Agenda Item

Report

Report to:	**Climate Change and Sustainability Committee**
Date of Meeting:	**3 November 2021**
Report by:	**Executive Director (Community and Enterprise Resources)**

Subject:	**Scottish Government Consultation on Scottish Building Regulations: Proposed changes to Energy Standards and associated topics, including Ventilation, Overheating and Electric Vehicle Charging Infrastructure**

1. Purpose of Report

1.1. The purpose of the report is to: -

- Advise the Committee of the Scottish Government's consultation on proposed changes to energy standards and associated topics, including ventilation, overheating and Electric Vehicle Charging Infrastructure
- Set out the proposed Council response to be submitted to the Scottish Government.

2. Recommendation(s)

2.1. The Committee is asked to approve the following recommendation(s): -

(1) that the overview of the consultation on proposed changes to Energy Standards and associated topics, be noted.

(2) that the proposed Council response be approved for submission to the Scottish Government by 26 November 2021 (extended from 29 October 2021).

3. Background

3.1. Scottish building regulations regulate building work on new buildings and new work to existing buildings to ensure that they meet reasonable standards which further the conservation of fuel and power and achieve sustainable development

3.2. Regular review of the standards, most recently in 2015, has resulted in staged improvements such that emissions from energy use in new buildings since 2015 are 75% lower for new homes and 80% lower for new non-domestic buildings compared to standards in force in 1990. The Programme for Government 2019/20 included a commitment to ensure that from 2024 all new homes are required to use renewable or low carbon heat. The Climate Change Plan 2020 references how building regulations can help achieve the overall target of net-zero emissions by 2045.

3.3. The Scottish Government's recent draft Heat in Buildings Strategy sets out its vision for decarbonising heat and reducing energy demand across all buildings in Scotland,

setting out the scale of the investment opportunity and supporting the green recovery from the Covid-19 pandemic. This includes a commitment that by 2024 new buildings must use heating systems which produce zero direct emissions at the point of use.

3.4. The Climate Change Plan also includes an aim to phase out the need for new petrol and diesel cars by 2030 and the decarbonisation of transport in Scotland. The transition to electric vehicles will contribute significantly to these goals which will in turn require access to charging infrastructure.

3.5. The Government published a consultation in July this year setting out proposals (to be introduced in mid-2022) to support the transition to low and zero emissions heat solutions (including reducing energy demand for heating) and seek views on separate proposals (for later implementation) for electric vehicle charging provision in new buildings and those subject to major renovation. The consultation also addresses changes to ventilation provision arising from improved energy standards, set out plans for assessment and mitigation of overheating risk in new dwellings and residential buildings and improve compliance with energy standards.

3.6. The proposals will have implications for the Council in terms of its statutory role as Building Standards Authority as well as the delivery of its own projects including the new Council house development programme.

4. Consultation

4.1. These new proposals for the review of energy standards set through building regulations seek to deliver further improvement to the energy efficiency of new buildings and new building work, in line with wider net zero ambitions. The consultation paper and supporting research papers are focused on several different topics, as noted below.

Energy – new buildings	Nineteen questions covering an uplift in standards for new buildings, amendments to calculation methodology, and enhancements to the requirement for air tightness testing.
Energy – all buildings	Twelve questions covering requirements related to work on existing buildings.
Ventilation	Nine questions related to providing greater clarity on the appropriateness of certain ventilation systems and improvements to the requirements for background ventilation.
Overheating risk in new dwellings and other new residential buildings	Six questions related to the proposed assessment of overheating risks in new buildings.
Improving and Demonstrating Compliance	Four questions seeking feedback on how to improve compliance of new building work.
Electric Vehicle Charging Infrastructure	Six questions related to proposals for the introduction of electric vehicle charging infrastructure related to new and existing buildings.

4.2. In terms of energy standards for new buildings the consultation describes two options to further improve energy performance through the use of amended methodologies to calculate a target emission rate. In addition, the introduction of a further primary energy (that has not undergone any conversion or transformation process) target using calculated energy demand is also proposed. In terms of implementing the uplift in standards for new dwellings two options are put forward – an 'improved' standard and an 'advanced' standard. The latter would result in a higher aggregate reduction in emissions (57% compared to 32%) but also higher capital costs (5-7% compared to 3-4%).

4.3. For new non-domestic buildings, the options are referred to as a 'medium' standard and a 'high' standard. The latter would result in a 25% reduction in emissions compared to 16% for the medium standard. In terms of capital costs, the former is estimated to result in an increase of 4% and the latter between 1 and 5%.

4.4. Part 3 of the consultation introduces a new term 'major renovation' which would apply where more than 25% of the surface of the building envelope undergoes renovation. The reasoning is that carrying out significant construction of this type triggers certain other activity not currently required under the regulations.

4.5. The proposals also seek to address the overheating risk in new dwellings. Currently, it is estimated that there are around 40 heat related deaths each year in Scotland, however, increases in annual temperatures could see this figure rise to between 70 and 280. It is, therefore, proposed that the risk be assessed for new housing and that passive cooling measures are installed where a risk is identified.

4.6. Proposals for EVCPs are described as follows;

New Residential Buildings	All dwellings with a parking space to have at least one EV charge point socket Exemption applies if costs of grid connection exceeds £2,000 in which case ducting has to be provided.
Residential buildings undergoing major renovation	For buildings with more than 10 spaces ducting to be installed in each parking space to support future installation EV charge sockets to be installed in as many parking spaces as electric capacity allows Exemption applies if costs exceeds 7% of overall renovation cost
New non – residential buildings	For buildings with more than 10 parking spaces 1 in every 2 to have ducting installed and 1 in 10 to have EV charge point socket provided.
Residential buildings undergoing major renovation	As above. In addition, exemption for renovation of residential buildings also applies

Existing non-residential buildings	By 1 January 2025 for buildings with more than 20 spaces 1 in every 2 to have ducting installed and 1 in 10 to have EV charge point socket provided.

5. South Lanarkshire Council Response

5.1. The proposed response was developed incorporating views from officers within, Community and Enterprise Resources and Housing and Technical Resources.

5.2. A summary of the proposed response is outlined for each section. A copy of the full proposed response is attached as Appendix 1.

Energy – new buildings	The Council is supportive of the proposals within this section of the consultation. The Council supports the higher of the two uplift levels proposed.
Energy – all buildings	The Council is supportive of the proposals within this section of the consultation.
Ventilation	The Council is supportive of the proposals within this section of the consultation.
Overheating risk in new dwellings and other new residential buildings	The Council is generally supportive of the proposals within this section of the consultation. The Council notes the need for further consideration of the methodology proposed for such assessments.
Improving and Demonstrating Compliance	The Council is supportive of the proposals within this section of the consultation.
Electric Vehicle Charging Infrastructure	The Council is supportive of the proposals within this section of the consultation. The Council has provided feedback where certain proposals could be improved.

6. Next Steps

6.1. Following agreement of the proposed response by the Committee, and if applicable, the inclusion of any required amendments, the final response will be submitted to the Scottish Government before the consultation closes on 26 November 2021.

7. Employee Implications

7.1. There are no employee implications associated with this report.

8. Financial Implications

8.1. There will be financial implications for the Council as related to the increase in construction costs associated with the proposals.

9. Climate Change, Sustainability and Environmental Implications

9.1. The proposals outlined in this consultation are directly related to, and support, the Scottish Government's policy goals outlined within the Climate Change (Scotland) Act and are in line with the EU Energy Performance of Buildings Directive. Proposals also

support the content of the Scottish Governments 2024 New Build Heat Standard and link to wider targets for the decarbonisation of transport in Scotland.

10. Other Implications

10.1. There are no additional risks associated with this report

11. Equality Impact Assessment and Consultation Arrangements

11.1. This report does not introduce a new policy, strategy or plan and is not subject to impact assessment requirements.

Michael McGlynn
Executive Director (Community and Enterprise Resources)

13 October 2021

Link(s) to Council Values/Ambitions/Objectives

- Ensure communities are safe, strong and sustainable
- Promote sustainable and inclusive economic growth and tackle disadvantage

Previous References

- None

List of Background Papers

- Scottish Government consultation on Scottish Government Consultation on Scottish Building Regulations: Proposed changes to Energy Standards and associated topics, including Ventilation, Overheating and Electric Vehicle Charging Infrastructure
  (https://consult.gov.scot/local-government-and-communities/building-regulations-energy-standards-review/)

Contact for Further Information

If you would like to inspect the background papers or want further information, please contact:-

Tony Finn
Planning and Building Standards Headquarter Manager
Ext: 5436
E-mail: tony.finn@southlanarkshire.gov.uk

APPENDIX 1

South Lanarkshire Council full response to the 'Scottish Government consultation on Scottish Building Regulations – Proposed Changes to Energy Standards and associated topics:-

No.	Question	Response
	Energy - New Buildings	
1.	Do you support the extension of standard 6.1 to introduce an energy target in addition to the current emissions target? If yes, do you have a view on the metric applied – primary or delivered energy?	Yes, while there are arguments for the use of either the primary or delivered energy targets, on balance the delivered energy target may be more appropriate, given the increase in self generation and storage in both domestic and non-domestic buildings.
2.	What level of uplift to the 2015 standard for new dwellings do you consider should be introduced as an outcome of this review? Option 1: 'Improved' standard (32% emissions reduction) Option 2: 'Advanced' standard (57% emissions reduction) or another level of uplift	While both options provide a significant uplift over current energy standards, the nature of the current climate change emergency needs to be balanced against the increase in capital costs of the 'advanced' level, estimated to be between 2-3% above the 'improved' level and a 5-7% increase in total. Both uplift levels are deemed to be achievable through current construction techniques and technologies.
3.	What level of uplift to the 2015 standard for new non-domestic buildings do you consider should be introduced as an outcome of this review? Option 1: 'Medium' standard (16% emissions reduction) Option 2: 'High' standard (25% emissions reduction) or another level of uplift.	While both options provide a significant uplift over current energy standards, the nature of the current climate change emergency needs to be balanced against the increase in capital costs of the 'high' level, estimated to be 1% above the 'medium' level and a 4-5% increase in total. Both uplift levels are deemed to be achievable through current construction techniques and technologies.
4.	Do you have any comments or concerns on the values identified for the elements which make up the Domestic notional building specification for either option, e.g. in terms of their viability/level of challenge?	No, the values proposed appear readily achievable.

5.	Do you have any comments or concerns on the values identified for the elements which make up the non-domestic notional building specification for either option, e.g. in terms of their viability/level of challenge?	No, the values proposed appear readily achievable.
6.	Do you have any comments on the simplified two-specification approach to defining the Domestic notional building from 2022?	No. However, consideration needs to be given to the impact of such proposals on rural and semi-rural development, which can include formation of new settlements which seek to address the aim of repopulating rural areas. Consideration should include options for technical and financial support to allow such development to meet the intent of this consultation and wider Scottish Government policy.
7.	Do you have any comments on the simplified two-specification approach to defining the Non-domestic notional building from 2022?	No. However, consideration needs to be given to the impact of such proposals on rural and semi-rural development, which can include formation of new settlements which seek to address the aim of repopulating rural areas. Consideration should include options for technical and financial support to allow such development to meet the intent of this consultation and wider Scottish Government policy.
8.	Do you have any comments on the proposal to separate and provide a more demand-based approach to assignment of domestic hot water heating within the Non-domestic notional building specification from 2022?	No, the proposals outlined appear reasonable.
9.	Do you support this change in application of targets for supplied heat connections to new buildings, focussed on delivering a consistent high level of energy performance at a building level?	Yes, the Council agrees that this will reinforce the need for Building Regulations to focus on actions which can be delivered at a building level, at the point of original construction, to reduce energy demand and therefore associated emissions.
10.	Do you agree with the principle set out, that the benefit from on-site generation within the compliance calculation should be limited by a practical assessment of the extent that generated energy can be used onsite?	Yes, this addresses the fact that when generated energy is exported and leaves the building it can no longer affect the delivered energy total for the building and accordingly, the export component of generated electricity should be ignored for the purpose of the building-level compliance.

11.	Do you agree with the proposal that new buildings where heat demand is met only by 'zero direct emissions' sources should be exempt from the need for a calculation to demonstrate compliance with the Target Emissions Rate?	Yes, homes that have invested in zero emission heat sources should benefit from the exemption.
12.	Do you support the need for new buildings to be designed to enable simple future adaptation to use of a zero direct emissions heat source where one is not initially installed on construction? And for information setting out the work necessary for such change to be provided to the building owner?	Yes. Considering how fast technology and innovation moves it would be appropriate to ensure easy adaptation to or between decarbonised heat sources. Clear guidance needs to be provided on what constitutes 'simple future adaptation'.
13.	Do you support the retention of the current elemental approach to setting minimum standards for fabric performance in new dwellings, supported by the option to take an alternate approach via calculation of the total space heating demand for the dwelling (as described)?	Yes.
14.	Do you support the move to airtightness testing of all new dwellings, by registered members of an appropriate testing organisation?	Yes, this proposal supports the Scottish Governments wider aims for better compliance in the construction of new buildings.
15.	Do you support the move to increased airtightness testing of all new non-domestic buildings, by registered members of an appropriate testing organisation	Yes, this proposal supports the Scottish Governments wider aims for better compliance in the construction of new buildings.
16.	Do you support the adoption of CIBSE TM 23 as the basis for airtightness testing in Scotland?	Yes.

17.	Do you support the introduction of the pulse test method of airtightness testing as a further means to testing and reporting on the performance of new buildings?	The Council has no comment to make in response to this question and would defer to the feedback from recognised industry professional bodies.
18.	Do you consider this amended provision provides an appropriate balance between? ♦ the requirement to improve building energy performance in new buildings; ♦ enabling the reuse of better performing modular elements; and ♦ enabling use of small units for short term use at short notice?	Yes, this proposal is considered reasonable and proportionate.
19.	We welcome any other comments you wish to make on the proposed changes to the setting of performance targets for new buildings or the application of other amended provisions within Section 6 (energy) which apply to the delivery of new buildings. Where practical, please with a reference to any particular issue in the context of the Domestic or Non-domestic Handbook (or both if applicable) and cite any standard or revised guidance clause relevant to the topic.	No further comments.
	Energy - All Buildings	
20.	Do you agree with the proposed introduction of the term 'major renovation' as defined above as an additional means of identifying when aspects of building regulations shall be applied to an existing building?	Yes. However, further clarification is required on the definition of such a term i.e. what is considered the 'surface of the building envelope' and what is considered to be 'renovation'.
21.	Do you support the improvement in maximum U-values for elements of building fabric for Domestic buildings, as set out above?	Yes.

22.	Do you support the improvement in maximum U-values for elements of building fabric for Non-Domestic buildings, as set out above?	Yes.
23.	Do you support the standardisation of values and approach for conversions, extensions and shell buildings, as set out above and in sections 3.2.2 and 3.2.3?	Yes. Standardisation will provide building owners with a better understanding of what is required in relation to U values. However, some element of flexibility to accommodate different building types and use should be considered. Further guidance on what constitutes 'reasonably practicable' would also be welcomed.
24.	If you have a view on the preferred format for presentation of information on compliance of building services, what would be your preference?	The view of the Council as Verifier is that the preferred option is to 're-integrate into guidance to the relevant standard', however the view of the Council as designer is to 'retain current separate Compliance Guides'.
25.	Do you support the continued alignment of minimum provisions for fixed building services at a UK level within the Domestic Building Services Compliance Guide?	Yes.
26.	Do you support the continued alignment of minimum provisions for fixed building services at a UK level within the Non-domestic Building Services Compliance Guide?	Yes.
27.	Do you agree with the proposal that the option of installing a less efficient heat generator and compensating for this using heating efficiency credits in existing buildings should be withdrawn from the Non-domestic Building Services Compliance Guide?	Yes. As noted in the supporting information to the consultation, such an approach is no longer justified due to improvements in the energy efficiency of appliances over recent years. In addition, the use of less efficient system/credits will not contribute to the wider transition to decarbonised heating so should be removed as an option.
28.	Do you agree with the proposal to limit distribution temperatures in wet central heating systems to support effective implementation of low and zero carbon heat solutions and optimise the efficiency of heat generation and use?	Yes, higher temperature systems produce more emissions when they aren't required.

29.	Do you agree with the proposed extension to the provision of self-regulating devices to include when replacing a heat generator?	Yes.
30.	Do you agree with the proposed introduction of a requirement for building automation control systems, of the type specified, in larger non-domestic buildings with systems with an effective rated output over 290kW	Yes, the proposals seem reasonable.
31.	We welcome any other comments you wish to make on the above topics and broader changes to the setting of minimum standards for all buildings. Where practical, please with a reference to any particular issue in the context of the Domestic or Non-domestic Handbook (or both if applicable) and cite any standard or revised guidance clause relevant to the topic.	No further comments.
	Ventilation	
32.	Do you support the proposed revisions to the presentation of guidance on ventilation and the incorporation of the 'domestic ventilation guide' into the Technical Handbooks?	Yes, this proposal improves visibility of this guidance.
33.	Do you agree with the revision of guidance to clarify the function of purge ventilation and increase provision to align with that applied elsewhere in the UK?	Yes. Clarification and alignment are always welcome and will aid the building owner's understanding of what is required.
34.	Do you support reference to a single option for continuous mechanical extract ventilation which can have centralised or decentralised fans, with the same design parameters being applied to the system in each case?	Yes. The need for bespoke design including adequate provision of trickle ventilation needs to be reinforced.
35.	Do you support introduction of proposed guidance on default minimum size of background ventilator for continuous mechanical extract systems?	Yes.

36.	Should continuous mechanical extract systems be considered a viable solution in very low infiltration dwellings and, if so, under what circumstances?	Yes, such systems could be widely used subject to bespoke design including adequate provision of trickle ventilation. Cost and ongoing maintenance of such system should be noted.
37.	Do you support the incorporating of this additional guidance into the Technical Handbooks?	Yes.
38.	Are there other elements of the commissioning of ventilation systems that you consider are both practical to implement and useful in providing additional assurance of performance in practice?	The Council has no comment to make in response to this question and would defer to the feedback from recognised industry professional bodies and system suppliers.
39.	We welcome your thoughts on these or broader topics which would merit consideration as part of the planned review. Please set out your thoughts below, including citation of relevant supporting evidence, where relevant.	No further comments.
40.	We welcome any other comments you wish to make on proposed changes to ventilation standards for domestic buildings	No further comments.
	Overheating risk in new dwellings and other new residential buildings	
41.	Do you agree with the proposed introduction of a requirement to assess and mitigate summertime overheating risk in new homes and new non-domestic buildings offering similar accommodation?	Yes. As average annual temperatures continue to increase, it will be important to increase the climate resilience of buildings people live and work in. This includes ensuring opportunities for cooling are explored at the point of building design. Waiting to retrofit often causes issues due to the scale and disruption of works required.
42.	Do you agree with the proposal that an initial assessment of dwelling characteristics should be undertaken to help inform design choices and the delivery of new homes which provide better thermal comfort in the summer months?	Yes. However, the proposed methodology needs further consideration as the process as outlined appears simplistic.

43.	Are there circumstances where you consider specific characteristics of a dwelling should trigger a need for TM59 assessment rather than application of a simple elemental approach?	The Council has no comment to make in response to this question and would defer to the feedback from recognised industry experts in this area.
44.	Recognising the level of risk identified in the published research paper, do you agree with the above proposals as a suitable means of mitigating summertime overheating in new homes through prescriptive actions?	Yes.
45.	Do you consider that such an approach will provide adequate assurance that ventilation measures provided to mitigate summer overheating can be used safely and conveniently in practice?	Yes, in principle.
46.	We welcome any other comments you wish to make on these proposals to introduce provisions to mitigate the risk of summer overheating new homes and new residential buildings.	No further comments.
	Improving and Demonstrating Compliance	
47.	Do you have any experience of successful design or construction quality assurance regimes which you consider may be useful to consider in the context of this 'Compliance Plan manual' work for section 6 (energy)?	No. While the Council undertakes checks on construction, this is as part of its role as verifier and not part of a design or construction QA regime.
48.	Do you have any comments on the above themes and any other actions you consider would be useful in supporting improved compliance with requirements for energy and emission performance?	Yes. The Futures Board workstream on Compliance has the potential to significantly increase compliance on site, through the creation of the Compliance Plan Manager role and an enhanced Compliance Plan framework. While such proposals are directed at high-risk buildings, the principles should apply to all new construction in terms of reinforcing the need for the relevant person to effectively monitor compliance on new building work.

49.	Are there particular aspects of building design and construction which you consider should be prioritised as part of the development of a detailed compliance manual for section 6 (energy)?	Yes. While all aspects of energy design are important, focus should be placed on areas of construction which can have a major impact on the level of energy use and carbon emissions produced, such as fabric construction and services installation.
50.	We welcome any other comments you wish to make on these topics of improving compliance of building work with the provisions within section 6 (energy) to better align designed and as-built performance.	Certification of Construction for part or the whole of Section 6 should be considered.
	Electric Vehicle Charging Infrastructure.	
51.	What are your views on our policy goal to enable the installation of Electric Vehicle (EV) charge points and ducting infrastructure (to facilitate the future installation of EV charge points) for parking spaces in new residential and non-residential buildings parking?	The Council supports the policy goals. This would ensure that developments are future proofed to both encourage and aid the transition to electric vehicles. These steps are considered necessary to progress towards the Government's 2030 targets. The goals are rightly ambitious and need to be matched with the necessary Scottish Government investment in infrastructure development. The approach should be flexible, aiming to meet current demand and use levels whilst also allowing opportunities to expand as demand grows. For example, it would be wasteful to have 100% requirement for EV charging on new developments when only 30% of residents currently own a vehicle and only 5% of them own an electric vehicle. It may be more appropriate to require the facilitation of ducting to minimise action required by building owners at a later stage.
52.	What are your views on our preferred options for EV provision in new and existing buildings?	The Council supports the proposals.
53.	Do you agree with the Scottish Governments preferred options for the exemptions as set out in section 7.6.1?	Yes. However, for larger developments, a minimum number of points should still be mandated. We also suggest that the cost exemption can be revisited during the approval and construction phase of a project to consider the possible reduction in unit costs in the future.

54.	What are your views on how our preferred option relating to existing non-residential buildings with car parks with more than 20 spaces could be properly monitored and enforced, given that the Building (Scotland) Regulations will not apply?	Possible consideration could be given to tax benefits or penalties. Hopefully such provision will be consumer led and therefore upgrading of the provision serving existing buildings will be positively viewed by building owners. Reference to EU legislation is noted but no preferred option is stated- 'possible' SPA involvement requires to be.
55.	What are your views on the proposed provision for charge points for accessible parking spaces? Do you have examples of current best practice for the provision of charge points for accessible parking spaces?	The Council recommends further discussion with accessibility groups to ensure proposals address the needs and demands of those using such spaces.
56.	Do you have any other views that you wish to provide on the EV section of the consultation (e.g. the minimum standard of EV charge point or safety within the built environment)?	Installations need to consider risk from tree root damage. How are new build non-residential units within existing retail parks covered? Some new units will make use of existing spaces. This is in particular relevance to 'out of town' retail parks. National and local electrical supplies will require major upgrade investment/work to match the ambitious proposals. Providing EV charge points for Existing buildings will require substantial grant funding/government support. Additional remedial/ reinstatement costs etc will be incurred.