

Scrutiny Report - Climate Emergency Review Group Report for Cabinet Wednesday 11 March 2020

7. Scrutiny Committee Reports (Pages 3 - 66)

Please note: It has been agreed by Cabinet and Scrutiny that a Cabinet response to this report will not be sought until the new Council Year given the breadth and significance of this report's recommendations.

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To: Cabinet
Date: 11 March 2020
Report of: Scrutiny Committee
Title of Report: Report of the Climate Emergency Review Group

Summary and recommendations	
Purpose of report:	To present the recommendations of the Scrutiny Committee's Climate Emergency Review Group
Key decision:	No
Scrutiny Lead Members:	Councillor Andrew Gant, Chair of the Scrutiny Committee Councillor Richard Howlett, Chair of the Climate Emergency Review Group
Cabinet Member:	Councillor Tom Hayes, Cabinet Member for Zero Carbon Oxford (Cabinet lead)
Corporate Priority:	Clean and Green Oxford
Policy Framework:	Corporate Plan 2016 – 20
Recommendation: That the Cabinet:	
1) notes the report, and 2) agrees to respond to the 56 recommendations in the report of the Climate Emergency Review Group at its 10 th June 2020 meeting	

Appendices
Appendix 1: Report of the Climate Emergency Review Group
Appendix 2: Consolidated recommendations of the Climate Emergency Review Group

1. The Scrutiny Committee established the Climate Emergency Review Group in October 2019. The report of the Climate Emergency Review Group was presented to the Scrutiny Committee at a meeting on 03 March 2019 for its agreement to submit the report to the Cabinet.
2. Before discussing the report the Scrutiny Committee heard contributions from the Chair of the Review Group, Councillor Richard Howlett.

3. Councillor Howlett thanked the Review Group members for their work, underlined the importance of the topic, and noted the contributions of external contributors to the Review Group. Councillor Howlett highlighted two particular elements of learning as being fundamental to the conclusions of the Review Group. Firstly, following a visit to Southmoor, seeing a developer being able develop net zero properties at a marginally lower price than houses being built simply to Building Regulation standards. Secondly, the idea of a 'comfort payment' used by Nottingham City Homes in its Energiesprong pilot to funnel wasteful payments to heat inefficient homes into improving energy efficiency of those homes instead.
4. The Committee discussed the report at length. The full record of the discussion can be found in the draft minutes of that meeting.
5. Particular praise was identified by the Committee for the degree of commitment, innovation and ingenuity shown by the Council in its response to the Climate Emergency, evidenced through both its Executive and Scrutiny functions. This was important due to the less ambitious position adopted by central government.
6. The Committee agreed a proposal to endorse the report with minor amendments for submission to Cabinet on 11 March 2020.
7. The report contains 56 recommendations. This represents a very broad set of recommendations, touching on almost every Cabinet portfolio. Within the set of recommendations made there are some significant ones. Due to the breadth and importance of the recommendations it has been suggested by Cabinet members and supported by the Scrutiny Committee that Cabinet not rush to make a response, but take sufficient time to give the recommendations due consideration. Consequently, the Cabinet is asked to note the report and to agree to make a response to its recommendations at its 10 June 2020 meeting.
8. The implementation of any agreed recommendations will be monitored by the Scrutiny Committee in the normal way, with a six and twelve month update report on progress.

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Responding to the Climate Emergency: A Focus on Buildings

Report of the Climate Emergency Review Group
Commissioned by Oxford City Council's Scrutiny Committee

March 2020

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Foreword by the Chair



The risk climate change poses to life as we know it has been clear to the scientific community for decades. However, following the publication of the IPCC report in 2018 there has been a palpable increase in public concern. An estimated 10,000 people joined the Climate Strikes in this city alone. As councillors we should be proud to represent a place where people are prepared to take action on an issue so crucial to our shared future.

In 2008, the Government set an ambitious target to reduce carbon emissions by 80%. This was strengthened further in 2019 when a target of net zero emissions by 2050 was adopted. The science suggests that even more urgent action is necessary.

Although national government, and historically the EU, is the primary driver of regulations concerning building design and energy efficiency, we recognise that local government has an important role to play.

Recognising this, in January 2019 this Council passed a motion to declare a Climate Emergency and initiated the setting up of the UK's first Citizens' Assembly on Climate Change. The assembly saw a demographically representative group of residents hear evidence from leading climate experts on the consequences and trade-offs involved in different future scenarios. Once informed of the facts, the majority of these residents supported the Council going further and faster than national government's 2050 zero carbon target. The Council's initial response to the Assembly's report has now been published.¹

This cross-party Review Group was set up by the Council's Scrutiny Committee in recognition of the urgency and importance of tackling this issue and the need to challenge and independently scrutinise the wider work of the Council. The Review has focused mainly on the leading cause of emissions in Oxford, buildings, and has made 56 recommendations to the Cabinet on ways to respond to the challenge of reducing emissions from the buildings in our City and addressing the wider Climate Emergency.

I would like to thank the members of the Review Group Councillors Nadine Bely-Summers, Mike Gotch, Tom Landell Mills, Craig Simmons and John Tanner, all Council officers who supported the Review Group and, on behalf of the Group, those from outside the Council who freely gave up their time to speak to us. A particular highlight for me was our visit to a zero-carbon development being built by Greencore construction in Southmoor near Abingdon. This beautifully designed site contained social housing mixed with privately owned homes built to Passivhaus standards. Fundamentally, the company have been able to build these homes at a lower cost than traditional houses using off-site prefabrication. The technology is moving apace in the right direction – public demand for action is rising - our task is to use what levers we have to support this potential. I commend this report's recommendations to Cabinet.

Councillor Richard Howlett, Chair of the Climate Emergency Review Group

¹ The report is available online at <http://mycouncil.oxford.gov.uk/documents/s52089/Cabinet%20Report%20-%20Citizen%20Assembly%20Report%20-%20Dec%20Cab%20-%20121219%20v17%20CLEAN.pdf>

Chapter 1: Introduction

1. In light of the Council's declaration of a Climate Emergency in January 2019 Oxford City Council's Scrutiny Committee established the Climate Emergency Review Group to review the avenues by which the Council might reduce carbon emissions from the biggest single culprit in the city: buildings. The Group has gathered a wide range of evidence and engaged with numerous stakeholders to explore ideas on key issues concerning reducing the carbon impact of buildings.
2. This report is intended to provide a considered and independent opinion on what the Council and its partners could do to improve its response to the Climate Emergency in the City. The report sets out the work undertaken by the Review Group, together with their conclusions and recommendations to the Council's main decision-making body, the Cabinet. Each recommendation is supported by a narrative based on the discussions of the Review Group at each of its meetings.
3. The Climate Emergency Review Group has a cross-party membership comprising the following City Councillors:
 - Councillor Richard Howlett (Chair)
 - Councillor Craig Simmons (vice-Chair)
 - Councillor Nadine Bely-Summers
 - Councillor Mike Gotch
 - Councillor Tom Landell Mills
 - Councillor John Tanner
4. This report will be presented to the Council's Scrutiny Committee for endorsement on 03 March, and subsequently to the Cabinet. Due to the breadth and importance of the issues touched on by the review it is not anticipated that there will be an immediate response from Cabinet in March. With whole-Council elections taking place in May 2020, and the purdah period running from late March, no Cabinet response is anticipated until after the elections are completed.
5. The Review Group would like to place on record its thanks to all of the people who contributed to the review, which has enabled the recommendations in the report to be made. The City is fortunate to have a wealth and diversity of people, businesses and voluntary organisations that have both the passion and expertise to shape local decision-making in a positive way. Particular thanks go to Tim Sadler for his role in supporting the Review Group throughout its work and to Ian Pritchett for organising a visit to Greencore Construction's Springfield Meadow development in Southmoor, as well as our Scrutiny Officer, Tom Hudson.

Chapter 2: Methodology

6. The Review Group's work involved a total of 7 meetings which were held between November 2019 and February 2020.
7. Whilst the topic of interest to the Review Group was 'the Climate Emergency' it was recognised that this was far too broad a scope to be meaningfully considered within the time constraints of the Review Group. As such, it was decided that the Review Group would limit its response to buildings, as the biggest single cause of carbon emissions in Oxford,² and an area with which the Council has multiple involvements with through its house-building, landlord function and the planning system.
8. In addition to the wider issue of buildings and carbon reduction, the Review Group devoted one meeting to exploring other key themes relating to the Climate Emergency, trying where possible to look at them from their intersection with the built environment.
9. In its explorations of the topic, the feedback from the Oxford Citizens' Assembly on Climate Change, held in autumn 2019, was that when fully informed of the consequences and trade-offs involved members of the public supported the retrofitting of 48,000 properties and limits being placed on new builds to require them to be Passivhaus or another equivalent ultra-high energy-efficiency standard.
10. Key themes and questions the Review Group sought to explore included:
 - Understanding the Council's current ambitions for retrofitting its Council properties
 - Considering the particular issues relating to retrofitting
 - Looking at the Council's planning and regulatory frameworks to see if there are ways to improve building efficiency within the City
 - Considering options for the specifications of the Council's own housing development, and looking at how it approaches non-housing development in regard to energy efficiency
 - How can the Council reduce the emissions from staff transport?
 - What can the Council do to protect and improve biodiversity in the City?
11. The Review Group's findings and recommendations have been informed by evidence provided by 27 external guests, lead Councillors and Council officers, as well as a number of written internal and external reports. Contributors to the review included:
 - Councillor Tom Hayes, OCC Cabinet Member for Zero Carbon Oxford
 - Councillor Alex Hollingsworth, OCC Cabinet Member for Planning and Sustainable Transport
 - Councillor Mike Rowley, OCC Cabinet Member for Affordable Housing
 - Tom Bridgman, Director of Development
 - Andrew Broughton, Senior Building Control Inspector
 - Steven Clarke, OCC Head of Housing Services

² 81% - Climate Emergency Strategy Support report Sept 2019 p.6

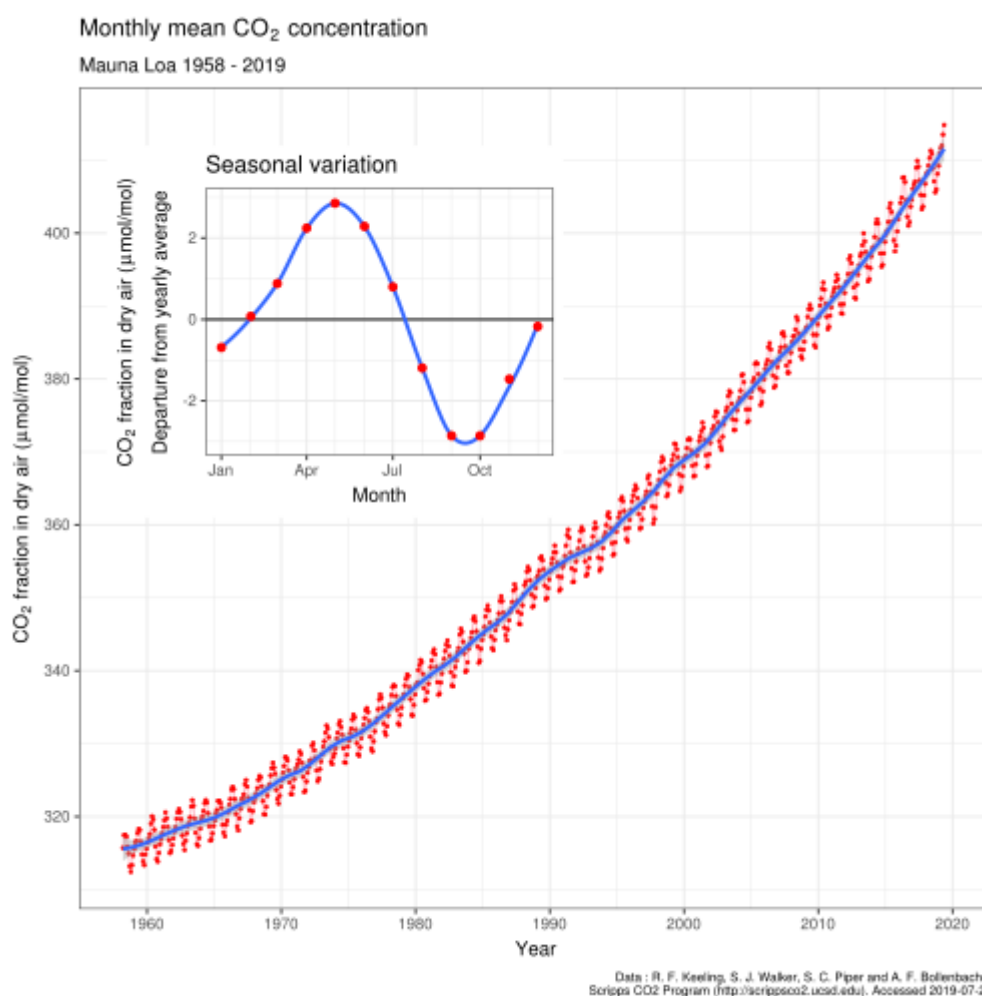
- Steven Clews, Regeneration Manager
 - Gavin Cumberland, Interim Development Manager
 - Amanda Ford, Planning Policy (Team Leader)
 - Deborah Haynes, Energy Efficiency Projects Officer
 - Mai Jarvis, OCC Environmental Quality Team Manager
 - Tim Sadler, OCC Executive Director Sustainable City
 - Ian Wright, Head of Regulatory Services and Community Safety
 - Alan Wylde, Housing Development and Enabling Manager
-
- Chris Church, Oxfordshire Friends of the Earth
 - Joelle Darby, Architect, Original Field of Architecture
 - Andrew Dawson, Director, Original Field of Architecture
 - Andy Edwards, Environmental Design and Community Energy, Transition by Design
 - Councillor David Grant, Vale of the White Horse District Council
 - Susan Halliwell, Director for Planning and Place, Oxfordshire County Council
 - David Hancock, Construction Director, Infrastructure and Projects Office
 - Tom Heel, Business Development Director, Oxfordshire Low Carbon Hub
 - Al Morris, Old Marston Parish Council
 - Ian Pritchett, Managing Director, Greencore Construction
 - Councillor Judy Roberts, Vale of the White Horse District Council
 - Councillor Sue Roberts, South Oxfordshire District Council
 - Oliver Smith, Director, 5th Studio
 - Alex Towler, Passivhaus Specialist, Transition by Design
 - Harriet Waters, Head of Sustainability, Oxford University
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- Oxfordshire Mammal Group
 - Nottingham City Homes
 - Cambridge City Council
 - RSPB, East Midlands

12. Councillors from all neighbouring District Councils were invited to attend.

Chapter 3: Background

Climate Emergency: International Context

13. The first person to use the term “greenhouse gases” was a Swedish scientist named Svante Arrhenius in 1896. In a paper published that year, he made an early calculation of how much warmer the Earth was thanks to the energy-trapping nature of some of the gases in the atmosphere. Even at this early stage, he understood that humans had the potential to play a significant role in changing the concentration of at least one of those gases, carbon dioxide, which results from the direct and indirect burning of fossil fuels to generate electricity, provide heat and motive power.
14. While Arrhenius’ prediction of warming received great public interest, this typically waned over time. The issue did not receive much further until the 1950’s when the measurement of atmospheric carbon dioxide emissions became more commonplace.
15. The longest continuous monitoring of carbon dioxide emissions in the Earth’s atmosphere was started by Charles Keeling in 1958 at the high altitude Mauna Loa observatory in Hawaii and continues to this day. His ‘Keeling Curve’, which shows steadily accumulating atmospheric greenhouse gas emissions, is the basis for most present-day climate science.

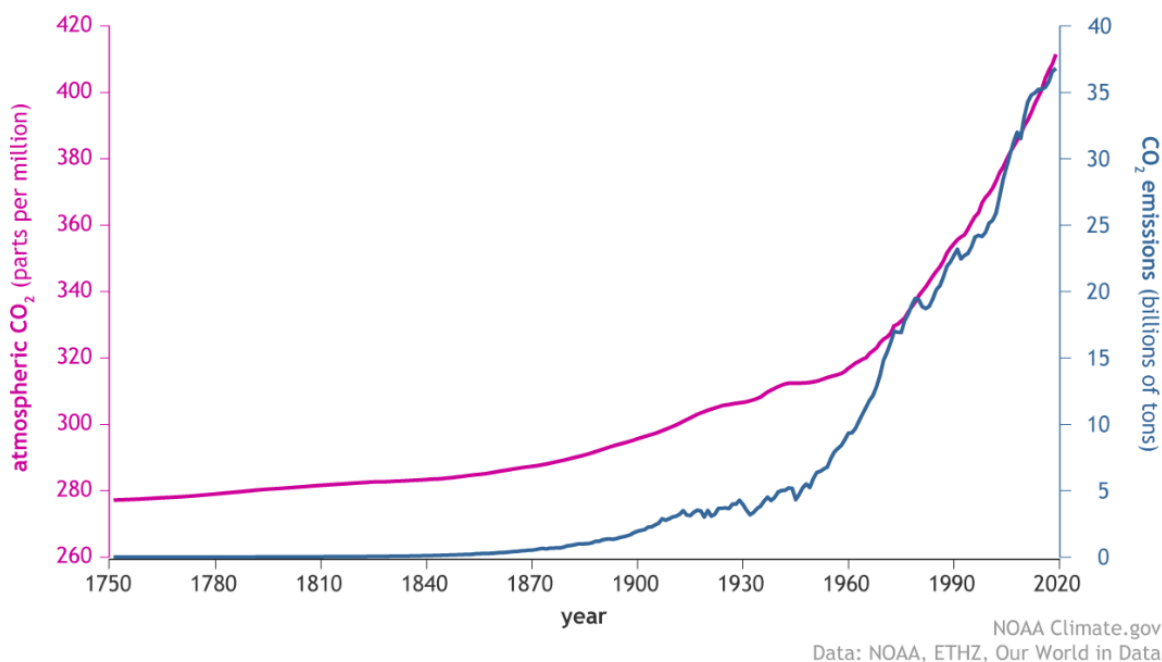


It is important to recognise that carbon dioxide is not the only greenhouse gas but it is the most abundant and therefore the focus of this report. Other greenhouse gases, though

not as abundant or as evident in the built environment, are more potent in terms of their contribution to climate change and should therefore be given due consideration.

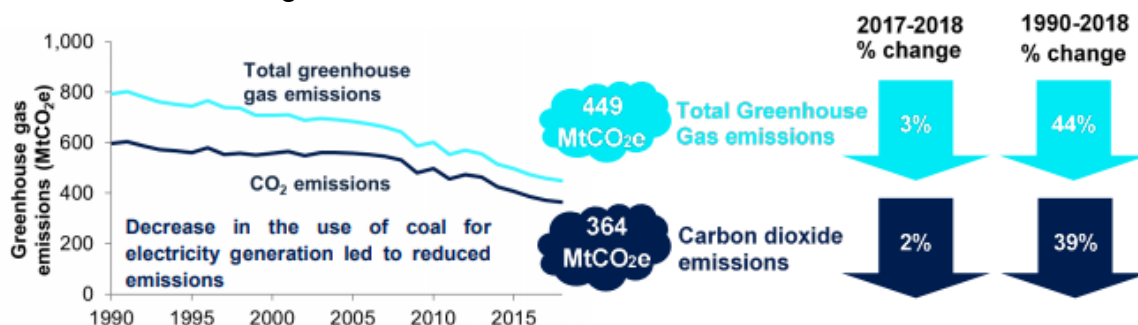
16. Despite the growth in concern and increased research over climate change, the concentration of CO₂ in the atmosphere (and attendant greenhouse effect) has continued to grow. The graph below illustrates the sharp rate of growth in both emissions and concentration levels of CO₂ since the 1960s.

CO₂ in the atmosphere and annual emissions (1750-2019)



17. In 2018 the Intergovernmental Panel on Climate Change (IPCC) issued a [report](#) underlining the catastrophic consequences the world faces if by 2030 it is unable to prevent global temperatures increasing by no more than 1.5 degrees Celsius on pre-industrial levels. These consequences included extreme temperatures becoming more common, significant loss of sea ice and rising sea levels, widespread species and ecosystem loss and poorer crop yields.
18. The report also shared its understanding of what would be required to achieve capping global warming to 1.5 degrees: global emissions would need to be approximately halved by 2030, requiring an unprecedented decarbonisation agenda to avert the disastrous consequences of exceeding the reduced-impact limit.
19. Within the picture of increasing greenhouse gas emissions worldwide, the UK has bucked the trend having reduced its carbon emissions by 39% since 1990, largely by reducing its dependence on the use of coal and gas to generate electricity and instead promoting energy efficiency and renewable energy sources.

Table: Greenhouse gas emission reductions 1990 - 2018



20. Although other countries have also achieved significant reductions in greenhouse gas emissions – for example Germany and Norway – it is fair to say that the wider international political response has been slow.
21. Public interest has been re-ignited with the formation of campaigning organisations such as Extinction Rebellion and youth activists such as Greta Thunberg whose youth strikes have inspired children and adults alike across 185 countries to protest at Government inaction.

Climate Emergency: National Context

22. In the UK, central government agreed, in 2019, a tightening of its climate change laws. Having previously undertaken to reduce greenhouse gas emissions by 80% from 1990 levels by 2050, an amendment to the Climate Change Act 2008 has been made to set the UK the legal target of being net zero carbon by 2050.
23. Though clearly a positive (and indeed world-leading) response, the 2050 target has been questioned by many as being insufficient to meet the 1.5 degree challenge. Craig Bennett, Chair of the UK Friends of the Earth described it as “still too slow to address catastrophic climate change.”
24. Faced with popular concern, and frustration over the slow pace of change, local authorities have taken to declaring a Climate Emergency, with Bristol being the first Council in the UK to do so in November 2018. As of February 2020, 287/408 (65%) of District, County, Unitary & Metropolitan Councils have declared a Climate Emergency. Such declarations have tended to be accompanied by targets for the Councils and/or their geographical areas to become net zero at a faster pace than under central government's plans.

Climate Emergency: Local Context

25. Oxford City Council was an early Council to declare a Climate Emergency. A motion tabled in November 2018 was unanimously passed by Council motion in January 2019. As part of its motion, agreement was given to hold a Citizens' Assembly to ascertain local views on the Council's response to Climate Change. Specifically, its purpose was to

answer the question “The UK has legislation to reach net zero by 2050. Should Oxford be more proactive and seek to reach net zero sooner than 2050?”

26. Oxford City Council’s Citizens’ Assembly on Climate Change, the first Council-run Citizens’ Assembly on Climate Change in the UK, was delivered by Ipsos MORI over two weekends in September and October 2019. Forty-one local residents, selected on the basis of their demographic representativeness of the city were invited to listen to presentations by leading experts on climate change generally, but also on four particular areas: Waste Management, Sustainable Transport, Buildings and Biodiversity and Offsetting.
27. Under each area Assembly members were given briefings on a number of different possible scenarios, and the consequences and trade-offs involved in each. The full [Ipsos MORI report](#) is available online, but below are a number of the headline messages that came out:
- The majority of Assembly Members (37 out of 41) felt that Oxford should aim to achieve ‘net zero’ sooner than 2050.
 - There was widespread belief that Oxford should be a leader in tackling the climate crisis.
 - Assembly Members found a great deal of encouragement in the examples of what is already being done across Oxford to address climate change and meet the goal of becoming ‘net zero’.
 - Enhanced biodiversity was central to the overall ‘net zero’ vision of Oxford with increased flora and fauna in the city, along with more cycling, walking, and public transport, and far fewer cars.
 - The buildings sector should adopt improved building standards, widespread retrofitting, and more domestic and non-domestic energy needs being met by sustainable sources.
28. A report commissioned to inform the Citizens’ assembly and the wider climate change strategy of the Council highlighted the predominance of building-related emissions within the administrative area covered by Oxford City Council.³ Around 80% of emissions were estimated to arise from buildings and the activities within them. For this reason, and faced with the enormity of the challenge, the Review Group chose to focus on buildings and the built environment.

³https://www.oxford.gov.uk/download/downloads/id/6660/climate_emergency_strategy_support_report_2019.pdf

Chapter 4: Findings and Recommendations

Part 1: The City Council as Landlord

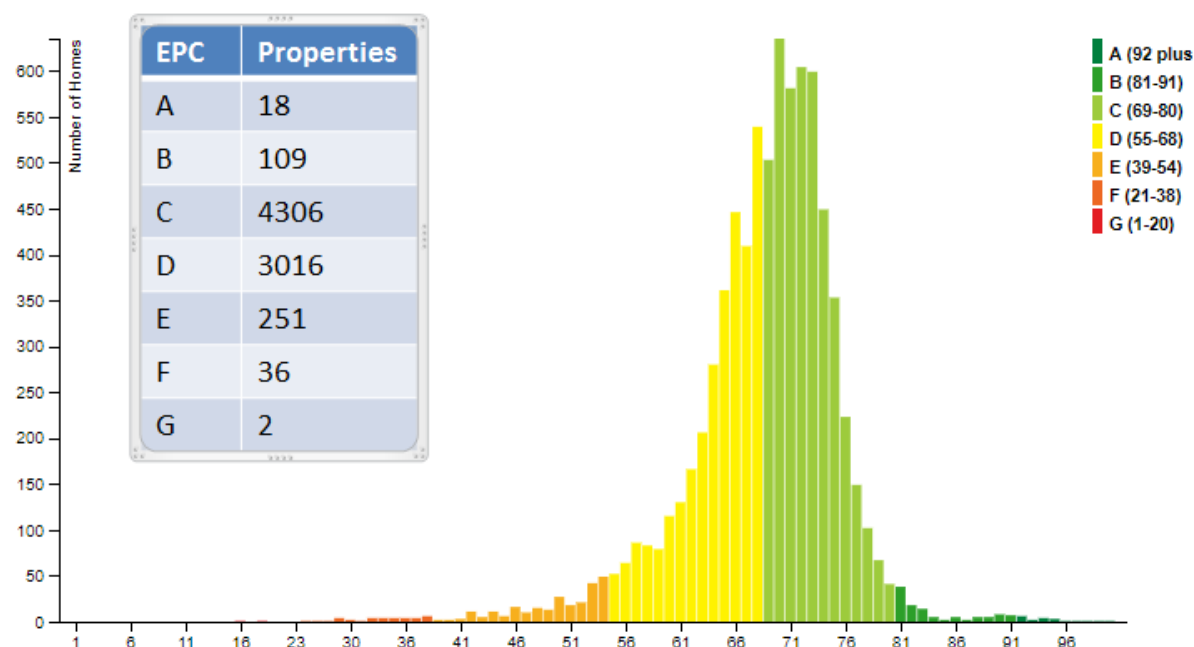
Background

29. The Council is a highly significant landlord in Oxford. Not only does it own and lease out 7740 houses within the City, it also has a commercial property portfolio consisting of a further 246 properties, as well as leasing a number of other types of property including community and sports buildings, offices and garages. The volume and breadth of properties over which the Council has the ability to have a direct impact within the City is high.
30. Owing to the size of the Council's property holdings the Review Group invited in internal and external guests to advise it on how it might approach making significant carbon reductions to its holdings.
31. Internally, Steven Clarke, Head of Housing, and Tom Bridgman, Director of Development, Gavin Cumberland, Interim Development Manager, and Stephen Clews, Regeneration Manager were invited to address the Review Group in private session. Externally, Alex Towler of Transition by Design, Tom Heel of the Low Carbon Hub and Cosy Homes, and Ian Pritchett of Greencore Construction all contributed towards discussions on the possibilities for retrofitting older properties to zero carbon standards.
32. The Head of Housing, made a presentation to the Review Group on retrofitting and the Council's housing stock.
33. An important issue to understand was the diversity of homes owned by the Council, from solid wall constructions to cavity walls and non-traditional builds, individual family homes to blocks of flats with mixed tenure. Due to this variety, the responses required also could not simply fit one pattern but had to be specific to the property they were in.
34. Since 2015 the Council has undertaken large-scale fabric insulation, including both external walls and cavity walls. In addition, it has put in 176 solar panels on houses and undertaken a home battery trial in Rose Hill. The Council's current work is currently focused on loft insulation, and glazing and heating upgrades. Due to concerns over fuel poverty, the Council's position is to replace gas boilers with more efficient ones, but as a unit of heat costs three times as much to generate by electric boilers than gas boilers they are not replaced with electric boilers.⁴
35. It was put to the Review Group also that there are a lot of properties which, constructed in the past, would never be able to be retrofitted to net zero; the only way to do so would be to knock them down and rebuild them. The number of homes for which this was the case was estimated to be between 40-50%.

⁴ NB Electrically-driven heat pumps are as cost-efficient as gas boilers, but the capital cost for retrofits is greater.

36. Despite having been working on upgrading the energy efficiency of the Council's housing stock since 2015, and having exhausted most of the easy wins, almost half (3305/7740 properties, or 42%) were still below a C-rating.

Graph: EPC rating distribution of the Council's properties



37. The Council is currently dedicating staff to work out the works required to bring all properties up to a C level, with prioritisation of work being given to the worse-performing properties and the greatest improvement in energy-reduction for the least cost.

38. The Director of Development, Interim Development Manager and Regeneration Manager gave a presentation to the Review Group on development projects, which will be referenced in Part 2 of this Chapter. However, in discussing how capital projects are assessed on energy efficiency grounds it was pointed out that not all capital projects the Council undertakes relate to new builds, and, like the Council's housing, many of the retrofit projects, such as the improvements to the Covered Market, simply could not be made to reach net zero.

Landlord Financing Models

39. Due to the challenges of making retrofit financially viable the Review Group considered in depth the example of the Energiesprong project run by Nottingham City Homes. The details of this project are included in Appendix 1. Based on its consideration of this project, it is the view of the Review Group that there exists strong evidence that current spending on energy by tenants can be directed towards investment in energy-efficient housing instead, at no detriment to tenants. Indeed, it is important to note that the Nottingham example suggests that the majority of tenants enjoyed a reduction in their bills even after the 'comfort plan' payment was included.

40. The Review Group is unconvinced that the cost of building homes to zero carbon standards is more expensive than traditional building. However, if there are concerns

over a potential zero carbon premium, the Nottingham City Homes example provides a model as to how that premium may be addressed. It is the strong recommendation of the Review Group that the Council commits to this approach and considers the possibility to build to higher energy-efficiency specifications in light of this income source.

1. That the Council accepts the principle that it is possible, at no detriment to tenants, to use current tenants' spending on heating, for investment in energy-efficient housing instead. Furthermore, that it revisits the specifications for its proposed housing developments to include income from a 'comfort plan' akin to that charged by Nottingham City Housing for Council tenants in ultra-high efficiency homes.

39. The following idea (recommendation 2 – including energy bills within affordable rent homes) was not implemented in Nottingham, perhaps because of the challenges and complexities of interactions with the benefits system for socially rented properties. Providing affordable-rented zero carbon housing (80% of market rent, rather than social rent levels) with energy costs included was one suggested to the Review Group and one with which it has considerable sympathy.
40. Although electric-only houses are expected to become zero carbon by 2050 through the decarbonisation of the national grid, by including energy bills within the rent the Council would be at liberty to purchase from renewable-only sources immediately, bringing forward those carbon savings.
41. A criticism levelled at this idea is that it encourages energy-inefficient living, but the experience demonstrated by Nottingham City Homes, albeit with a small sample size, is that the majority of people respond to energy-efficient surroundings by adopting a lifestyle to match. Clearly, there is a residual risk of excessive usage but there are possible ways to mitigate this, one idea being a generous cap after which the tenant becomes liable for the energy costs, thereby dissuading the most egregious excesses.
42. A further issue to note from the energy usage of Nottingham City Homes is that overall energy consumption was below what was anticipated; a situation where energy costs are below budgeted levels would mean a beneficial financial situation for the Council.
- 2. That for its new-build affordable rent housing (as opposed to social rent) the Council includes energy bills within its rent.**

Retrofitting Council Properties

43. With over 3000 properties requiring retrofitting to achieve the Council's ambition of ensuring all its homes are EPC rated C or above, there is clearly a lot of work that needs to be done. Whilst the point is noted that there does exist significant variability in the types of properties requiring retrofitting, the size of the pool means that there is an opportunity for Oxford Direct Services to become skilled at a number of regularly recurring issues. However, in order for it to be able to deliver a retrofitting service at the scale required, it must ensure that it suitably resourced in terms of skills, equipment and expertise. It is also recognised that there may be particular properties which are of unusual construction where it may not be viable to invest in developing Oxford Direct Services to provide because of their rarity. In order to ensure that the Council retains a

degree of control over any such work it is advised that this is, where possible, sourced from within the Oxford Direct Services supply chain.

44. The volume and expertise expected to be developed by Oxford Direct Services is also a commercial opportunity, particularly in light of the Cosy Homes initiative, which seeks to bring together those wanting retrofits with those able to supply it. The Council's companies, with access to the specialist advice within the Council, are well placed to capitalise on these opportunities. It is the view of the Review Group that the Council should be continually mindful to look to build on its companies' areas of competitive advantage in the commercial sphere.

3. That the Council:

- a. invests in Oxford Direct Services to ensure that it has the skills, equipment and expertise to deliver the required retrofit services. These must be suited to the variety of retrofits it will encounter in retrofitting the Council's own housing stock by 2030. Even where there is not necessarily a business case to do so, that the Council work to develop within its own supply-chain the capacity to deliver those services**
- b. regularly market tests the level and type of demand for retrofitting to lead investment decisions in Oxford Direct Services. Particularly attention should be given in those areas where its relationship with the expertise within the Council may give it a competitive advantage, such as heritage conservation.**

Council Housing Stock

45. Assurances were given by both Councillor Mike Rowley, Cabinet Member for Affordable Housing, and the Head of Housing Services that it was the Council's intention to approach retrofitting of its own stock in such a way as to deliver the greatest carbon reduction in the shortest amount of time in the most cost-effective way, prioritising those in the worst-performing properties as these are the people most likely to suffer negative health or financial impacts from poor insulation. This is an approach with which the Review Group wholly agrees, though it should be recognised that consideration should be given to both operational carbon usage (arising from ongoing consumption level) and the embodied carbon (the amount of carbon incurred through the original building, which would be incompletely used if discarded). Sometimes the two are in tension, particularly for higher performing properties, so an overall greatest carbon reduction may not necessarily mean the greatest possible reduction in operational carbon usage. Further, considerations around biodiversity and danger to building fabric should also be considered.

46. Discussion took place over how such measures might be delivered, and it was felt important to raise the issue of tenant convenience also. In order to reduce the inconvenience of works being undertaken, it was suggested that standard packages of work which can be paired easily with one another – retrofitting and non-retrofitting – should be identified and carried out so that as much retrofitting as possible is undertaken at times when tenants would have been inconvenienced anyway.

- 4. That the Council approaches the retrofitting of Council-owned properties with a view to securing the greatest overall carbon reduction in the shortest amount of time in the most cost-effective way, and that as part of this it develops a set of standard packages of work that can be undertaken simultaneously to ensure**

energy efficiency measures are also delivered at least inconvenience to the tenant.

47. Feedback given to the Review Group from internal and external guests confirmed that the cost of retrofitting buildings to high energy-efficiency standards is extremely expensive in comparison to delivering those same standards at the point of initial build. Indeed, Tom Heel of Cosy Homes and Alex Towler of Transition by Design offered the opinion that many retrofits are unviable on an economic basis of savings made per capital outlay, and that many of those doing so in the private sector are motivated by wider environmental concerns - wanting to reduce the carbon impact of their homes – rather than simply naturally following financial incentives. On a similar theme, it is also not always possible to bring retrofitted properties up to the standard of a new build property.
48. This situation is reflected in the Council's own stock where, as above, it is estimated that 50% of the Council's housing cannot be retrofitted to zero carbon standards. Others could be retrofitted, but there remains the question of whether it would be financially viable to do so.
49. It was a shared recognition by Review Group members and Council officers that there are parts of the Council's housing stock which are built at significantly lower densities than would be delivered under a present development. Notwithstanding the challenges posed by 'pepper-potting' (the sale under Right to Buy of Council homes, thereby making multi-plot redevelopments more complex), there exists the opportunity to demolish such houses, build at a greater density and use the sale-proceeds of the additional housing to offset the costs. Where possible, this makes good financial sense.
50. There is a further consideration, however, beyond the financial case – the embedded carbon costs of redevelopment. There may be carbon savings to be made by knocking down an energy-inefficient house and replacing it with a more efficient one. However, a lot of carbon will have been expended in producing the steel, the cement and the rest of the fabric of the house. These are 'sunk costs' in that they have already been incurred, but by demolishing a house before the end of its natural life the benefit of that carbon expenditure is not fully realised. It is possible, therefore, that the carbon costs of demolishing a building outweigh the savings made by an upgraded replacement. It is necessary, therefore, to consider this embedded carbon cost also.
51. One key question in determining the level of losses incurred by demolishing a building is the length of time for which a building would be expected to be used for. A building demolished after 20 years into an anticipated life of 100 years would have twice the embedded carbon costs of one also demolished after the same period of time but with an anticipated life of 50 years. It is recognised that this is a complex area, and further research is encouraged to identify best practice. However, the Review Group's own view is that the figure should be informed by carbon cost benefit analysis using a representative financial value for a sum of carbon.
- 5. For properties for which it is uneconomic to retrofit to zero carbon standards, that the Council reviews the business and whole-life carbon case for maximising the use of the land (for example by demolishing existing buildings and constructing zero carbon replacements at increased density).**

52. In discussing retrofitting, it is important to underline that it is not an innovation, but that actually the Council has been seeking to improve tenant quality of life, reduce carbon costs and tackle fuel poverty through efficiency-improvements for a long time. As such, it has access to some interesting insights regarding on-the-ground uptake of the Council's retrofit offers by tenants. It was a surprise to the Review Group to be informed that, for example, 25% of loft insulation offers are declined by tenants. This is largely to do with the difficulties involved in clearing lofts. The Council is looking to offer a clear-and install service to reduce this, but it is felt by the Review Group that this tenant-needs centred approach could be fruitfully applied in other areas also.
53. A further idea is that through its Tenant Involvement team and other avenues the Council already has positive interactions with its tenants. It is recognised by the Review Group that endorsement by contemporaries is one of most effective means of persuasion, a level to which Council-led endorsement is not expected to come close to. On the basis of this, it is suggested that the Council use its existing infrastructure to enable tenants who are willing and able to champion retrofitting through their own experience. Whilst there is clearly a particularly easy path for mediating between Council tenants, it is considered possible that this idea may have wider practicability also.
- 6. That the Council:**
- a) monitors and develops a strategy, including increasing the practicality to tenants of the retrofitting offer, to reduce the high refusal rate for energy-efficiency improvements in Council-owned properties, and**
 - b) identifies retrofitting champions amongst its own tenants and those in other accommodation who are willing to talk about their experiences of retrofitting to those interested in following suit.**

Non-Domestic Properties

54. Whilst many building-related measures of efficiency relate to the point at which they are completed, these are not measures that necessarily accurately reflect efficiency over time. Fabric can degenerate, reducing performance, but the issue of how a building is used is also important in identifying performance gaps. Post-occupancy evaluations seek to look at these very issues, to inform both investment decisions about repairs for the building owner, but also identifying ways in which the building user may be failing to realise the full energy efficiency potential of a building through the way in which it is used.
55. The Review Group supports the use of such evaluations to develop a better in-use understanding of the Council's current commercial property stock.
- 7. That the Council undertakes post-occupancy energy evaluations for the City Council's commercial stock.**
56. As a landlord, particularly with regards to new leases, the Council has the opportunity to identify and safeguard its particular priorities within the terms of the lease. One area which would make a significant and ongoing difference is if the Council were to require tenants to use renewable sources of energy, which would help to make the buildings being powered zero carbon. Given the very minor spread between renewable energy and the market leading prices, this is not thought to be a significant ask of tenants, and one which would have very meaningful long term paybacks.

57. It is, of course, more difficult when discussing tenancy renewals as tenants already have arrangements in place which, presumably, suit them. However, though more difficult, the small spread between renewable and non-renewable prices remains, meaning that the Review Group feels it is worth seeking in this scenario also.

8. Where possible, the Council will include within lease agreements requirements for commercial property tenants to use renewable electricity, monitor usage and make the information available to the Council to guide the Council's energy improvement decisions.

58. As referenced previously, the Council is landlord across a variety of properties. A number of these have already had steps taken to reduce their carbon impact, such as the putting of solar panels on the Council's leisure centres. Whilst laudable, should the Council wish to achieve its vision of the City being carbon neutral by 2030, it is the view of the Review Group that a systematic exercise to understand the challenges and priorities involved in realising this within its own non-domestic building stock.

9. That the Council undertakes a review of the energy efficiency of its non-domestic stock, including community and sports facilities as well as its commercial portfolio, and develops a plan on how it intends to bring these in line with the Council's goal for the City to be carbon-neutral by 2030.

Part 2: The City Council as Housebuilder and Developer

Background

59. Oxford City Council is the sole shareholder in a housing development company, Oxford City Housing Limited. Over 10 years, it seeks to deliver 1240 homes within the City, of which 50% are intended to be affordable housing and the other 50% made available for private sale. The mix of housing provision within the affordable housing is expected to be 80% social housing, and 20% intermediate rent.
60. In 2017/18 282 homes were completed in Oxford. This was, admittedly, a particularly low number and the longer term average is above 400 but delivery of an average of 142 units per year for the next decade makes the Council a significant housing developer in the City.
61. The standards to which the Council builds, therefore, will have a direct and ongoing impact on the City's emissions. Owing to this, Steven Clarke, Head of Housing, Deborah Haynes, Energy Efficiency Officer, and Alan Wylde, Housing Development and Enabling Manager, all supported the Review Group in discussions on the Council's approach. In addition, Tom Bridgman, Director of Development, Gavin Cumberland, Interim Development Manager, and Stephen Clews, Regeneration Manager also presented to the Review Group to speak about the approach of the Council for non-domestic developments.
62. Many of the same external personnel from discussions on retrofitting also attended meetings about new build.

Visit to Southmoor: Greencore Construction

63. On 24th January 2020 members of the Review Group, Cabinet members and Council officers were invited to attend a visit to Greencore Construction's Springfield Meadow development in Southmoor to see in various points of construction homes being built with zero carbon in construction, and for ongoing energy usage. A full case study relating to Greencore and its methods can be found in Appendix 2 of this report. However, the key takeaway for most present was seeing houses which were being built to zero carbon standards at prices less than a housing association could provide homes built to building regulation standards.



64. For many attending the visit to Southmoor, the information that zero carbon homes can be delivered at equivalent or less cost than building simply to Building Regulation standards transformed the nature of the discussion about house-building and the possibilities for the Council's own house-building ambitions.
65. Greencore have proven extremely open and helpful to the Council about their methods; the visit made by the Review Group was one a number of occasions Greencore had hosted members and officers. Given the ability of Greencore to deliver zero-carbon housing at a comparable price to the Council, it is the view of the Review Group that the Council should seek to accept this generosity and identify how it can replicate the same level of energy performance and low cost in its own development.
66. An ambition of Greencore is to develop as a proof of concept, not only zero carbon homes, but climate positive ones and to do so at a scale to demonstrate that such houses are commercially viable. It is hoped that by proving it can be done, more interest will be taken by the wider sector. The Review Group considers this to be worthwhile and encourages the Council to engage with it at a political level.
- 10. That the relationship between OCHL and Greencore Construction be cultivated to:**
- a) allow learning for OCHL on high-standard/low-cost green build approaches, and to develop a business case on how the Council might replicate similarly energy efficient homes at similar prices**
 - b) allow informed political support for Greencore Construction's plans for the building of 500 climate positive homes in Oxfordshire.**

Housebuilding

67. With 50% of the OCHL housing developments being built for private sale it is important to remember that in their design the Council can maintain a positive influence over their emissions even after they pass into private ownership.
68. The view of the Review Group is that such houses should be designed to Passivhaus standards (although due to the resource implications of securing Passivhaus accreditation, accreditation is not considered necessary). This means a 'fabric first' approach, addressing air-tightness and insulation, though it is better still if there are on site renewables also. If powered by electricity only, such houses would be guaranteed to become Passivhaus by 2050 through the decarbonisation of the national grid, but if powered from renewable energy sources (either retrofitted on site, or generated off site) they could both contribute to increases in renewable capacity nationally and help to reach the standard earlier.
69. Whilst the Review Group has seen evidence that zero carbon new homes are not significantly more expensive to build, it is acknowledged that the market for selling private homes is competitive and it accepts that offering on-site renewables as an option on homes built to Passivhaus standards is better than compromising on building fabric to include renewables at a competitive price.
70. To ensure that any Passivhaus aspirations are realised it is necessary that rigorous monitoring be undertaken.

11. The Review Group makes the following recommendations:

- a) That private homes built through the Council's companies are electric-only and built with a 'fabric-first' Passivhaus approach, ensuring that, if not fitted initially, on-site renewable energy can be easily retrofitted at a later date.**
 - b) Council will ensure that its wholly-owned companies develop KPIs around the rate of heat transfer through a structure (u-values) and the air-tightness of the properties they develop to Passivhaus levels and these KPIs will be reported regularly to the shareholder.**
71. One of the greatest causes of discrepancies between predicted and actual energy consumption in ultra high-efficiency homes is human behaviour. This was a point stated on multiple occasions by members of Greencore construction, who found that there were, on occasion, significant discrepancies in energy usage (and so energy cost) between houses built on the same development, using the same materials and techniques. Zero carbon homes are engineered to self-regulate temperature and humidity, but they do so on a gradual basis, slowly returning to a mean. It is not necessary, for example, to open windows after a shower; if people do so the air-tightness on which much of the energy-savings are predicated is obviated. Learning to live within zero carbon properties requires a degree of adaptation and behavioural change, which for some people can be challenging.
72. As a means of defending from criticisms that the houses built do not meet the stated standards, Greencore Construction have instituted a super-smart metering system, which can be used to break down usage and understand owner behaviour in order to highlight those areas where inhabitant behaviour may be acting contrary to the intended design of the house.

12. That the Council includes super-smart metering within the homes OCHL builds.

73. The Review Group heard from Ian Pritchett of Greencore Construction about the ability of the sector to deliver the ambition of the Citizens' Assembly regarding buildings in terms of supply-chain maturity. At present, Greencore fabricated some of their own materials, were reliant on small local start-ups for some others, and on larger established European providers for the remainder. This situation was suggested to be far from optimal; local suppliers were unable to provide at the volume that would be required for widespread zero carbon house-building, and importing materials from Europe incurred its own carbon cost. A vital step, therefore, in being able to realise the ambitions of the Citizens' Assembly would be to address this immaturity and develop the infrastructure and supply-chains around low carbon housing.
74. Two specific areas were proposed as areas in which the Council could provide support. Firstly, in order to justify the investment of expanding (for local firms) or setting up local operations (for firms based in other countries) it would be necessary to demonstrate that there was sufficient demand to underpin a return on investment. Group buying by Councils, Housing Associations and local developers would be one way to prove such demand and increase the likelihood of investment in the wider supply-chains of low carbon housing.
75. The second area suggested related to the concentration in Oxfordshire through businesses, its universities, scientific research and local authorities of expertise in sustainable housing. As a young, immature market however, it is difficult for both suppliers and customers to have a single place where they can find out the information they need. An eco business park, acting as a hub for the technologies and materials available would help to provide some response to this, whilst also underlining Oxfordshire's importance and capability in this area.
76. The Review Group endorses both suggestions and makes the following recommendations:
- 13. That the Council**
- a) partners with other significant purchasers of sustainable building materials to develop a group-buying syndicate.**
 - b) supports at OxLEP and other suitable fora the suggestion for developing an eco business park in Oxfordshire.**
77. An area of good practice highlighted to the Review Group on its visit to Greencore Construction's Southmoor site was the investment made in supporting those living in the houses being built to adopt low-carbon lifestyles once they had moved in, providing information on bus routes, raising awareness of nearby low-packaging shops and drawing attention to the amenities available in the direct vicinity of the village. The Review Group considers this to be an extremely good idea, and one where the Council is well-placed to be able to negotiate additional and greater incentives such as discounts at local food co-operatives, bike shops and bus passes.
- 14. That the Council ensures its tenants and purchasers of Council-built homes are supported as much as possible to engage in low-carbon lifestyles, such as through welcome packs providing information and potentially discounts at local food coops, bike shops and bus passes.**

78. A consistent refrain amongst external attendees was how well-placed Oxford, and the Council, is to engage in and deliver, in partnership, projects of national significance in terms of low carbon housebuilding. The Review Group welcomes the vote of confidence and is supportive of the idea in part.
79. As part of its response to the Climate Emergency the Council has already undertaken to engage in a demonstrator Passivhaus project. The Review Group endorses this, but wonders whether on top of delivering Passivhaus properties, it might be able to demonstrate, as with Greencore's developments, zero carbon in construction, or even climate positive construction.
80. The area of hesitancy by the Review Group of having a 'flagship' or pilot project is the concern that such projects are allowed to remain as outliers, that they are a trial for something rather than a first attempt at achieving a particular goal. The Review Group is keen that the Council should seek to break new ground, and work with partners to do so, but that the resulting outputs be the first of many, rather than following the project allowing a reversion to lower standards. Possible partners that were suggested for such a venture included the Active Building Centre, and the Manufacturing Technology Centre.
- 15. That the Council prioritises, in partnership with other bodies, one flagship project of national significance around zero carbon building, and that it prioritises the learning from the flagship project to inform and improve future construction of zero carbon buildings.**

Part 3: The City Council as Planning Authority and other Regulatory Services

Background

81. Beyond its own portfolio of domestic and non-domestic buildings, current and anticipated, the Council has a far broader opportunity to influence the energy-efficiency standards of buildings developed through its powers as a planning authority, and through its provision of Building Control services. The Council is able to exert influence on property owners through its licensing capabilities also.
82. The Review Group invited Councillor Alex Hollingsworth, Cabinet Member for Planning and Sustainable Transport, and Amanda Ford, Planning Policy Team Leader to discuss options available to the Council to raise efficiency standards through the Planning system. Ian Wright, Head of Regulatory Services and Community Safety, and Andrew Broughton, Senior Building Control Inspector, spoke about the opportunities available to the Council do the same through Building Control and licensing functions.
83. The planning framework for development is the Local Plan; its current iteration requires a 20% increase in building efficiency when set against Building Regulations. The Council in December 2019 submitted for inspection its proposals for its new Local Plan, which requires a 40% improvement on Building Regulations. Whilst a 40% improvement is certainly worthwhile, it is not enough to deliver the level of ambition the Citizens' Assembly wishes to show, which is that new buildings should be built to zero carbon standards. As such, discussion was focused on whether it was possible to develop a

supplementary planning document (SPD) to qualify the Local Plan and introduce higher standards. The Review Group took as its model the [North West Bicester SPD](#).

84. Building Control ensures that construction undertaken complies with the Building Regulations, a set of standards intended to protect people's safety, health and welfare. This is an important area when discussing energy efficiency, because it deals with real performance rather than on-paper or notional suggestions, so Building Control is particularly important in ensuring the national minimum standards are realised and not lost in construction. The Review Group sought to explore whether there were ways to increase energy efficiency through this function, and the Council's housing-related licensing functions.

Planning

85. In its discussions of the idea of developing an SPD to increase the efficiency requirements on those wishing to build, the Review Group heard a number of problems with the idea, namely around timing, practicability and cost.
86. The Council is in the final stages of putting in place a new Local Plan for the city. This is expected to be adopted in Summer 2020. It is important to note that although the plan starts with 40% carbon reduction this increases to 50% with the requirements for zero carbon homes by March 2030. This is one of the most ambitious development plan policies in the country. Advice given to the Review Group was that what had been proposed in the new Local Plan was already close to the limit of what would be accepted by the Planning Inspectorate at this time. Any site specific or general SPD can only provide clarification or guidance on policies in the Local Plan but they do not have Local Plan status as they are not subject to independent examination and do not form part of the development plan. Their purpose is to help demonstrate how policies can be taken forward but cannot change the requirements of the development plan. Therefore an SPD could look at how the policies are taken forward on sites or parts of the city or give guidance generally to how climate change policies in the plan can be implemented but they cannot require developers to develop zero carbon immediately as that is not the development plan policy. Seeking to do so would be unlawful.
87. Whilst Local Plans are only required to be reviewed every five years the Council is likely to start working on its new Local Plan sooner than this. The reason for this is to align to the joint work being undertaken associated with the Oxfordshire Plan 2050 and to try and keep Local Plan timelines in Oxfordshire aligned. This has benefits both financially and in terms of joined up-working ensuring a strategic and joined up approach is taken.
88. Given an SPD for carbon reduction would take a significant amount of resource, cannot go beyond the requirements of the Local Plan and would have a limited shelf life given the Local Plan is going to be reviewed to respond to the countywide work earlier than normal it is not considered to be the most effective course of action. The Planning Policy Plan team, as part of ensuring successful implementation of the new Local Plan, will be working on Technical Advice Notes to provide guidance on how some specific policies can be implemented. One of these will relate to the new policies around carbon reduction with a particular focus on relationship between policies e.g. advice to show that things can be done in historic environments. The policy already has very specific technical requirements and it is considered that a technical advice note is the most appropriate

route to offer clarification and advice about implementation. This can be produced more quickly than an SPD due to it being a non-mandatory and less formal document. This will not seek to tie to specific technologies but to provide some advice on types of measures that are available to meet the local plan standards. The council are also looking to progress an SPD this year for the west end to replace the former documents for this area and bring these up to date with the new Local Plan to guide change. This will pick up and encourage opportunities for carbon reduction in new developments in this area.

89. A further reason not to proceed with investing the time and resources in developing an SPD was over risk associated with national changes. The government has recently finished a consultation on proposed tightening of Building Regulations, with a view to replacing the existing legislation. Legislation exists which restricts Local Authorities from setting energy standards above Building Regulations, however this legislation is yet to commence. As part of the Future Homes Consultation (the government's consultation into how best to address energy efficiency improvements), the government is exploring options including whether to commence this amendment which would restrict local planning authorities from setting higher energy efficiency standards for new homes. Until a decision is made in relation to this issue, there exists the possibility that if the Council were to invest time and resources in developing its own SPD with standards above the national level, its ability to enforce these standards could be undermined by central government imposing a single national standard.

90. On the basis of these issues it was agreed by the Review Group that an SPD was not a suitable solution. Instead, the alternative of providing non-mandatory guidance through Technical Advice Notes (TANs) was accepted. Although not mandatory, these would be far quicker to develop. The development of TANs would be a useful guide to set the tone, but also to show the Council's commitment to enabling good development rather than obstructing it.

16. That the Council will develop TANs to support the implementation of the Local Plan. One of these should include advice relating to Local Plan Policy RE1: Sustainable Design and Construction.

17. That the Council will seek to bring forward an SPD for the West End, which will include some advice on sustainable design and construction in this area.

91. One area of criticism by the Review Group in the emerging Local Plan is that it contains no targets for the energy efficiency of non-domestic properties. The next review of the Local Plan provides an opportunity to address this. With institutional, industrial and commercial properties being responsible for 52% of the City's carbon emissions it is the Review Group's opinion that this is an important priority.

18. That the Council in its drafting for the Local Plan 2040 includes zero carbon targets for new non-domestic property.

92. A perception within the Review Group was that the Council at present struggles to balance the needs of sustainability and heritage, with heritage considerations being given excessive weighting in decision-making. This was a view partially supported by Harriet Waters, Head of Sustainability at Oxford University, who suggested that colleges were

unsure of the degree of support or opposition they would get from the Council if they proposed step-change measures.⁵

93. The view was also partially informed by the challenges faced by the Council in erecting solar panels on the St Aldates' Chambers roof, which ended up having to have a reduced density, be placed at a sub-optimal angle and painted black. Likewise, members noted the challenges of getting solar panels put onto the Town Hall roof.
94. The Review Group was reminded by Oliver Smith of 5th Studio that it was the duty of the Planning Authority to decide through the Planning process whether heritage harms were outweighed by other benefits. Cambridge City Council was identified as an example of best practice in this regard, 'pretty much as good as it gets in the UK'. Its Local Plan states the following:

Policy 63: Works to a heritage asset to address climate change

Proposals to enhance the environmental performance of heritage assets will be supported where a sensitive and hierarchical approach to design and specification ensures that the significance of the asset is not compromised by inappropriate interventions.

Any works should be undertaken based on a thorough understanding of the building's historic evolution and construction (where these matters relate to the heritage significance of the asset), architectural and historic significance, and demonstration of the building's environmental performance. Applications should be accompanied by an assessment of the building's current fabric and energy performance. For relevant planning applications, details of post-construction monitoring in the form of a building monitoring and management strategy will be required to be submitted in order to assess the ongoing impact of the implemented measures on the asset's historic fabric. Monitoring requirements will be proportionate to the significance of the asset and the scale and scope of works undertaken. Where monitoring shows that interventions are causing harm to the significance of the asset, appropriate remediation works will be required.

95. In comparison, Oxford City Council's draft Local Plan does not make reference to the balance between sustainability and heritage, simply relying on the general principle that 'Where a development proposal will lead to less than substantial harm to a designated heritage asset, this harm must be balanced against the public benefits of the proposal'.⁶ It should also be borne in mind that the overall National Planning Policy Guidance also provides general support through its presumption in favour of sustainable development, a presumption which covers protected (listed) buildings. The difference between the two is more one of explicitness and emphasis than underlying policy.
96. Whilst the next iteration of the Local Plan may be the most suitable time to enact such a change, the Review Group seeks formal and explicit recognition of climate-change considerations as having an equal footing as heritage. This will provide an important

⁵ It should be noted that other reasons were also put forward for unwillingness to retrofit, including concern over the impact of works on college life, cost, and amongst some, a liking for the status quo.

⁶ Policy DH3

signal of the Council's commitment to carbon reduction locally. The Review Group asks that if there is opportunity to do so, the Council expedites this process.

19. That the Council

- a) takes measures to ensure that in situations where conservation and building efficiency are in conflict, Conservation Officers will hold a presumption in favour of efficiency, particularly in situations where there is no or low visual impact**
- b) takes the earliest opportunity to state its position regarding the balance between sustainability and heritage, and explicitly confirms the presumption in favour of sustainable development, with Cambridge City Council's position being considered a good example.**

97. A recurring theme from external guests was the importance, if a step-change in building efficiency is to be realised, of finding ways to get the volume house-builders to change their current construction methods to higher-efficiency homes. The benefit of doing so would not be felt only in the greater efficiency of the houses built by the companies themselves, but it would also dramatically extend and mature the supply-chains for the materials required, which would be of benefit to the entire sector.
98. When developers build a development, the new households created put a pressure on local infrastructure, be it school places, doctors or dentists, or roads. On a particular development, s.106 payments can be used to fund the amenities that are required as part of that development. So, for example, if a new school or community centre needs to be built this can be charged through s.106 payments. Councils can, however, also charge a more general levy, called the Community Infrastructure Levy (CIL) on which spending is not limited to the specific development in question.
99. The suggestion put to the Review Group by Greencore Construction was that introducing a variable level of CIL based on energy efficiency levels would have the potential to have a meaningful impact on the provision of volume house-builders. It is recognised that whilst responding to the Climate Emergency is rightly a high priority, it is not nor should it be allowed to become the Council's only priority. It would be a mistake to leverage a change in building methods on the back of poor infrastructure for those living in new developments. The choice, therefore, to consider CIL rather than s. 106 payments is important; by attaching the reductions to the more general pot, the infrastructure foregone would also be spread more generally. S.106 payments would be retained to meet the immediate infrastructure needs of a development.
100. Feedback from Councillor Hollingsworth indicated that that such an idea is likely to be highly complicated to implement, and potentially illegal under state aid laws and the requirement that CIL levies not introduce undue complexity. It is the view of the Review Group that this is an extremely potent idea, and one which could have the capacity to have a significant impact beyond the Council's own borders. As such, it is suggested that this idea is investigated fully, but the complexity of the issue requires that alternative means of securing the same ends may present themselves and are not to be ruled out either.⁷

⁷ This is an idea referenced in the Ashden report, which provides more information. See recommendation 56 for a link.

20. That the Council explores options by which it might incentivise developers to build homes that reach zero carbon standards, including exploring the legality and practicality of introducing a reduced CIL level, s.106 contributions and other charges for zero carbon homes.

Practitioner Views

101. A view shared with the Review Group was the structural challenge posed by the way planning departments are organised; that they are set up in line with the 80:20 principle which can manage high volumes of routine applications. When discussing an application at pre-app stages the discussion is held with more junior officers. This works well if the suggestion is routine, but where innovation is being proposed, and greater expertise is required it does not work. All architects invited to the Review Group reported challenges in being able to access more senior planners when wanting to discuss innovative ideas.
102. In order to fulfil the high ambition scenarios around buildings as proposed by the Citizens' assembly many things will need to be done differently, requiring significant innovation. The Review Group suggests that the Council's internal structuring of its department and the service it offers at pre-app stage should not act as an impediment to this innovation.
103. Along similar lines to the above and the feedback from Oxford University over heritage proposals, it was suggested by professionals working in Oxford that there is a perception that Oxford is, for architects and developers, not a particularly easy place to do business. Whilst in some scenarios this may indeed be a good thing, the Review Group was keen that the Council be seen to be encouraging along everything it can to support those wanting to do build according to best practice.

21. That the Council

- a) develops a mechanism by which innovative sustainability solutions proposed at the pre-application stage can be reviewed by specialist officers.**
- b) considers how it can provide greater support throughout the Planning service to those applicants wanting to build according to best practice.**

104. A point made to the Review Group by Oliver Smith, of 5th Studio, who had undertaken a substantial retrofit to near zero-carbon standards of a Grade 1 listed building at Trinity College Cambridge, is that perceptions of energy-efficient measures are that they are non-traditional constructions and likely to be visually intrusive, particularly in a heritage setting. However, whilst this may have been true previously, technology in this area has improved significantly and the perception now does not reflect reality. Mr Smith gave an example of the difficulties in getting the support of Historic England to replace existing glazing with ultra-thin double glazing in historic window frames. In the end support was afforded when permission was given to replace the glazing to one window and it proved to be extremely difficult to tell the new double-glazing from the original glazing in the adjacent frame.
105. Where the market and standards of eco-building approaches have improved so far so quickly, and with the high density in Oxford of historic heritage buildings, it is the view of the Review Group that in order not to be caught out by perception lagging reality, that regular updates on the latest approaches are necessary.

22. That the Council ensures that its conservation officers receive training in eco building approaches to historic buildings including visiting good examples in Oxford and elsewhere.

Regulatory Services

106. It was the expectation of the Review Group prior to its meeting that there was the potential for the Council to drive up standards through having a tougher set of standards more rigorously applied. However, following discussion on the topic this was shown not to be feasible for two key reasons: the market in which Building Control operates, and legislative risk.
107. The Council's Building Control service is actually only responsible for approximately 60% of the inspections undertaken in the City. This is because the Council's service must compete against private sector providers; indeed, a number of rules on Council services have the effect of putting the Council at a disadvantage versus the private sector. The Council must, for example, publish its pricing, and it may not charge below its costs; private sector providers are therefore in a position to use loss leaders and to set their pricing at a point below the competition. Furthermore, other Councils can operate in one another's areas. Due to this situation, the Council's market share in Building Inspection has tended to trend downwards, only reaching 60% this year because one of its main competitors folded after changes to insurance requirements post-Grenfell. Having a more stringent regime more rigorously applied would therefore be deeply counter-productive as it would simply drive users of the service to the competition instead.
108. A second barrier to increasing the stringency of the Building Inspection requirements is that of legal risk, and this manifested in a number of interlinked ways. Firstly, Building Control standards are set at a national level. The Council, in its current Local Plan, requires that homes be built to a 20% improvement on Building Regulation efficiency standards. In the draft recently submitted to central government for approval for its new plan that figure was increased to 40%, a figure which is recognised to be at the high end of what would be accepted. There is, however, a legal tension over the right of local authorities to set their own standards (as referenced in discussion about the desirability of implementing a Supplementary Planning Document). As such, were the Council to invest time and effort into developing even higher standards than currently being proposed, it could find those to be unenforceable. Indeed, this is considered to be more likely as central government has in February 2020 closed a consultation on the Future Homes Standard and changes to Building Regulation standards. Across the board tightening of Building Regulations may reduce the justification for individual councils to be able to go further.
109. When the Council had to pick up a large number of cases from the collapse of its competitor a lot of the records were extremely poor; the standards the Council upholds are much more representative of good practice and will therefore be more likely to see homes that are energy efficient on paper delivered in reality.
110. The Council's own unique selling point is not on price, but on the overall level of service and ancillary services to which it has access, such as through its heritage and sustainability teams. It is the suggestion of the Review Group that Building Control be promoted on this basis.

23. That the Council promotes its Building Control service on the basis of the service level it provides, particularly with regards to access to advice, help, and assistance around sustainability and heritage.

111. Though the Council's licensing powers are extensive, and it has already begun to use those powers to reduce carbon emissions (for example, all taxis will be required to be zero carbon by 2025) the Review Group focused on licensing related to the Group's main theme of buildings – the licensing of domestic rented property.
112. A House of Multiple Occupation (HMOs) is defined as being 'rented out by at least 3 people who are not from 1 'household' (for example a family) but share facilities like the bathroom and kitchen'. To offer such a property for rent it is a legal requirement that a licence be held, and which is granted in Oxford by the Council. At present, 4321 properties are licensed (though this figure represents only 82% of the estimated total number of HMOs in the City.)
113. To raise standards in HMOs the Council runs a voluntary landlord accreditation scheme. This scheme requires that prospective licensees fulfil a number of criteria, including attending a free training session, being a fit and proper person and having a property which meets the central government's requirements that rental properties have no less than a D rated EPC certificate.
114. The scheme is particularly popular with larger-HMO license holders. License fee renewals for HMOs are increased in length to give five years at a cost of £395, instead of a standard 2 year renewal costing £295. Per year this provides a reduced sum annually of £68.50 per license, which on a big portfolio constitutes a valuable saving.
115. At present, the scheme only requires the minimum level of energy efficiency required by government. Raising the requirement would provide a greater incentive for HMO license-holders to improve the energy efficiency of their properties. However, it is unclear whether the Council has the legal right to require a higher standard than that mandated by central government, even if it gives a discount in doing so. The Review Group suggests that this area is looked into in more detail; this is an area covered by the Ashden report referred to in recommendation 56.

24. That the Council investigates the viability of amending its voluntary HMO landlord accreditation scheme to incentivise HMO landlords to provide properties of EPC rating band C or higher.

116. In addition to its licensing of HMO landlords, the Council is in the process of developing proposals to put to central government for permission to implement a selective licensing scheme. A selective licensing scheme would cover, subject to a number of limited exceptions, all non-HMO rental properties within the City. It is recognised that the decision to implement such a scheme on a city-wide basis, as well as its details, ultimately lies with central government. Nevertheless, the stronger the evidence base that can be provided, the more likely Council suggestions would be to be accepted. As such, the Review Group recommends that work begins to consider how a selective licensing scheme could be used to drive up energy efficiency standards in rental properties within the City. Estimates of a potential pool of 15,000 qualifying properties are too significant to ignore.

25. That the Council investigates the potential within a selective licensing scheme means of encouraging landlords, possibly through reduced fees, to provide more energy-efficient rental accommodation.

Part 4: The City Council as Communicator, Convenor and Influencer

Background

117. An important anchor in consideration of the Council's response to the Climate Emergency is that Oxford City Council is itself only directly responsible for 1% of the emissions within the City.⁸ Thus, although a lot of energy is rightly directed towards setting a good example, the major reductions in carbon emissions are not to be found internally. Indeed, it is estimated that the Council's sphere of potential influence stands at 66% of the City's emissions.⁹

118. One of the key areas in which the Council can use that influence is in its roles as a communicator, convenor and influencer. Direction from the Citizens' Assembly was very clear that it is the expectation of the public in doing so. Feedback included the view that Oxford should be a 'leader in responding to Climate Change', a sense that the Council should be looking to 'communicate a shared vision and strategy to reaching 'net zero' that shows the roles played by local and national government, businesses, and individuals', and a demand for 'more education and information provided for the wider public in Oxford to help them understand what they can personally do to help.'

119. No guests were invited specifically to address this issue, but it was a cross-cutting theme throughout the entire process and a number of particular recommendations arose from suggestions made in discussions around other issues. Specifically, recommendations are made around:

- Oxford's distinctive capacity to draw together high-powered stakeholders to address issues around zero carbon construction
- Improving engagement and awareness amongst the public on the Climate Emergency
- Supporting the interest of other areas of local government, particularly parishes, to be part of the solution
- Lobbying national government for specific impactful changes.

Convening

120. In discussion, a particular challenge was put to the Review Group by Dr David Hancock, who pointed out the high concentration of key voices in the area of sustainable building. The universities in the City furnish numerous experts across a huge variety of disciplines, but their gravitational pull also means many of the big house builders and developers are present in Oxford. Should the Council wish to push forward discussions on issues which will require multi-stakeholder solutions, such as supply chain development, skills within the sector, and technological advancement it could have an influence at a far wider level than simply the City.

121. This view is one which is fully endorsed by the Review Group, and the challenge accords with the feedback of the Citizens' Assembly which clearly stated that residents

⁸ Anthesis Climate Emergency Strategy Support 2019 p.30

⁹ Ibid

feel Oxford should be a national leader on responses to Climate Change. The Review Group considers it necessary that meetings of key stakeholders should be organised on a regular basis to address issues on an ongoing basis. However, similarly to the electric car summit, Oxford has sufficient pull nationally (and internationally) and the Review Group considers that the Council, with partners, should seek to make the most of its favoured situation and be seen to take a lead through running a summit akin to that run for electric cars.

26. That the Council actively engages as a convener stakeholders involved with sustainable building, or those it would wish to see become involved, and as part of this convenes a zero-carbon building summit akin to that run on electric vehicles

122. In the section on retrofitting above, the point was made that there is currently a lack of capability within the construction market to deliver the variety of specialist interventions required to improve existing stock. With the low proportion of homes being built to zero carbon standards that lack of expertise is expected to be replicated amongst house builders also.

123. It is the view of the Review Group that unless homes start being built to zero carbon standards soon, they will require retrofitting shortly after being built to enable the government to meet its zero carbon by 2050 commitment. If there are insufficient people with the skills to deliver those houses then that scenario becomes more likely.

124. The building trade is one which relies heavily on apprenticeships, and it is suggested that the Council would be making a positive contribution towards the capacity of the sector, but also providing job opportunities for its young people in what will necessarily be an increasingly important sector, if it were to use its position as shareholder of a construction company and a stakeholder in other major developments to ensure that more apprenticeships are created to equip young people with knowledge around low-carbon building methods.

27. That the Council as a shareholder of its own construction company and a major stakeholder in other construction projects uses its position to increase the number of local apprenticeships available in energy-efficient construction methods.

Local Engagement

125. One key message which came out of the Citizens' Assembly, and which was echoed by external guests, was that there is in Oxford a lot of work already being done to tackle the Climate Emergency, but that that work is not widely known.

126. One particular concern was that with a high volume of diverse initiatives going on, it would be easy for members of the public to remain unaware of things that were relevant to their specific situations. It was suggested that it is important that there is a shared resource which acts as the single locus for enquiries about local Climate Change initiatives. The Oxford Together on Climate Change website seeks to fulfil that role, and it is the view of the Review Group that the Council should support it through promotion, and sharing of its own knowledge and contributing information on the services it provides. Though the Council is a key player in responding to the Climate Emergency

locally, it is appropriate that it is owned by the community, and as such partnering with an external website to promote the Council's initiatives is preferable to hosting the information solely on the Council's own website.

28. That the Council joins, promotes and supports the website of Oxford Together on Climate Change

127. A recurring theme throughout the whole series of meetings of the Review Group was the importance of sharing information about the Climate Emergency with young people, their receptivity to the message and their effectiveness in engendering positive behavioural change in the adults around them.
128. Westmill Sustainable Energy Trust, [WeSET](#), is a local charity based near Swindon which promotes community decarbonisation and sustainable energy. It does this through arts, education and community renewable projects. Over the last decade they have shown more than 10,000 visitors around the Westmill site, through a combination of family-friendly open days, on-site events and guided tours. These include, for example, visits to the inside of the 83m wind turbine. This is an example of a great success story in engaging the local community; it has over 2000 members. It is felt that WeSET's model is one the Council could partially replicate in its low-carbon building.
129. It is felt that though dedicated show-homes out of which to run open days may not be value for money for the Council, there is the potential for creating resources to take to children, or open days for them to see low-carbon homes in the process of being built, would be far cheaper and may still provide a significant level of engagement.

29. That the Council works to create hands-on opportunities for children and young people during its development and retrofitting of properties to allow children and young people to learn about low-carbon housing.

130. The importance of responses to the Climate Emergency needing to be community led, though often Council-enabled, is one which has been stressed on a number of occasions already.
131. One area of feedback which was a surprise to the Review Group was that the Low Carbon Hub small grants pot, which supports small carbon-reducing initiatives locally has been under-subscribed on a long term basis. The Council is currently considering ringfencing a portion of its grants to fund environmental projects, but this is a two-edged sword. It ensures a degree of funding, but it also does potentially act as a cap. With a small effort to share information on other sources of funding, community groups could increase their access to greater resources and the threat of the latter scenario would be reduced.

30. That the Council informs applicants to the to-be ringfenced portion of its grant funding budget for voluntary and community responses to the Climate Emergency of alternative funding as a matter of course, including that from the Low Carbon Hub small grants pot.

Parish Council Involvement

132. A number of the external guests to the Review Group were parish councillors, and they were quick to put forward the view that parish councils are well placed to help deliver community-level projects, but that at present there is an absence of resources and ideas of how to implement them.
133. The Council runs a Parish Council Forum, which acts as an information-sharing forum between the City Council and local parish councils. At its November 2019 meeting, the Forum received a presentation from the Council's Service Manager Environmental Sustainability, on the outcomes of the Citizens' Assembly. It was agreed at that meeting that it would be valuable to provide further opportunity for the councils to share ideas on how they might enact tangible carbon-reducing measures in their communities. It is the view of the Review Group that the Council should seek to enable community-level responses, and that this meeting should be expedited.
- 31. That the Council supports the ongoing efforts of the Parish Council Forum to hold workshops for all parish councillors within the district and immediate neighbours on ways in which the councils might be able to support each other in helping deliver local projects to reduce carbon emissions.**

Lobbying central government

134. As is referenced elsewhere in this report, one of the key issues faced in trying to increase the volume of zero carbon homes built is finding ways to stimulate demand for them, particularly to the point where the big five volume housebuilders begin to adapt their construction methods.
135. Market research undertaken on behalf of OCHL has indicated that customers are not willing to pay a significant premium at present; energy efficiency is a differentiator only when houses are in a similar price bracket. Were house prices for zero carbon homes to be cheaper than traditional construction, or even at the same price point, demand would be expected to increase. One means of achieving that would be through differential levels of stamp duty on energy efficient housing.
136. A further benefit of this proposal is that it would also encourage home owners to invest in retrofitting their own property; the payback period for any retrofitting is the time between the retrofit and the time a property is sold. This can mean that it is uneconomic to retrofit in certain instances, because the person incurring the cost is unlikely to be around long enough to see a return on investment. However, a lower rate of stamp duty would mean greater purchasing power amongst buyers. A change to stamp duty based on energy efficiency would be similar in effect to having a payback period followed by a cash lump sum at the point of sale. The impact would depend on the sums involved, but in principle it would be expected to increase the viability of retrofitting properties to higher standards.
137. The Review Group considers that it would be possible to have a long shopping list of proposals to be made to the Secretary of State, but that this is a well-defined suggestion that would make a tangible and wide-scale difference.

32. That the Leader writes to the relevant Secretary of State proposing that Stamp Duty levels be adjusted according to environmental standards.

Part 5: Broader Themes from the Citizens' Assembly on Climate Change

Background

138. In addition to the theme of Buildings, the Citizens' Assembly also considered a number of other key themes in relation to Climate Change: waste reduction, sustainable transport, and biodiversity and offsetting.
139. As referenced previously, to ensure the scope of the review did not become unmanageable it was decided to limit discussion where possible. The topic of waste and recycling was not considered in any depth by the Review Group. Transport issues were discussed, but within the bounds of how they might impact on buildings. Biodiversity, on the other hand, was discussed at a broader level; this decision was taken on the basis of the feedback from the Citizens' assembly, which identified greening the city and biodiversity to be a key area of enthusiasm for the public, and a potential doorway for discussion of other topics. As such, it was considered that there were justifications to approaching the subject with a broader remit.

Biodiversity

140. The Review Group welcomed a number of external guests with a particular interest in biodiversity, including: Chris Church, Director of Community Environment Associates and a Trustee of Friends of the Earth, and Alistair Morris, Parish Councillor for Old Marston Parish Council and heavily involved in Marston Community Gardening and Marston Community Orchard. Internally, the Review Group heard from the Council's Environmental Team Manager (also a biologist), who, in addition to her own work, was also able to inform the Review Group on the work of the Council's ecologist (a post shared with the County Council).
141. In addition to those mentioned, many of the other guests throughout the Review Group process had valuable contributions to make on the topic.
142. In addition to those above, written advice was sought from Oxfordshire Mammal Society and RSPB East Midlands (which covers Oxfordshire) on the measures that they would wish to see implemented on new buildings to protect or enhance biodiversity.
143. In response to the issues raised in discussion the Review Group makes a number of recommendations relating to:
- Strategic planning
 - The Council's internal approach to biodiversity as house builder and landlord
 - The Council's management of its parks and green spaces
 - Support for community tree-planting
 - Contributions to international discussions
 - Offsetting

Strategic Planning to Protect Biodiversity

144. At a strategic level the Council has been involved in and will continue to be involved in developing high-level planning frameworks such as its Local Plan, which provides a framework based on economic, social and environmental priorities for future developments in the City around land use, and the Joint Statutory Spatial Plan, which is a similar but county-level document to which the Council is a co-contributor.
145. Decisions made in these plans have long-term repercussions; the recently-submitted draft Local Plan covers the time period up to 2036; the Joint Statutory Spatial Strategy makes plans to 2050. Though plans are refreshed on a regular basis (at least every five years for the Local Plan, for example) they are nevertheless documents which make big decisions with a long-term horizon. It is only necessary to call to mind historic proposals to build a road into Jericho through Port Meadow to understand the potential for biodiversity to be heavily impacted by poorly evaluated future development.
146. A key point of difference in these Plans in comparison to other Council documents is that they must be externally verified and accepted by a central government representative, the Planning Inspectorate. Part of the role of the Planning Inspector under the National Planning Policy Framework is to probe the evidence provided to ensure the Council's proposed balancing of priorities is justified. As such, significant effort must be made to ensure there is a clear body of evidence to justify each policy. A flip side of this is that where strong enough evidence does not exist to justify a position, the Council runs the risk of not being able to defend a policy, even if it may be desirable.
147. At a national level, the growing interest can be seen by government in understanding the natural capital approach; giving a value to the country's natural amenities. Recently, a [tool](#) was launched by DEFRA to allow organisations to make decisions based on a natural capital approach.
148. In Oxfordshire, information is held on the natural capital provided by the land. Along a similar vein, different eco-systems provide different benefits, from foundational things like providing pollination and animal habitats, to providing food, purifying water or providing spaces for recreation. This information, however, is held at a county level and is not available easily for decisions at district, ward or lower levels still.
149. Assessing the value of nature, and understanding how much of what type of benefit is derived from different types of eco-system are the foundation stones for making informed comparative judgments of value between competing between the often mutually-exclusive priorities of development and biodiversity preservation and enhancement. As such, it is felt by the Review Group that the lack of information available to the Council puts environmental and biodiversity concerns at a systemic disadvantage, a disadvantage which must be rectified if legitimate biodiversity concerns are not to be squeezed out purely on the basis of insufficient evidence and information.
- 33. That the Council investigates the potential to map eco-system services and natural capital at a district and sub-district level and quantifies the resources required to take a strategic approach to identifying what sorts of eco-system and natural habitat are required where and in what quantities.**

Biodiversity in the Council's House Building and Management

150. The Council expects to construct via its wholly-owned companies to construct approximately 20% of all the new housing in Oxford over the next ten years. As such, the Council's approach to biodiversity in its own house-building will have a highly significant impact on the overall impact on biodiversity of new homes in the City over the period. Further, it is the Council's intention that half of these will be purchased as council housing and intermediate rent. These will be added to the Council's current stock of 7740 homes, making it the biggest landlord in the city by a considerable margin. Whilst it is important that biodiversity measures are included within design, how areas such as communal gardens are managed on an ongoing basis has an important impact on their ability to support biodiversity. When it is remembered that of the Council's 7740 homes, almost half (3305) are rated at EPC D or below and are being reviewed for means of retrofit, the direct impact of the Council's overall approach to biodiversity and homes is very considerable.

151. At its visit to the Greencore site at Southmoor one area of interest was the voluntary partnering of the developers with Berks, Bucks and Oxon Wildlife Trust to advise on the means of maximising biodiversity within the development, but also monitoring to ensure that the anticipated results were being achieved. There are multiple reputable wildlife organisations, particularly in Oxford. It is felt that seeking independent advice and monitoring would ensure that the Council's developments follow through into results the Council's positive disposition towards biodiversity enhancement.

34. That OCHL work with biodiversity partners on its housing developments, to inform the biodiversity-enhancing work undertaken, and to monitor its effectiveness.

152. The Council has a [Biodiversity Technical Advice Note](#), the purpose of which is to provide clarity for those making planning applications on expectations on how to comply with biodiversity-related legislation and planning requirements, as well as examples of good practice.

153. As referenced in Part 3 of this report, the good practice put forward in the Technical Advice Note is not mandatory, only advisory. When the Review Group put the question to Oxfordshire Mammal Group and the RSPB East Midlands on what they would recommend the Council do to avoid, mitigate and compensate for biodiversity impacts they referenced the following:

RSPB East Midlands highlighted the Council's own TAN as full of good practice, highlighting in particular:

- The key principles under "Guidance for Developers" on pp16-17
- "Ecological Enhancements" on pp31-33
- "Enhancements for Species" on guidance for urban species on pp34-39

"If pushed to be selective, the RSPB's top three recommendations regarding the Council's own housing stock would be:

- 1. Fit as many internal swift bricks as possible – these are longer lasting, need less (no) maintenance, and will be used by multiple species besides swifts*
- 2. In planting and landscaping schemes, prioritise native species over exotic ones wherever possible; plant for drought tolerance; and for pollinators.*

3. *Employ Well-designed Sustainable Urban Drainage Schemes that will cope with the kind of extreme rainfall events predicted in climate change scenarios, but also provide some biodiversity enhancements during “ordinary” conditions.”*

Oxfordshire Mammal Group

“1. We cannot ignore the issue of connectivity. As it is widely recognised that gardens now represent a key habitat for wildlife, it is vital that animals are not blocked from accessing those gardens by impenetrable barriers. A hole in the fence is not just important for hedgehogs, but all kinds of other wildlife as well. And for them to properly access a network of gardens will require more than one hole in each garden boundary. Ideally, please use hedges rather than fences or walls to divide properties, as these not only allow access through, but provide really beneficial habitat in themselves.

2. For centuries, bats have relied on human houses to provide them with good places to roost. But modern building techniques have largely denied them these opportunities. One relatively easy way to redress this would be to install batboxes high on the walls under the eaves of your new (or indeed existing) buildings. But remember that the effectiveness of the project will depend critically on using the right materials and choosing walls that are facing in the right directions. Choice of materials is also critical with regard to the roofs themselves, whether considering new builds or the repair or improvement of your existing housing stock. Breathable membranes can be deadly for bats, as of course can the chemicals used in the treatment of timbers.

3. Much has been said recently about the physical (and chemical) over-management of verges, lawns and hedges and the detrimental effect that may have on insects in particular. We would just like to emphasise that this also has both direct and indirect effects on mammals and birds. Allowing grass and hedges to become slightly more “untidy” greatly enhances their habitat value for small mammals and birds (as well as insects) - while actually saving the council significant amounts of labour and money! And of course the precise timing of any grass or hedge cutting that remains necessary can make an enormous difference to the ecosystem living in and around it.”

- 35. That the Council as shareholder to Oxford City Housing Company requests a report to be made to detail how OCHL will abide by the Council’s own Biodiversity Technical Advice Note, particularly pages 31-33 (ecological enhancements) and 34-39 (enhancements for species). Detailed reporting to be given on the use of swift bricks, hedges instead of walls and fences, the installation of batboxes, and how greenery planted will prioritise native species, drought tolerance and pollination.**

154. Following on from the advice of Oxfordshire Mammal Group regarding benefits of reduced cuts and the impact of chemicals, the Review Group recognised the direct applicability for the Council. However, the Council is under a duty to consult with tenants when it wishes to make changes, and it was suggested that there was an opportunity when consulting with council tenants to broaden the scope of the suggestions, with the

hope of increasing engagement in wider climate issues, as well possibly giving ownership and responsibility for some measures.

155. The advice of Oxfordshire Mammal Group on the potential savings from certain biodiversity-enhancing measures such as reduced cutting is noted. Likewise, passing ownership and responsibility to tenants for measures can have a beneficial impact to the Council. However, it is strongly stressed that although some measures may have those impacts, they should not be the driving force. Indeed, it is felt that the Council would need to take care not to prevent any perception that the suggestions were being driven by financial incentives, rather than a wish to improve biodiversity and improve the environment for tenants.

36. That the Council consults with residents of Council accommodation with communal garden areas over their views on whether they would welcome activities to support greater biodiversity, including, amongst other things, swift boxes, tree planting, pollinator-friendly planting, reduced cuts and the removal/creation of holes in walls and fencing.

156. On a broader theme, the Review Group recognised that another area of applicability for the idea of reduced cutting and reduced chemical use was in its treatment of roadside verges, for which the Council holds partial responsibility in the City. Rotherham Council, for example, has recently made the decision to [sow wildflowers along eight miles of its roadside verges](#) and reduce cuts. As part of its response to the demand to green the City, the Review Group considers that the Council should investigate the feasibility of the idea in Oxford and consult with the public on whether to implement the idea.

37. That the Council investigates the feasibility of wildflower verge planting and a reduced cutting schedule, and if it is found to be deliverable to consult with residents on their interest in the Council delivering such a scheme.

Management of the Council's Own Green Spaces

157. Shotover Park, situated on the southern boundary of the City, is a site of Specific Scientific Interest as an area of national importance for wildlife. It is subject to a management plan, and in addition to the work undertaken by the Council multiple groups of volunteers also work to preserve the wildlife.

158. Having seen the positive feedback from Natural England's inspection of Shotover Park in 2019 the Review Group is pleased at the work that is being undertaken. However, due to the importance of biodiversity within the Citizens' Assembly responses, and due to Shotover's particular importance in that area the Review Group encourages the Council to embrace Shotover as a beacon of biodiversity and invests the time to ensure that this rich resource is further enhanced.

38. That the Council reviews its management of Shotover Park and develops recommendations as to how it can further foster the biodiversity it supports.

159. The Council is responsible for the management of Headington Hill Park. Originally an arboretum, it has a higher concentration of rare species of tree than other parks run by the Council. The management plans, which consider Headington Hill to be a park rather

than an arboretum, do not seek to protect or enhance this natural heritage. Examples of the differences between the management of a park and an arboretum include the need to plant rare trees, and when trees fall, that they are not removed but left to support biodiversity.

160. It is the view of the Review Group that the nature of the site fits more closely with its original purpose of an arboretum, and that by changing its designation and management practices accordingly the Council will be protecting and enhancing a particularly valuable natural asset.

39. That the Council redesignates Headington Hill Park as an arboretum and adjusts its management and biodiversity practices concerning it accordingly.

Supporting and Enabling Community Tree Planting

161. Both external specialists fed in to the Review Group on the importance of supporting and enabling community tree planting initiatives. Chris Church of Friends of the Earth informed the Review Group about [Oxfordshire Trees for the Future](#), which seeks to raise awareness of the need for and the requirement to enable a doubling of the number of trees within Oxfordshire by 2045. It was recognised by the Review Group that the City would struggle, purely on the basis of confined space, to double its number of trees within its boundaries. However, the importance of raising the issue and promoting opportunities was fully endorsed.
162. Alistair Morris, of Marston Community Garden, was able to report his experience of working with the Council to plant 650 trees on Council-owned land. A video can be found [here](#) about the event. The message the Review Group heard was that the issue of the Climate Emergency was beginning to take root amongst the general public, and greater numbers of people were wanting to engage in tangible responses to it, in particular tree planting.
163. Growing interest in tree-planting, however, is insufficient. To realise the full benefits of any tree-planting efforts some knowledge is required. This can be fairly basic information, such as where to source trees, how to dig the holes for them to be put into. However, understanding the types of trees that would be suited to the environment and terroir, the mix of species that would work best together and would provide the fullest biodiversity support, the space required for different varieties, ongoing tree-management techniques, as well as the legal issues around planting trees on someone else's land are all areas of not insignificant specialism.
164. Though not backed up by evidence, anecdotes indicate that there is a greater interest in tree planting in Oxford's affluent areas, and a relative paucity in those areas scoring highly on the indices of multiple deprivation, suggesting that there may be a greater concentration of knowledge and experience about tree planting in the former rather than the latter, and that greater support may be required to ensure less wealthy areas of the city can enjoy the benefits of tree planting.
165. The Review Group's suggestion is that a two-track approach is required. Firstly, that basic information be made available and promoted for groups wanting to engage in small-scale planting, possibly on their own land or even their own gardens. Secondly, the creation of a buddying scheme to match groups in the City where there is interest in engaging in bigger and more complex initiatives, but where the experience is lacking.

Whilst the Council's relationships with a number of community groups and grant funding of organisations which may hold tree-planting expertise make it the natural choice for initiating such a scheme, it is felt that in the longer term such a scheme is better being community-owned and led.

40. That the Council develops a 'how to' resource for interested community groups and individuals wanting to engage in tree planting but do not know where to start, including where to access expertise.

166. One area in which it was suggested that the Council could potentially improve its support for community groups wishing to engage in tree planting would be through making machinery more readily available. Whilst the number of trees planted does not impact the 'community' nature of community tree planting initiatives, the benefits of such initiatives go beyond the community spirit engendered; the provision of a more pleasant environment, creation of new habitats and food-sources for wildlife, and sequestration of carbon tend to be improved by the planting of trees in greater volumes.
167. Feedback was received that previous tree planting initiatives had sought support from the Council in bringing in mechanical support for the digging of holes, which would increase the number of trees able to be planted at one time significantly. However, the Council was unable to provide such assistance.
168. It is noted that community tree planting initiatives, particularly at a scale requiring mechanical support are likely to be infrequent. It is therefore felt that the Council, through its wholly-owned company, Oxford Direct Services, may have capacity to support such activities through the provision of machinery and operators without significant burden. Indeed, pro bono work may prove to be a good opportunity for the company to raise its profile locally.
169. It is recognised that there may be alternative ways of doing pro bono work, and that if left unchecked the expectation on Oxford Direct Services could escalate to an unreasonable level. It is suggested, therefore, that the Council seek Oxford Direct Services to develop a pro bono or similar policy to enable occasional public support to schemes such as community tree planting and other landscaping projects, but also to give consideration to the practical and business considerations around ensuring that transparency, safety, capacity and publicity are all managed.

41. That the Council facilitates landscape improvements and tree planting with community groups by making ODS machinery and staff operatives available.

International Efforts

170. External guest Councillor Sue Roberts was particularly key in raising the opportunity for feeding into international conversations. In November 2020 the annual UN Climate Change Conference (or Conference of Parties 26) is due to be held in Glasgow.
171. The precise agenda for the event is not known. However, on the basis of the Council having held the UK's first Citizens' Assembly on Climate Change it is felt that it has an important contribution to make on popular attitudes towards Climate Change issues, and that the two key priority areas should be around the urgent delivery of housing which will

not need to be retrofitted shortly after it is built, and the ecological impacts of the Climate Emergency.

172. It was suggested that the most practical way of the Council feeding its views into an international conference would be via UK100, which is a network of local authorities focusing on climate and clean energy policy. A representative is expected to be attending the meeting, and is considered the Council's best option for putting forth its views on priority issues.

42. That the Council expresses its support for the recovery of nature and zero carbon housing at the Conference of Parties 26 meeting in Glasgow in November 2020 via its UK100 representative.

Offsetting

161. Within the last year the Council has undertaken to become net zero within its own operations. The major change enabling this to be a possibility is the purchase of not just renewable electricity, but also 'green gas' which is produced through anaerobic digestion of waste food or manure, or, preferably, grass. However, until all vehicle mileage driven by Council staff is made by electric vehicle or other renewable sources the Council will unavoidably have a carbon footprint. In order to achieve its ambition of being carbon-neutral, it is therefore necessary to offset the residual carbon emissions.
173. A large amount of the discussion around the Council's approach to offsetting carbon emissions took place outside the Climate Emergency Review Group, in the Budget Review Group instead. However, it has been agreed by the Climate Emergency Review Group that the discussions and recommendations should be included within this report also.
174. The three key objectives of the Council in regards to its offsetting are that it be credible (that it can be demonstrated to have reduced carbon emissions by the amount claimed), that it be value for money, and that residents have the opportunity to see something tangible.
175. At present the Council has no policy on offsetting, but it has suggested that it would only offset using British Standard PAS2060 accredited offsetting schemes. This is supported by the Review Group for the assurance it provides.
176. One suggestion given initial thought by the Council was whether it would be possible to set up, possibly with neighbouring districts, its own accredited scheme, which would deliver very tangible benefits to local people. However, it was suggested that the cost and difficulty of securing accreditation would make this challenging, and that further, it would not be an efficient use of money. The land on which a tree may be planted in Oxfordshire, for example, is significantly more expensive than in other places in the world. The Council would, therefore, be paying more than necessary to offset its carbon emissions.
177. This area is complex, and decisions on how to implement it will require trade-offs between desirable outcomes, meaning the Council is encouraged to seek a report to draw out these issues and to understand the consequences of different actions. One potential solution, and one which has the support of the Review Group, is outlined below.

178. Most carbon-offsets are designed not only to produce the required reduction in CO₂, but also to be of social benefit to the communities delivering that offsetting. A premium is charged on 'pure' offsets to fund the 'co-benefit' element. However, it is possible to purchase 'pure' (though still similarly accredited) offsets. Should the Council purchase 'pure' offsets it could invest the co-benefit premium in non-accredited but local environmental projects, which would provide an accredited and affordable offset with tangible local benefits. It is suggested that an easy means to achieve this would be through payments being made to the Lord Mayor's Climate Fund, which has the benefit of being locally established.

43. That the Council devises a policy which balances the delivery of efficient and accredited offsetting with tangible local benefits. Specific consideration to be given to investing in 'pure' carbon-offsets and donating the spread figure between the price of those and 'co-benefit' carbon-offsets to the Lord Mayor's Climate Fund.

Sustainable Travel

179. To inform its consideration of how it might approach issues relating to sustainable travel the Review Group was joined by Harriet Waters Head of Sustainability, and Susan Halliwell, Director for Planning and Place at Oxfordshire County Council under whose responsibility transport falls.

180. Oxfordshire County Council is the Highways authority in Oxfordshire, meaning it holds responsibility for the management of the majority of the road network, but also has a wider remit for forward planning the County's transport needs. Whilst the City Council has worked with the County Council on a number of initiatives to support more sustainable transport, such as the Zero Emissions Zone in Oxford and the Connecting Oxfordshire strategy, it was felt that as the City Council was only involved in strategic transport issues as a junior partner, focus of the discussion should be on what it could do to improve the sustainability of its transport on a more practical level.

181. It was reported that Oxfordshire County Council had been considering issues of sustainable transport from an organisational perspective, and three overarching issues were identified. Firstly, the carbon emissions generated by staff coming into work, and secondly the emissions generated by staff movements at work, and thirdly those emissions arising from the deliveries needed to keep the organisation going.

182. Whilst the benefits of staff working from home are not perhaps primarily related to reductions in commuting mileage, the ability to use technology to obviate the need to commute at all was a significant benefit. Technical investment and an organisational culture supportive of working from home was therefore an important element in reducing commuting. Remote working is an area in which the City Council is already strong. Likewise, it and the County Council are similar in offering incentives to travel by less-polluting means, season ticket loans and salary sacrifice for the purchase of bikes.

183. To tackle the emissions incurred as part of work the County Council reported implementing a number of measures. Fleet management was centralised, and a policy of non-electric by exception was instituted (fire engines, for example, are not currently

available as electric vehicles). This meant use of pool cars, for example, became non-emitting. Alongside that, the Council invested in pool bikes, including electric pool bikes. An important question for the County Council was also where staff offices were located in relation to the work they undertook. Work was undertaken to optimise where staff were based in their offices, to reduce the need for travel in the first place.

184. Discussion around consolidation of the County Council's deliveries suggested that the City Council is already doing well on this. In particular, the Council is working with its companies to make its delivery system more efficient, having items be delivered routinely to the place they are required rather than a central depot and then being collected from there.

185. Feedback from Oxford University echoed a lot of the themes that were mentioned by the County Council – the electrification of the fleet, reducing parking availability to encourage use of sustainable alternatives, and the consolidation of journeys where possible. Of high importance for the University, but of less relevance to the Council were the steps taken to reduce the amount of air miles incurred by staff.

186. The Review Group makes in response to the discussions a number of recommendations around:

- Reducing staff commuting emissions
- Reducing work-related travel emissions
- Supporting wider modal shifts

Reducing Commuting Emissions

1. The Council as part of its Workforce Equalities Report profiles where its staff live. As of March 2019 (the last reporting period) a minority of staff lived within the city-boundary OX1 – OX4 postcodes (37%), and had shown year-on-year declines for three successive years. This indicates that a growing number of staff are facing longer commutes, increasing the likelihood of journeys being made by car.
2. It is recognised that the absence of car parking at St Aldate's Chambers means that staff, apart from motorcyclists, are required to arrive from the final leg of their journey by sustainable modes of transport – walking, cycling or bus. However, in light of the fact that a majority of staff come in to Oxford from outside, the likelihood is that for many the bulk of the journey could be being made by car – driving to the park and ride, for example.
3. Because the number of staff having to commute longer distances is increasing there is a danger that the number of commuter miles will also increase. The Council does provide support to reduce these, for example season-ticket loans, electric car leasing at preferential rates, and equipping most staff to be able to work from home. However, it is felt that in order to tackle what is likely to be a growing issue, and also to measure the success of the Council's interventions, it is necessary that the Council begins to monitor this and set targets for its reduction.

44. That the Council introduces a corporate target on the number of miles driven by staff per month in commuting to work, and seeks similar targets to be instituted for its companies.

191. One area of support provided by the Council to staff is its offer of a Cycle to Work scheme, whereby staff can make a salary sacrifice for the purchase of a bike, reducing their tax liability. Until recently, the Cycle to Work scheme had a £1000 cap on the value of bike and equipment that could be taken out placed on it by central government. However, many electric bikes cost significantly more than £1000 so were not eligible for purchase under the scheme. In 2019 the £1000 cap was lifted, meaning that electric bikes, particularly suitable for longer commutes, could be purchased through the scheme. It is the view of the Review Group that this is an opportunity to raise awareness of the Cycle to Work scheme generally, but in particular to promote and encourage longer-distance commuters to switch their mode of transport.

45. That the Council, and its companies, use the opportunity of central government's removal of the £1000 Cycle to work cap to support staff in the purchasing of electric bikes through statements of support, internal awareness-raising of the Cycle to Work scheme, and organising trial opportunities for electric bikes.

Reducing Work-Related Emissions

192. Whilst the City Council does incur work-related emissions, the smaller workforce, the confined nature of the city's boundaries, and the greater-emphasis on office-based work as opposed to site-based work mean that the potential savings are smaller compared to the County Council, and to model the City Council's response on the County's would be mistaken. Nevertheless, it is an area which the Review Group considers to be one which merits greater consideration. It is noted, however, that Council already does a lot in this area, such as providing sustainable alternatives to cars.

193. Discussion was held by the Review Group on whether the Council should begin to consider implementing a differential rate of reimbursement for mileage undertaken by electric and petrol/diesel vehicles. No full conclusion was reached on this, because although the Review Group were keen to see that the Council would be incentivising sustainable modes of travel, it would equally be the case that those unable to afford a new electric vehicle would be financially penalised.

194. One area which was considered, was whether an offset option could be given for mileage. Council staff are felt to be supportive of the Council's Climate Emergency ambitions, but as referenced above, for some people changing their car makes no sense for them on a financial level, and may not make sense in terms of the embedded carbon incurred in getting a new car either. Making available an offsetting option would raise consciousness of the carbon cost of work-mileage, be a fairly negligible sum financially, and give willing staff an opportunity to address this issue without forcing it on unwilling ones.

195. One specific area considered by the Review Group was the applicability of the success of the partnership between Salford City Council and Co-Wheels car club. The Green Wheels initiative makes electric car club cars available to Salford City Council staff during working hours. By using electric hire cars rather than petrol cars Salford City Council has saved over £150,000 per year in costs, whilst also reducing its 'grey mileage' by 95%.

46. That the Council undertakes a review of how it can reduce work-related petrol/diesel miles, including exploring the potential for use of electric car club vehicles as an alternative to pool cars for staff travel. Also, whether it can include an offset option for staff wanting to contribute towards mitigating the carbon impact of their work journeys, and for a similar undertaking to be implemented in its companies.

196. The Council currently reimburses staff and members 20p per mile for cycle trips made with their own bikes on Council business. This is the maximum HMRC will permit without additional tax implications. Whilst costs for bikes are generally lower than cars (purchase price, running costs, no insurance, petrol or MOT) it was discussed by the Review Group that at under half the rate of car mileage the headline figure may appear more appealing to drive, and that that it may prove a greater incentive for cyclists if they were reimbursed at the same rate as cars, 45p per mile. It is recognised that this will have tax implications (and associated staff resource implications) as well as financial ones. However, on balance it is felt this may be a justifiable increase. It is felt that this should take place within a wider push to increase cycle-miles made for work journeys, which will require monitoring and promotion.

47. That the Council records and reports on the number of 20p per mile cycling payments made, and engages in promotional activity to increase the proportion of work-related cycle journeys made including consideration of the financial impact of increasing the rate to 45p per mile.

Supporting Wider Modal Shift

197. An [American study](#) suggests that the provision of journey-end facilities for commuters (showers, lockers and changing areas) is responsible for an almost five-fold increase in the likelihood of workers commuting by bike (4.86). Cycling faces challenges in improving its usage because it relies on multiple requirements being present at the same time – safe routes, secure bike parking and journey-end facilities; provision of one but not the others is insufficient to make a significant increase. The provision of journey-end facilities is a necessary component in increasing the likelihood of commuting by bike, even if on its own it is not sufficient.

198. The Council owns four well-distributed gyms and leisure centres in Oxford. Each has changing facilities and showers. A cheap ‘shower and change’ membership would increase supply of a key element in significantly improved numbers of cycling commuters. It is suggested that the business case and practicalities for this are explored further.

48. That the Council consults with stakeholders on the feasibility of ‘shower and change only’ memberships at Council-owned gyms and leisure centres.

199. Feedback from the University of Oxford heavily endorsed the view that prompting changes in behaviour around travel was reliant on a combination of encouragement and coercion. One of the successful coercive elements was the reduction in parking spaces made available to staff. Though it was unpopular amongst staff who were forced into behaviour change, it was discovered that the wave of staff arriving afterwards and who had not had access to parking were accepting of the fact.

200. On a City scale, reducing parking availability for commuters is considered to have a similar impact – initial opposition with acceptance over time. One means of limiting such parking is the creation of Controlled Parking Zones, which limit parking to residents during certain periods (usually working hours), thereby making unavailable parking for commuters. The City Council has previously given its support to proposals coming from residents via the County Council to introduce such zones, and it is felt important that it continues to do so where there is demand.

49. That the Council continues to give its support to County Council applications for Controlled Parking Zones.

Part 6: Supporting and Enabling Actions

201. Some areas of discussion heard by the Review Group were broad areas of activity which underpin and enable other elements of the Council to make progress on environmental objectives. The recommendations arising from these discussions are detailed below.

202. The Council has a team dedicated to environmental and sustainability issues. It is a high performing team which has achieved some notable successes; working in partnership with other local stakeholders the City Council has managed to secure £84m of inward investment, for example. That team, however, is one of multiple teams within the Council, and with the increase in priority of carbon-reduction across the Council it is no longer sufficient to seek to meet the challenge posed primarily by one team; the changes needed require a corporate approach. Part of the purpose of the Council's human resources team is to ensure that the skills within the Council are fit for its purposes. It is suggested that in light of the importance of transitioning to a whole-Council approach to tackling climate change, a specific body of work be undertaken to audit the Council's skills and capacity in this particular area.

50. That the Council audits the workforce skills and capacity required to deliver the Council's commitments on Climate Change.

203. For its report for the Citizens' Assembly the Council made use of carbon data modelling to help demonstrate the necessary changes required to meet different scenarios. Dr David Hancock encouraged the Council to continue its use of carbon modelling to provide a clear understanding of the carbon-impacts of different policy decisions. The Review Group concurs with this suggestion; it is important that accurate understandings of the carbon impacts of policy decisions are available prospectively, rather than retrospectively, so that these can be factored into the wider decision-making process. It is also the case that data modelling allows greater tracking and measuring of overall carbon emissions, which is also an important datum when considering future carbon expenditure. A good example provided by Dr Hancock of such modelling was the Centre for Digital Built Britain

51. That the Council begins to model the carbon effects of its proposed policy decisions using data modelling akin to the Centre for Digital Built Britain.

204. One area of potential improvement for the Council was identified by an external member who had worked with the Council on carbon-reducing projects. There was the perception from outside that the Council is very well geared to apply for money to trial new things and gain learning, but it is less successful in embedding that learning within its longer term culture, that some of the value of the new learning is lost at the end of the project. Given the importance of external grant funding in addressing new challenges, any truth would indicate a loss in the potential benefit from such funding.

205. The Review Group makes no judgement as to the accuracy of this suggestion; it is after all one person speaking about one project. However, at the same time it is important that when feedback is received it is acted upon. To that end, the Review Group seeks only to remind the Council of the importance of embedding learning developed

from pilot projects, and to remember that the key benefits of delivery arise from after a trial project is completed and the learning is put into practice.

52. That capacity-building to act upon learning is included within bids for grant funding.

206. At present, the Council monitors its CO2 emissions, which helps to inform its decision-making. Whilst this is recognised to be valuable, it is the view of the Review Group that the figures may not provide a complete measure of the CO2 emissions under the Council's control. One area particularly was highlighted: the Council's housing stock. The Council's own housing stock at 7740 properties is a significant contributor to CO2 emissions within the city. The Council's ambitions for retrofitting also reflect this fact. However, at present, the Council's monitoring for its CO2 emissions does not include data from Council homes themselves, only their communal areas.
207. There is a logical justification for this position; that tenants are responsible for their energy usage and, as referenced in this report, human behaviour has a significant impact on energy usage. It would be a mistake to make the Council responsible for the usage of its residents. However, this is only partially the case. The energy-efficiency of a building is the primary determinant of its energy usage, with behaviour being an important but secondary consideration. Responsibility for the energy efficiency of its properties lies with the Council. As such, inclusion of anticipated energy consumption from the Council's properties, rather than real figures, is felt to be a fairer measure of the Council's CO2 emissions. Furthermore, by including this information within its measurements, the Council would be able to measure and demonstrate the positive impact of its retrofitting measures on CO2 emissions.

53. As part of its carbon monitoring and reduction, the Council includes estimates of energy use from Council housing, rather than simply their communal areas.

208. A further area of the Council's emissions which is under-reported is its own contractors. The Council can quite plausibly manage to reduce carbon within its own operations, but at the same time be procuring services which have a very significant carbon cost. Large developments, such as the OxWED development, for example, are particularly prone to causing this situation. To get an accurate understanding of the Council's overall carbon impact it is necessary that these figures are included. As such, it is the recommendation of the Review Group is that the Council's measuring and reporting on carbon be extended to its procured activities.

54. That the Council will require companies from whom it procures services to measure the carbon cost of their activities and that the Council includes those costs within its carbon reporting.

209. The Council holds significant sums of investment. As of 31 December 2019 it held a total of £114.3m in investments. As a public body handling public money it is necessary that the Council is cautious with those investments, and that the pre-eminent consideration on investments must be their security, with liquidity and yield being important but secondary. Within that context, however, it is nevertheless possible to investigate whether the Council may use its investments to further its support for responding to the Climate Emergency.

210. With the government's removal of the Feed in Tariffs for renewable generation the viability of small-scale renewable projects has been significantly undermined. Tom Heel of the Low Carbon Hub informed the Review Group that future projects would need to be at greater scale. With greater scale, however, comes the challenge of greater up-front financing costs; without the guarantees of the Feed In Tariff the number of investors in renewable projects has reduced.

211. It is the view of the Review Group that whilst prudence with public money should remain the Council's priority for its investments, it should nevertheless investigate the possibility of whether it may be able to support renewable energy generation through investment in a secure manner, and if so, to adjust its Treasury Management Strategy accordingly to allow this to happen. The Review Group is particularly keen to see that cooperatives be supported as a model of broadening out community ownership for responding to the Climate Emergency.

55. That the Council reviews its investment criteria to enable investment in energy cooperatives, possibly through Social Impact Bonds or other means.

212. Awareness of this document arrived too late for the Review Group to consider its contents within the Review in detail. Nevertheless, initial responses to the Ashden '[31 Climate Emergency Actions for Councils](#)' is that there is much value in them, and the Review Group recommends that these are considered in more depth by the Council.

56. That the Council considers the 31 recommendations made by Ashden on actions Councils can take in light of the Climate Emergency alongside those made in this report.

Part 7: Post Review Group Council Initiatives

213. The Climate Emergency Review Group has been unusual in one particular regard. Scrutiny Review Groups tend to look at issues where the Council has an established position, but in this instance a Climate Emergency was declared in January 2019, the major output of which was the Citizens' Assembly which took place in in September and October 2019 following which further time was required to enable Ipsos Mori to analyse and write up the results. As a result of this, the Council considered and agreed a report detailing its initial response to the Citizens' Assembly on Climate Change on 19 December 2019, by which time two meetings of the Climate Emergency Review Group had taken place.

214. In seeking to provide a Scrutiny function to a policy area itself under development by the Council it was almost inevitable that a number of the ideas put forward by Scrutiny would already have been adopted by Council in its own response.

215. Not wishing to include recommendations for work which is already underway, it is nevertheless felt important to draw attention to these ideas. Having had Scrutiny independently reach the same conclusions in certain areas gives reassurance that these are indeed worthwhile responses that the Council should be making.

216. The following recommendations were drafted by the Committee but have already been implemented or announced prior to the publication of this report:

- a) That the Council pledges its support for Oxfordshire Trees for the Future's aim to double the tree cover in Oxfordshire by 2045 and, having done so, invites neighbouring district councils and the County Council to do the same.
- b) That the Council engages with the Wildlife Trust to develop Nature Recovery Maps and Plans, particularly in those areas where the City Council boundaries other districts.
- c) That Council as part of its Energy and Waste Supply Procurement includes consideration of power purchase agreements with the Low Carbon Hub
- d) That the Council makes a response to central government's Future Homes Standard consultation in line with the responses submitted by the Good Homes Alliance, Green Building Council or the Association of Environment Conscious Building.¹⁰

217. The Review Group is pleased at the action taken in the latter of these; with consultation period closing prior to the Review Group's report, the Council has responded early and in doing so has followed a recommendation made almost uniformly by the Review Group's external guests.

¹⁰ A response based on the [London Energy Transformation Initiative](#) model was made instead

Chapter 5: Conclusion

218. A strong underlying theme of this report has been the need for the Council to be innovative in finding ways to facilitate processes or uphold standards that could much more easily be delivered through central government. Significant tightening in Building Regulations, for example, would raise standards, as well as delivering the step-change required to see volume house builders develop supply chains to deliver such houses.
219. However, in the absence of central government ambition to match that of the Council and the views expressed by the Citizens' Assembly, the need for the Council to be innovative is greater still.
220. To meet the challenge faced it is important that the response to the Climate Emergency becomes part of the way the Council works and across all its functions.
221. This report has focused primarily on the theme of Buildings and identified a significant number of actions that can be taken to reduce the carbon impacts of buildings within the City. However, it is noted that despite its length, time and Council resources mean that this topic could have been looked at in far greater detail.
222. The Review Group is pleased to see, for example, that work is being undertaken to get a better understanding of the Council's non-domestic stock and its energy performance. Likewise, it is pleased to note that work is being done to give a definitive plan of how to bring its multifarious housing stock to a better condition. The incompleteness of this work, however, does mean that this report is more of a pointer for improvements rather than an exhaustive or definitive commentary on the subject. Continued effort will need to be made by the Council to deliver current plans, the suggestions made here, and to unearth future responses also.
223. The Review Group hopes that its incompleteness notwithstanding, the Council will consider and adopt its recommendations as part of that wider response to raise our ambition for how to tackle the Climate Emergency that confronts us all.

Appendices

Appendix 1: Landlord Case Study: Nottingham City Homes - Energiesprong

Introducing the Project

Nottingham City Homes have been awarded a £5m grant from the European Regional Development Fund to retrofit up to 300 properties using the Energiesprong model. The first 10 properties have been successfully completed, with the remainder in the planning or procurement stage.

What is Energiesprong?

Originating in the Netherlands, Energiesprong or 'Energy Leap' is an approach to building and retrofitting homes. In the UK, social housing tenants spend £4.2bn a year on energy; £5.2bn a year is the amount spent each year on social housing.¹¹ The Energiesprong approach seeks to ensure that the money spent by tenants on energy can be used instead to fund improved and zero carbon homes.

There are three key components to the Energiesprong approach

1) Zero Carbon Homes

Energiesprong homes, when retrofitting, must deliver at least an 80% reduction in energy usage. With the use of renewables generation also the homes are zero carbon.

2) Guaranteed performance

Energiesprong-built properties are built to a set of performance criteria. However, contractors are employed not only to design and build the properties, but also to guarantee their performance against the criteria, with ongoing monitoring of performance.

The performance indicators are detailed on the next page:

¹¹ Nottingham City Homes presentation

Property	Performance Level
Thermal performance	<30 kWh/m2
Hot Water	140 litre @ 45°C
Heating Levels	21°C/18°C
Net Consumption	Zero to 1,500 kWh
kWh Allowance	2,300 kWh
Noise in-property services	<30dBA
Noise outside	<42dBA
Summer overheating	26°C bedrooms < 300 hours per year 28°C living room < 300 hours per year
Monitoring	Live/historical temperature, hot water and electricity consumption
Humidity & CO2	New build ACH rate
Installation time	<10 days

3) Minimal disruption to tenants

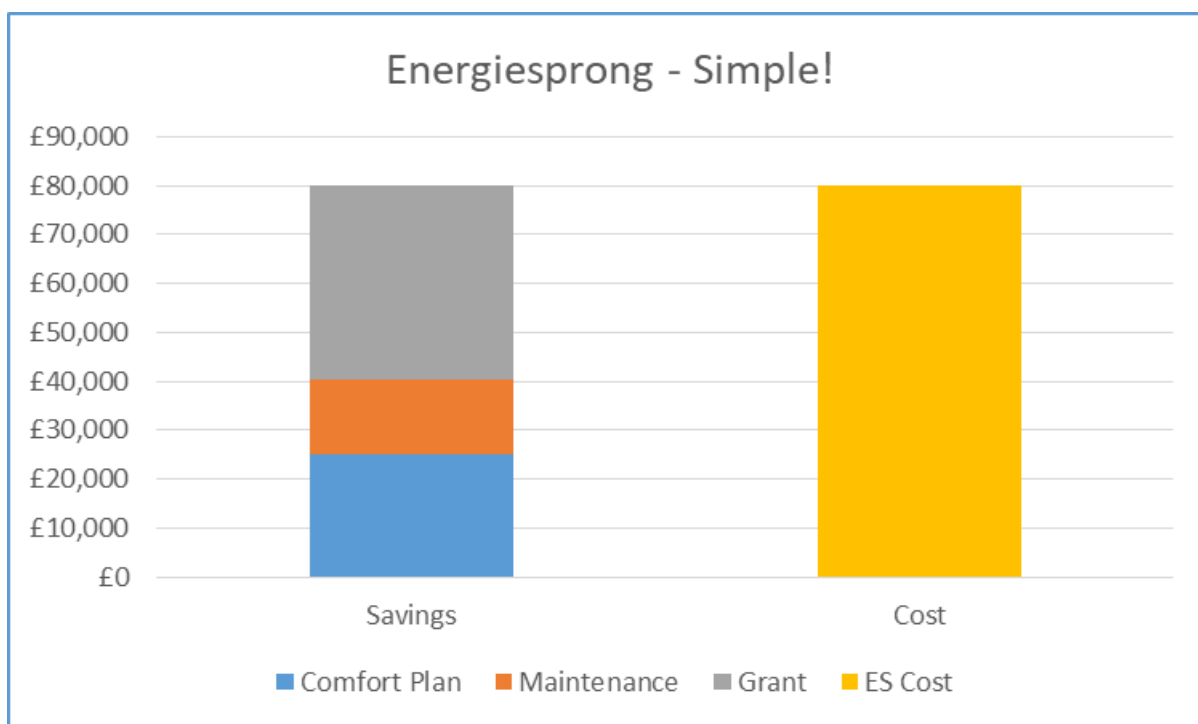
For retrofitting, it is important to ensure that disruption to tenants is kept to an absolute minimum. As such, contractors have only 15 days on site in which to complete their work. Whilst it is not in itself prescriptive of the technologies or construction techniques used to deliver its performance requirements, the short time frame means that contractors do a lot of prefabricating off-site.

The Financial Model

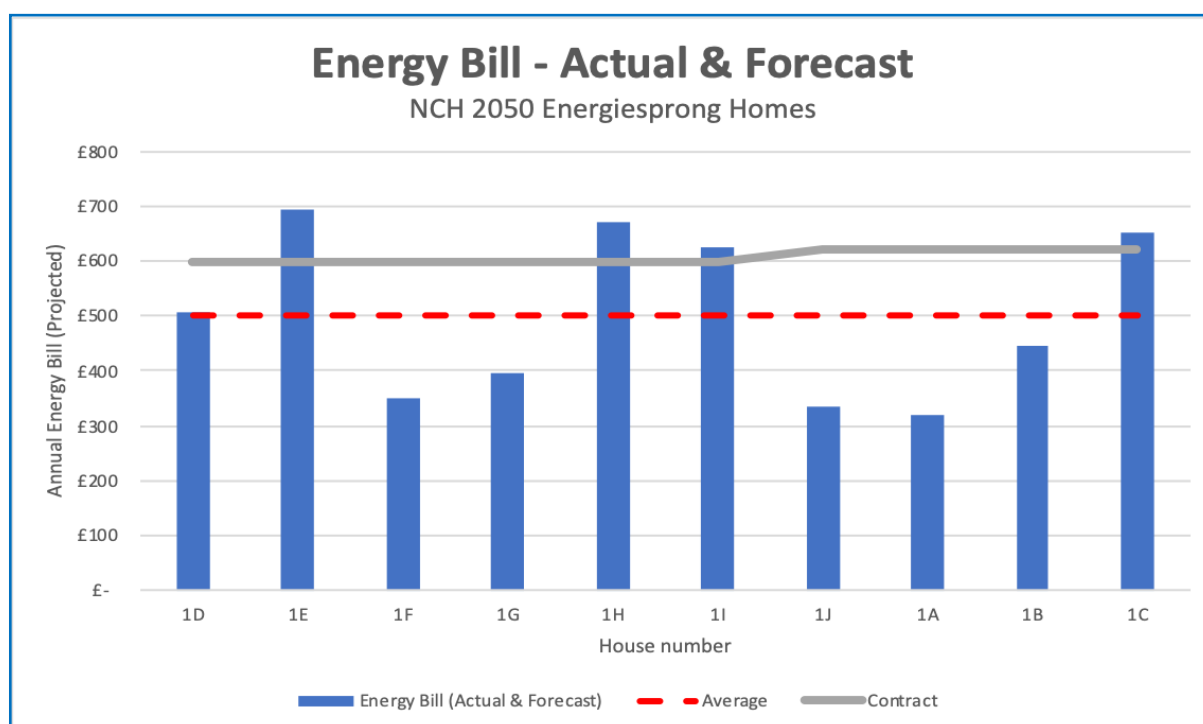
The cost per property of retrofitting the first ten Nottingham City Homes was an average of £80k. However, with the development of supply-chains this is expected to reduce to £62k by the end of the project.¹² Whilst this cost did require financing up front, the key financial innovation of the project was to use the savings made by tenants through reduced energy costs on guaranteed energy performance buildings as a means of offsetting the cost of the retrofit.

Tenants are charged for a 'comfort plan' based on their existing heating bills, so that the savings made repay the original financing cost. With a – relatively short – payback period of 30 years, the comfort charge was sufficient to offset approximately 30% of the costs at the early-level construction price. Over a longer payback period, at larger scale and on new-builds the proportion of that offset would be hoped to increase.

¹² <https://www.theguardian.com/society/2019/jan/07/dutch-eco-homes-idea-arrives-in-uk-and-cuts-energy-bills-in-half-nottingham-energiesprong>



Though the financial savings of reduced energy costs are not shared between tenants and the landlord, monitoring of energy usage shows that energy bills, including the cost of the comfort plan, have been on average £100 less per household than predicted, meaning tenants also benefit financially.



Finding out more

The official Energiesprong website can be found at: <https://energiesprong.org/about/>

Nottingham City Homes run meetings every two months for Councillors and housing professionals, which can be booked by contacting Sangeeta Handa at

Sangeeta.handa@nottinghamcityhomes.org.uk

Appendix 2: Construction Case Study: Greencore Construction's Springfield Meadows Development

Introducing the Project

Greencore Construction (D&B Contractor) and Ssassy Property (Developer) are working together at Springfield Meadows, Southmoor to deliver the UK's greenest housing development. The project consists of 25 homes. 6 are affordable rent, 3 are shared ownership and 16 are open market homes. The following ambitious targets have been set:-

- Zero carbon footprint.
- Passivhaus thermal performance.
- Net-zero energy in use.
- Electric car club and car sharing scheme.
- Partnership with BBOWT to boost wildlife and bio-diversity.



How is it delivered?

The houses are built using Greencore's own Biond Building System. This is a closed panel timber frame system that is insulated with Hemp-Lime and wood-fibre insulation. It is made "off-site" in Greencore's factory just outside Wheatley. The use of timber, hemp and wood-fibre (bio-based materials) sequesters bio-genic CO₂. The choices made at the design stage and the quantities of bio-based materials specified affect the carbon footprint as well as the thermal performance. Making appropriate choices can achieve a zero carbon footprint as well as Passivhaus performance.



The key step to achieving Passivhaus performance are:-

- Excellent insulation.
- Eliminating thermal bridging.
- Excellent air-tightness.
- Triple glazed windows.
- Heat recovery ventilation system.



Having reduced the heating requirement to less than 15kWhrs/m²/a (Passivhaus standard), it is then possible to look at reducing the energy required for the house:-

- Use electric heating.
- Use a mini Air Source Heat Pump (ASHP) to heat the hot water.
- Provide Photo-Voltaic solar panels (PVs) and battery storage.
- Use a smart control system to optimise the energy generation, storage and use.

At Springfield Meadows, the total annual electricity use has been calculated (for typical use) and sufficient PVs have been provided to generate this amount each year. This means the house is net-zero in its energy use.

The combination of all the above steps have allowed Springfield Meadows to be recognised as a One Planet Living Global Leader. Although this is the first time a housing project has achieved all of these targets at the same time, *there is nothing new here. It can be done by any builder or developer on any project.*

Appendix 3: Construction Case Study: Goldsmiths Road, Norwich

Introducing the Project

The Goldsmiths Road development in Norwich is a RIBA Stirling prize winner and the largest social housing Passivhaus development in the UK at 93 homes. Crucially, however, it is a scheme which has been delivered by Norwich City Council rather than passed out to a development partner or housing association, and 100% of the homes have been made available for social rent.

How is it delivered?

Certificated Passivhaus homes such as these are designed and quality assured according to Passivhaus principles. However, a number of the key features are below:

- A 'fabric first' approach, ensuring air tightness is high and u values low. Windows, for example, are triple glazed and letterboxes are removed.
- Mechanical heat ventilation recovery systems to provide fresh air whilst retaining warmth
- Maximising the sun in design: houses are deliberately designed so that the principal rooms of the dwellings face south, capturing the heat from the sunlight. The overall development is low-rise to prevent overshadowing and allow sunlight to reach these rooms even during the lower rise periods of the year.

The cost of energy per property is approximately £150 per year.

What are the numbers?

Key to its viability is the design of the overall development, with a significant proportion of flats, and a narrow 14m between blocks of houses, allowing a high density of development. The cost of delivering to Passivhaus standards was considered to be higher than a traditional build, by between 10 and 15%, costing £1875 per m.