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| Subject: | Sustainability Measures for New Homes | | |
| Date of Meeting: | 13 November 2019 | | |
| Report of: | Executive Director for Neighbourhoods, Communities & Housing | | |
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| Ward(s) affected: | (All Wards); | | |

FOR GENERAL RELEASE**1. PURPOSE OF REPORT AND POLICY CONTEXT**

- 1.1 The Council is committed to developing a 10-year carbon neutral programme, which will include an engagement plan and a Citizens' Assembly.
- 1.2 This paper reviews the relationship between this target and the council's delivery of new council homes.
- 1.3 This report covers the policy context, current standards and progress to date in relation to housing and environmental sustainability; examines the opportunities, risks, challenges of developing zero carbon homes; and proposes key actions and milestones to delivering zero carbon homes by 2030.

2. RECOMMENDATIONS:

- 2.1 That the Committee notes the progress to date
- 2.2 That the Committee agrees to the establishment of working group on Zero Carbon Homes based on the terms of reference, contained in Appendix 1

3. CONTEXT/ BACKGROUND INFORMATION**3.1 Local and National Context**

- 3.1.1 The built environment currently accounts for approximately 40% of carbon emissions in the UK; almost half of this comes from energy used in buildings.
- 3.1.2 The council is to develop a ten year programme with an aim of making the city carbon neutral by 2030 --The Housing Committee Work Plan 2019-23 agreed on 18 September 2019 includes commitments to the development of 800 additional council homes and . development of a policy to set out how we will work

collaboratively to ensure housing contributes to making the city carbon neutral by 2030

- 3.1.3 The Government removed the requirement to meet the Code for Sustainable Homes and the target of zero carbon homes in 2014 and 2015 respectively. However, the ongoing need to reduce carbon emissions in order to tackle climate change means that policies are currently under review with both new national and local targets being considered.
- 3.1.4 The Government recently announced an environment and climate emergency, which followed with the adoption of a net zero emissions target by 2050. This is an amendment to the Climate Change Act 2008, with a previous target of 80% cut to 1990 level by 2050. It is the first major economy in the world to do so.
- 3.1.5 The Government announced in March 2019 that gas boilers will be banned in all new homes from 2025 to tackle climate change, with the expectation that more sustainable technologies such as heat pumps and improved building fabric will be used instead.
- 3.1.6 Over recent years a number of local authorities across the UK including Greater London, Greater Manchester, Nottingham, Glasgow, Edinburgh, Bristol, Stroud, and Oxford have set targets of net zero carbon emissions before 2050. Bristol is already two years ahead of their corporate target to reduce carbon emissions from its direct activities by 65% by 2020, with a 71% reduction in 2017/18 (against a 2005 baseline) . Stroud District Council is the first in Europe to be carbon neutral, and is aiming for its whole district to be carbon neutral by 2030.
- 3.1.7 The Government's Clean Growth Strategy outlines their intention to drive a significant acceleration in the pace of decarbonisation and set out domestic policies which enable meeting carbon reduction targets. Measures include raising energy efficiency standards; investing in new energy efficiency and heating technologies; phasing out the installation of high carbon fossil fuel heating in new and existing homes; and investing in smart systems and energy storage.
- 3.1.8 The UK has adopted the 2030 Agenda for Sustainable Development and is committed to delivering its 17 Sustainable Development Goals.
- 3.1.9 In April 2019, the UK Green Building Council (UKGBC) released a framework definition for net zero carbon buildings. This describes a path to achieve net zero carbon buildings in both construction and operation (in-use energy consumption).

3.2 **Current Standards**

- 3.2.1 The council's new build programme has delivered homes to local planning requirements for Brighton & Hove which require all developments to achieve a minimum 19% improvement on carbon emissions targets set by Part L and the improved water efficiency/ reduced water usage of 110 litres per person per day.
- 3.2.2 New council homes are built to the New Homes for Neighbourhoods Design Specification which has been developed and agreed with Housing's Property & Investment team. The document has evolved as the programme has developed and includes requirements to build sustainable homes that support sustainable

life styles and reduce energy consumption for tenants. The latest version of specification also includes the following:

- Use the Sustainable Design checklist
- Apply the energy hierarchy (demand reduction, energy efficiency, renewable energy)
- Achieve Energy Performance Certificate 'A' rating
- Potential for Building Management Systems aligned across the HRA
- Include Solar PV and other onsite renewables

3.2.3 The Estates Regeneration team has been working with colleagues in Housing, Sustainability, Building Control and Property & Design to update the Design Specification in relation to sustainability and carbon emissions reduction. This has involved a number of workshops and visits from experts with outputs including:

- The provision of ground or air source heat-pumps or other heating and hot water technologies which do not use fossil fuels.
- Reviewing the potential for connection to existing energy networks.
- Where these networks don't exist, considering how to unlock wider carbon reduction by leading on new energy network projects.
- Designing homes to meet improved energy performance standards.
- Including Solar PV arrays in addition to the above and explore ways to maximise on-site energy generation to reduce demand from the grid.
- Creating a 'Circular Economy' working group, investigating opportunities for the council and city wide to re-use materials, and avoid waste to landfill.
- Including electric vehicle charging infrastructure for parking bays on all new developments.
- Engaging with council contractors (including strategic partners), to reduce emissions and waste associated with the construction process

3.3 Opportunities

3.3.1 Reduce fuel poverty / improve energy efficiency – The council's new homes comply with local planning requirements for energy efficiency, but improving the building fabric will reduce Operational Carbon Emissions over the lifetime of the building as less energy is required to heat homes. This will reduce fuel poverty for the tenants of a carbon neutral home.

3.3.2 Anticipate new legislation to avoid future costs – The general direction of new legislation is to reduce carbon emissions. By developing zero carbon homes now, the council can prepare for tighter standards and regulation of materials in the future. Likewise, even if carbon reducing technologies are not installed during construction, buildings can be designed to convert to different technologies with less waste, cost, and disruption in the future.

3.3.3 Knowledge sharing for improved productivity – By collaborating with third sector organisations, the council can better learn what the most effective technologies, materials, and design principles are. As well as understanding the latest opportunities and products in the sustainable construction sector, the council can share data about its buildings with a growing network of sustainable constructors. This improves knowledge of sustainable design in use across the industry and

therefore improves construction methods on future zero carbon buildings, whilst potentially saving time, cost and resources long term.

3.3.4 Lead by example – With commitments to create a Climate Change Commission and to building new council homes, the council should lead by example, demonstrating to other developers what is possible.

3.3.5 Additional Benefits – Good zero carbon design considers how people will live now and in the future, and leads to additional benefits, such as developing more sustainable transport links, improvements in air quality, and wellbeing. For example: increased space to recycle, space to grow food, and using natural materials. Zero carbon homes are likely to be delivered within a wider quality assurance framework including The BRE's Home Quality Mark, as well as within circular economy principles.

3.4 Risks

3.4.1 Additional construction costs – Developing zero carbon homes will increase development costs as new technologies and improving the building fabric is often more expensive to implement. The council's viability model for housing is already stretched due to challenging market conditions and rising levels of build cost inflation. Additional costs towards achieving net zero carbon projects are likely to deem many projects unviable under the current funding model unless additional 'zero-carbon' costs are subsidised.

3.4.2 Program & delivery of new homes – Developing homes to new specifications may require additional time, particularly in the design, procurement and planning stages.

3.4.3 National policy – Government has not released a full strategy to decarbonise domestic energy. In the absence of a framework, the council must anticipate the likely strategy the Government will take. The technologies adopted by the council now may not align with future changes in government policy / strategy linked to decarbonising the domestic energy supply network

3.4.4 New technologies and materials – less tried and tested. A specification that relies on specialist and relatively new technologies and materials may carry a consequentially higher risk to programme, cost and reliability.

3.4.5 Restrictions on supply chain – Additional demands on supply chain procurement in support for a zero carbon strategy are likely to reduce the pool of available suppliers and incur costs.

3.4.6 Carbon offsetting – Carbon offsetting may be required to make up a carbon reduction deficit on projects. A carbon offsetting strategy is required, which will incur additional costs.

3.4.7 Maintenance – All new properties must be managed by our Housing service. Staff must be trained to effectively and efficiently maintain and repair new materials and technologies or risk creating an increased maintenance burden in the future.

3.5 Proposed Actions

- 3.5.1 Establish a Zero Carbon Homes working group, including representatives from Estates Regeneration, Property & Design, Housing, Planning, Building Control, and Councillors whose responsibility is to develop the below proposals, support their implementation, and monitor progress towards developing zero carbon homes.
- 3.5.2 Implement a Whole Life Carbon Assessment process on new build housing projects by:
- working with specialist consultants to undertake whole life carbon assessments on selected new build housing schemes;
 - identifying improvements to client briefs and specifications;
 - and identifying a suitable scheme from the new homes pipeline to act as a zero carbon pilot project.
- 3.5.3 The assessment data would provide a baseline from which improvements to carbon and other metrics can be measured and help officers to identify the most effective sustainable elements, benefiting future projects. After this project is complete, future whole life carbon assessments would be carried out by a specialist contractor on all projects.
- 3.5.4 Additional sustainability measures would be costed separately within the total scheme cost so any potential premium associated with the higher standards is understood when decisions are made about individual projects. Ensure the council's viability model aligns with whole life costing of projects. Zero carbon homes are likely to have higher capital costs, but could offer cost savings over the life of the building (e.g. with energy).
- 3.5.5 Produce carbon cost lifetime analysis for different options on all new build schemes, to show where carbon reduction is most cost effective.
- 3.5.6 Whilst identifying carbon reduction measures across all projects, undertake a net zero carbon pilot project to learn the risks, challenges and benefits associated with developing zero carbon homes, to the benefit of future developments. A project will be determined as soon as possible with the guidance of a Whole Life Carbon Assessor who will consider time, cost, viability, social impacts and environmental impacts for different projects as part of the exercise.
- 3.5.7 Develop links and collaborate with other organisations to share knowledge and data, becoming part of a network sharing group. Create opportunities for our Housing, Planning and Building Control services to learn more about sustainable building design, techniques, and materials. Compare case studies with other local authorities and share carbon emissions data from the ongoing operational use of new housing. Officers are already in conversation with Greater London Authority and Bristol City Council regarding knowledge sharing initiatives (these local authorities have already implemented their net zero city-wide plans).

4. ANALYSIS & CONSIDERATION OF ANY ALTERNATIVE OPTIONS

- 4.1 A Zero Carbon Homes working group, when established, would consider a range of suitable strategies to reduce carbon and identify which are most suitable for the site. Decisions will be made according to the result of a whole life carbon assessment on different options.

5. COMMUNITY ENGAGEMENT & CONSULTATION

- 5.1 This report was written in collaboration with officers from Housing Repairs and Improvement, Architecture and Design, and Estate Regeneration services’.
- 5.2 Members of the Housing Committee were invited to a briefing, to inform them of the content of this report, to scrutinise the contents of this report, and comment on the proposals.
- 5.3 Residents and the wider community will be engaged and consulted on the council’s proposals as part of the development of each new housing scheme. those engagements will include information on the process and measures the council is taking to develop homes which are more sustainable over their lifetime.

6. CONCLUSION

- 6.1 To deliver on the council’s commitment to become a carbon neutral city by 2030, steps must be taken to reduce the carbon emissions created during the full lifecycle of the new homes it builds.
- 6.2 Officers propose measuring the most effective ways of delivering housing with lower carbon emission, including cost effectiveness; identifying and using best practice from other organisations across the construction industry; and putting these into practice on all new homes, including

7. FINANCIAL & OTHER IMPLICATIONS:

Financial Implications:

- 7.1 Where capital accounting arrangements allow, it is anticipated that the cost of the external reports and specialist advice commissioned will be capitalised and therefore added to each capital project, as required. The cost of the initial advice, not attributable to a specific project will be met from existing HRA revenue resources and reported in line with the council’s Financial Management policies.
- 7.2 The inclusion of some of the measures, outlined in the report to reduce the carbon effect of building new homes will add to the initial capital investment required. The impact of the increase in costs will be reported to the Housing Committee when final scheme approval is being sought, alongside details of any mitigation actions taken to ensure value for money is maintained.

- 7.3 Therefore, the cost of the specialist advice and increase in capital investment will need to be controlled to keep rents as low as possible and to reduce the risk of increased subsidy requirements as a result.
- 7.4 It is not anticipated at this stage that there will be a need for an increase in resources as a result of setting up the Zero Carbon Homes working group.

Finance Officer Consulted: Craig Garoghan

Date: 23/10/2019

Legal Implications:

- 7.5 There are no legal implications to draw to Members attention arising from the recommendation 2.1.

Part 4 of the council's constitution (Scheme of Delegation to Committees and Sub-Committees) allows a committee to appoint task and finish member Working Groups which are time limited (six months, with the option to extend for a further six months), in order to carry out focused pieces of work, reporting back regularly to their parent body. The proposed Terms of Reference for the Zero Carbon New Build Working Group in Appendix 1 are compatible with the Committee's delegated powers.

Lawyer Consulted: Liz Woodley

Date: 07/11/2019

Equalities Implications:

- 7.6 This report considers the equalities impact of introducing carbon reduction measures in the development of new homes, including: cost effectiveness, to deliver on affordable rents; opportunities to avoid fuel poverty; and risks involved with introducing new technologies, which tenants may have difficulty operating.
- 7.7 The improvement of the quality of the council's new homes via the consideration of equalities implications, which is regularly reviewed as part of the New Homes for Neighbourhoods programme, often results in design which reduces carbon through the lifecycle of the building, for example, building homes which are suitable for someone over the course of their entire life, reduces the need for adaptations, and the extra use of materials and waste this brings.
- 7.8 Assessment of the impact on equalities is carried out throughout project processes, development of briefs, application of specifications, consultation, and carbon reduction measures will be reviewed to ensure it meets the principles of inclusive design.

Sustainability Implications:

- 7.9 These are featured within the content of the report.

SUPPORTING DOCUMENTATION

Appendices:

1. Terms of Reference – proposals to be reviewed at Housing Supply Members Board
- 2.

Documents in Members' Rooms

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Appendix 1

Crime & Disorder Implications:

- 1.1 There are no direct crime and disorder implications.

Risk and Opportunity Management Implications:

- 1.2 Risks and Opportunities are contained within the body of the report.

Public Health Implications:

- 1.3 There is a link between health and good quality and sustainable housing.

Corporate / Citywide Implications:

- 1.4 There is potential to engage expertise from across the city in this work.