RYEDALE DISTRICT COUNCIL

PART B:	**RECOMMENDATIONS TO COUNCIL**
REPORT TO:	**POLICY AND RESOURCES COMMITTEE**
DATE:	**23 SEPTEMBER 2021**
REPORT OF THE:	**PROGRAMME DIRECTOR FOR ECONOMIC DEVELOPMENT, BUSINESS AND PARTNERSHIPS PHILLIP SPURR**
TITLE OF REPORT:	**CLIMATE CHANGE AND ENERGY EFFICIENCY MEASURES – RAILWAY TAVERN AND FUTURE COUNCIL SCHEMES**
WARDS AFFECTED:	**ALL**

EXECUTIVE SUMMARY

1.0 PURPOSE OF REPORT

1.1 To provide an update on climate change and energy efficiency measures relating to the refurbishment of the Railway Tavern, Norton and any future proposals within the three year Housing Development Programme.

2.0 RECOMMENDATIONS

2.1 It is recommended that:

(i) The content of the report is noted.

3.0 REASON FOR RECOMMENDATION(S)

3.1 The production of this report is in response to a Motion agreed at full Council on the 15 April 2021, requesting the completion of a climate change impact assessment in respect of the Railway Tavern.

3.2 The Council has made a climate change commitment to actions to help achieve net zero emissions across Ryedale by 2050.

3.3 The Council has committed to encourage others to act responsibly by requiring that new building developments are planned to be as sustainable as possible.

4.0 SIGNIFICANT RISKS

4.1 There is a risk that the Railway Tavern scheme may not meet the timescale for Homes England funding and therefore we are working closely with the contractors to ensure all deadlines are met and the scheme is monitored closely to completion.

5.0 POLICY CONTEXT AND CONSULTATION

5.1 The Council's Corporate Plan 2020-2024 recognises the need for sustainability into the future where the Council will take steps to reduce its carbon footprint through regional and local initiatives. The Council has set out steps to work collaboratively with industry, businesses, communities and others to deliver local and community led energy solutions that fulfil the ambition to deliver carbon neutrality.

5.2 The Council has made a climate change commitment to encourage others to act responsibly by requiring that new building developments are planned to be as sustainable as possible; supporting community-based schemes which contribute to a reduction in climate change and promoting the practical action that businesses and individuals can take to reduce carbon emission in Ryedale.

REPORT

6.0 REPORT DETAILS

6.1 On 24 September 2020, Policy and Resources Committee (Minute No.149) approved a Development Opportunities and three year Housing Development Programme which was signed off by Council on 3 December 2020 (Minute No.49). The emphasis at that point was on the delivery of the different schemes within the Programme. In order to improve these schemes, the council needs to look at the effects of climate change and the energy efficiency of the properties and make improvements where possible.

6.2 <u>The Railway Tavern</u>

6.3 The original brief to the Architects was to provide self-contained accommodation, and to consider climate change and energy efficiency measures where possible. The building sits within a Conservation Area, has very little outdoor space and is restricted internally by the differing levels in the building affecting floor and ceiling heights.

6.4 The Architect's aim was to keep the scheme affordable to the tenants, without enhancing it beyond what would be required to satisfy the original brief and obtain both planning and Building Control approval. The aim of the scheme was to meet Building Regulation standards - Document L1B 'Conservation of Fuel and Power in Existing Dwellings'.

6.5 In overall sustainability terms, it is bringing back into use a facility that would otherwise have deteriorated and posed a blight on both Commercial Street and Church Street. The reuse of the building, rather than whole scale demolition and rebuild is part of reducing the carbon footprint of this development (as is using a local contractor).

6.6 As part of this process the Council has also had a Carbon Assessment undertaken for the Design stage of the development. This was completed by HDS Greentech as an industry expert (Appendix 1) to show the whole life-cycle carbon assessment of the project. The report confirms the advantages of the refurbishment in terms of embodied carbon, compared to if a typical new build was constructed.

6.7 The refurbished development also offers potential for reduced carbon costs if the grid decarbonises in line with government promises.

6.8 <u>**Retrofitting and Refurbishment**</u>

6.9 Existing buildings have already produced carbon during their construction, known as embodied/capital carbon, in which case there is a very strong argument for ensuring that they last for as long as possible.
Refurbishment and retrofit have the added advantage of maximising the use of embodied/capital carbon, while rendering the building as energy-efficient as possible.

6.10 In the context of carbon reduction, retrofit and refurbishment is about making buildings more thermally efficient and sustainable. It principally concerns improving the insulation of the building envelope.

6.11 Design Stage Standard Assessment Procedure (SAP) calculations have been undertaken on a sample of three apartments to demonstrate that the building will be Building Regulation compliant. SAP calculations will be revisited on completion for all eight apartments, when the EPCs will be issued. In general, conversion works tend towards band C but can vary.

6.12 **Energy Efficiency Measures Railway Tavern**

6.13 Items included within the refurbishment are:

Wall and loft insulation to current Building Regulation standards; all new doors to individual flats and externally where required; replacement of existing and new windows with double-glazed units; floor insulation enhanced where possible; lighting will be all new controls and LED; water pipes will be lagged where required; boilers will be fuelled by electricity for water and heating; PVs will be installed to provide electricity to run the communal areas and the small office space; low-flow water fittings and shower heads will be provided in the bathrooms; Smart meters will be installed to the individual flats to monitor energy use.

6.14 Renewable energy sources were considered as follows:

- Photovoltaics (PVs) – These can save 50% of energy costs and for this development have been incorporated to service the communal areas and small office space. Cells will be placed on the south facing roof as this is the optimum orientation. Use on other roof orientations would not be as effective and facing onto a Conservation Area could have presented a planning issue.

6.15 Other renewables considered, but not thought practical due to either limitations of the site or practicality:

- Air Source Heat Pump – Again these save on energy costs and this would be the next most cost effective option however the site is too restricted for provision. The small external ground area available for installation forms part of general access, refuse storage and parking. Pumps would instead need to be fixed to limited available elevations, probably not facing the Conservation Area. Noise transmission from heat pump may also be a detriment next to the apartments.
- Ground Source Heat –Ground source tends to favour a more expansive site where deep coring, potentially tens of metres, would be less of an issue. It would be an expensive and impractical solution for this site.
- Solar Thermal – Roof panels would be needed for each apartment which would pre-heat the hot water and each apartment would need to accommodate a hot water cylinder, say 180litres. There is insufficient roof space for the panels and internal space for the cylinder.
- Wind – Not a practical investment or energy source for this site due to town location.

6.17 Heating and Hot Water

The communal areas and small office space will benefit from the PVs. The flats themselves will be electric energy sourced rather than gas for both hot water and heating. Depending upon the energy provider chosen, the electric energy may already be effectively net-zero carbon.

6.18 Building Fabric

The building fabric is extensively upgraded to comply with current Building Regulations. This includes thermal linings to the external walls, insulation to the roof space and lower floor. Windows are double glazed. The enhancements will also address air-leakage issues, keeping the units warmer during the cooler months.

Further improvements that could be made to take the fabric beyond current Building Regulation requirements were suggested. These would include triple glazed windows and increased insulation to walls, floors and roof. In the case of triple glazing, the window supplier did not think it would be feasible to fit triple glazing in the sliding sash windows as all the timber sections would need to be strengthened, larger spirals would need to be used in the sashes because of the weight of the units and for those windows not getting replaced with new, the existing timber sashes would not take triple glazing.

Due to the change in floor levels throughout the building, where some floors have been brought in line and new floors constructed, floor insulation has been provided to meet Building Regulation standards. Restricted floor and ceiling heights have been a factor in establishing whether increased insulation in these areas was feasible.

6.19 Mechanical Ventilation and Heat Recovery

This type of system is usually provided on new build, is not common on residential developments of this nature and has a minimal improvement upon SAP ratings. The system would capture heat from kitchen and bathroom ventilation for heating incoming air. This relies on providing a heat exchanger with a ducting mechanism throughout the unit to an external vent. While the building is being extensively refurbished there are still a number of physical and planning constraints which do not make this an optimum system, particularly with the constrained floor to ceiling heights and the need to add multiple vents to the façade. The air permeability of the thermal envelope would also need to be enhanced for this system to work effectively.

6.20 Energy Use

Smart meters will be provided to give occupants the opportunity to control their own usage. Smart Meters give much more timely updates leading to a more accurate view of exactly when energy is being used. This allows the ability to keep a check on spend and to have control over energy use.

6.21 Other Measures

6.22 Cycle storage is being provided to encourage cycling as a mode of travel.

6.23 The above demonstrates that practical steps have been taken to address climate change and energy efficiency and the resultant scheme is a good example of sustainable building which meets a growing need within the District.

6.24 The Carbon Assessment report suggests the operational energy could be reduced through an ASHP. This has been assessed by Daikin UK who undertook a site survey. Their designs were carried out on the provision of an outdoor unit per apartment (which would be required in order to provide individual metering for each unit). However, there is limited free space available around the building and it was established there is only sufficient space to site two within the scheme. Eight would be required.

6.25 The report also suggests the use of photovoltaics, which have actually been included to service the communal areas and office space, but as said previously, not for the flats as there was insufficient roof space and orientation to accommodate the required number of cells to serve all eight flats.

6.26 To summarise, the benefits of developing the Railway Tavern are:

- Increase in the supply of one bedroom self-contained flats in Norton
- Provision of move on accommodation for Derwent Lodge
- Access to support from Derwent Lodge
- Increase visual amenity of the area
- Take up of grant initiatives with Homes England
- Generate income stream through rents, Council Tax and New Homes Bonus
- Use of Commuted Sums which are at risk of being returned to the Developer

6.27 <u>Future Schemes</u>

6.28 In general, the Council will look to build new homes to Future Homes Standard and address any refurbishment projects through a tick list of options relevant to the individual scheme, taking into account the age, size, and location of the building. Things which will have an impact on the provision of certain measures will be whether the building is listed, in a conservation area, type of construction, footprint of the building etc.

6.29 Homes built under the Future Homes Standard will be future-proofed with low carbon heating and world-leading levels of energy efficiency. By delivering carbon reduction through the fabric and building services in a home rather than relying on wider carbon offsetting, the Future Homes Standard will ensure new homes have a smaller carbon footprint than any previous Government policy. In addition, it is expected this footprint will continue to reduce over time as the electricity grid decarbonises.

6.30 On a typical semi-detached house Future Homes Standards will see more than a 75% reduction in carbon emission and is one of the key benefits the Council is supporting with the provision of grant at £12,500/unit with a partner Registered Provider on a current scheme in Pickering.

7.0 IMPLICATIONS

7.1 The following implications have been identified:

a) Financial

Capital Costs

There are no additional costs for Railway Tavern as no additional measures over and above what is currently included have been deemed to be feasible on the project.

Member approval has been granted to a total scheme cost budget of £1,050,715 plus an additional contingency of £30,000 to £1,080,715.

The costs will be funded as follows:

- Homes England Grant £388k
- Capital Programme (reserves) £334k
- Commuted sums £359k

Proposed Financing

Through commuted sums and Council resources.

Revenue Implications

The scheme income will generate a revenue surplus as this will not be impacted by the use of additional commuted sums following a revision of scheme costs.

b) Legal

Relevant s106 Agreements have been checked to ensure the commuted sums applied to support the increase in budget for the Railway Tavern are not restricted. The same checks will be applied to future schemes to ensure the use of commuted sums is not restricted and can therefore, be used to fund the additional resources required to meet climate change and energy efficiency measures above those of standard Building Regulations and for any retrofit or refurbishment of Council developed schemes.

c) Climate Change

The proposed recommended measures will assist towards the Council's climate change commitment to help achieve net zero emissions across Ryedale by 2050, and that any new build scheme will meet Future Homes standards (where possible).

d) Other (Equalities, Staffing, Planning, Health & Safety, Environmental, Crime & Disorder)

Environmental – The Council's investment should ensure the homes provided within the Council's Housing Development Programme will deliver the highest energy efficiency levels with the aim of reducing annual running costs for all tenants.

Equalities – The protected characteristics are maintained within this scheme i.e race, gender, sexual orientation, age, religion and belief.

Allocation of the properties will be based on vulnerability and need, primarily homeless, single people moving on from Derwent Lodge.

8.0 CONCLUSION

8.1 The use of available resources will be utilised to support the delivery of climate change and energy efficiency measures delivered through the Council's Housing Development Programme. This will provide much needed accommodation across the District with homes built/refurbished to the highest standard that is possible of energy efficiency resulting in a much more sustainable home for the tenants.

Author: Kim Robertshaw, Housing Services Manager
Telephone No: 01653 600666 ext. 43383
E-Mail Address: kim.robertshaw@ryedale.gov.uk

Background Papers:

Appendix 1- Railway Tavern- Carbon Assessment- Design Stage Report