

## Bioregional's response to application 2101630/OUT

Bioregional have assessed a range of documents submitted with the application 2101630/OUT against the Eco Towns PPS and Policy BIC1 from the adopted Cherwell Local Plan. A full table is provided below.

Name of application:		2101630/OUT Firethorn		
Policy Bicester 1	Evidence/response	Reference	Compliance and next step	Stantec UK Response
<b>Housing</b>				
Zero Carbon housing (The definition of zero carbon in eco-towns is that over a year the net carbon dioxide emissions from all energy use within the buildings on the eco-town development as a whole are zero or below.)	<p>Various places in application documents:</p> <ul style="list-style-type: none"> <li>- True Zero Carbon Development that is adapted for climate change</li> <li>- Land North West of Bicester strives to be a valuable addition to the local community. The benefits for bringing the development forward are...(sic) True Zero Carbon</li> <li>- Land North West of Bicester has a three-tiered approach to achieving 'true' zero carbon on the Site....</li> <li>- <b>Development Principle 2</b> "True" zero carbon development</li> <li>- Achieving true zero carbon - An energy strategy will be submitted with the proposals for the development that aims to account for likely long-term influences arising from the UK commitments on climate change mitigation, the EU agenda on 'nearly zero energy buildings', the</li> </ul>	<p>Design and Access Statement – notably pages 110</p> <p>Energy Statement (Stantec)</p> <p>Technology Appraisal for Zero Carbon Homes (Stantec)</p>	<p>There is significant mention of True Zero Carbon within the planning documentation (notably in the DaS and Energy Statement) – however the Energy Statement does not go into the detail of the of how this would be achieved - this is due to the outline nature of the application.</p> <p>However, we would expect to see an indicative carbon balance to be presented that provides reassurance on the True ZC target to be met, this should include:</p> <ul style="list-style-type: none"> <li>- Baseline carbon emissions for the development (based on indicative scheme)</li> <li>- Proposed breakdown of compliance as per the energy hierarchy</li> <li>-</li> </ul> <p>We would expect to see a commitment to build to certain fabric efficiency e.g. in</p>	<p>Baseline carbon emissions and carbon emissions related to the potential dwelling emission rates (as defined in the Energy Hierarchy, Chapter 5) are provided in Table 6.1.</p> <p>Section 6.2 sets out the fabric efficiency standards that have been incorporated within the emission modelling.</p>

	<p>proposed changes to Part L of the Building Regulations and the projected reductions in grid emission factors.</p> <ul style="list-style-type: none"> <li>- An approach to 'true' zero carbon which is reflected in individual proposed plots and new homes through energy use and other technologies (on plot measures including low water and energy use within the home as well as centralised heat networks incorporating air sourced heat pump technology that provide a low carbon supply).</li> </ul>		<p>line with the FHS consultation or beyond e.g. Energy Use intensity targets as per LETI guidelines – currently this is not clear</p> <p><b>We would also expect to see further clarity around the topic of carbon offsetting. Whilst the provided energy statement does not mention offsetting, the DAS (page 110) mention the possibility of offsetting or off-site renewable energy projects would be required.</b></p> <p>It should also be noted that due to the primary fuel of the on-site DHN being gas and with changes to Part L of building regulations in 2021 it means that any source of heat from natural gas is likely to fail Part L (there is discussion with SSE that a phased replacement of gas may occur – however until the heat network is decarbonised or guarantees in place then a connection to the network is not possible). It is worth a discussion as this does have implication for the current exemplar scheme and future applications</p>	<p>The approach to carbon offsetting will need to be defined by CDC.</p> <p>The process and assurance for offsetting will need to be agreed as part of the Section 106 agreement.</p>
<p>Affordable Housing – 30%</p>	<p>Up to 30% affordable homes stated in DAS and planning statement - also further correspondence in the pre-app documentation</p>	<p>DAS – page 15 Planning statement Affordable housing statement</p>	<p><i>Would default to housing team at CDC to advise on proposed split between rental/intermediate tenues.</i></p>	
<p>Layout to achieve Building for Life 12 and Lifetime Homes standards</p>	<p>“The fa c i l i t i e s audit on the following page demonstrates that Northwest Bicester is sustainably located and</p>	<p>DAS</p>	<p>Documentation states that layout can achieve the Building for a Healthy Life criteria – but no further details are</p>	<p>[no comment from Stantec]</p>

	<p>fully meets the Building for a Healthy Life criteria through good access to existing off-site local facilities</p>		<p>provided. <i>Look to condition this assessment at RMS</i></p>	
<p>Homes to be constructed to be capable of achieving a minimum of Level 5 of the Code for Sustainable Homes on completion of each phase of development, including being equipped to meet the water consumption requirement of Code Level 5</p>	<p>Zero carbon homes and Code Level 5 can be achieved through a combination of the Future Homes Standard and solar power generation</p> <p><b>Nothing mentioned on water efficiency in line with Code 5 – but separate water technical note on achieving 105l/p/day</b></p>	<p>DaS</p> <p>Water efficiency technical note</p>	<p>No mention of Code 5 within the Energy Statement – we would expect that this is where mention should be made. However, as the code for sustainable homes is no longer used and the energy statement has indicated meeting the True Zero Carbon standard, through a combination of FHS efficiency standards of FHS standard and renewables which in essence would meet the code 5 standard.</p> <p>Further clarity could be requested from the applicant on this if required.</p> <p>RE: Water - there is no mention of water efficiency in-line with Code 5 which is stated as 80l/p/day – whilst we don't feel that this level of efficiency is required due to design interventions, we would like to see certainty and commitment to 105l/p/d and also stretch targets towards the RIBA climate challenge and/or Code 5.</p> <p><i>This could be through an indicative water calculator – in addition the costing used for justifying going further than 105l is based on evidence from 2014 – considerable improvements have happened in the industry around water</i></p>	<p>As noted Code for Sustainable Homes no longer exists and therefore cannot be certified or used in planning policy compliance.</p>

			<i>efficiency so this should be explored further.</i>	
The provision of extra care housing	No mention	N/A	Not sure if applicable for the site	
Have real time energy monitoring systems, real time public transport information and Superfast Broadband access, including next generation broadband where possible. Consideration should also be given to digital access to support assisted living and smart energy management systems	No mention of monitoring or broadband	n/a	<p>Not mention in the outline application document reviewed regarding monitoring.</p> <p><i>Would look to condition this as per previous Exemplar applications.</i></p> <p><i>We would also expect some mention or commitment on super-fast broadband</i></p>	<p>Section 8 provides an entire background to delivering a comprehensive smart approach to energy, including energy monitoring.</p> <p>Super-fast broadband is standard in all new development.</p>
New non-residential buildings will be BREEAM Very Good with the capability of achieving BREEAM Excellent.	No mention	N/A	Not applicable as no mention of non-residential buildings	
<b>Infrastructure needs</b>				

<p>Green infrastructure— 40% of the total gross site area will comprise green space of which at least half will be publicly accessible and consist of a network of well-managed, high quality green/open spaces which are linked to the open countryside. This should include sports pitches, parks and recreation areas, play spaces, allotments, the required burial ground (possibly a woodland cemetery) and SUDS</p>	<p>At least 40% of the total site area will be delivered as GI. Opportunities for tree planting are included throughout the Site including street trees, tree groups, copses and woodland edge habitat</p>	<p>Numerous document – inc. DaS, ES and Planning statement</p>	<p>Mix of GI is provided and described within application material, however some key points to explore and discuss:</p> <p>Can't seem to find a landuse schedule that provides calculations of this 40% breakdown. This would be useful to see</p> <p>Cant see any mention of green roofs that are specified within the NWB SPD.</p> <p>Would want to see securing of buffer zones from key GI features such as the hedgerows and woodland areas. Would be good to see indicative cross sections of how GI can be multifunctional e.g. used</p>	
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			with play space and segregated cycle/walking route	
There should be a maximum walking distance of 800metres from homes to the nearest primary school	All of the proposed dwellings within the eastern parcel and the majority of the area of the western parcel are located within a 530m radius of the Gagle Brook Primary School. The remaining area of the western parcel is within an 800m radius around the school. Therefore, it is considered that the local primary school will be easily accessible on foot from within the proposed development.	DaS	Compliant from outline application – however, this looks to be based on ‘straight line distance’ it would be good to see at RMS the furthest homes if they are still with 800m/10 min walk once paths/roads are designed	
Community facilities– to include facilities for leisure, health, social care, education, retail, arts, culture, library services, indoor and outdoor sport, Play and voluntary services. The local centre hubs shall provide for a mix of uses that will include retail, employment, community and residential provision. Education, healthcare, community and indoor sports facilities will be encouraged to locate in local centres and opportunities for co-	Nothing provided within development documents	N/A	Reliance seems to be on the wider Elmsbrook facilities (with most not yet built). Would like to see that the planned and existing facilities are sized for an additional 550 homes (c.1200 residents).  An analysis of this demand based on indicative facilities within the local centre would be beneficial and advised.  S106 contribution would therefore need to be secured for secondary schooling and other community infrastructure.	

<p>location will be welcomed. Provision will be proportionate to the size of the community they serve. Each neighbourhood of approximately 1,000 houses to include provision for community meeting space suitable for a range of community activities including provision for older people and young people. A site of 0.5 ha for a place of worship to be reserved for future use.</p>				
<p>The submission of proposals to support the setting up and operation of a financially viable Local Management</p>	<p>Nothing mentioned</p>	<p>N/A</p>	<p>Nothing mentioned</p>	

<p>Organisation by the new community to allow locally based long term ownership and management of facilities in perpetuity</p>				
<p>Utilities – Utilities and infrastructure which allow for zero carbon and water neutrality on the site and the consideration of sourcing waste heat from the Ardley Energy recovery facility. The approach shall be set out in an Energy Strategy and a Water Cycle Study. The Water Cycle Study shall cover water efficiency and demand management, water quality and how it will be protected and improved, WFD compliance, surface water management to avoid increasing flood risk and water services infrastructure improvement requirements and their delivery, having regard to the Environment Agency’s guidance on Water Cycle Studies.</p>	<p>Nothing mentioned</p>	<p>N/A</p>	<p>Nothing mentioned on aspiration for water neutrality</p> <p>No real mention of Ardley EfW – although this would be based on a main heat link to the Elmsbrook energy centre. This is out of their control, but a feasibility study into whether a heat main could be developed if the 550 homes with the OPA did connect would be beneficial.</p> <p>That would mean c.1000 homes would be connected to a local heat network.</p>	<p>We understand that a feasibility study to heat network connection to Ardley EfW has been undertaken by CDC. The connection to the EfW is up to SSE, not the development or future developer.</p> <p>SSE have undertaken their own feasibility study on the decarbonisation of the existing heat network. Our understanding is their intention is to develop a ‘heat pump’ solution.</p>



<p>Zero Carbon (see PPS definition) water neutral development is sought. Development proposals will demonstrate how these requirements will be met.</p>				
<p>Waste Infrastructure – The provision of facilities to reduce waste to include at least 1 bring site per 1,000 dwellings positioned in accessible locations. Provision for sustainable management of waste both during construction and in occupation shall be provided. A waste strategy with targets above national standards and which facilitates waste reduction shall accompany planning applications.</p>	<p>Nothing mentioned</p>		<p>There is no obvious reference to waste targets for both construction and operation phases (as outlined by Eco Towns PPS ET19 (a and d). These include zero waste to landfill during the construction stage and ambitious household recycling targets above national targets.</p> <p>This applications should include an indicative sustainable waste and resources plan that covers both domestic and non-domestic waste which:</p>	<p>At an outline stage there are no building design and construction parameters that would make a sustainable and waste resources plan meaningful beyond the policy requirement.</p>

			<ul style="list-style-type: none"> <li>• sets targets for residual waste levels and landfill diversion</li> <li>• Establishes how all development will be designed so as to facilitate the achievement of the targets</li> <li>• Sets out how developers will ensure that no construction, demolition and excavation waste will be sent to landfill.</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>Design and place shaping</b>				
High quality exemplary development and design standards including zero-carbon development, Code Level 5 for dwellings at a minimum and the use of low embodied carbon in construction materials, as well as promoting the use of locally sourced materials	Exploring the use of sustainable materials and using recycled materials or locally sourced materials to reduce the carbon footprint and employ inventive ways to offset other resources used	DaS	<p>High-level commitment provided at Outline stage, but would expect to see commitment or target around:</p> <ul style="list-style-type: none"> <li>- %age reduction on embodied carbon</li> <li>- %age of materials and labour sourced within set miles from the site</li> </ul> <p>This would be in line and keeping with the principles and aspirations of NW Bicester</p>	
All new buildings designed to incorporate best practice on tackling overheating, taking account of the latest UKCIP climate predictions.			<p>Some consideration of climate change adaptation through passive solar gain and SUDs etc...</p> <p><i>However, would encourage a commitment through a condition at RMS on the creation of overheating analysis using TM59 with future climate scenarios</i></p>	<p>Consideration of critical health risks such as over heating will be extremely important in developing the detail design.</p> <p>Setting detail fabric energy efficiency targets at an outline stage is not appropriate without understanding the major risks to human life that overheating against future</p>

				<p>climate change scenarios.</p> <p>The Climate Change Committee's 6<sup>th</sup> Report states the risks and dangers to life with setting energy efficiency targets.</p> <p>Consideration of fabric standards and overheating need to be completed together, at detailed design stage.</p>
Proposals should enable residents to easily reduce their carbon footprint to a low level and live low carbon lifestyles.	Range of section mentioning low-carbon lifestyles	DaS	Although low-carbon lifestyles are mentioned in a number of places within application documents, the fundamental	

			<p>elements to consider are around travel and food.</p> <p><b>Key element to consider is around active travel:</b></p> <p>In my opinion the application does not go far enough to encourage active travel and is out of step with the aspiration for NW Bicester (50% modal shift target) and the 50% increase in walking and cycling committed to by Oxfordshire County Council.</p> <p>Suggestions include:</p> <ul style="list-style-type: none"><li>- Further detail to be provided on the walking and cycling routes – this site seems focused around the private car e.g. making sure all cycle routes are continuous and not cut across by primary or secondary roads</li><li>- No mention of cycle storage – a commitment for every home to have a cycle store that is easily accessible (e.g. not in gardens, but at front of house)</li><li>- Parking storage in key public realm spaces e.g. play and allotments</li><li>- Look to include charging for E-Bikes that are becoming more prominent and enable longer journeys by bike</li><li>- I have concerns that primary cycling routes are on the roads and not via</li></ul>
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			<p>segregated cycleways – with the increased trip generation this could make cycling undesirable/unsafe</p> <ul style="list-style-type: none"> <li>- A key focus should also be on improving cycle lanes outside of the site to key destinations e.g. train stations. Contributions could be sought to improve cycle paths beyond Bicester North station</li> <li>- Could offsite cycle provision be made on the B4100 to provide an alternative access to the site?</li> <li>- The current bus gate between phases 2 and 3 of Elmsbrook would need to be enforced as this is already being used as a rat run</li> </ul> <p>Additionally, food is a key component of low carbon lifestyles. At RMS would expect further detail on edible planting and provision of allotments – we would encourage a mix of food growing opportunities, not just formal allotment plots, but a mix of community gardens and raised bed opportunities</p>
<p>A layout that maximises the potential for walkable neighbourhoods.</p>			<p>Considerable mention of walkability and permeability within the application, however, a lot of this is dependent on the creation of the local centre within Elmsbrook.</p> <p>Further details of safe walking routes should be provided at RMS</p>

New footpaths and cycleways should be provided that link with existing networks, the wider urban area and community facilities with a legible hierarchy of routes to encourage sustainable modes of travel			Further detailed provided above on active travel. In summary – more focus required on integration of active travel modes. A suggestion would be to incorporate
A layout which makes provision for and prioritises non-car modes and encourages a modal shift from car use to other forms of travel.			Detailed provided above.  Would like to see indication that all homes are to be 400m from a bus stop – to help incentivise and promote public transport usage.  In addition, a key priority is around the inclusion of EV charging infrastructure. Currently there is no mention of EV charging points, we would expect to see a commitment for charging points for both residential units and within the public realm at key focal points.
Infrastructure to support sustainable modes of transport will be required including enhancement of footpath and cycle path connectivity with the town centre, employment and rail stations.			As mentioned above, more thought needs to be provided on properly segregated cycle paths that go beyond the red line but enable active transport modes. This could include a link over the B4100 to Caversfield Church.
Development that respects the landscape setting and that demonstrates enhancement, restoration or creation of wildlife corridors to achieve a net gain in biodiversity	The vast majority of existing features will be retained and enhanced, and a range of new features will be created. Overall net biodiversity gain will be achieved	Dash ES Planning Statement	Application states that Biodiversity Net Gain will be achieved, however I could not locate a Biodiversity Strategy that provides the metrics of how Net Gain would be achieved.

			<p>The application suggest that they are not committing to contributing to the off-site provision for farmland birds. This is actually stated in the NWB SPD - Section 2.231 whereby it requires that all applications within the masterplan area should contribute to off-site mitigation for farmland birds, we therefore suggest that this contribution should be secured.</p> <p>I also have some concerns that the current eastern part of the design lies within an area identified as green space within the SPD. The development of this area would reduce the amount of greenspace across the wider NW Bicester site. Consideration is needed on how this would affect future applications.</p>
<p>No development in areas of flood risk and development set back from watercourses which would provide opportunity for green buffers. Proposals should include a Flood Risk Assessment.</p>	<p>Site in Flood Risk zone 1 – with no significant risk of flooding (albeit small area to south where 2 rivers/streams are present)</p>	<p>DaS</p>	<p>Elements of the site are within flood zones 2 and 3 so would need careful consideration to ensure all proposed buildings are not located on these zones.</p> <p>Additionally, we would like to ensure that all flood risk mitigation measures have a 20-40% climate change allowance provided.</p>

<p>A Landscape and Habitats Management Plan to be provided to manage habitats on site and to ensure this is integral to wider landscape management.</p>	<p>Not provided</p>	<p>N/A</p>	<p>I could not locate this in the application documents I reviewed</p>	
<p><b>Additional ESD polices</b></p>				
<p>In what way does the development reflect fabric efficiency in its construction?</p>	<p>In accordance with the energy hierarchy, each plot should seek to adopt a “fabric- first” approach to building design (enhancing the performance of the components and materials that make up the building fabric itself, such as improving insulation and reducing cold bridging), before considering the use of mechanical or electrical services systems and renewable/ low carbon technologies.</p>	<p>Energy Statement</p>	<p>Further detail could be provided on indicative U-values of roof, wall, window etc... As per first comment, we would expect to see a breakdown of the indicative scheme and the role that fabric efficiency plays.</p> <p>We would expect to see a commit to build to certain fabric efficiency e.g. in line with the FHS consultation – currently this is not clear.</p>	<p>The project is at an outline planning stage. There are no buildings designed for the project. Its not appropriate to define U values at this stage. A vast range of parameters will influence building design and building physic parameters.</p> <p>As noted above FHS parameters are defined within Section 6.2 of the report.</p>
<p>In what other ways has the building been designed to use less energy?</p>	<p>Various sections in Energy Statement</p>	<p>Energy Statement</p>	<p>High-level information has been provided on daylighting and passive design measures as well as some active measures.</p> <p>We would expect to see a commit to build to certain fabric efficiency e.g. in line with the FHS consultation – currently this is not clear .</p>	<p>As noted above FHS parameters are defined within Section 6.2 of the report.</p>



For all residential developments for 100 dwellings or more; all residential developments in off gas areas for 50 dwellings or more; and all applications for non-domestic developments above 1000 sqm, has a feasibility assessment for District Heating/Combined Heat and Power been undertaken? (As required by Policy ESD 4) Yes/No	Yes	Energy Statement	Yes	
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<p>Does the feasibility assessment indicate that decentralised energy systems are deliverable as part of the development? Yes/No</p>	<p>No</p>	<p>Energy Statement</p>	<p>Not at this stage – due to uncertainty over the heat source of the current energy centre (gas not being compliant with Part L).</p> <p>However, a stand-alone ASHP driven system for this application I don't feel has been explored in enough detail.</p>
<p>If yes, do decentralised energy systems form part of the proposed development? (As required by Policy ESD 4) Yes/No</p>	<p>no</p>	<p>Energy Statement</p>	<p>no</p>
<p>For all residential developments for 100 dwellings or more; all residential developments in off gas areas for 50 dwellings or more; and all applications for non-domestic developments above 1000 sqm, has a feasibility assessment for onsite renewable energy provision been undertaken? (As required by Policy ESD 5) Yes/No</p>	<p>Provided within energy Statement</p>	<p>Energy Statement</p>	<p>Yes</p>
<p>Does the feasibility assessment indicate that onsite renewable energy systems are deliverable as part of the development? Yes/No</p>	<p>Yes</p>	<p>Energy Statement</p>	<p>Yes</p>
<p>If yes, does onsite renewable energy form part of the proposed development? (As required by Policy ESD 5) Yes/No</p>	<p>Yes</p>	<p>Energy Statement</p>	<p>There is a 'suite' of 'building-specific' technologies that could potentially be deployed at the Proposed Development. At this stage, the most suitable technologies are anticipated to be photovoltaic solar panels (PV), solar water heating systems (or solar thermal)</p>

			and heat recovery technologies (e.g. wastewater and air heat recovery).
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