

Action Plan Draft based on Summary of Scenarios

Action Plan Ref	Emission Category	Scenario	Current emissions level (Tonnes of CO ₂ e)	Emissions saved (Tonnes of CO ₂ e)	New emissions level ((2019 conversion factors) shown in Tonnes of CO ₂ e)	Projected 'New emission' level for 2030 (Tonnes of CO ₂ e)	Current annual operating cost (estimated where new solution identified)	Estimated new annual energy costs	Additional revenue	Time frame based on Draft Action Plan (Phase 1, 2 or 3)	Headline Comments/Next Steps	Link to Supporting Data
AP1.1	Scope 1 & 3: Gas Consumed	Convert from Gas boiler systems to Air Source Heat Pump for space and associated water heating	458.74	304.52	154.22	47.34	£63,248	£71,100 Only Leisure Centre has increase to	£14,403 Net annual cost saving = £6,551	P1: TBC Office, Roses Theatre & TIC (HAT Shop). P2: Domestic Properties (as appropriate) P3: Leisure Centre (however is installed after 2022 additional revenue may be unavailable)	1) Projected 2030 emission level for electricity grid applied is 0.097kg/co2e/kWh. 2) Impact on future energy costs based on current energy costs across all participating buildings 3) Additional revenue from Renewable Heat Incentive initiative assuming installations before 2022 4) Present day energy rates used, and do not include 'Gas tax' likely to be seen from 2022	1) TBC baseline emissions & Action Plan (Excel), Tab: AP1.1 - ASHP All Bldgs 2) Specialist surveys required for system sizing & installation costs. 3) Structural surveys necessary to confirm load bearing capacity
AP1.2	Scope 2 & 3: Electricity	Mitigate ASHP energy demand with Solar PV installation	154.22	154.22	0.00	0.00	£71,100	£17,777	£7,202	Aligned to AP1.1 implementation	1) Cost savings assume 75% of PV generation is consumed onsite, with 25% exported, hence the additional revenue from export of unused generation being returned to the national grid 2) Against current costs of AP1.1 less reductions in running costs of AP1.1 & AP1.2, plus associated additional revenues, the overall annual cost saving of the combined solution is £67,076	1) TBC baseline emissions & Action Plan (Excel), Tab: AP1.2 - PV Offset of ASHP 2) New costs based on current tariffs 3) Additional revenue from 'export tariff' using current Feed in Tariff
AP2.1	Scope 1 & 3: Owned Transport	Own Fleet to comprise only electric vehicles with Solar PV offsetting fuel demand	16.66	16.66	0.00	0.00	£7,759	£0	Possible revenue generation opportunity from supply of charge points in public car parks	P1: Aim to achieve full electric fleet by Dec 2022 P1/P2: Solar PV, charge points and Battery Storage (as appropriate)	1) Current fuel costs are unknown (Gov figs applied assume 13.9p/Mile). Feasibility study req'd to investigate potential of on-site PV generation & Battery storage meet fuel needs. 2) If emissions are purely combined into wider plan of PV offset, then future charging costs will be present 3) If EV implemented but not linked to Solar PV, costs based on current mileage would be £2,528, saving £5,231p.a on current fuel costs	1) TBC baseline emissions & Action Plan (Excel), Tab: AP2.1 Owned (cars) Fleet
AP2.2	Scope 1 & 3: Contractors (only UBICO in this dataset)	Contractors required to guarantee net zero carbon resulting from commissioned services	875.11	875.11	0	0	Unknown	Unknown	N/A	Initiated in P1 , full implementation by end P3	1) Possibility that Council may need to underwrite implementation costs, however with several procurement terms likely between 2020 and 2030 there is a good opportunity for discussion, negotiation and solution to be achieved	N/A
AP3.1	Scope 2 & 3: Electricity Consumed	Demand Reduction measures implemented	229.54	30.09	199.46	61.23	£102,241	£89,090	N/A	P1: All demand reduction measures implemented	1) Energy Efficiency surveys to be undertaken in the final year of each phase to ensure maximum benefit from latest technologies is realised 2) Refer to main report section 5 for details of remand reduction opportunities	1) TBC baseline emissions & Action Plan (Excel), Tab: AP3.1 Elec demand reduction
AP3.2	Scope 2 & 3: Electricity Consumed	Mitigate remaining consumption following demand reduction with Solar PV installation	199.46	199.46	0.00	0	£89,090	£25,404	£8,601	P2 & P3: Size of solar array may require multiple systems	1) Aim to achieve maximum level of on-site consumption from generated energy so as to achieve highest possible savings from avoided electricity imported. 2) Innovative power purchasing agreements likely to be introduced to aid point 1 3) Assumption states 75% of generated energy will be consumed 'on-site', meaning solution will need to combine elec demand of both TBC Offices and the Leisure Centre through any Power Purchasing Agreement 4) New costs do not incorporate the additional revenue which is shown separately in the Additional Revenue cell	

AP3.3	All Scopes: Domestic Properties Heating & Electricity	Demand reduction measures as recommended within specific Energy Performance Certificates to reduce consumption to OFGEM published 'typical' levels (2017)	27.10	6.61	20.49	13.31	£9,036	£7,113	£0	P1 Energy Performance Certificates need updating, and given the opportunity to make significant running cost savings for occupants, this action should be prioritised	1) Remaining emissions are included for PV offset within AP 3.2 2) All emission and cost savings are incorporated within AP:1.1; 1.2; 3.1; & 3.2. As such they are not included as part of the Totals (to avoid double counting) 3) The specific measures for installing can be reviewed within the specific Energy Performance Certificates (EPC) 4) It is a requirement that specific property details are not disclosed, however the council can identify demand reduction opportunities from existing EPCs although many of these are in need of updating	
AP4	Scope 3: Grey Fleet	Convert mileage to equiv kWh for PV offset	12.66	12.66	0	0	£14,478	£8,059	£0	P1 As part of aggregated PV installation	1) New costs based on existing Grey Fleet mileage costs of 45p/mile, less the operational consumption (assumed at 100%) of Solar PV generated kWh required to offset Grey Fleet CO2e (12.66 tonnes), thus avoiding grid import (so avoided elec cost = £6,419p.a at current costs). 2) This will need recalculating annually based on new Grey Fleet Mileage. Consider targeting continual reduction of Grey Fleet usage	1) TBC baseline emissions & Action Plan (Excel), Tab: AP4 - Grey Fleet - PV Offset
AP5	Scope 3: Water	Flow Restrictors at TBC Offices	7.21	0.29	6.92	6.92	£5,513	£5,291	£0	P1	1) 10% of TBC Office water consumption for hand washing	
AP5.1	Scope 3: Water	Offset remaining emissions through PV generation	6.92	6.92	0	0	£5,291	£4,149	£0	P1/P2	1) Reduced costs from avoided imported electricity on basis that the generated consumption is completely used within wider electricity demand in Buildings	1) TBC baseline emissions & Action Plan (Excel), Tab: AP5.1 - Water - PV Offset
AP6	Scope 3: Waste	Waste Management - Programme to be defined, adopted and implemented before emission implications can be quantified	Data to be integrated upon creation of recording mechanisms									
AP7	Scope 3: Business Travel from Public Transport	Intregation of emissions resulting from use of Public Transport for Business Travel - Data to be integrated upon provision of actual usage										
Totals			<u>1,599.93</u>	<u>1,599.93</u>			<u>£193,240</u>	<u>£55,390</u>	<u>£22,354</u>		1) Current costs include both known and estimated energy costs, and do not include costs of AP7, AP6 or AP2.2. 2) Estimated savings include both the savings achieved from reduced consumption as well as energy costs that have been avoided as a result of organisational use of energy generated from renewable energy installations. 3) As a result of points 1 & 2, all new costs and additional revenue should be treated as ballpark potential figures only. 4) Considering point 3, the estimated new energy costs, minus the additional revenue potential shows total annual costs of the activity detailed in point1 of £33,036 , which represents a reduction against current costs of the same services of £160,240 per annum , more than 82%	