)	%	Carbon (Tonnes)	Carbon Remaining (Tonnes)	Estimated install cost
Insulation on garage wall and behind cladding under front windows (U-0.32 100mm)	937	10.9	0.195		£2,000
Insulation in loft (400mm U-0.11)	1247	14.5	0.259		£500
Insulate flat roof (150mm U-0.3)	155	1.8	0.032		£500
Insulate garage ceiling (150mm U-0.22)	301	3.5	0.063		£1,000
All building fabric measures combined except windows	**2,730**	**31.8**	**0.567**	**2.663**	**£4,000**

Heating	Carbon Saving (Tonnes)	Carbon Remaining (Tonnes)	Estimated install cost
Air Source Heat pump	0.81	1.853	Net £10,000 (£15,000 install and £5,000 RHI income

Renewables	Carbon Saving (Tonnes)	Carbon Remaining (Tonnes)*	Estimated install cost
4.4kWp Solar panels (South roof)	1.153	0.7	£6,500

*This is based on 2020 carbon conversion factors.

Offsite Renewables	Carbon Saving (Tonnes)	Carbon Remaining (Tonnes)	Estimated install cost**
2.7kWp Solar panels (South facing)	0.7	0	£2,200



2b) Surveys for Roses

- Severn Wye Energy Agency's Target 2030 project provided >£10,000 of technical survey support at no cost to the council
- Potential for a 30% grant contribution from T2030
- Ineligible for PSDS funding
- Other external grants identified for low level support
- Next steps are to:
  - Secure quotes for works
  - Complete funding applications
  - Commence implementing the decarbonisation plan

Measure	Estimated Annual Savings (£)	Ten year cost of inaction (£)
Investigate alternative HVAC solutions including heat pumps & improved controls to reduce reliance on mains gas	TBC	TBC
Replace stage lighting & remaining fluorescent lighting with LED's incorporating intelligent lighting control	£125+	£1,250+
Improve insulation levels to walls and roofs where possible	TBC – dependent on size of area insulated	
Insulate exposed pipework, valves & flanges within the plant room	TBC	TBC
Install ambient "free" cooling to beer cellar	£250-£500	£2,500-£5,000
Fit timers on drinks fridges	Approximately £50-£100 per fridge	
Inn Energy / Beertech Python monitor	£70-£140	£700-£1,400
Install 54kWp solar array	£7,520	£75,200

3) External Funding

Successful submissions:

- BEIS – Low Carbon Skills Fund – PSC Heating and PV Feasibility: £21,700
- BEIS Public Sector Decarbonisation Scheme – Heat & PV measures: £284,000
- S Wye Target 2030: Technical Survey & access to 30% install grant: >£10,000

Funding identified for 2021-22:

- Theatre Trust: Sustainability actions (Roses): up to £20,000
- Arts Council: Various schemes (Roses) typical award circa £50,000
- SW Energy Hub Grant (Domestic): £25,000
- Domestic retrofit grants (LAD2, HUG): typical award £5-£10,000
- Possible Government subsidy grant for domestic Heat Pumps: circa £4,000

4) PSC & the Public Sector Decarbonisation Scheme

- Well reported to working group during year 1
- Feasibility study recommendations lead to change from GSHP to ASHP, which is in final stage of securing funder approval to proceed
- Cost estimated from Feasibility study of £650k subject to procurement. To be funded from PSDS grant and asset management reserves
- Expressions of interest already sought by council, and procurement route identified. We are ready to go to market upon approval from BEIS/SALIX
- Whilst implementation timescales are becoming tight, end of September completion remains the aim, however flexibility on the funder deadline is likely

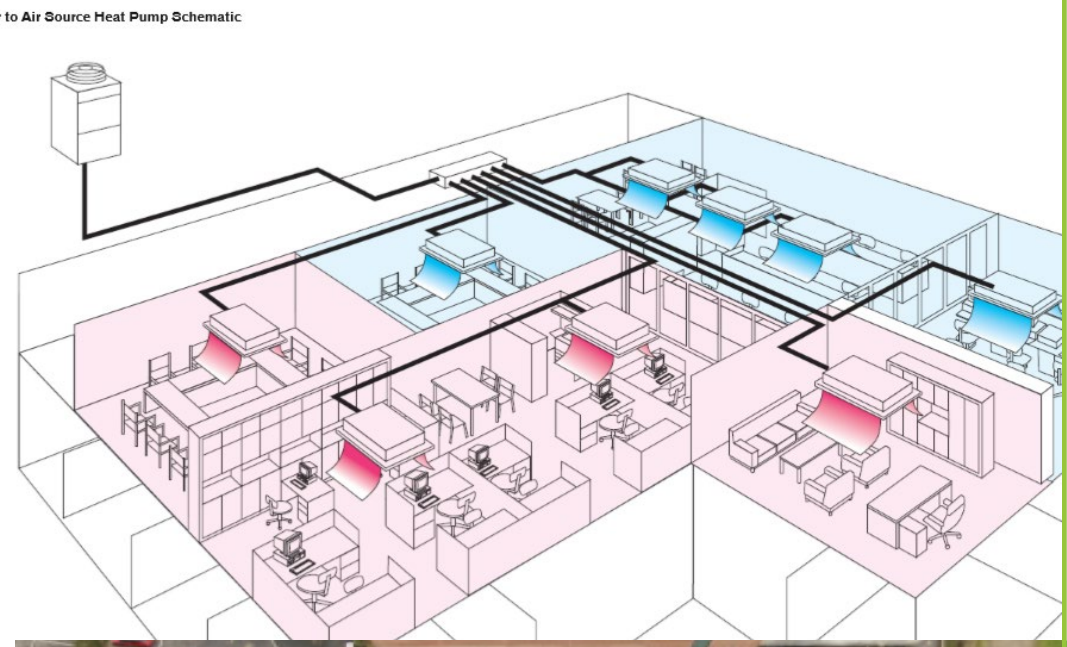
4) PSC and PSDS Continued…

Measures confirmed as:

- Hybrid ASHP: minimum use of refrigerant
- Localised system offers better in-use efficiency
- Upgrades to the heating control system increases savings
- Solar PV (44KW) in form of a carport in rear car park

remains the intended solution, however it is possible to use roof space should costs dictate.

Emission reductions from heating in the order of 74%, with further reductions achieved from control and PV systems



Additional Outputs Achieved in 2020

- Waste Management Systems
- Domestic Surveys & external funding research
- Roses Theatre Surveys & external funding research
- Solar Powered Car Park Machines
- LED Car Park Lighting
- Cycle Scheme
- Appointment of County wide Coordinator
- Gloucestershire Local Nature Partnership participation & SW Energy Hub Interviews to define new iteration of Green Homes Grant approach for Glos
- Press Releases
- Electricity Bill for O & S Committee

PSC Data for 2020

- At the current time only PSC data is available. We have started a review of all 2020 data which will be compared against the baseline and reported in the month ahead.

- Against the 2019 Baseline:
  - Emissions from Electricity for TBC has **REDUCED** by **20.79 tonnes**, or **25%**
  - Emissions from Gas for TBC has **INCREASED** by **4.88 tonnes**, or **8%**
  - Emissions from Electricity for whole office has **REDUCED** by **34.53 tonnes**, or **24%**
  - Emissions from Gas for whole office has **INCREASED** by **8.47 tonnes**, or **7%**

Year 2 '20 Point' Action Plan (2021-22)

	Objective	Success Indicators by end March 2022
1	**Communications & Engagement**	
	A) CN2030 Branding and web presence	A) Agreed, utilise and maintained branding and web presence
	B) Climate Change (Service) Champions	B) At least 1 CC Champion 'recruited' in each council service area
	C) Staff Training – carbon literacy	C) Production and delivery of carbon literacy training
	D) Appoint CN2030 Officer	D) Officer in post by December & induction complete (Feb '22)
	E) Establish protocol/ Plan of action with County-wide Climate Coordinator	E) Action Plan outputs achieved once plan agreed
	F) Ensure environmental impacts are 'properly considered in Committee Reports	F) Report template updated
2	**Technical Implementation**	
	A) PSC Low carbon heating and Solar PV systems	A) Systems installed and operational with no negative user impacts
	B) Further PSC Energy Efficiency improvements – LED lighting retrofit & Water Flow Restrictors	B) Assessments & install costs secured – installation dates planned
	C) Electric Vehicle Charge Points (EVCP) at car parks	C) Scoping study to determine sites, system size, cost & charges for use
	D) Conversion of car fleet to electric	D) Conversion cost defined, business case approved and date agreed
	E) Agree Action Plans & Commencement of Domestic property decarbonisation	E) Source quotes for works. Agree tech by tech or property approach
	F) Commencement of Roses Theatre decarbonisation plans (subject to funding)	F) Funding secured for initial measures that are installed March '22
3	**Scoping Studies and Policies & Schemes**	
	A) Detailed feasibility studies in support of Roses Theatre decarbonisation plans (as applicable)	A) Completed feas studies as req'd to enable installations to commence
	B) Commence planning and Scoping study for implications of and opportunities for Borough wide decarbonisation consideration	B) A Carbon Neutral Tewkesbury Borough high level plan mapped
	C) Update Tree Safety Management Policy	C) Policies updated
	D) Electric vehicle car purchase scheme	D) Scheme for EV purchasing produced and available for staff to utilise
4	**Budgets & External Funding**	
	A) Agree council budget (£100k) for 2021-22 CN2030 implementation	A) 2021-22 CN 2030 internal budget agreed and spent on demonstrable emission reduction measures
	B) Secure Theatre Trust grant & (where available) Target 2030 grant for Roses decarbonisation	B) External funding secured and spent on emission reduction measures
	C) Secure LAD2 funding for domestic property decarbonisation	C) External funding secured and spent on emission reduction measures
	D) Research and applications to wider funding streams (as applicable/available)	D) Funding research doc produced and new applications submitted