

Agenda item 4

For discussion - Frome Town Hall retrofit report

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Summary

This report and the appendix are the result of a retrofit survey that I recently carried out. My recommendations are included below. [The Town Hall retrofit report can be viewed on the website here as appendix 4.1.](#) There are some things that can be done at relatively low cost within months that would bring some significant improvements to the health of the building, its energy footprint, and the working environment. Further investigation is required to cost these improvements.

In the coming months and years, further advice will be needed to assess the energy and cost saving potential of other works that I recommend.

It is proposed that Cllrs discuss the findings in the report and provide staff with a steer as to how to move forward.

Introduction

For the initial project brief and scope, I was asked to produce a retrofit report for the Town Hall which is appended to this document. Work has been carried out in the recent past to draught proof the existing windows which has been effective and worthwhile. The aim of this work is to highlight further areas in which the building could become more energy efficient through repair and maintenance now and to suggest an approach to forming and implementing a long-term plan for retrofitting of the Town Hall building.

My findings from the survey and assessment can be summarised as follows:

- There are several urgent repair/maintenance issues which need to be addressed now to avoid further costly repairs in future. This includes work to maintain the stonework of the external walls and adding ventilation to the loft void.
- There are currently high levels of heat being lost from the entrance area which could be addressed by creating a more effective draught lobby.
- There is no effective ventilation system within the building, and this causes high levels of humidity and creates uncomfortable and unhealthy working conditions in some of the offices. Some of the windows can currently only be opened to provide natural ventilation by climbing on desks in the offices, and on the first floor this is dangerous. In addition, high levels of pollution are being recorded in room 4 (at the top of the stairs) due to traffic on the road outside and it is reasonable to expect that similar levels are to be found in other front facing rooms. Mitigating the effects of pollution through filtering could be investigated as part of the function of a future ventilation system.

- The existing heating system, whilst fit for purpose at the point of installation, is currently inefficient and results in some rooms being too hot, whilst others are simultaneously too cold and works to improve the distribution and control of heat through pipework and radiators, should be seen within the context of any plans.

Suggested actions for now

- Initiate an urgent programme of works to carry out repairs to external walls. Prioritise works to repair the stone details which help to shed water from the walls (i.e. coping stones, windowsills, and cornices). It is important to remember that dry external walls require 30% less energy to heat than wet walls.
- Provide additional ventilation in the loft void. Top up existing insulation levels above the first-floor ceiling.
- Form an effective draught lobby, either by adapting the internal set of entrance doors or replacing with new. This item should be thought about within a wider conversation about energy efficiency in heritage buildings as well as budget and aesthetics.
- Add new drainage channels as required around the perimeter of the building and ensure drains are serviceable.
- Ensure all wall vents are cleared.
- Adopt a calendar approach to checking maintenance of the building. English Heritage document Retrofit and Energy Efficiency in Historic Buildings [Retrofit and Energy Efficiency in Historic Buildings | Historic England](#), is a really good resource for this.
- Discuss and agree a budget for future building works to the Town Hall, with an understanding of money already allotted to maintenance and repairs. This will help to inform future decision making around capital investment and improvements with the aim of saving energy, saving money, saving carbon, modernisation, and resilience etc, as well as quality of installed finishes and tech solutions. Agreeing priorities might help to apportion funds and priorities work as money becomes available.
- Approach building energy consultants with the aim of commissioning them to produce a building services design which will show us how we can reach zero carbon emissions at FTC by 2030. By having a designed and costed plan we can avoid spending money on 'sticking plasters' and be ready to instigate a new heating system when the existing boiler reaches the end of its lifespan. This would require further discussion and agreement before approaching consultants to get an idea of professional fees.
- Investigate installing a mechanical ventilation with heat recovery (MVHR) system. This item would benefit from input and design by a building energy/ventilation consultant and could be rolled in with above consultancy package.

- Investigate renewal of the pipework to existing radiators and ensure new pipework is fully insulated and radiators can be controlled using programmable thermostatic radiator valves. A plan for future proofing the heating system will help us to understand an economical approach to this item.
- Predicted combined savings from forming a new draught lobby, topping up insulation in the loft, installing MVHR and added efficiencies to existing heating system indicate energy savings of 27%, cost savings of 26% and carbon savings of 3,827 kg CO₂/year (the equivalent of driving 27,355 km in an average car).

Further areas to explore

- A general approach to retrofitting the TH within the context of working with an historic/heritage building should be investigated and agreed as this will inform future decision making around preservation and repair versus renewal.
- To make our building carbon neutral we need to abandon heating with gas. This likely means moving towards heat pump technology because of the efficiency values but other options could be investigated.
- Additional retrofitting measures to further reduce the amount of energy required to heat the TH, include insulating the suspended timber floors which form most of the meeting rooms and offices on the ground floor, and adding secondary glazing to the existing windows. Air tightness membranes could be installed in the loft and below floors to further reduce heat loss through infiltration. These additional measures might be required to reduce overall heat loss from the building as we move towards being heat pump ready.
- As there have been further developments in solar energy and battery storage as well as changes in the energy export prices, since the existing solar panels were installed, the current options and opportunities around solar energy could be further explored. CSE's 'Solar Wizard' tool suggests that we could generate 40,850kWh's of energy through installing solar panels on the roof of FTC. The installation costs are estimated at £43,435 and would save us £2,082/year on bills and earn £5,012 from exports. The payback period would be just 6 years.