



Notes and recommendations
from session 1 of Eco-town Challenge



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Preface

The Eco-town Challenge was established to challenge and encourage promoters of eco-towns to develop and improve their proposals and to inject new thinking and expertise.

The Eco-town Challenge Panel has now met with every eco-town promoter (and local authority representatives for the majority of locations). This document is a record of the first session of the Eco-town Challenge and includes a series of recommendations from the Challenge Panel to promoters of eco-towns. Some of these recommendations apply to all the eco-town schemes; others relate to specific schemes.

The Panel's observations and recommendations are an independent view. They are based on the Panel's interpretation of the Government's vision for eco-towns and panel members' own views on how the proposed schemes could deliver this.

The Panel's recommendations are not binding and promoters are free to decide how they respond. However, any subsequent improvement in promoters' development proposals would be viewed positively in the assessment process.

The Challenge Panel has no responsibility for assessing proposals or judging the relative merits of proposals. This will be for Government and Ministers will make the final decision on locations and schemes with potential to go forward as eco-towns later this year.

The focus of the Eco-town Challenge Panel is to help raise the standard of every proposal, in order to maximise the potential for eco-town development in every location. This supports the Government's ambition for eco-towns to demonstrate exemplary standards.

The Panel will convene for a second time in July. This will be an opportunity for the eco-town promoters to explain how they are responding to the Panel's recommendations and for the Panel to provide further encouragement and expert advice.

Introduction

The Eco-town Challenge Panel is an independent group of people with expertise in various aspects of urban development. The Panel exists to encourage bidders by challenging them to improve and develop their proposals to the point where they can be regarded as truly exemplary projects, which fit well within their surroundings, demonstrate innovative approaches to sustainable development and represent a 'step change' beyond what would currently be regarded as best practice.

The following comments describe what the panel has said to each set of proposers. Some of the common themes are also recorded at the beginning of the notes. It is now for the proposers to consider whether and how to respond to these comments through the further development of their ideas. The Panel will meet with each again during July to hear how they are progressing, although given the short period of time it recognises that those meetings will be to hear about 'work in progress'.

The Panel has not been asked to select or recommend which schemes should or should not go forward.

John Walker

Chairman Eco-town Challenge Panel

General comments

- Describe a 'day in the life' of a household living in the eco-town in 2020. Consider who will live there and what the town will provide for teenagers.
- Confirm who will own the vision for the eco-town and the mechanisms available to control development, monitor, maintain and improve standards. How would you ensure that the procurement of development in the eco-town encourages high design quality, from the development of the brief right through the development process? How would you protect quality over the long-term from degradation through expediency, changes in ownership and 'value engineering'? How will community involvement be secured and how will the community be empowered in the processes described above?
- Show how a strategy for functional green infrastructure (green spaces and corridors) will provide an attractive setting for development and enable the eco-town to adapt to climate change through measurable reductions in the heat island effect, water management and flood/drought amelioration, increasing biodiversity, fostering local food production and providing good outdoor recreational and leisure spaces.
- Ensure the vision for how public services will be provided, such as schools, is acceptable to local agencies on whose support it is dependent.
- In the UK each of us needs to reduce our carbon emissions by 80-90% and our ecological footprint by two-thirds if we are to be sustainable. Government targets are to achieve UK-wide reductions by 2050, but eco-towns aim to be pioneers showing what a sustainable future will look like. How will residents of the eco-towns be able to reduce their carbon and ecological footprint? Illustrate the carbon and ecological footprint of a resident of the town and principal components of carbon emissions and ecological footprint.
- Assess the viability for the town to become self-sufficient in various ways.
- Examine ways of extending the variety of housing tenure and development methods, for example through low cost self-build eco-homes within set design parameters.
- Show how lessons learnt from this innovative development will be identified and shared more widely?
- Describe the roadmap to 2020. What are the key milestones in the process? Detail how this process will achieve a step change in urban development standards.
- Develop the proposal's approach to risk planning. In particular, examine the resilience of the strategy to oil prices of \$300 per barrel and the impact of climate change on the area.
- Set out more clearly how the transport strategy will reduce private fossil fuel-based car travel against local average use. Quantify how the strategy contributes to the 80-90% CO₂ emissions reductions needed.
- Make use of the guidance given in the TCPA worksheets.

Panel comments

Marston Vale

The proposal for Marston Vale is encouraging. The breadth of thinking and work under way is impressive. The vision sees the abandoned quarries of former brick manufacturing sites' lakes around which housing will be provided, developing a sense of community identity. The development should capitalise on the economic potential of the site; **visualise what the local economy will look like and how employment will link to the proposed housing. Further develop the 'Made in the Vale' brand concept and link to the idea of new construction industries replacing the traditional brickworks. Creating initial marketing ideas should aid the establishment of a sense of place.**

The transport strategy lacks innovation; **develop transport assessments that go beyond the Department for Transport's criteria and towards the best standards found in Europe. Explore expected modal shift and carbon emission targets for transport with objectives set for 20 years' time. Provide detail on travel behaviour change, cycling and car-parking as per TCPA worksheet.** The New Marston bid is based on the extension of the Wixams and suggests development around new train stations on the Bletchley-Bedford line. This proposal uses Bus Rapid Transit plus rail interchanges. **Examine using the train line to a greater extent, potentially including a tram-train system linking central Milton Keynes to central Bedford.**

Illustrate the proposed densities at a neighbourhood scale, demonstrating the vision for each home to be located either by lakeshore or woodland. Perform a climate impact assessment to examine the implications for the proposed blue and green grids.

The approach to building standards and renewable energy shows potential. **Progress the strategy with more detailed analysis, specifically regarding the figures given for wind power and how the proposed biomass would be managed. Investigate the carbon footprint of a resident of Marston Vale and the percentage of the carbon emissions emitted from its buildings.**

The potential for food production on the site should be maximised, thus reducing the carbon footprint per capita. The proposal should be as ambitious as possible. **Explore an integrated approach to residential and commercial waste, potentially using the canal to remove material from the site and using the waste to generate energy.**

Culture change will be a major challenge and will be vital to achieving zero carbon, although pump priming may be necessary to ensure this is possible in the initial phases. **A clear idea of who owns the vision for the town is essential to maintaining standards in the long term. The proposed learning process needs further definition and development.** Explore fostering a partnership with local universities to formalise the knowledge accumulated during the process, to benefit both Marston Vale and other communities. **Demonstrate how the development's high aspirations will not fade both during the development and in the ongoing management.**

Hanley Grange

Hanley Grange is in an environmentally sensitive area of high growth. If the proposal is successful it could become a future exemplar as more sites will conform to these circumstances. However, **clarifying the impact of the development on the nearby SSSI is essential.** Part of the challenge in this already water-stressed area is managing the water supply to the development; **investigate the likelihood of the development achieving water neutrality.**

Test the assumptions made in the proposal regarding employment.

The town must not become a pure dormitory suburb. Eco-towns should create jobs by attracting new employers to the area, not just create homes for existing employment. **Confirm the type of employment expected in the area along with how the proposed transport links will fulfil both existing and potential employers' needs. Explain how the development will impact upon its surroundings including other areas of growth around Cambridge.**

While the proposal expects to reach 25-40% of travel by car, comparable to the highest standards in Europe, more work is needed on how this will be achieved. Look to the TCPA worksheets for direction. **If the settlement is not to become car-reliant, evidence that the proposed densities achieve the aims of the project will be vital in a climate of rising oil prices. Examine how cycling can be encouraged, potentially by extending the existing bikeway, and how links to rail services can be provided. The proposal should aim to deliver a Bus Rapid Transit system or better. There appears to be potential to extend the Cambridge Southern Busway from Addenbrookes, east of Great Shelford/Stapleford to connect with the Sawston Bypass. Explore this option while addressing the concerns of the local authority.**

Investigate the impact of the loss of agricultural land if development goes ahead. Expand on the integration and use of the proposed 35/40% open land and the extent of possible food production.

The proposal aims to be an exporter of energy generated from the anaerobic digestion of waste and that the revenue created will feed back into the Development Trust. While the principle is praised, **more evidence is required on the overall energy strategy for the site. Set targets for reducing carbon emissions from both buildings and the wider development. Describe the waste minimisation measures including a strategy for dry recyclables.**

Explore the relationship of surrounding areas' culture, namely science, technology and education to the proposal, allowing the development to be more reflective of the local community and exhibit a stronger sense of identity. Examine a 'day in the life' of an inhabitant of Hanley Grange in 2020.

Explain how the proposal will manage the capacity issues facing the local authority. How will these be overcome to prevent conflicts with existing development priorities?

Large land value uplifts and a charitable land owner provide an opportunity to create an exemplary model. The proposal for a Development Trust with Key Performance Indicators for success set by the community, along with ownership of services is commended. **Gain assurances from the land owners regarding the creation of the Trust. The Trust could be expanded by looking towards Freiburg, Germany where parts of the site were released for cooperatively developed housing within set design parameters. The Development Trust would also be important in maintaining a sense of identity and place, ensuring the development achieves high standards throughout its lifetime.**

Curborough

The proposal needs to be more ambitious, as it may be a good development by normal standards but it is not yet an eco-town. The bid is based on a current planning application where housing is wrapped around an existing business park. This means at the moment the 'eco' element feels like an 'add-on' to an existing application rather than embedded in the concept.

While the bid expects a significant proportion of the workforce from the business park, Fradley Park, to live in the development, the proposal should not rely too heavily on this existing high carbon employment. **Define the proposal's relationship to Lichfield and existing development at Curborough. The creation of sustainable transport options and additional employment opportunities are fundamental to the success of the site as an eco-town.**

The proposal lacks innovative transport solutions. The proposed Park and Ride combined with rail and the widening of the A38 risks residents continuing to rely on cars and adding to existing congestion. **The proposal should do without one car parking space per household and look towards a car-free development. Investigate using a tram-train giving direct access to Birmingham via Lichfield and maximising the freight rail potential on the site.**

Due to the history of the site, the proposal is too zoned, with employment and housing in distinct locations. **Examine the potential for more mixed use. Explore whether the proposal would still be viable without Fradley Park.** Filtered permeability, as described in the TCPA worksheets, would have a positive impact on the design of the development and also be effective in restraining car use, as practiced in successful European towns and cities.

Develop how the proposal will achieve zero carbon in all sectors. Ascertain how much carbon will be created by the community and explain how the buildings created would be different from what is built now. Use lessons learnt as part of a Carbon Challenge consortium to inform the proposal.

The development should tie in horticulture from the wider area, as a move away from the reliance on Fradley Park. Create an identity for Curborough through links with the surrounding woodland and develop a greater connection with Lichfield. **Capitalise on existing ecological assets and develop the proposed forested green corridor.**

Expand the development's waste minimisation strategies and power generation from the anaerobic digestion of waste, potentially collected from breweries in the area.

Illustrate the measures that will be put in place to ensure that the long term vision for the community will be delivered and develop the ideas about the town council. Think about who will be living at Curborough, their occupation and why they will stay.

Rossington

The proposal displays a strong vision for the town, setting European best practice as a benchmark and using the new proposal to regenerate the existing town of Rossington. There is an excellent ambition to be a UK exemplar, but can the development work in this location? The development faces challenges over transport, employment, the relationship with the existing community and the need for regeneration. However, it is not all bad; there are some strong environmental assets, including southerly aspect, access to open countryside, re-use of land and the waterways on the site.

The proposal occupies the brownfield site to the west of Rossington, three miles from Doncaster. A logistics depot was previously proposed for the site which would have benefited from the FARRRS scheme linking the M18 to Robin Hood Airport.

The proposal may require additional public money as the site has generally low land values and the first homes are to be delivered on the contaminated brownfield land. There also maybe some reliance on the creation of roads to release land value to pay for the development. However the eco-town brand may assist with raising land values.

Employment is a crucial issue and the site presents a unique regeneration opportunity. However, the bid relies heavily on employment associated with the airport, which is not consistent with the sustainable principles of an eco-town. Employment at the airport may cease to exist in a world where oil is \$200-300 per barrel.

Sustainable transport is not currently at the heart of the scheme, as there is a too great a reliance on roads particularly the FARRRS scheme and a clear statement regarding the airport is needed. **The proposal should continue to look towards Europe, and consider a Bus Rapid Transit system or tram-train solution, reopening the existing local train station and upgrading the line into Doncaster. Explore the potential to use the South Yorkshire line, Leeds to Sheffield with train operators and Network Rail. Look to the tram-train line in Karlsruhe, Germany, which is over 100 miles long, for an example.** There is also a need for a northern gateway into the site, again to raise land values. Look at how to create travel behaviour change and develop walkable communities.

There is a potential opportunity to pick up on Doncaster's historically strong engineering base, through creating green jobs via the supply of materials for eco-buildings, a market currently largely reliant on imports.

The energy strategy needs to be quantified. Examine cost-effective community wide schemes such as solar energy generation in Marstal, Denmark. **Initial ideas about micro-hydro generation should be expanded.**

The 'bottom-up' approach is commended; it is promising that the bidder is consulting with the community early in the process, as a step change will be needed in the lifestyle of inhabitants. **However the consultation should be taken wider to include new potential inhabitants of the town, in order for the development to not only deal with existing issues but look to the future.**

The site presents a good opportunity for UK Coal to regenerate a redundant colliery, applying the learning obtained from the new development to existing town. **Offer assurances from the landowners that regeneration is part of their vision and create a role for a delivery body with community ownership. The old and new communities need to be integrated to prevent a town of two halves. However, the proposal is strong on social sustainability; maintain this as the project moves forward.**

New Marston

An eco-town should be a trailblazing development, although at present the New Marston bid looks like a typical commercial scheme. **Develop the proposal to meet the brief for an eco-town, or as a minimum describe the process by which it will be developed and embedded in the strategy.**

It is unclear how this proposal capitalises on the opportunities presented by the site. The scheme focuses on providing housing for existing jobs in the area. **An eco-town must do more than this by creating new employment. New Marston needs a sense of identity of its own to attract a community to the town.**

The proposal concentrates development around the Wixams, but the diagram also shows a series of developments around new train stations on the Bletchley-Bedford line and states that 60% of homes will be within 1km of a rail station. **Develop this idea and show how it would be achieved, given that the other promoters own the land in this area.**

Progress the transport plan and in particular demonstrate how dependency on cars can be minimised. Consider other options such as Bus Rapid Transit, with frequent routes to change the modal shift away from the car.

Set hard targets for energy use. If carbon emissions need to be cut by say 80% leaving a carbon footprint nearer to two or three tonnes per capita rather than the current 12, investigate how much of that quota will come from buildings currently being developed.

Create a strategy to minimise waste generated by the development and set recycling targets, examining potential links with the recycling plant set to open at Rookery Pit.

Develop a clear design-led vision for New Marston detailing who would live there, what would be exemplary in 20 years' time and how standards will be set and maintained throughout the town's lifetime.

Ford

The proposal's strength of vision is commended; however, **the relationship with separate bid for an enterprise hub needs further explanation.**

The bid's breadth of thinking is commended, as is the clear understanding that an eco-town should set an example for sustainable living.

The site is challenging and the scheme needs to impact positively on issues that are currently affecting Arun, namely social deprivation, unemployment, an elderly population and a lack of social cohesion.

The concept develops the features and infrastructure of the site relatively well, adding a mixed-use employment core, an education campus, an energy centre next to the existing recycling plant and relocating the rail station.

Explore why businesses would be attracted to the area and explain how high calibre jobs will be pursued using the eco-towns brand.

Inevitably there will be some commuting to London, especially given the town's potential to become part of Thameslink, as development here could lead to its reintroduction to the programme. **Demonstrate how**

commuting off site will be minimised in this proposal. Funding the proposed A27 Arundel bypass should be abandoned, as it is not consistent with sustainable principles. Consider a radically different approach to transport, potentially using Personal Rapid Transit as demonstrated by the Ultra scheme under construction at Heathrow.

The Parkway, promoted by the enterprise hub bid, may not be sustainable in a world where oil prices continue to rise. **Provide more information on the public realm and examine how to create travel behaviour change especially related to workplace travel planning and cycling.**

Use the green space strategy as a starting point for the masterplan; the proposed network of green spaces, neighbourhood allotments, wetland habitat and the reintroduction of the canal could be instrumental to creating an identity for the area.

The ambition to create Code for Sustainable Homes Level 6 housing is praised. It is encouraging that the breadth of areas to be addressed is understood and that there are some numbers available. **The proposal should set targets for carbon emissions for all building types on the site as well as interrogating both design and construction techniques to demonstrate how this will be achieved.**

Establish how the proposed measures of success for the development, ie exporting energy, zero-waste off site, and net water use, will be achieved. Calculate the potential energy demand and how much energy in kWh can be generated through the proposed anaerobic digestion of waste.

Explore further the potential for local food production. Investigate linking this sustainable enterprise with schools and colleges in the area.

The lifestyle emphasis of the proposal is impressive, although evidence of local support for the scheme is needed. **Produce a road map to 2020 and a 'day in the life' of a habitant to focus on the behaviour change that will be needed to deliver a successful project. Look at the composition of the community, in particular the role of teenagers in the development.**

Demonstrate how the procurement and design ambitions of the project will be realised and describe how it will manage possible future growth. Propose how high standards will be maintained and detail assurances for the delivery of the town.

Weston Otmoor

The proposal is based around a developed transport strategy. However, it needs to address the possible wider implications on neighbouring Bicester and refine the concept to create a place where people will want to live and work. **Describe how residents of Weston Otmoor would be encouraged to commit to the community.**

The transport strategy is potentially transformational and uses tram-train, free travel and demand management for car-use. However, as residents may simply take the tram to the Park & Ride and drive to either London or Birmingham; **explain what will prevent the town becoming 'Commuterville'.** **Detail how the proposed road charging will be enforced and governed. Investigate possible options to connect residents to employers beyond Oxford station. Can extensions to Central Oxford (Cornmarket / St.Giles), John Radcliffe Hospital, BMW Cowley and related A34 employment sites extensions be provided by the proposal? Illustrate how the proposal responds to concerns that the tram system would be down-graded to buses once construction is underway. Assurances are needed that the costs for the free transportation will not wholly be passed on to residents,** thereby making the homes unaffordable for the majority. Also **demonstrate the viability of on-site transportation proposal.** The ongoing provision of the transport offer should be closely tied to governance as it will be an immense long-term commitment.

It is commendable that the masterplan has been tackled at this stage; however, some of the founding assumptions will need to be reassessed as the current masterplan replicates those of car-reliant settlements. Underlying the proposed masterplan's walkability and neighbourhood strategies is the delivery of several smaller primary schools. As this does not fit with the local authority's education policy, **revise the masterplan to incorporate the**

authority's policy and reflect the proposal's strong commitment to walking, cycling and public transport. Integrate employment and housing and ensure affordable family homes are provided.

Demonstrate that the proposed high street will be viable, given the proposed population, illustrating why residents would not shop in the larger centres of Bicester and Oxford. Examine the intensity of use especially at night time. Plan the process by which the buildings will be designed and discuss the greenbelt boundary with the local authority in order to better integrate the employment and residential areas.

Take a more holistic approach to a sustainable society. **Set targets to cut the carbon footprint of residents, reduce the need to travel and reduce the ecological footprint.** This must be a trailblazing development, articulate the vision in the main areas of environmental sustainability and look towards European best practice. **If the proposal intends to provide inhabitants with Code for Sustainable Homes level 6 housing, describe how this will be achieved.**

Parts of the site are currently in agricultural use. **Describe the implications of developing this land and explain how the proposal can maximise food production on the site and strengthen biodiversity.**

Detail the strategies for water management, waste minimisation and the potential growth of the town.

Illustrate how the quality of life in Weston Otmoor will be different from a resident of Bicester. Develop the approach to governance and how this would enforce the transport offer. The planning application should not be the high point of the development. **Explain how high standards will be maintained and possibly improved on over the course of the development.**

Bordon-Whitehill

The passion and commitment from the local authority is praised. The intentions are sound but there is not yet a vision of how to deliver an eco-town. **While a green town vision has been in action since 2005, the concept should now be pushed further to embed the eco-towns agenda.**

The arrangements of the land under the control of the Ministry of Defence will be crucial to the success of the scheme. There is uncertainty around when land will be available and whether the MoD's aims for 'best value' will reduce the potential for eco-town development. There may need to be high level political support to enable an eco-town development to go ahead. This development has the potential to change the way MoD sites are developed.

The loss of the garrison means that the area is estimated to lose 1112 jobs, 500 households and 30% of its school role, therefore creating a definite need to attract and encourage business and industry to the town. **Develop a plan of how to go about this, including who will be needed to make this happen. Also ensure that the development benefits the existing residents to avoid creating a town of two halves. Explore the level of jobs that can be built in the area, how can the town encourage residents to stay after they finish their education?**

Develop the transport strategy further, look at the travel plan area-wide, how to internalise trips and link transport to the public realm, use the TCPA worksheets as a starting point. Think about thresholds and scales of zero carbon transport and examine the potential to utilise the abandoned rail infrastructure of Longmoor Military Railway, connecting to the former Bentley-Bordon light railway, as a tram-train or Bus Rapid Transit system. As 75% of Bordon's residents currently drive to work, a huge culture change will need to take place in order for the eco-town to succeed. The right employment will reduce the commute.

The masterplan needs to progress as good urban design will be needed to help create physical links to the existing community. **Make green spaces fundamental to the masterplan and include food production and leisure activities. Take care to avoid a two-tier housing market and detail how the proposal will improve existing stock. Increase the density of the development in order to achieve walkable neighbourhoods and consider making part of the site available to self-builders with set design parameters, looking to Freiburg for examples.**

Set out more clearly the environmental objectives. The project needs to be pioneering. **Examine what the carbon footprint of a resident will be and how the proposal will achieve zero carbon. Give more detail on the possibility of using the managed forest as fuel for a biomass boiler. How could this be utilised on a community scale?** If the proposal establishes a boundary within which zero carbon will be achieved and then refurbishes existing buildings to a high standard, potentially using the new Passiv Haus refurbishment guidelines, the development will be exemplary.

Examine links to local farms, utilise the food production potential of the site and develop a waste minimisation strategy. Detail the proposal's approach to water management and assess the viability of water neutrality.

The community-based approach is impressive. Continue to keep the community emphasis while producing the technical targets. **Start working up the specifics of how the existing community will be involved in developing the plan. Progress the Development Trust concept to allow the local community to develop standards and have a role in the management of the town.**

Produce a timeline setting out key milestones for the project. Describe a 'day in the life' of an inhabitant in 2020. What would its residents be doing differently?

Pennbury

The Cooperative's governance structure and ethos mean the team is well placed to deliver an eco-town, but further thinking is required to ensure the proposal is exemplary.

Explain how the development links with the four local authorities it affects and the Regional Spatial Strategy it sits within. Detail the social and economic implications of the proposal on its surrounding area and assess what the effect the development will have on the regeneration of Leicester. Provide evidence that 12,000-15,000 homes is the right scale of development for the area. Show how this relates to both employment and the demand for housing, as the local authority states that the provision of 30% affordable homes is more than the numbers on their waiting lists. Estimate the parameters of the cost/benefit analysis in 20 to 30 years' time.

The transport strategy is yet to be finalised with the relevant local authorities, but should aim to be as ambitious as possible in this location. **Develop transport assessments that go beyond the Department for Transport's criteria. Describe what will stop the development increasing the congestion on the local road network and address the concerns of the local authority and local residents. Examine whether a tram would be possible or, given the difficulty of right-of-way, perhaps a radically new transport system such as Personal Rapid Transit. Examine how transport affects the public realm including the concept of filtered permeability as described in the TCPA worksheet.**

In the absence of a masterplan, describe the process for designing the town and its buildings. **Look to both blue and green grids as a starting point for the masterplan and approach to the public realm, examining the ownership of the green space between Leicester and Pennbury. Assess how the impacts climate change will be mitigated and managed. Consider how limits will be set for growth if the development is as successful as described.**

The proposal needs to deliver genuine carbon reduction. **Describe how the eco-building standards and other benefits could be spread more widely, for example by the provision of a centre for sustainable construction skills.**

There is potential for food production to become the exemplary aspect for this proposal; **explain how the Co-op's status as a major food producer will progress this vision.**

Describe the development's approach to water management and waste minimisation. Assess the implications of the loss of agricultural land and the affect on biodiversity.

The proposal exhibits good intentions of developing the project from the bottom up, however there are difficulties in consulting the community without masterplan options for the development. **Project what the town will be like and who will live there in 2020. Explain how high standards will be achieved and maintained throughout the project. How will the development make the step change needed for the town to be successful?**

Manby

The panel recognises both the potential benefit of an eco-town in this location and the local authority's commitment to sustainability and innovation. **Build on your enthusiastic approach to developing beach huts for the area and use it to inspire your approach to creating an eco-town at Manby.**

While there is a high demand for housing in the area, the location presents a number of challenges; it is in an Area of Outstanding Natural Beauty, large areas of the district are in flood risk zones and there are constraints on building in existing towns and villages. An eco-town is positive way of dealing with the environmental issue of flood risk.

The proposal displays a clear vision for developing the town's tourist industry. **Give more detail on how Manby will fit into the regeneration of Mablethorpe and link to Louth.** The proposal will potentially support the provision of higher level services in the locality as currently residents need to travel for both day to day products and employment. Attracting the right type of employment would aid the reduction in journeys.

The transport solution will need to be radical to address potential oil prices of reach \$300 per barrel and to create behaviour change in a currently car-reliant rural community. **Examine how to connect the centres of Manby, Mablethorpe and Louth to bring tourists to the town and take residents to jobs.** This will be a major challenge but if a successful strategy is developed, Manby has the potential to be a rural exemplar. **Investigate ways to reduce the need to travel and develop cycle routes for internal journeys. Explore the possibility of reinstating the disused railway line for tram-train; if this proves unfeasible examine the viability of other options such as guided buses or a network of electric cars. Develop a transport assessment and long term strategy for Manby, working with County Council. Look to examples of best practice in Europe, notably Freiburg and to the TCPA transport worksheet.**

The proposal will need to achieve an 80% cut in carbon emissions. Currently there is little detail on how Manby meets the eco-town brief. **Describe how the development will be zero carbon. Explore whether energy production could be linked to agricultural waste and give more detail on the proposed communal solar array strategy and CHP. Detail the extent of refurbishment to be undertaken to allow existing buildings become low energy.**

Develop the proposed strategy to reduce water consumption at Louth by retrofitting existing homes.

Progress the proposal's food production strategy, sourcing food locally and supporting the local food economy. Consider setting up a supermarket for local producers. Also examine how to strengthen the bio diversity of the area.

Develop the vision for what the town will be like and who will live there. The town will need to attract pioneers to encourage an entrepreneurial spirit. **Explore the potential for self sufficiency and low cost self-build eco-homes.** The proposal demonstrates good intentions to consult from the bottom up. **Demonstrate the benefits of an eco-town to the local residents but also take the consultation wider to allow new ideas and values to influence the design. Make Manby attractive to families and consider the role of teenagers in the town. Examine who will hold the town vision throughout the development. Detail how a developer will be selected, to ensure the planning application is not the high point of the scheme. Map out how you will address the process in the short, medium and long term. Consider the resources you will need to deliver the project. Ask for help, as NGOs may be willing to support the proposal.**

Middle Quinton

The scope and structure of the proposal is commended, as is the use of European best practice.

The proposal capitalises on the site's natural assets of woodland and lakes, using locally-sourced materials to create local distinctiveness. Look to develop this theme further in the form of employment opportunities. The site also presents challenges such as the proximity of an Area of Outstanding Natural Beauty, contaminated land and the risk of flooding. **Examine the schemes relationship with the surrounding area and the impact of the development on existing roads and services.**

Transport is a challenging issue for the site. There is high car dependency in this rural location and there are concerns around the capacity of the road network. **Work with the local authority to tackle the area's two car**

culture. Be clear about where employment opportunities will be sited and internalise movements by providing employment and services on site, reducing the need to travel for everyday activities and managing car use and car parking effectively. Base the transport strategy around oil prices at \$300 per barrel and define the modal share for the development. Public transport links into Stratford would reduce congestion in the area. **Consider specifically the reopening of the disused rail line to Stratford with a tram-train option via Stratford to Birmingham Moor Street and maybe southwards towards Cheltenham so as to provide an effective public transport option for those who have to commute. Linking the Chiltern and Cotswold lines would also benefit the tourist industry, by providing a route from Stratford to the Cotswolds.** The infrastructure will need to be present from day one in order to deliver a step change in travel behaviour. **Explain how the sustainability methodology presented will relate to your transport strategy. Give further thought to the business plan for the strategy and consider how the public transport system will be maintained in the long term.**

Develop the scheme's school provision strategy, in conjunction with the county and district authorities, as there needs to be more evidence of a joined up approach. Illustrate the scheme's green infrastructure proposal given that it may provide less than the six acre standard advocated by the National Playing Fields Association and develop the outlined walkable neighbourhoods.

How will the development achieve zero carbon over the whole site? Demonstrate how the proposal links to the West Midlands regional energy strategy and/or the Sustainability Checklist. It is commendable that the development is aiming for 100% recycling and therefore **zero waste to landfill; describe how this will be achieved.**

Progress the 'day in the life' methodology using a household living in Middle Quinton in 2020 and the life cycle of individuals, include what the development will provide for teenagers.

Consider the type of housing; look further than traditional models of ownership or social rent by examining co-ownership and making parts of the site available for cooperatively-built plots; look to Freiburg, Germany for an example.

This is a strong team who could produce a high quality development. **How can you use your experience to create a town that is exemplary and a process in which design quality is embedded? Explain how the process will guard against quality standards falling in an economic down turn. Progress the Community Trust component of the proposal and assess the most effective way to empower the Trust to maintain standards in Middle Quinton.**

North East Elsenham

The proposal is an above average development but is not yet an eco-town. All eco-towns will need to be better than the best. Currently there is little evidence of a strategy which will allow North East Elsenham to become zero carbon.

The site is in an environmentally sensitive area of high growth and housing need. **Examine the cumulative impact of the growth already planned for the area. Describe how the existing village of 900 homes will be integrated into the scheme. Provide benefits to the existing community through renewable energy supplies, extended public services and cultural activities.**

Develop the proposal's approach to the local economy. **The bid states that 50% of the employment will be on site; detail where the remaining jobs will be located and how these locations will be supported by public transport. Provide reassurances that the proposal's success does not rely on a relationship with Stansted Airport or on more commuting to London, Cambridge and elsewhere.**

The transport strategy does not deliver a step change. The rural site is challenging as currently there is a high level of car use combined with the low use of public transport. **In order to change behaviour, the town's infrastructure will need to be in place when the first residents arrive. Connect the delivery of sustainable transport with the Community Trust proposal. Detail the target modal shift for the development and how the aims of the TCPA worksheet will be achieved. The development should not be dependent on improvements to the M11 or other roads. It should in fact reduce the need to travel and include measures to manage traffic and parking.** The problems with local bus services were highlighted in the presentation; **explore and explain your local public transport plans in much more depth. Consider not just upgrading conventional local bus services but "step-change" options including light rail and tram-train, connecting Elsenham and the surrounding area linked to a relocated station. If the development is to rely on buses explain how these fit with a zero carbon vision and how you would make these a mode of choice rather than last resort.**

Work closely with the local authority to ensure the proposal's schools provision does not conflict with local policy. Give more detail on the green space provision in the masterplan separating the development from Henham village, integrating the SUDs proposal. Create a process which allows an innovative approach to delivering housing, including co-ownership and self-build options.

Set targets for the energy strategy and explore further the potential for the site to be a net exporter of energy. Carbon emissions need to be reduced by 80%; **describe the size and allocation of a resident's carbon footprint in 2020.**

Describe more fully how the food production is linked to the local farming community and farmers' markets.

The proposal involves a passionate commitment to developing a Community Trust model. **There is evidence of new ideas although the model needs to go further, empowering the residents to ensure standards are maintained as the development evolves.**

Coltishall

The comprehensive approach and presentation is impressive. The proposal posed pertinent questions and is developing a strong vision; however, the location presents major challenges.

The area has low economic activity and a narrow employment base. The proposal is not yet persuasive enough around the issue of employment at Coltishall. **Detail the type of jobs the scheme will provide and how it links to the transport offer.** Look to Japanese eco-towns which are built around employment. **Further explore opportunities linked to the local economy and sustainable themes. Examine the provision of a sustainable skills centre to teach local construction techniques.**

The transport strategy is the principle issue in rural Coltishall. **Examine the viability of upgrading the Bure Valley railway to tram-train standard into Norwich. Develop the business model for the bus network and explore traffic management options.** Behaviour change will be a major test in this car-reliant community. **Look at how to reduce the need to travel by ensuring there are services and jobs on site. The transport strategy will need to be radical, not incremental, for the proposal to succeed and will need to demonstrate to the local authorities why the additional road building they suggest will not be necessary.**

Explain how a resident's carbon footprint will be reduced by 80% in 2020. Detail how the development will achieve zero carbon throughout the town, both for new and existing buildings. Look at Passiv Haus standards for guidance. The proposal has set a target for recycling 50% of household waste, generating energy from 25%, what will happen to the rest? Give more detail on the type of CHP to be used. Develop a sustainable energy supply which could potentially serve the wider area and aid Norfolk in reaching its own carbon targets. Learn from UEA's impressive strategy for a biogas plant.

The eco-town brand requires a very high standard development. **The proposal represents a strong vision but how will the development ensure high quality even through an economic downturn? Describe how its residents live and work and what the town will provide for teenagers. Develop the Community Trust proposal and the community engagement strategy. Describe the mechanisms and process which will be key to delivering the town. Demonstrate a close working relationship with the local authorities involved to ensure Coltishall is of benefit to the surrounding area.**

St. Austell (China Clay)

Aim high and value the eco-towns' brand; view the development as an exemplar. The proposal is based in regeneration which will be of benefit to the area. However, the sustainable aspects of the scheme need further work to create an eco-town. The promoter has the financial standing to deliver a high quality development and the close collaboration between the bidder and the local authority is commended.

The southwest is currently leading the UK in tackling environmental issues. Create the level of excitement around this development as that generated by the Eden Project. **Demonstrate how pioneers will be attracted to the town and an entrepreneurial spirit encouraged. Provide employment on site both to aid regeneration and internalise travel within the locality.** While tourism is key to the local economy, currently the majority is car-based. **Enable tourism to take place in a sustainable way. Create public transport links to Eden and explore supporting sustainable transport solutions more widely, rather than conventional major road development.**

Devise an exemplar transport strategy that is resilient to oil prices at \$300 per barrel. Significant modal shift will only be achieved by providing alternatives to the car early in the development. **Look to the TCPA worksheets and DfT's menu of options for guidance. Aim to reduce the need to travel and develop the cycle routes in the proposal.** Electric cars, powered by on-site renewable energy, may offer part of the solution, but there are still problems of access for non-car drivers and it would be unsustainable if both use per capita and the population increased. **Examine whether sustainable travel can be provided through a guided bus route or "rail circle".**

The urban form of the development, namely a necklace of smaller settlements, mean it will be challenging to deliver a full range of services within walking distance for all development's residents. **Examine unifying the proposal to create one distinct settlement, as there are no examples of the current form succeeding sustainably.**

The proposal needs a strategy to deliver zero carbon, including both building standards and energy production. **Examine Passiv Haus standards to appreciate how to create a near-zero carbon home. Further develop the idea to produce sustainable building materials from the secondary aggregates produced from local extraction activity.** Potentially complement this by creating a skill centre for eco-building construction methods and materials to help the rest of the UK achieve low energy buildings. **Approach the Plymouth Marine laboratory for advice on producing biofuel from waste and draw on the knowledge and expertise of the Eden Project to further develop the vision.**

Consider in more depth how to effect cultural and behavioural change. Describe a day in the life of a household in 2020. A clear idea of who owns the vision for the town is essential to maintaining standards in the long-term. Aim to achieve a step change and create an exemplar.

Annex A

List of Panel Members who attended the Challenge Panel

John Walker (Chair) - Former Chief Executive, British Urban Regeneration Association. Expert in delivery of large mixed use development. (attended 19/20 May and 3 June)

Dr Liz Goodwin - Chief Executive, Waste and Resource Action Programme (WRAP). Expert in use of natural resources and recycling. (attended 19 May)

Stephen Hale - Director, Green Alliance. Environment expert. (attended 20 May)

Sir Peter Hall - President, Town and Country Planning Association. Expert in urban issues, housing and planning. (attended 19/20 May)

Wayne Hemingway - Founder, Red or Dead. Expert in design and social issues (attended 19 May and 3 June)

Stephen Joseph - Executive Director, Campaign for Better Transport. Transport expert. (attended 19/20 May and 3 June)

Nick Mabey - Chief Executive, E3G. Expert in energy issues and economic development. (attended 19 May)

Kris Murrin - TV presenter, expert in sustainable transport and children's issues (attended 19 May and 3 June)

Sunand Prasad - Royal Institute of British Architects President. Expert in design and architecture. (attended 20 May)

Liz Reason - Director, Reasons to Be Cheerful consultancy. Expert in innovative approaches to energy issues and climate change (attended 19/20 May and 3 June)

Sue Riddlestone - Director, BioRegional Development Group. Expert in sustainability and sustainable development. (attended 19/20 May and 3 June)

Joanna Yarrow - TV presenter, green-lifestyle specialist and founder of sustainability company Beyond Green. (attended 19/20 May)

Richard Simmons - Expert in architecture and the built environment. (attended 20 May)

Lynda Addison - Managing Director of Addison & Associates. Transport and planning expert. (attended 3 June)

Barry Munday - Architect with experience of New Town development and regeneration. An advocate of best practice, good housing design and new methods of construction. (attended 3 June)

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