

CONGLETON TOWN COUNCIL

COMMITTEE REPORTS AND UPDATES

COMMITTEE:	Town Hall, Assets and Services Committee Meeting		
MEETING DATE AND TIME	20th October 2022	LOCATION	Congleton Town Hall
REPORT FROM	Town Hall Manager – Mark Worthington		
AGENDA ITEM REPORT TITLE	9 Low Carbon Energy Proposal for Congleton Town Hall		
Background	As part of the initiative to reduce the carbon footprint and overall energy usage, Low Carbon Energy proposals were received from three companies identified as being able to provide services to create a Net Zero Roadmap for Congleton Town Hall. From the proposals received, Tomson Consulting were selected to provide a Decarbonisation Programme for the Town Hall.		
Update			
The aims of this project are to:			
<ul style="list-style-type: none">• identify practical and potentially cost-effective opportunities to reduce carbon emissions associated with electricity and heating fuel consumption at the Town Hall.• appraise potential opportunities against site-specific requirements, the listed status and unique appearance of the Town Hall, potential energy and carbon savings and the estimated cost-benefit of improvements.• identify at a high level the potential costs, financial and environmental benefits of carbon reduction measures.• understand what, if any, measures could be applicable for financial support through the Public Sector Decarbonisation Fund (PSDCF), or similar.			
Working with Tomson Consulting, Officers have provided electricity/gas/water billing and consumption information for one year, along with scale drawings and occupancy information for the various rooms around the Town Hall. During 2021, energy consumption at the Town Hall cost £26,005 per year and resulted in the emission of 96.1 tonnes CO ₂ e per year. Electricity consumption at the Town Hall comprised approximately 58% of costs (gas and electric) and 21% of greenhouse gas emissions, whilst natural gas consumption comprised approximately 42% of cost and 78% of greenhouse gas emissions.			
Tomson Consulting completed a site visit of the Town Hall on 23 rd May 2022. The purpose of the site visit was to assess the existing type and condition of building fabrics, space and domestic hot water heating systems, lighting, and lighting controls.			

Observations and measurements will be used to identify and start to quantify potential opportunities to reduce greenhouse gas emissions. Following the site visit, a DRAFT summary progress update has been provided which details initial findings and identifies opportunities to reduce carbon emissions.

Timescale	Description
Short Term	<ul style="list-style-type: none"> • Improve understanding and use of the space heating control system
	<ul style="list-style-type: none"> • LED lighting to replace T8 fluorescent lamps
	<ul style="list-style-type: none"> • PIR sensors throughout in appropriate areas
	<ul style="list-style-type: none"> • Replacement of existing PL CFL luminaires with LED – throughout with PIR/DALI controls (as appropriate)
	<ul style="list-style-type: none"> • Improvements to chiller/cooling systems
	<ul style="list-style-type: none"> • Insulation to space and domestic hot water heat distribution pipework
Medium Term	<ul style="list-style-type: none"> • Reducing air infiltration - external doors, and internal walls in parts of building (e.g. first/second floor offices)
	<ul style="list-style-type: none"> • Reducing air infiltration – windows
	<ul style="list-style-type: none"> • Replace existing heat destratification in the main hall
Longer term & deep retro-fit	<ul style="list-style-type: none"> • Reduction in air infiltration / air flow through main stair well
	<ul style="list-style-type: none"> • Cavity wall insulation in newer offices at rear of building
	<ul style="list-style-type: none"> • Potential to replace existing fan coil units with low temperature units in main hall
	<ul style="list-style-type: none"> • Air to water source heat pump for DHW heating at rear of building (currently 2 electric calorifiers)
	<ul style="list-style-type: none"> • Air to water source heating for main hall - to be investigated
	<ul style="list-style-type: none"> • more
	<ul style="list-style-type: none"> • Internal wall insulation in first/second floor offices of main building
	<ul style="list-style-type: none"> • Secondary glazing units - ideally throughout, priority areas would be offices
	<ul style="list-style-type: none"> • Any potential to retro fit roof insulation in between sarking/felt and external slates
	<ul style="list-style-type: none"> • Roof insulation over offices in main building
	<ul style="list-style-type: none"> • Internal roof insulation - Bridestones Suite
	<ul style="list-style-type: none"> • Solar glass to replace external plexi-glass over circular windows in main hall
<ul style="list-style-type: none"> • Any opportunities for solar PV on invisible parts of the roof 	

<p>Next Steps</p>	<p>Next steps are to:</p> <ul style="list-style-type: none"> • refine the potential energy / carbon saving opportunities shown above. • assess the potential for an air to water source heat pump to supply most of domestic hot water to the system the two electrically heated storage tanks (calorifiers) at the rear of the building. • identify potentially suitable / relevant products for fabric improvements, preferably materials with a low embodied carbon (e.g. hemp, wood, wool, silica based insulation). • estimate heat output from the existing heat emitters (radiators / fan coil units) if supplied with water at a lower temperature than at present (flow temperature: 80°C). • identify innovative solar glass type PV systems which could be relevant as a replacement to the plexi-glass cladding around the Main Hall windows. • obtain indicative cost estimates for different interventions. • prioritise the interventions by: <ul style="list-style-type: none"> - Potential carbon and cost reduction. - Ease of implementation (integration with existing equipment, fabric, listed status). - Existing previous examples of where the same / similar interventions have been successfully implemented in Listed Buildings. - Timing and time required to implement. - Potential eligibility for funding through the Public Sector Decarbonisation Fund or other sources. • develop a timeline for implementation showing the cumulative carbon and cost savings over an agreed time period (e.g., 5 years) compared to the Business As Usual scenario. • start to explore different funding/ grant opportunities
<p>Decision Request</p>	<p>To receive the report relating to the Low Carbon Energy Report for Congleton Town Hall</p>