Central Lincolnshire
Policy S6
Evidence Report

June 2021

Central Lincolnshire
LOCAL PLAN

Contents

1. Introduction

1.1. The Central Lincolnshire Local Plan is being updated since the first Local Plan for Central Lincolnshire, an area covering the districts of City of Lincoln, North Kesteven and West Lindsey, was adopted in April 2017.

1.2. This Evidence Report (which is one of a collection) provides background information and justification for Policy S6, which relates to reducing energy consumption in new residential development.

2. Policy Context

National Policy and Guidance

2.1. Since the Central Lincolnshire Plan was adopted the National Planning Policy Framework (NPPF) was updated in July 2018 with subsequent additional changes being published in February 2019.

2.2. Chapter 2 of the NPPF sets out national policy for achieving sustainable development, which separates it out into three objectives – economic, social and environmental. Within the environmental objective, "*mitigating and adapting to climate change, including moving to a low carbon economy*" forms a key part of achieving sustainable development – a key goal of the planning system.

2.3. At paragraph 20 of the NPPF sets out the strategic matters that should be addressed through strategic policies, including "*planning measures to address climate change mitigation and adaptation*."

2.4. Chapter 14 of the NPPF provides national planning policy relating to climate change. It provides some clarity for the expectations of how Local Plans should address the challenges of climate change in paragraph 148 where it says:

> "*The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.*"

2.5. In paragraph 150, the NPPF goes onto state that development "*should be planned for in ways that…can help to reduce greenhouse gas emissions, such as through its location, orientation and design...*"

2.6. This all makes it quite clear that Local Plans should not be silent on climate change and in fact that they should proactively address the challenge as a key vehicle to achieving sustainable development.

2.7. The Planning Practice Guidance (PPG) was first introduced in 2014 which offers 'live' government guidance. The PPG provides guidance to help in the implementation of policy in the NPPF.

2.8. The PPG includes an entire section devoted to climate change including a subsection entitled "How can the challenges of climate change be addressed through the Local

Plan?"[1] Within this section it provides examples of mitigating climate change through the reduction of emissions, including "*promoting low carbon design approaches to reduce energy consumption in buildings...*"

2.9. The PPG goes onto provide some additional clarity for how Local Plans should address zero carbon buildings, it states:

> "*The National Planning Policy Framework expects local planning authorities when setting any local requirement for a building's sustainability to do so in a way consistent with the government's zero carbon buildings policy and adopt nationally described standards. Local requirements should form part of a Local Plan following engagement with appropriate partners, and will need to be based on robust and credible evidence and pay careful attention to viability. In this respect, planning authorities will need to take account of government decisions on the Housing Standards Review when considering a local requirement relating to new homes.*"[2]

2.10. It also goes onto state:

> "*Different rules apply to residential and non-residential premises. In their development plan policies, local planning authorities:*
>
> - *Can set energy performance standards for new housing or the adaptation of buildings to provide dwellings, that are higher than the building regulations, but only up to the equivalent of Level 4 of the Code for Sustainable Homes.*
> - *Are not restricted or limited in setting energy performance standards above the building regulations for non-housing developments.*
>
> *The Planning and Energy Act 2008 allows local planning authorities to set energy efficiency standards in their development plan policies that exceed the energy efficiency requirements of the building regulations. Such policies must not be inconsistent with relevant national policies for England. Section 43 of the Deregulation Act 2015 would amend this provision, but is not yet in force.*
>
> *The Written Ministerial Statement on Plan Making dated 25 March 2015 clarified the use of plan policies and conditions on energy performance standards for new housing developments. The statement sets out the government's expectation that such policies should not be used to set conditions on planning permissions with requirements above the equivalent of the energy requirement of Level 4 of the Code for Sustainable Homes (this is approximately 20% above current Building Regulations across the build mix).*
>
> *Provisions in the Planning and Energy Act 2008 also allow development plan policies to impose reasonable requirements for a proportion of energy used in development in their area to be energy from renewable sources and/or to be low carbon energy from sources in the locality of the development*."[3]

2.11. As such, flexibility is provided for requiring higher energy efficiency standards than stipulated in building regulations. Furthermore, since this guidance was last updated The Climate Change Act 2008 (2050 Target Amendment) Order 2019 (S.I. 2019/1056) has

[1] PPG Reference ID: 6-003-20140612
[2] PPG Reference ID: 6-009-20150327
[3] PPG Reference ID: 6-012-20190315

been issued which has increased the required carbon reduction on 1990 levels from 80% to 100% - bringing the commitment to the Paris Agreement into UK law. This commitment needs to be taken into account in planning decisions.

2.12. The Government has started the process of introducing a Future Homes Standard, first announced in its spring statement in 2019, aimed at helping achieve the commitment to 100% reduction in emissions by 2050. This standard, proposed to be introduced through the Building Regulations, is proposed to require that an average home will produce at least 75% lower CO_2 emissions than one built to current standards. Two consultations on the proposed standard have been held, the latest in early 2021, setting out in some detail the Government's plans to implement the standards.

2.13. The proposal is to implement interim measures requiring some uplift for all building types in 2021/22 through changes to Part L of the Building Regulations. This will be followed by further engagement with the industry before the full Future Homes Standards are proposed to be implemented in 2024/25. The published timetable is replicated below:

Table 4 - Future Homes Standard implementation timeline

Timing	Milestones
Phase 1 – Introduce interim 2021 Part L uplift for all building types	
Jan 2021	– Publish *The Future Buildings Standard consultation* document
Dec 2021	– Interim Part L, Part F and Overheating Regulations made for domestic and non-domestic buildings
June 2022	– Interim Part L, Part F and Overheating Regulations come into effect – Developers must submit building notice / initial notice or deposit plans by June 2022, for transitional arrangements to apply
Phase 2 – Technical work and engagement	
Ongoing	– Industry engagement, including through BRAC and technical working groups
Autumn 2021 – summer 2022	– Research and analysis to develop proposed technical specification
Summer 2022 – 2024	– Develop sector-specific guidance and embed understanding of the technical specification of the Future Homes Standard
Phase 3 – Consultation & policy development	
Spring 2023	– Technical consultation on the proposed specification for the Future Homes Standard
Phase 4 – Full FHS implementation	
2024	– Part L FHS Regulations made
2025	– Part L FHS Regulations come into effect

2.14. This makes it quite clear that many of the measures needed to deliver net zero carbon homes will be implemented through Building Regulations in the near future (which will likely help to drive down the cost of construction to such standards). However, as the evidence shows in section 3 of this evidence report, greater urgency is needed to ensure we stay within our carbon budget.

2.15. Aside from climate change, national policy and guidance specifically in the NPPF and PPG also provide clarity over the expectations for what local plans should achieve in more general terms. Chapter 3 of the NPPF addresses the expectations for plan-making and in paragraph 16 it states that plans should "*be prepared positively, in a way that is aspirational but deliverable.*"

2.16. In paragraph 34 it states that local plans should "*set out the contributions expected from development. This should include setting out the levels and types of affordable housing provision required, along with other infrastructure (such as that needed for education, health, transport, flood and water management, green and digital infrastructure). Such policies should not undermine the deliverability of the plan*."

2.17. The PPG provides additional detail over the expectations relating to the cost of policies in a local plan, their impact on viability and therefore the delivery of the plan. It requires local authorities to "*prepare a viability assessment in accordance with guidance to ensure that policies are realistic and the total cost of all relevant policies is not of a scale that will make the plan undeliverable*."[4]

2.18. Paragraph 048 of the PPG details the evidence needed to assess viability, it states:

> "*The National Planning Policy Framework says that plans should set out the contributions expected from development. This should include setting out the levels and types of affordable housing provision required, along with other infrastructure (such as that needed for education, health, transport, flood and water management, green and digital infrastructure). Such policies should not undermine the deliverability of the plan. Policy requirements for developer contributions should be informed by proportionate evidence of infrastructure and affordable housing need and be assessed for viability at the plan-making stage in accordance with guidance.*"[5]

2.19. It also provides detailed guidance about the expectations for how the whole plan viability assessment should be undertaken and the inputs to be used – https://www.gov.uk/guidance/viability.

Local Policy

2.20. The 2017 Local Plan includes Policy LP18 which addresses climate change and low carbon living. This policy provides a supportive position for development which reduces demand for energy usage; uses sustainable materials and minimises construction waste; provides site-based renewable energy generation; or offsets carbon used in new development.

2.21. Policy LP18 does not go as far as to make any requirements of new development, but the world has moved on since the last plan was written and the context around climate change has particularly accelerated with new evidence providing greater clarity as to the challenge we face and our responsibilities in addressing this.

3. Context and Evidence

3.1. The Paris Agreement 2015, which the UK signed up to, committed to taking action to limit global warming to +2°C and a subsequent Intergovernmental Panel on Climate Change (IPCC) report in 2018 identified that a +1.5°C change should be our limit which will require reaching net zero emissions by 2050.

[4] PPG Reference ID: 61-039-20190315
[5] PPG Reference ID: 61-048-20190315

3.2. In May 2019 the UK Parliament declared a climate emergency, and in doing so Parliament also amended the 2008 Climate Change Act in order to set a legally binding target for emissions in the UK to become net zero by 2050.

3.3. Locally, each of the four Central Lincolnshire authorities have established a variety of corporate targets and commitments, specifically:

- **City of Lincoln:** The City of Lincoln Council declared a Climate Change Emergency on 23 July 2019. The Climate Change declaration adopted is made up of eight resolutions that the Council will abide by, one of which is to commit to the vision of a carbon neutral Lincoln by 2030 at the latest. The declaration also calls on the districts and county council to work with the City Council on critical areas such as highways, energy, waste, health and wellbeing. Since declaring the Climate Change emergency, the City Council has helped to establish the Lincoln Climate Commission which is a body comprising of public, private and voluntary sector organisations who wish to work together to provide a forum for setting and championing Lincoln's transition to a zero carbon and climate resilient future. The Commission is currently developing a City-wide roadmap to achieve zero carbon by 2030.
- **West Lindsey:** West Lindsey District Council has engaged with this subject matter for over 10 years and has worked through two Carbon Management Plans (CMP), with a third currently under production. More recently, the Council passed a motion in Nov 2019 to develop a Sustainability, Climate Change and Environment Strategy to be adopted by Full Council in May 2021, with the aim of the Council and wider District achieving a net-zero carbon position by 2050. A draft version of the Strategy was recently issued for consultation/review and received positive feedback, with a final version due in May. As work has progressed thinking has changed with regards to the 2050 timeframe and although not as yet formally adopted, it is likely that a revised date nearer 2041 will be pursued. Thoughts are turning to how the action plan is overseen and delivered internally and how best the Council can lead and influence individuals and other stakeholders from across the wider District to take positive actions that will aggregate and help the District to achieve a carbon zero position.
- **North Kesteven:** North Kesteven District Council unanimously declared a 'Climate Emergency' on 15 July 2019 with four key elements: committing to work with residents, business and other partners to tackle climate change, lobbying support to address the emergency by 2030; recognising the Council's own achievements in reducing greenhouse gas emissions; supporting the development of new policy and strategy as part of the 'Our Environment' priority; and, supporting the development of pilot programmes to advance sustainable development goals. On 24 September 2020 the Council approved the Climate Emergency Strategy and Action Plan to set out the action the authority will take to achieve net zero emissions by identifying immediate steps to be taken but to also act as a starting point in tackling the wider climate agenda. The strategic aims are to become a carbon neutral Council by 2030 and also to support partners, residents and local businesses to achieve carbon neutrality with an aspirational timeframe of 2030. The accompanying Action Plan identifies nine thematic categories against which specific actions and those responsible for delivery and implementation are identified.
- **Lincolnshire County Council:** In 2019, the County Council committed to reach carbon net zero by 2050 and has recently published a strategy to achieve its target. The strategy, called the Green Masterplan, lays out guiding principles to

influence future council activity and act as a prompt for everyone wanting to be more sustainable in the way they live and work. The Green Masterplan highlights the council's wider ambitions of supporting our partners, businesses and communities to enable the whole county area to reach net zero in the same timeframe. The Green Masterplan will be continually updated to ensure national policy is reflected at a local level and we remain on track to meet our targets. An initial action plan sets the scene for future work and will be regularly updated with a new plan released every 5 years

3.4. The evidence behind these declarations is clear – action against climate change is needed now to avoid catastrophic resultant impacts.

3.5. Planning has a limited, but important, role to play in delivering net zero carbon in the UK. In its response to the responses received on The Future Homes Standard in January 2021 the Government stated that:

> "*All levels of Government have a role to play in meeting the net zero target and local councils have been excellent advocates of the importance of taking action to tackle climate change. Local authorities have a unique combination of powers, assets, access to funding, local knowledge, relationships with key stakeholders and democratic accountability. This enables them to drive local progress towards our national climate change commitments in a way that maximises the benefits to the communities they serve. As part of this, the Government wishes to ensure that we have a planning system in place that enables the creation of beautiful places that will stand the test of time, protects and enhances our precious environment, and supports our efforts to combat climate change and bring greenhouse gas emissions to net zero by 2050.*
>
> *We recognise that there is a need to provide local authorities with a renewed understanding of the role that Government expects local plans to play in creating a greener built environment; and to provide developers with the confidence that they need to invest in the skills and supply chains needed to deliver new homes from 2021 onwards. To provide some certainty in the immediate term, the Government will not amend the Planning and Energy Act 2008, which means that local planning authorities will retain powers to set local energy efficiency standards for new homes*."[6]

3.6. This demonstrates quite clearly how Government expects local planning authorities to be at the forefront of delivering progress towards achieving net zero carbon.

Climate Change Evidence

3.7. Consultants were appointed in July 2020 to investigate the scale of Central Lincolnshire's contribution to greenhouse gas emissions and climate change, and the opportunities that exist to tackle these problems locally, including through the Local Plan.

3.8. This work set out the overarching context for Central Lincolnshire identifying what would need to be done in order to achieve a carbon neutral Central Lincolnshire by 2050 (and

6 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/956094/Government_response_to_Future_Homes_Standard_consultation.pdf

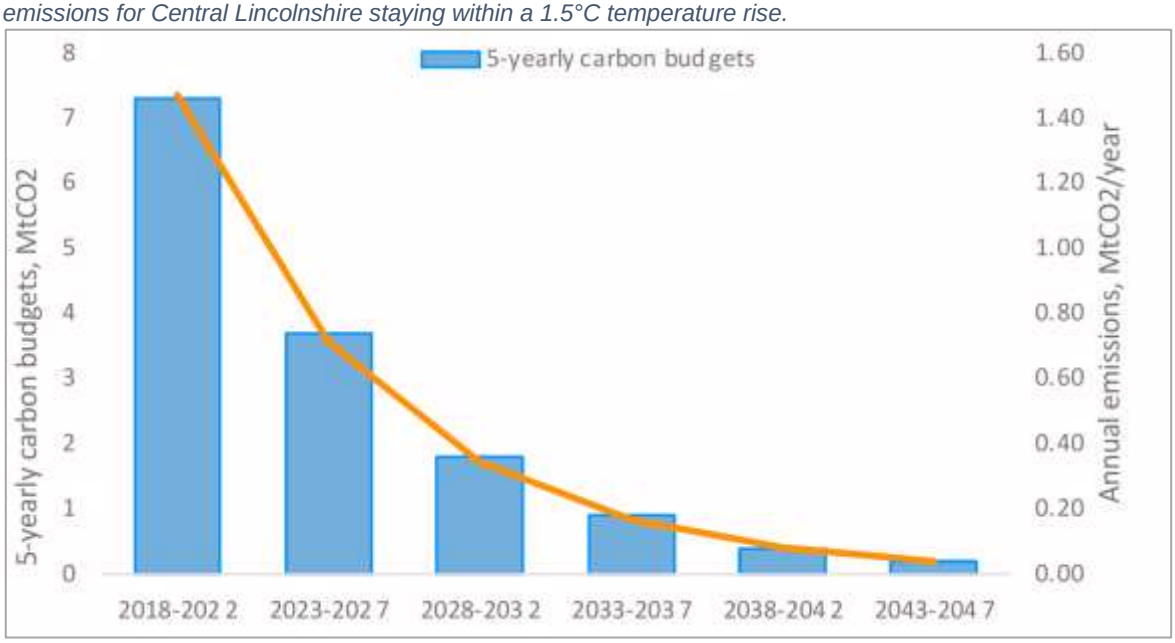
2041 to align to the science-based approach) to accord with the Paris Agreement. This research painted a very challenging picture to achieve these goals.

3.9. This work was broken down into a number of distinct tasks which combine together to provide a holistic picture for the area. Of particular relevance for Policy S6 were Task C: Carbon Reduction Targets, Task G: Technical Feasibility Assessment, and Task H: Cost Implications.

3.10. Task C establishes what a carbon neutral Central Lincolnshire would look like and what has to be done to achieve this, both in terms of the Local Plan and through other means. Using the Tyndall Centre's carbon budget model it establishes that Central Lincolnshire must emit no more than 9 $MtCO_2$ between 2020 and 2100. It then highlights that if emissions continue at 2017 levels then this entire budget will be used up by 2027. [7]

3.11. The Task C Report also clarifies that in order to deliver on the Paris Agreement carbon budget, an annual reduction of 13.4% in emissions is needed. This is shown in Figure 2.4.2 of the Task C Report (replicated as figure 1 below). This is a stark reminder of the extent of the challenge that Central Lincolnshire faces if we are to do 'our bit' to address this global ticking clock.

Figure 1: Replicated Figure 2.4.2 of Task C Report showing 5 yearly carbon budgets and annual CO_2 emissions for Central Lincolnshire staying within a 1.5°C temperature rise.



3.12. The report goes onto look at the ways in which the Central Lincolnshire Authorities might address the challenge, but it concludes that it cannot be achieved through offsetting and that a multi-faceted approach will be needed, targeting both energy being used and renewable energy being generated. These interventions include making new buildings net zero carbon as soon as possible, with a suggested target of 2022 to avoid exponentially increasing the scale of the challenge.[8]

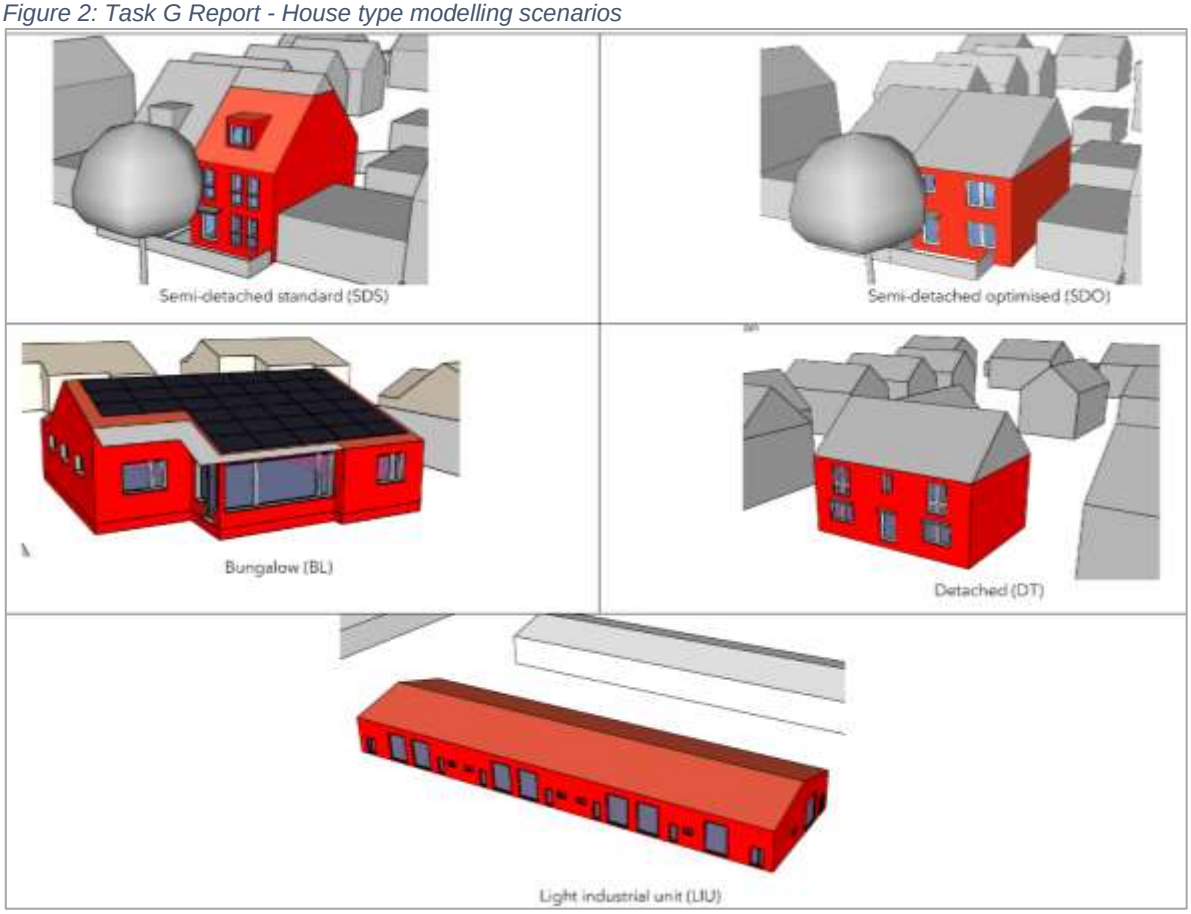
3.13. Task G looks in depth at defining what is needed to be considered a net zero carbon building and then the technical feasibility of achieving this. This report breaks down the

[7] Central Lincolnshire Local Plan: Climate Change Evidence Base: Task C – Carbon Reductions Targets February 2021; Bioregional, Etude and Currie & Brown – page 9, paragraph 2.4.3.
[8] Central Lincolnshire Local Plan: Climate Change Evidence Base: Task C – Carbon Reductions Targets February 2021; Bioregional, Etude and Currie & Brown – page 11, paragraphs 2.6.3. and 2.6.5.

topic into a number of categories – namely energy efficiency, low carbon heating, and renewable energy – looking in depth at what goes into establishing an efficient home that is net zero carbon.

3.14. It also assesses how design and built form can affect achieving these goals and tests the impacts and effectiveness of achieving net zero in a number of types of property through energy modelling scenarios.[9] These modelled scenarios demonstrate the variety of ways in which net zero carbon buildings can be achieved through a number of means, with some having a greater impact than others. This includes simple, cost-neutral measures such as orientation to maximise solar gain and opportunities for PV panels to be installed in the future through to other more costly measures such as enhanced built fabric, efficient heating methods and the actual installation of PV panels. These scenarios are shown in Figure 2 below:

Figure 2: Task G Report - House type modelling scenarios



3.15. The findings of the Task G report are set out in section 6.1 of the report with a number of recommendations for how the requirements to achieve net zero carbon homes relates to policy including:

- Options for space heating target (page 48);
- Options for Energy Use Intensity levels (page 49); and
- Options for PV generation (page 50).

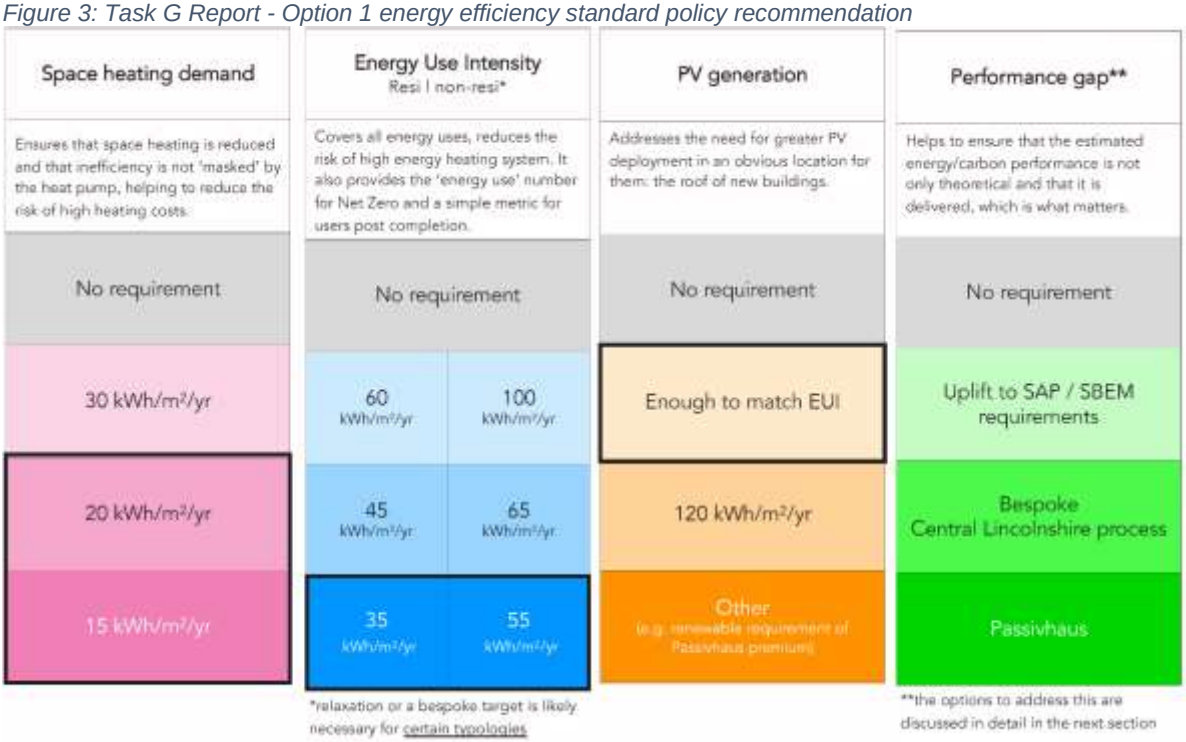
[9] Central Lincolnshire Local Plan: Climate Change Evidence Base: Task G – Feasibility Assessment, February 2021; Bioregional, Etude and Currie & Brown – pages 14-35.

These options are in addition to the assumption that design is optimised to allow for maximum gains to be achieved[10] through new policy requirements.

3.16. These options then produce four combinations of measures for how net zero carbon can be achieved using space heating targets, Energy Use Intensity levels and PV generation (pages 52 and 53). These options are replicated in Figures 3 and 4 below for ease of reference. This demonstrates that it is feasible to achieve net zero carbon in new development in Central Lincolnshire, as well as setting out the most efficient ways of achieving net zero and it also goes onto look in detail at how assured performance measures can be put in place to ensure that any performance gap is monitored and minimised.[11]

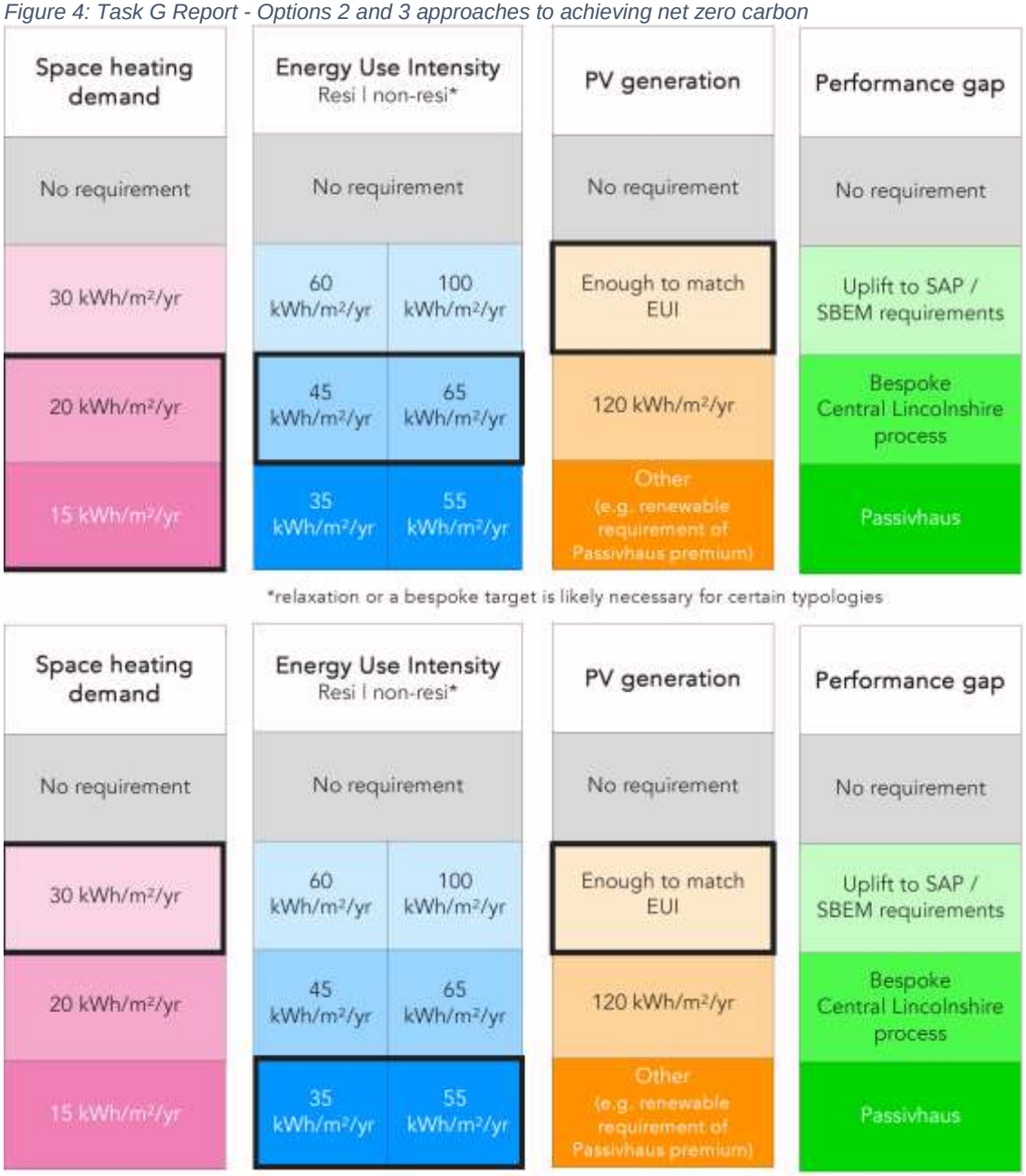
3.17. Option 1, the most ambitious of the options presented, suggests that for optimum efficiency between 15 and 20 kWh/m²/yr space heating demand should be sought, with not more than 35 kWh/m²/yr Energy Use Intensity and with enough PV energy generation on site to match the Energy Use Intensity. The report highlights that this would involve an uplift in costs of 8-11% and would represent 80% reduction in operational costs against the baseline.

Figure 3: Task G Report - Option 1 energy efficiency standard policy recommendation



[10] Central Lincolnshire Local Plan: Climate Change Evidence Base: Task G – Feasibility Assessment, February 2021; Bioregional, Etude and Currie & Brown – page 46, paragraph 6.1.11.
[11] Central Lincolnshire Local Plan: Climate Change Evidence Base: Task G – Feasibility Assessment, February 2021; Bioregional, Etude and Currie & Brown – pages 57-58.

Figure 4: Task G Report - Options 2 and 3 approaches to achieving net zero carbon



3.18. Task G also sets out the broad cost uplift of each of these options both for upfront capital costs and ongoing operational costs. For option 2 the uplift in cost would be 4.5-9% and the operational costs would be between 20 and 80% less than the baseline depending on building form. Option 2 would also require additional renewable energy to be generated off-site to meet the increased Energy Use Intensity. For option 3 the uplift in costs would be 5-8% with operational costs only being 20% less than the baseline, primarily down to the reduced efficiency of the building.

3.19. Task H then provides the detail of the costs involved in achieving net zero in new buildings (also replicated and summarised in Appendix E to the Task G Report). It sets out the individual capital costs of each element of the recommendations in the Task G report (pages 11-22). Assuming improved fabric of buildings it provides the capital cost of achieving two different heating requirements (15 kWh/m2/yr and 30 kWh/m2/yr) with options for direct electric and a heat pump to deliver heating requirements and then adequate PV panel coverage to offset the electricity needed to heat the building. These options are set out in Tables 1-5 of the report.

3.20. This identifies that the costs of achieving net zero in semi-detached homes ranges between approximately £5,000 and £14,000 per dwelling for the standard house and between approximately £5,000 and £11,000 per dwelling on the optimised house, depending on the thermal performance selected, the heat source and the amount of PV to be delivered.

3.21. For the detached house modelled, the cost was higher at between approximately £9,000 and £16,000 per dwelling and the modelled bungalow cost between approximately £10,000 and £18,000 per dwelling.

3.22. It also goes on to set out the running costs associated with the measures (pages 23-26). The graphs on pages 24-25 show that for semi-detached houses the annual running costs of an efficient home can be as much as £600 cheaper when using a heat pump and PV panels to meet electricity needs when compared to a baseline using gas boiler and no PV (option 1 on an optimised semi-detached home).

3.23. These savings are greater for the modelled bungalow with an £800 per year saving against the gas boiler and no PV baseline and approximately £900 per year for the detached model.

3.24. Other options tested for each house type provide less of a saving than the optimal options with some even costing more than the baseline. This is due to the relatively cheap cost of gas when compared to electricity prices where all electricity is coming from the grid.

3.25. The savings to be made through delivering efficient buildings with lower running costs have potential to be factored into the amount people are able and willing to pay for homes, as more can be spent on mortgage payments offset by the lower running costs. There are also specific “green mortgages” now being offered which offer a lower rate of borrowing on energy efficient homes[12].

3.26. This suite of evidence clearly sets out the scale of the challenge and the importance of acting now to ensure that legally binding commitments in the Paris Agreement can be achieved. It also sets out the means needed to achieve these goals which include ensuring that new homes being built are net zero carbon as soon as possible. This is shown to be feasible on a range of house types and with a number of means to achieve the goal, with varying capital cost to developers and whole life savings to future occupiers.

Viability Evidence

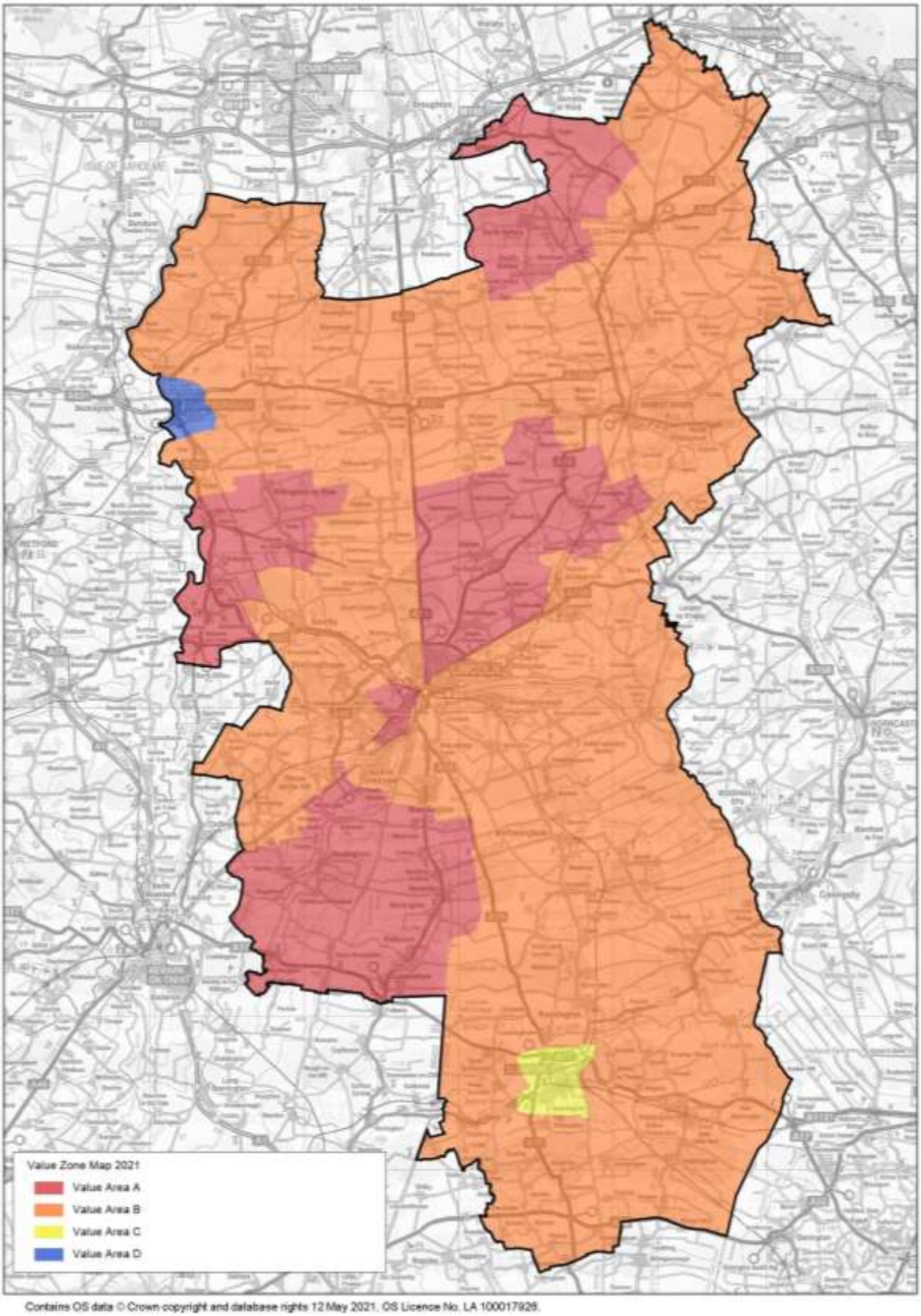
3.27. Consultants, Aspinall Verdi, were appointed in 2019 to undertake a Whole Plan Viability Assessment (WPV) to ensure that the policies in the local plan are realistic and that the total cost of policies will not make the plan undeliverable.

3.28. This assessment, consistent with the guidance set out in the PPG, looks into all of the inputs and costs of the development process and the eventual sales values achieved throughout the area. Put simply, it seeks to demonstrate that the costs of development do not exceed the sales values that can reasonably be expected to be achieved.

[12] Barclays and Royal Bank of Scotland are advertising these mortgages as at 11 May 2021.

3.29. Chapter 6 of the WPV sets out the details of the inputs and assumptions that have gone into the assessment. Firstly this looks at housing sales values based on an assessment of the housing market across Central Lincolnshire. This analysis has underpinned the identification of four value zones across Central Lincolnshire as shown on Map 1 below:

Map 1: Central Lincolnshire Housing Value Zones



3.30. This shows that the vast majority of Central Lincolnshire, approximately 76.5% of the area, is an area termed as a mid value zone (or Zone B). A further 22.2% of Central Lincolnshire is termed a high value zone (Zone A). The remaining 1.3% of Central Lincolnshire which centre around Sleaford and Gainsborough are termed as mid lower value zones (Zone C) and lower value zones (Zone D) respectively. The details of sales values are provided in Table 6-1 of the WPV.

3.31. Chapter 6 goes onto assess the costs of development, including:

- Purchase price of land for both greenfield sites and brownfield land – WPV Tables 6-14, 6-16 and 6-17.
- Build costs based on the lower quartile Building Cost Information Service (BCIS). BCIS is specifically referenced in the PPG as the main source of information for building costs and is generally considered to be the industry standard – WPV Table 6-4.
- External works costs and costs of building garages – WPV Table 6-4.
- Standard infrastructure costs needed to deliver the facilities expected to be delivered to support the growing population – WPV Table 6-4.
- Site abnormals, such as demolition, and remediation for brownfield sites only – WPV Table 6-4.
- Planning and professionals fees throughout the process – WPV Table 6-4.
- Contingency – WPV Table 6-4.
- Costs associated with selling the properties – WPV Table 6-4.
- A reasonable profit margin of 20%, compliant with the PPG – WPV Table 6-4.
- Interest due on borrowing – WPV Table 6-4.
- Community Infrastructure Levy (CIL) costs – WPV Table 6-5.

3.32. Combining these elements forms the basic costs of developing sites in Central Lincolnshire. Beyond this, the WPV assessment then looks into a range of potential policy costs that will need to be layered on top of the basic costs depending on what decisions are taken in the Local Plan. These optional costs are set out in Table 6-6 of the WPV and include costs arising from:

- Affordable housing percentages;
- Delivering biodiversity net gain;
- Water efficiency standards;
- Primary school education contributions;
- NHS contributions;
- Delivering M4(2) housing (higher accessibility standards);
- Meeting the Future Homes Standard interim uplift (based on the Future Homes Standard consultation summary of responses in January 2021);
- Electric vehicle charge points; and
- Delivering net zero carbon homes (at an assumed cost of £10,100 per homes which aligns to the work by the climate change consultants).

3.33. Chapter 7 of the WPV then proceeds to test the results of the viability assessment. This includes analysis of the surplus remaining that can fund other policy costs when different levels of affordable housing are sought in each of the value zones (Tables 7-1 to 7-4). These tables identify that for greenfield sites:

- In the higher value zone (Zone A) where 25% affordable housing is sought it will leave a surplus of £26,000 or more to fund other policy requirements;

- In the mid value zone (Zone B) where 25% affordable housing is sought it will normally leave a surplus of between £9,000 and £10,000, but where the affordable housing requirement is reduced to 20% this surplus increases to £12,000.
- In the mid lower and lower value zones (Zones C and D) development is in deficit even with a 5% affordable housing requirement.

Table 7-4 of the WPV sets out the tested scenarios for viability on brownfield sites. This shows that in all but one example (in Zone A) that development will have a deficit even at 5% affordable housing.

3.34. However, clearly development does occur in the mid and lower value areas and so the WPV report then goes into sensitivity testing to look at the outlying factors that can improve viability in such areas in Chapter 8.

3.35. Firstly it looks at the build costs in the BCIS. The WPV uses the lower quartile build costs which is a robust and reasonable position supported through local plan examination elsewhere. However, there are cases in the BCIS where lower costs are achieved. This is shown in WPV Table 8-2 which shows that 30% or lower costs have been observed than the lower quartile. One possible reason for such a difference is the lack of input into the BCIS by the companies developing housing as is shown in Figure 8-1 of the WPV.

3.36. It also considers whether the benchmark land value used could be lower as evidence suggests that a lower value could be used, albeit caution is urged as a suitable premium is needed as a landowner incentive.

3.37. This sensitivity testing is then applied to the site typologies tested against the affordable housing percentages. For greenfield sites, this shows that when the reduced BCIS cost is applied and lower land value is assumed:

- In the mid lower value zone (Zone C) where 25% affordable housing is sought, it will leave a surplus of £24,000.
- In the lower value zone (Zone D) where 25% affordable housing is sought, it will leave a surplus of between £12,000 and £16,000, but for the higher density, flatted scheme tested, it would still be in deficit.

3.38. For brownfield land, the typology sites tested using the revised costs provided a surplus of between £18,000 and £28,000 when 25% affordable housing is sought. The exception to this were two typology sites in the lower value zone (Zone D) where one site had no surplus at 25% affordable housing (and only £8,000 surplus when the affordable housing requirement is reduced to 5%) and the other site had a deficit even when reduced to 5% affordable housing.

3.39. The fact that development still occurs (and often with affordable housing being delivered) in Zones C and D clearly demonstrates that developers are able to make sites profitable, whether it is through lower land purchase prices or, perhaps more likely, through lower building costs achieved through the scale of production.

3.40. Aside from the adjusted assumptions included in the WPV, further movement could arguably be found in some of the other assumptions being made, for example the WPV assumes a 20% profit margin for developers. Whilst this is in the range suggested by the PPG (15-20%) it is at the top end of the range. There could be some argument to reduce

this to 17.5%, however it is known that there have been cases where 15% and even 17.5% profit margin has been rejected by Inspectors.

3.41. Another area where further surplus could be found is in sales values. The sales values used in the WPV represent a robust picture of the local housing market. However, higher sales value is often observed as being achieved and this further supports a position whereby a greater surplus can be achieved in many cases.

3.42. Finally, more efficient homes will have lower running costs and, as a result, future occupiers will be able to afford more on the purchase of an energy efficient home. It is too early, with too little data available, to tell if a there is a premium paid for energy efficient homes when compared to homes built to current building regulations in the UK. The RICS Energy Efficiency and Residential Values: A Changing European Landscape report from March 2019 reported that evidence (from the European examples being examined) points towards energy efficiency beginning to impact on value, though this is a small impact and that moving forward this is likely to be of increasing importance in purchasing decisions.

3.43. In the UK, a report published in 2013 by the Department for Business, Energy and Industrial Strategy[13] looking at price difference between energy efficiency standards measured by EPC ratings concluded that when compared against the lowest EPC rating, EPC G, there was a noticeable increase in price paid the further up the efficiency rating scale. Dwellings rated at EPC F and E sold at 6% more. Dwellings rated D sold for 8% more, dwellings in band C sold for 10% more and dwellings in bands A and B sold at 14% more. Whilst this is not a direct comparison between the current building regulations and net zero homes, it is a clear demonstration of the premium that can be placed on energy efficient homes.

3.44. This is further supported by the recent introduction of green mortgages which offer a lower borrowing rate for people purchasing energy efficient homes.

3.45. All of this evidence suggests that, when applying the national industry-standard assumptions and inputs, there is adequate surplus on greenfield sites in Value Zones A and B to accommodate the cost associated with delivering net zero homes (albeit in Zone B the affordable housing requirement needs to be reduced to 20%).

3.46. However, the viability picture in Zones C and D is less clear-cut. In these areas when the national industry-standard assumptions and inputs are applied, development at all site typologies would be considered unviable. Yet with development occurring in these locations, clearly there is still profit to be made, which demonstrates that the standard inputs and assumptions do not always apply for every site and for every developer.

Summary of evidence

3.47. The climate change evidence is clear – if we do not act now, Central Lincolnshire's carbon budget will be used up by 2026/27. It is not just for the Local Plan to react to this position, but the wider functions of the Central Lincolnshire Authorities and the wider community, but the Local Plan has an important role to play.

3.48. Delivering a net zero carbon Central Lincolnshire is also not just the responsibility of developers of new homes with many other challenges needing to be addressed. However, every new home being built to a lower energy efficiency standard will increase

[13] An Investigation of the effect of EPC ratings on house prices, June 2013

the burden for retrofit. The Climate Change evidence also highlights the most efficient means of delivering net zero carbon amongst a suite of methods that can achieve the goal, all with different costs to the builder and to the future occupant.

3.49. In the WPV assessment, this recommended energy efficiency standard is shown to be viable and deliverable in almost 99% of Central Lincolnshire (when reduced affordable housing thresholds are applied in the mid value zone – Zone 2), with just Sleaford and Gainsborough in Zones C and D respectively failing to deliver when the national industry-standard inputs of a viability assessment are applied.

3.50. But with development already taking place in these areas, it is clear that these standard inputs and assumptions do not always apply. Land available at a reduced cost, lower build costs, reduced expectation of profit and higher sales values can all contribute to making sites in these areas deliverable and viable even when the £10,100 'cost' of delivering a net zero carbon home is required.

3.51. Clearly there is a fine balance to be found between ensuring that new homes are not contributing further to the climate crisis and on the other side not place unrealistic requirements in place that will harm delivery of development. But the evidence suggest that energy efficiency can be required in the vast majority of cases in Central Lincolnshire.

4. Issues and Options Consultation

4.1. In the Issues and Options Consultation in June and July 2019 Proposal 20 related to climate change and energy performance standards:

PROPOSAL 20 – Energy Performance Standards

Your views are being sought on whether the new Local Plan should require (rather than just encourage) higher energy performance standards for housing and/or non-residential development in accordance with the Planning Practice Guidance.

4.2. This was followed up with three questions, two of which directly link into policy S6:

> ***Q.20a – Energy Performance Standards in Residential Development***
> *Do you think that the new Local Plan should require higher energy performance standards than are required by the building regulations for residential development, up to Level 4 of the Code for Sustainable Homes?*

4.3. 83% of respondents to question 20a stated that they thought the local plan should require higher energy standards than required by building regulations. This was also accompanied by a number of detailed comments summarised as:

- We should be taking the opportunity to be a leading county with regards to this;
- Make solar a normal requirement;
- Not until profitability of housing construction permits, will impact on deliverability and affordability. Viability should be taken into account;
- Such a requirement will assist in combating fuel poverty;
- It is essential that development should be completed to the highest, least damaging to the climate, environmental standard;

- It is unnecessary to duplicate building regulations within the planning process and would generate unwelcome complexity and confusion;
- Much higher building standards are required to minimise energy usage;
- Code for Sustainable Homes is an outdated scheme – perhaps use 'well being standard' or BRE standard;
- Complete ban on fossil fuels and high carbon products such as concrete is critical;
- Code for Sustainable Homes Level 4 should be applied in all cases;
- All new development with off-street parking provided should include electric charging points;
- This is essential and must be tightly monitored by the LPA;
- It is better to build new homes in accordance with current building regulations, rather than eco-friendly dwellings, which are very costly to build. More new homes would then be built;
- Should aim for Passivhaus standard;
- Question is too specialist in nature;
- Should be mandatory;
- We need to act now to improve the quality of housing stock;
- Energy efficiency should be weighted towards the maximum possible achievements;
- Council's should not be setting different targets or policies outside of the current NPPF and building regulations system;
- We should be encouraging/ requiring developers to use other methods of providing heat than gas/oil. There are enough existing properties that will require retrofitting, that we should not be allowing developers to build properties, that although meet current regulations, would then need retrofitting in the future;
- Should be an emphasis on a 'fabric first' approach in which improved fabric specification increases thermal efficiency and consequently reduces heating and therefore electricity usage;
- The costs of this will decrease as it becomes universal and not specialist;
- There may be concerns in relation to the conversion of existing buildings (Historic England);
- Linking any requirement to a specific measure could become quickly outdated, if new measures be introduced by Central Government or advances in technology;
- The housing market in Central Lincolnshire is not strong enough to warrant such policies to require, rather than encourage. Any such requirement will act as a deterrent and make Central Lincolnshire significantly less attractive a location to develop. However, increased weight could be given to the inclusion of such enhanced dwellings rather than it being a requirement;
- Policy should include the implementation of green infrastructure to counteract increased temperatures;
- Current and future impacts of climate change should be taken into account when deciding on locations for development.

4.4. Clearly this shows a lot of support for helping ensure that homes being built are more efficient, but the comments also identified concerns for such an approach, particularly in relation to the cost of such a policy and the impacts this would have on deliverability.

Q.20c – Viability Implications of Higher Energy Performance Standards
If you think the Plan should do either of the above, do you have any evidence to demonstrate that requiring higher energy performance standards would or would not be viable? If so please provide this evidence. Alternatively, do you have any

suggestions whereby other developer contributions might appropriately be reduced, in order to ensure development remains viable?

4.5. This question provided an opportunity for respondents to provide evidence to underpin their support or objection to a policy seeking higher energy performance standards. 23 responses were received to this question and these can be summarised as follows:

- Not always about new properties – relates massively to existing housing stock too;
- Look into the 'Sullivan Report' used by the Scottish;
- Encourage house builders to install underfloor heating run on solar. Prices of house could reflect this, with proof of efficiency, domestic solar cost is falling and an additional £3 – 5000 on a house of £200,000 is acceptable;
- Benefits of lower running costs should be included and built-to-rent not disadvantaged;
- Include various options including: solar power, micro-generation, solar panels with heat exchange for water, Air source heat pumps (for rural building sites),
- Expert advice should be sought;
- How do you measure viability when the climate is breaking down?
- The profit made by big house builder shows there is room within margins to accommodate greater energy performance standards. Market leaders in this area should be consulted to understand how greater performance doesn't require viability to be sacrificed;
- Other countries are showing that sustainable development can be not only viable, but actually cheaper to build;
- Long term benefits should be considered;
- Developer viability is a balance of numerous items;
- CSHL4 and ND EPC rating A is readily achieved at minimal life-cycle cost increase (i.e. initial costs may be higher, but running costs are lower);
- Concern over viability cannot be the criterion for the imposition of higher sustainability standards;
- Could higher energy performance standards be recognised in the Community Infrastructure Levy payment?
- Consult the Carbon Trust;
- Improved energy efficiency has to become the 'norm';
- Cutting carbon emissions has to be enforceable, however, this should not allow developers to cut their other contributions;
- Examples of manufacturing plants incorporating renewable energy technology include Coca-Cola at Wakefield;
- For non-residential development please note the substantive technical documentation that will be required with any planning application;
- Some developers have been building extremely energy efficient homes for a considerable time, and have managed to remain competitive;
- The introduction of higher energy performance standards could harm the ability to deliver viable economic growth. Such standards will remove the flexible approach in delivering sites to meet market conditions and potentially stifle inward investment within the District;
- The recognition of the effect on viability on deliverability of schemes is welcomed. Any revised policy should recognise such standards are subject to viability;
- It is important to understand and test the influence of all inputs on viability, through a whole plan viability assessment. The Local Plan should set out the contributions expected from development. Such requirements should not undermine the

deliverability of the Plan. Viability testing is highly sensitive to changes in inputs, therefore the cumulative burden of infrastructure and other contributions should be set so most sites are deliverable without further viability negotiations;
- Do not know of any energy standard relating to manufacture and distribution of building components. Many also cannot be recycled and are only fit for hardcore.

4.6. These responses provided some useful sources of information used elsewhere to inform decisions on energy efficiency in building. Responses from the development industry repeated comments relating to harming viability and deliverability but no evidence was submitted to underpin these comments.

5. Proposed Approach in Draft Local Plan

5.1. The policy approach being taken forward in the Draft Local Plan in relation to energy efficiency in new homes seeks to deliver the recommendations of the climate change evidence work, specifically:

- Meeting the forthcoming Future Homes Standards buildings specification;
- No use of fossil fuel on-site;
- Generate the same amount of renewable electricity on-site to meet demand across the year; and
- A target of a space heating demand of 15-20 kWh/m²/yr and a total energy demand of 35 kWh/m²/yr.

Achievement of these will be demonstrated through the submission of an Energy Statement.

5.2. The policy also proposes some occasions where full adherence to the policy requirements may not be required. These exceptional basis clauses include where technical or other constraints to meeting the standards exist where delivery of the requirements would either be impossible to achieve or would have other unwanted impacts (such as impacts on a heritage asset, where a site is overshadowed, or where MOD operations would be impacted for example).

5.3. The policy also proposes a clause where viability would hinder the ability to deliver the full policy requirement and, in such cases, requires the Future Homes Standard to be delivered as a minimum and no fossil-fuel energy to be used on site. This is considered to be a reasonable approach taking into account viability difficulties in some areas.

5.4. This policy approach ensures that new homes being built do not add to the number of under-performing homes that will require retro-fitting if the Paris Agreement is to be met. However, it also provides flexibility for occasions where local, site-specific constraints mean that strict adherence of the policy is not achievable, and so provides alternative measures to ensure that the new homes being built still contribute to delivering a net zero carbon Central Lincolnshire.

5.5. Whilst it is clear from the Whole Plan Viability Assessment that viability is challenging in some areas, in much of Central Lincolnshire there is adequate capacity for energy efficiency standards to be required as well as other policy requirements when using industry standard inputs and calculations of viability.

5.6. This policy seeks to maximise opportunities to deliver net zero carbon homes without unduly restricting delivery on sites across Central Lincolnshire, by allowing reasonable clauses to reduce the requirement in the few areas where location (Value zones C and D only) and site-specific constraints to development present exceptional conditions, and require such a reduction in the requirement.

5.7. It is hoped that the industry in particular will review this policy in depth and provide detailed feedback into its likely impacts. As with all policies, it will be reviewed following the Regulation 18 consultation against feedback received before the plan is finalised.

6. Reasonable Alternative Options

6.1. Two alternative options to the proposed policy were considered.

6.2. The first of these was a policy which sets optional energy standards. This option is largely as presented in the existing local plan, although additional detail of the standards being promoted could also be included.

6.3. This option was rejected as it is highly unlikely that most new homes would be built to net zero carbon standards and therefore would not deliver the benefits needed to help ensure Central Lincolnshire is carbon neutral. Such failure would also add to the challenge of achieving net zero at a national level.

6.4. The second alternative option considered was to have no policy relating to energy efficiency in new homes and instead to rely on national policy and building regulations. Building regulations are moving towards requiring homes that are net zero with greater efficiency being required in recent updates and so it is likely that in due course such standards will become mandatory for developers.

6.5. However, the evidence on climate change clearly indicates that action is needed now to reduce the number of homes that will contribute to emissions and so waiting for national standards would not address this. Furthermore, Government has made clear in the PPG that Local Planning Authorities are well placed to deliver on climate change and so taking a local stand is supported by the Government.

6.6. Whilst both of these alternative options would assist with viability, the Whole Plan Viability Evidence has demonstrated that in large parts of Central Lincolnshire these standards can be achieved using the standard methodology and inputs for testing viability and in other lower value areas, achievable lower build costs, land purchase prices, higher sales values or potentially external funding can help ensure that development is not rendered undeliverable through viability challenges.

7. Conclusion

7.1. This Evidence Report demonstrates the rationale for the proposed policy as contained in the Draft Central Lincolnshire Local Plan January 2021. This report will be updated following responses received during the Regulation 18 consultation prior to finalising the Local Plan for submission. This helps bring together relevant evidence that has informed this policy and how we have responded to comments received during the plan making

process, as well as how the latest evidence and national guidance has been taken into account.