

Representations to the Greater Cambridge Local Plan First Proposals Consultation 2021

On behalf of Taylor Wimpey

December 2021

Turley

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Client
Taylor Wimpey Strategic Land

Our reference
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1. Introduction

1. These representations to the Greater Cambridge Local Plan (GCLP) have been produced by Turley Sustainability on behalf of Taylor Wimpey with respect to their existing and potential future land interests within the Greater Cambridge Area. These representations are focused on the Climate Change Theme of the GCLP and specifically the following policies:
 - 1.1.1 CC/NZ: Net Zero Carbon in New Buildings
 - 1.1.2 CC/WE: Water Efficiency in New Developments
 - 1.1.3 CC/DC: Designing for a changing climate
 - 1.1.4 CC/ FM: Flooding and Integrated Water Management
 - 1.1.5 CC/ RE: Renewable Energy projects and infrastructure
 - 1.1.6 CC/ CE: Reducing Waste and supporting the local economy
 - 1.1.7 CC/ CS: Supporting land-based carbon sequestration
2. Taylor Wimpey fully supports the strategic commitment by the GCLP to positively address the issue of climate change mitigation and adaptation within the plan period and welcome the opportunity to comment on the draft policies to ensure they evolve to meet the tests of soundness and are both deliverable and viable whilst supporting the delivery of much needed high quality, private and affordable homes within Greater Cambridge.

2. Taylor Wimpey's Corporate Commitment to creating a more sustainable business

3. Taylor Wimpey have a strong corporate commitment to sustainability, environmental and social governance as can be seen from the recent publications on their website of their 2020 Sustainability Report¹ and their 2021 Environment Strategy².
4. Launched in 2021 the Environment Strategy sets out the company's long term commitment to protecting the environment for future generations by reducing their environmental impact and making it easier for their customers to live a sustainable lifestyle.
5. The strategy focuses on the environmental impacts that are deemed critical to the business which are set out below along with some of the key targets to reduce these impacts:
 - 1.5.1 **Climate Change:** Protect our planet and our future by playing our part in the global fight to stop climate change:
 - 1.5.1.1 Achieve our science-based carbon reduction target through a range of measures which include reducing operational carbon emission intensity by 36% by 2025 from a 2019 baseline and reducing carbon emissions intensity from our supply chain and customer homes by 24% by 2030, from a 2019 baseline.
 - 1.5.2 **Nature:** Improve access to and enable enjoyment of nature for customers and communities by regenerating the natural environment on our developments:
 - 1.5.2.1 Increase natural habitats by 10% on new sites from 2023 and include our priority wildlife enhancements from 2021 which includes hedgehog highways, bug hotels and creating 20,000 more nature friendly gardens by 2025
 - 1.5.3 **Resources and waste.** Protect the environment and improve efficiency for our business and our customers by using fewer and more sustainable resources:
 - 1.5.3.1 Cut our waste intensity by 15% by 2025 and use more recycled materials. By 2022 publish 'a towards zero waste' strategy for our sites.
6. One of the key targets within the GCLP is to transition to a net zero carbon Cambridge by 2050. As stated above Taylor Wimpey have a strong corporate commitment to reducing their carbon footprint and have adopted science based carbon reduction targets against which there has been significant progress to date in the form of:
 - 1.6.1 30% reduction in carbon emission intensity since 2013

¹ <https://www.taylorwimpey.co.uk/corporate/sustainability/2020-sustainability-review>

² <https://www.taylorwimpey.co.uk/corporate/sustainability/2020-sustainability-review>

1.6.2 39% reduction in absolute carbon emissions since 2013; and

1.6.3 58% green electricity purchased for their sites and corporate emissions;

7. These corporate commitments are resulting in more efficient and environmental friendly construction sites where there is a continued focus to reduce energy use, waste generation and improve our nature and biodiversity impacts.

3. The Greater Cambridge Local Plan Policies

8. Taylor Wimpey have reviewed each of the draft policies within the climate change section of the GCLP and have provided representations for each policy which we hope is of assistance to the Greater Cambridge Shared Planning authorities. Our focus is to ensure that each policy is both viable and deliverable whilst facilitating a shared objective of delivering more high quality affordable and private homes in an area with current and growing demand.
9. Where necessary these representations make reference to the GCLP Climate Change Topic Paper³ which summarises the evidence to support each of the policies and is hereafter referred to as the Topic Paper.
10. For draft Policy CC/ NZ, we have also reviewed the evidence base supporting these specific policies which is the Greater Cambridge Net Zero Carbon Evidence Base Non-Technical Summary and which is hereafter referred to as the Evidence Base document. Unfortunately a more detailed review of the full evidence is not possible as only the non-technical summary has been published and therefore Taylor Wimpey reserve the right to amend our representations once this material has been reviewed.
11. Taylor Wimpey welcome the opportunity to comment on these draft policies and would be happy to discuss our comments in greater detail with the authorities. We also recognise that these are currently policy options which will be informed by consultation feedback. Taylor Wimpey look forward to reviewing the next iteration of the draft GCLP.

Policy CC/ NZ: Net Zero Carbon New Buildings

12. This policy introduces new levels of energy use that will be allowed for new development and how renewable energy should be used to meet that energy need. It also introduces requirements for the assessment of whole life carbon by new development and address the potential issue of carbon offsetting.
13. The policy introduces the following parameters for energy use for new buildings in order to achieve **Net Zero for Operational emissions**:
 - 1.13.1 A space heating demand of 15-20kwh per meter square per year for residential and non-residential buildings.
 - 1.13.2 All heating provided through low carbon sources and not fossil fuels with no new development connected to the gas grid.
 - 1.13.3 All buildings should achieve a total Energy Use Intensity (EUI) target for both regulated and unregulated energy of no more than 35kWh per m² per year with a range of different EUI targets for non-domestic buildings as set out in the policy.

³ <https://consultations.greatercambridgeplanning.org/sites/gcp/files/2021-08/GCLP%20Climate%20Change%20Topic%20Paper.pdf>

- 1.13.4 New development should generate at least the same amount of renewable energy (preferably on-plot) as they demand over the course of a year and this should include all regulated and un-regulated energy. In large developments the energy generation can be averaged across the development to compensate for the inability of specific dwellings to meet the target
- 1.13.5 Offsetting can only be used as a last resort and the building should be future proofed to allow residents or tenants to enable the achievement of net zero dwellings.
- 1.13.6 To target Net Zero for Construction residential developments of greater than 150 dwellings or 1,000m² should calculate the whole life carbon of the development and present measures to reduce these.
14. Whilst Taylor Wimpey recognise the importance of addressing climate change, we do have a number of concerns that draft Policy CC/ NZ is unsound on the basis that it is not viable or deliverable and may reduce the delivery of much needed affordable and private housing within the Greater Cambridge (GC) area. We have summarised our concerns below which we hope are helpful to the authorities in their search for sound and effective climate change policies within the GCLP.
- 1.14.1 It is noted that the dwelling energy efficiency targets within draft Policy CC/ NZ go significantly beyond building regulations including the proposed Future Homes Standard 2025 although the Topic Paper (page 17) states that the standards proposed are not as onerous as the passivhaus standard but do go beyond the proposed FHS. The passivhaus standard is widely recognised as the highest construction standard that is currently available in the UK for residential development as it requires complex construction techniques and therefore carries a cost premium . Analysis of this standard and others compared to the targets within Policy CC/ NZ have identified the following:
- 1.14.1.1 The passivhaus standard⁴ requires an EUI of less than 120 kWh m² per annum compared to the policy target of 35KWh per m²thereby suggesting that the draft policy target is in fact considerably more onerous than passivhaus.
- 1.14.1.2 The EUI within the draft policy CC/NZ appears to have been taken from the recommendations from the London Energy Transformation Initiative (LETI) climate emergency guide⁵ which was created to introduce higher standards in Greater London where new development is dominated by low/ high rise apartments that are inherently more energy efficient than typical single and family housing types.
- 1.14.1.3 The passivhaus standard⁶ requires a space heating demand of 15 kWh m² per annum compared to a draft policy target of 15 – 20

⁴ https://www.passivhaustrust.org.uk/what_is_passivhaus.php#2

⁵ https://www.leti.london/_files/ugd/252d09_3b0f2acf2bb24c019f5ed9173fc5d9f4.pdf

⁶ https://www.passivhaustrust.org.uk/what_is_passivhaus.php#2

kWh m² thereby suggesting close alignment between the two on this specific issue.

1.14.1.4 Draft Policy CC/NZ requires applicants to address both regulated and unregulated energy as opposed to the FHS which deals with regulated energy alone. The Government have made this important differentiation because the use of unregulated energy (e.g. power used by televisions and appliances) is the responsibility of the homeowner and not the housebuilder and is extremely difficult to quantify accurately at construction stage.

1.14.1.5 To hit the EUI target of 35KWh per m² the Evidence base document estimates that the following will be required although no exact details are available:

(a) Low U-values that exceed the requirements of the proposed FHS

(b) Mechanical Ventilation with Heat Recovery (MVHR) to recover waste heat from the dwellings

(c) A high level of air-tightness to prevent cold air ingress and heat loss from the dwelling

All of the measures identified above are characteristic of implementing the passivhaus standard.

1.14.1.6 The cost of implementing Policy CC/ NZ has been estimated at between 10% and 13% above that required to build to current Building Regulations. No detailed analysis of the assumptions behind this calculation were available however. It is claimed that this cost is achievable on the basis that significant costs are required to implement the FHS and therefore the costs identified by the Evidence base are an over-estimate and are therefore acceptable. Taylor Wimpey believe it is extremely important to obtain the detailed evidence behind these costs as in our experience the cost of building to passivhaus standards (or extremely close) is likely to be significantly higher than those quoted in the Evidence base paper.

1.14.2 Given the above it would appear that the Policy CC/ NZ is implementing on-site energy efficiency standards much more closely aligned to passivhaus which presents significant challenges to the housebuilding industry for the following reasons:

1.14.2.1 Building to passivhaus requires a complete transformation of the on-site construction process and supply chain which would significantly delay housing delivery and increase costs of new dwellings particularly for the small and medium sized house builders.

- 1.14.2.2 The cost of constructing houses to passivhaus is likely to be significantly higher than that identified in the evidence base although a direct comparison is difficult in the absence of the detail behind the assumptions in the Evidence Base. Achieving airtightness levels close to passivhaus and installing MVHR are extremely costly forms of construction and is likely to contribute to a significant cost increase above current Building Regulations that has not been identified by the Evidence base.
15. The GCLP states that it has considered alternatives to the draft policy and targets with one being the use of the Government's FHS as the principal metric for sustainable housing. Taylor Wimpey fully support the introduction of the FHS in 2025 as it will deliver many of the strategic requirements of draft Policy CC/ NZ which include:
- 1.15.1 An all-electric energy strategy thereby allowing the carbon footprint of the dwelling to fall each year in line with grid decarbonisation
- 1.15.2 Dwellings will have very high levels of insulation and likely require triple glazing to ensure maximum heat retention.
- 1.15.2.1 Each home built to the FHS will require the extensive use of renewable energy technologies in which are likely to include Air Source Heat Pumps and Photovoltaic cells.
- 1.15.2.2 There would a consistent, deliverable standard for all new dwellings in Greater Cambridge thereby providing a level playing field for all housing developers.
16. Whilst the detailed energy demand / performance metrics for the FHS is unknown at this time the Government have confirmed that dwellings built to this standard will reduce carbon emissions by 75% compared to those built under the current 2013 Building Regulation.
17. Taylor Wimpey therefore believe that Policy CC/ NZ of the GCLP should utilise the FHS as the main metric for the construction of energy efficient housing. The use of this standard will also provide greater support to the small and medium (including self-build) housing sector which we believe is critical to ensure greater supply and diversity of affordable housing to the consumer.
18. In addition to the concern's with respect to the on-site standards presented in draft Policy CC/ NZ, Taylor Wimpey also have reservations with respect to other aspects of the Policy which are:
- 1.18.1 It is unreasonable to prohibit all new developments to connect to the gas grid as it is possible that for buildings such as care homes and health facilities gas may still be the most suitable fuel for heating given the bespoke heating requirement of these health facilities. Given that some of Taylor Wimpey's sites are large enough to permit the delivery of critical social infrastructure such as schools and health facilities, there may be a technical requirement for gas in some form to our large sites.

- 1.18.2 The requirement for new dwellings to generate at least the same amount of renewable energy as they demand over the course of the year is extremely challenging given that it must include both regulated and unregulated energy for which it is difficult to estimate the exact quantum of energy needed given it is entirely dependent on the occupiers use of appliances.
- 1.18.3 The offsetting policy (although lacking in detail) would appear to be based on the cost of providing additional PV cells to generate the quantum of energy that remains from the development site after all on-site measures have been deployed. At this time however there appears to be no data with respect to the cost of this offsetting policy and how any money will be spent with absolute certainty to ensure 'additionality'. Without any costs or viability information this aspect of the policy fails the test of soundness. It is evident however that this policy will add a significant (albeit unknown at this time) cost to new housing which ultimately will feed into higher house prices and greater affordability challenges. We look forward to seeing the detail of this policy but would urge the authorities to fully explore the viability of this carbon offsetting and its impact upon the delivery of affordable housing before it is adopted.
- 1.18.4 The requirement to calculate Whole Life Carbon (WLC) in construction would increase the importance of reducing embodied carbon within the supply chain, particularly for small and medium sized developers. For Taylor Wimpey however, we are already committed to reducing our embodied (scope 3 emissions) within the supply chain have set ambitious targets to reduce these over time. The requirement to submit a WLC assessment for each TW application places an unnecessary burden upon our new development activities as this work is already part of our corporate commitments. To ensure this policy does not negatively affect housing delivery we would request that the acceptable evidence to demonstrate policy compliance could be details of our corporate commitment and progress to date.

Summary of Representations to Policy CC/ NZ:

19. In summary, Taylor Wimpey support the strategic objective of the GCLP to positively address climate change through progressive policies in the plan. We are concerned however that the policies as they stand are unsound as they propose to introduce some of the highest sustainability requirements in the country without a complete evidence base. In order to make this policy sound and facilitate the delivery of much needed high-quality affordable and private housing we recommend the following amendments to Policy CC/ NZ:
- 1.19.1 Publication of a complete and full evidence base for stakeholder comments before these draft policies are developed further.
- 1.19.2 Adoption of the FHS as the energy efficiency target for new housing and remove the requirement for additional renewable energy deployment.
- 1.19.3 Allow flexibility with respect to the use of gas in new developments where gas use is necessary for health/ occupant wellbeing

Policy CC/ WE: Water Efficiency in new developments.

20. This policy introduces requirements for water efficiency in new domestic and non-domestic development in the form of the following:
- 1.20.1 80 litres per person per day for domestic development; and
 - 1.20.2 Full BREEAM credits for Wat 01 for non-domestic development
21. Taylor Wimpey acknowledge that the Greater Cambridge area is under water stress and there is a strong encouragement for all new development to improve water efficiency however with respect to draft Policy CC/ WE we have the following comments:
- 1.21.1 We agree with the statement on Page 26 of the Topic Paper that the highest water efficiency standard that can be requested by local authorities is 110 l per person per day (pppd).
 - 1.21.2 We also agree that achieving 80lppd will require either rainwater harvesting and/ or greywater recycling. Both systems introduce significant maintenance requirements (and therefore cost) for homeowners and introduce technology that has not been tested 'en-masse'. Taylor Wimpey's experience of trialling grey water recycling is that it is unreliable and likely to cause maintenance issues for homeowners
 - 1.21.3 Given the unreliability of greywater recycling TW believe the only practical mechanism to achieve the 80lpppd would be through the use of rainwater harvesting systems which have the following constraints;
 - 1.21.3.1 Such systems are more difficult for flats given that communal harvesting tanks (which are more expensive) would be necessary; and
 - 1.21.3.2 Greater Cambridge is already one of the driest areas in the UK⁷ and climate change is predicated to reduce rainfall in Greater Cambridge by 47% it is highly likely that rainwater harvesting will not capture sufficient rain to meet the policy target and will therefore be ineffective.
 - 1.21.4 Given the above, TW believe that the GCLP should implement the Government's technical standard for water efficiency for Policy CC/ WE which is 110 lpppd. This would be viable, deliverable and achievable for all new dwellings within GC. Should technology such as grey water recycling become viable during the lifetime of the plan then this could be considered as a means to improve water efficiency beyond the target of 110 lpppd.

Policy CC/ DC Designing for a Changing Climate.

⁷ <https://consultations.greatercambridgeplanning.org/sites/gcp/files/2021-08/GCLP%20Climate%20Change%20Topic%20Paper.pdf>. Page 20, Section 5.1

22. This draft Policy introduces requirements to design buildings in accordance with the Good Homes Alliance Overheating in New Homes Tool and Guidance⁸. Taylor Wimpey recognise the fact that all buildings will need to be designed to adapt to a warming climate and that, depending on the building type and location, this may necessitate the use of a range of measures as recommended in the Good Homes Alliance toolkit such as shading, thermal mass and different modes of ventilation. The policy requires new development to complete the Good Homes Alliance toolkit and implement the cooling hierarchy to minimise the impact of overheating.
23. Taylor Wimpey believe that this policy may be ineffective as it requires each developer to implement the guidance in a manner that is appropriate for their site and which therefore may differ from one development to the next.
24. In January 2021, the Government confirmed the introduction of the FHS and also consulted on the introduction of a range of new building regulation requirements one of which was the introduction of an overheating testing requirement⁹ for residential development. This will require all new homes to undergo modelling during detailed design to identify any impact from overheating and then implement mitigation measures accordingly.
25. As this requirement is proposed to be introduced with the revised changes to the Building Regulation in 2022, Taylor Wimpey believes that the policy would be unsound on the basis that it is introducing an unnecessary additional burden on development given that it duplicates the requirement of the building regulations.
26. Taylor Wimpey believe that to reduce the planning and administrative burden upon the housebuilding sector in Greater Cambridge, Policy CC/ DC should be deleted on the grounds that its objectives will be required via Building Regulations.

Policy CC/ CE: Reducing Waste and Supporting the Circular Economy

27. This policy places requirements upon new development to manage their waste and embrace the principles of the circular economy. The policy requires the following from new development proposals:
 - 1.27.1 The submission of a Construction Environmental Management Plan (CEMP) proportionate to the size and scale of development
 - 1.27.2 Provision of adequate waste and material storage facilities on site in accordance with the RECAP Waste Management Design Guide (or successor)
 - 1.27.3 Submission of a Circular Economy Statement with each application
28. Taylor Wimpey fully support the strategic objective of the policy in terms of its objectives to reduce waste and, perhaps more importantly, encourage circular economy principles in development. As explained earlier in these representations,

⁸ <https://goodhomes.org.uk/wp-content/uploads/2019/07/GHA-Overheating-in-New-Homes-Tool-and-Guidance.pdf>

⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/953752/Draft_guidance_on_heating.pdf

reducing waste intensity is one of our key objectives and one in which progress is clearly being made on our sites.

29. We fully support the requirement to submit a CEMP for our sites as this is something that we already commit to as part of our best practice approach to waste management and environmental protection.
30. With respect to the provision of waste management facilities on site, Taylor Wimpey agree that the correct storage and handling of waste and raw materials is a critical step to responsible management of materials and the prevention of pollution. All of our construction sites deploy best practice measures for the prevention of pollution and provide facilities for the separation and recycling of waste. We therefore support this objective of draft Policy CC/ CE but would ask that the policy recognises that large housebuilders such as Taylor Wimpey with large and efficient supply chains may use bespoke techniques and practices on site which are not referenced in any guidance but which fully comply with all legislation and best practice.
31. With respect to the submission of a circular economy statement, Taylor Wimpey are happy to provide such information with an application although we would request that this is proportionate to the size and scale of the development in question.

Policy CC/ CS Supporting land-based carbon sequestration.

32. This policy will protect important land based carbon sinks such as peatland and woodland projects whilst encouraging new development to promote biodiversity and carbon sequestration.
33. Protecting nature and biodiversity is one of Taylor Wimpey's key objectives within its Environment Strategy. We recognise the importance of peatlands and woodland to carbon sequestration and agree that these should be protected where possible. It is important to note however that with respect to new development, there can often be many carbon sequestration benefits associated with the creation of multi-functional green infrastructure and on-site planting which should be recognised when considering the overall 'carbon performance' of new development.
34. Taylor Wimpey therefore believe that the draft policy should contain text to support new development if it can be demonstrated that the green infrastructure and woodland it provides will sequester carbon. We believe this should be recognised as one of the many environmental benefits that new development can provide.

4. Summary of Representations

35. Taylor Wimpey are pleased to provide our representations to the GCLP in order to ensure the policies are sound and deliverable and facilitate the delivery of much needed private and affordable homes within Greater Cambridge.
36. Taylor Wimpey have a strong corporate commitment to positively address the causes of climate change and reduce our environmental impact and we believe we are making positive progress towards our targets.
37. We fully support many of the strategic objectives of the policy but do feel that some of the detailed targets and requirements within each policy (and specifically Policy CC/NZ) will bring significant additional financial and technical burden to the house building industry and particularly those in the small, medium and self-build sectors. These policies are likely to have a significant impact upon the land value as these additional costs must result in lower land prices to accommodate the additional construction costs.
38. If the recommendations contained within these representations are implemented then we believe this will create a policy framework capable of meeting the significant demand for housing within the region.
39. We would be pleased to discuss our representations in greater detail with the joint authorities.

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