Communities
and Local Government

Notes and recommendations from session 2 of the eco-town challenge

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July 2008
Department for Communities and Local Government

The findings in this report are those of the authors and do not necessarily represent those of the Department for Communities and Local Government

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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 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 by the beginning of 2009.

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.

Introduction

The Eco-town Challenge Panel is an independent group of people with expertise in various aspects of sustainability and urban development. The Panel exists to encourage bidders 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 attached comments describe what the Panel has said to each set of proposers, following a second series of meetings which took place between 7-15 July. Some of the more general comments regarding progress are recorded at the beginning of the notes.

The Panel met for a second time to hear how the proposals were progressing, recognising that given the short period since the initial meetings it would be hearing about work in progress rather than final plans. Many of the proposals have shown significant and encouraging progress during those few weeks. In all cases the Panel made suggestions about where it believes further progress is most needed, and has encouraged the direction in which much of the work is going.

As in the previous round, 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 has not been asked to select schemes or to recommend which schemes should or should not go forward.

John Walker
Chairman
Eco-town Challenge Panel

Marston Vale

"The scheme presents interesting thoughts and ideas and has moved forward a great deal since the previous session."

"The proposal demonstrates enormous progress, dealing with a substantial range of issues extremely well."

"This is an impressive presentation, which gives a sense that the bidder might deliver an eco-vision."

"Charming vision."

"The proposal raises the game and begins to come up with some interesting ideas."

"This is a very well thought-out proposal which is getting better. It shows great promise of achieving eco-town status."

The proposal's walkable neighbourhood structure is promising. Developing coherent yet distinct neighbourhoods will make the town more appealing to a wide range of potential residents. The heterogeneous nature of the development could be the unique selling point of the scheme.

Transport makes up 23 per cent of an average UK citizen's carbon emissions. The proposal aims to provide jobs and services within the town to meet the needs of residents however, some residents will want or need to travel to jobs and services located in Milton Keynes and Bedford therefore the carbon emitted by transport will be crucial to the strategy for Marston Vale. If the proposal is to encourage electric cars, examine the use of electric buses and/or fuel cell technology to produce a consistent low carbon emission strategy for transportation.

The scheme remains unclear as to the precise proposals for Bus Rapid Transit. The promoters state that they are considering powering the vehicles using biogas, produced from the anaerobic digestion of biodegradable materials, and that their system will be segregated but not guided. However, the technology they presented to the Panel, the Caen TWISTO, uses overhead electric power on reserved tracks which provide physical guidance, but can shift to unguided diesel operation. Clarify the intention regarding the technology, firstly for Marston Vale, and secondly for the connections to Bedford and Milton Keynes Central. It will be important to demonstrate carbon savings throughout the proposed Bus Rapid Transit system, including the sections outside the eco-town.

The scheme proposes a resident's carbon footprint will be three tonnes per annum. Break both the proposed carbon and ecological footprints in their component parts and explore how much of these emissions are within the town's control. This will help to identify the key areas of the scheme that require further thought. Show how each resident's total carbon and ecological footprints add up to truly sustainable levels.

Set targets for the use of resources during construction. Detail how residents will be encouraged to achieve the high recycling targets set by the scheme while establishing a balance with the waste from the town allocated to the Energy from Waste plant.

The transition process from development to established town will be difficult although some convincing ideas on governance are emerging and the use of trusts to hold community-related assets for the long term is attractive. Continue to develop these ideas for the governance of Marston Vale; how will continuity of ownership be achieved? 'Pioneer' residents and businesses will be attracted to the development as it presents a desirable and distinctive way of life in the area. Detail how the proposal will continue to influence the behaviour of new residents moving to Marston Vale during the town's lifetime.

For further information on the scheme proposal see:
http://www.marstonvale.com/

Hanley Grange

"The scheme has moved on which is encouraging to see. The masterplan has been re-designed and densities increased which will help to achieve the sustainability targets. But more work is needed on the transport strategy."

"The proposal deals brilliantly with behaviour change. More detail is needed but the development is beginning to get to something which will shift behaviour change. The big idea for the Community Trust is good."

"The community trust idea is impressive, work up this idea for the next meetings with Communities and Local Government."

"The transport proposals still raise doubts: in particular, the failure to respond to the Panel's proposal for a dedicated southern busway and bicycle links, and the emphasis on Whittlesford Parkway station, which could raise the danger of Hanley Grange becoming a dormitory town for London commuters."

The masterplan has improved since the first session by moving the location of the settlements around transport hubs and increasing the densities to give walkable neighbourhoods. However, the proposal does not yet deliver a sense of place. The scheme lacks clarity regarding the potential extent of employment in the area and whether the housing the scheme will provide is needed in this location. Work with the local authority to establish projections for growth in order to progress the development. The bid states that 30 per cent of jobs will be on site, detail the types of employment proposed and use this information to improve the place-making aspects of the proposal.

The proposed transport strategy is confusing and currently does not meet the targets for an eco-town. The proposal in its present form does not describe a system that is so good that residents will choose to use public transport over a private car. The proposed new bus services in conjunction with improvements to existing bus services will not be sufficient to initiate a step change able to achieve the proposed modal shift of 40 per cent of journey being made by car. The bid does not propose extending the Cambridge Southern Busway because of the need for the transport system to be functioning from day one. However, this seems to be at the expense of the long-term, broader aspirations for the system. Try to develop a strategy that will deliver the busway in stages as the town grows, first from Addenbrookes to the north end of the Sawston Bypass, then through to the eco-town. Also specify a high-quality bikeway option connecting to Cambridge and linking with the recent provision north of Great Shelford.

Provide references and figures for the carbon footprint per capita rather than per household so comparisons can be made more easily to the national average. In order to lower a resident's carbon footprint, look at working with low carbon farmers, food waste distribution systems, and promoting a healthier diet, as this can reduce the impact of food on a resident's carbon footprint by 15 per cent. Progress the approach to Combined Heat and Power, detail the role of anaerobic digestion in the scheme and set standards for the use of resources during construction.

The community trust is an interesting and potentially innovative idea. The Trust will own assets in the town with a Community Land Trust being attached to the Development Trust. The Trust will also be resident-led and create a charter for quality issues from the outset of the development. This should help provide a continued focus for the vision of the town preventing the degradation of standards. The innovative tenures looking at a seamless gradation from renting to ownership are also promising. Develop these ideas into the proposal's business plan.

For further information on the scheme proposal see:
http://www.hanleygrange.co.uk/

Rossington

"Congratulations on the enormous amount of new work which relates to design ideas."

"Congratulations on a terrific presentation with both energy and passion."

"The bid shows a vision for what a truly sustainable way of life will be like in the future."

"Very impressed with the changes and the progress."

"The proposal has made major progress. The reduction in scale, coupled with the new emphasis on an eco-borough, has strengthened the proposal."

It is encouraging that that the bid is now in line with the local authority's strategy for the area and the high level support for the proposal at UK Coal is welcomed. The scheme also responds very well to the Panel's previous comments about ensuring there will be a role for teenagers in the town.

The proposal is beginning to capitalise on Doncaster's engineering past by potentially providing a construction skills centre. Examine the viability of manufacturing sustainable building components on the site as this could provide an interesting long-term economic base for the community and become a unique selling point for the development. Examine the link between the new and old parts of the town. What more can be done to enhance the existing town? How will this fit into Doncaster's new eco-borough strategy?

The location of employment centres close to Rossington provides a good opportunity to establish sustainable transport links for many residents. Interrogate the proposal's current transport offer to determine whether it will provide a sufficiently attractive alternative to the car, given the short distances of many trips and the availability of parking in Doncaster. How will behaviour be dealt with immediately and over time? The wider area is car dominated so promoting public transport could be a challenge. There will need to be a step change in bus provision, both in frequency and perceived quality, in order to improve the image of public transport. Consider developing a new and innovative kind of service and examine how this will be managed long term.

The proposed walkable, one hectare neighbourhoods with 400m and 800m centres should provide a solid structure for the town. Develop this model to give a sense of the type of place an inhabitant could expect to enjoy in these neighbourhoods. How will the proposal generate differences?

The proposal engages with the right issues but now needs to work out the numbers. Set hard targets for a resident's carbon footprint; it will need to reduce to two tonnes per person per year from the national average of 12 tonnes. Identify what can be achieved through the eco-town, using these targets to influence the design of the masterplan. Examine in detail how to reduce the impact of the embodied energy of materials, as construction makes up 8 per cent of carbon and eco-footprints on average across the UK. Develop further the proposal's strategy for minimising the carbon impact of the energy that will be used by the town. This should include an in-depth analysis of the proposed heat loop system and renewable energy sources, including wind.

Establish targets for recycling and waste management. Examine how to reduce waste first then assess the role of the Energy from Waste plant.

Give careful thought to the governance of the town, in terms of linking Doncaster Council and UK Coal with the Community Trust. Develop the possibility of the existing town also being part of the same governance structure. Examine how the proposal will preserve the initial ethic of pioneering residents as the town matures.

For further information on the scheme proposal see:
http://www.rossingtonecotown.co.uk/

Ford

"The proposal has been brought forward an impressive amount since the first session."

"The amount of thinking and work that has gone into the project is appreciated."

"Good progress, but issues still to be addressed in the areas of transport and land use."

The proposal should now assess the impact of the eco-town on the surrounding area as the development needs to impact positively on a wider regeneration strategy for Littlehampton and Bognor Regis in line with the local authority's vision. Provide a clear employment strategy for Ford, as jobs will be key in attracting people to the town and reducing residents' need to commute.

Develop the proposal's travel plan, considering where the demand for travel will arise for both jobs and leisure. Estimate how many residents will be commuting long distances by car, as this will have a significant impact on the town's carbon emissions. Examine how to influence behaviour change to encourage these journeys to be made via the relocated station, providing easy links to London, Brighton and Portsmouth. Note that if the Arundel bypass goes ahead independently of this scheme it will change the proportion of Ford's residents likely to commute by car and undermine any attempt to make this development zero carbon.

Set targets and benchmarks based on international best practice for the transport strategy against which to measure the proposal. The aim for 70 per cent of trips to be internal to the site is commended. However the proposal should provide evidence that this is achievable within the economic strategy for the town and clarify that 'internal' travel includes links to Littlehampton and Bognor Regis. Many internal journeys should be walkable, particularly in the early stages of the development, but it is recognised that there will be a growing need for high-quality bus/Personal Rapid Transit provision for access to the station for out-commuters, given the peripheral position of the new station. The development of a comprehensive set of cycle routes is promising and will help connect the development to existing villages; it needs to link to Littlehampton and Bognor Regis via segregated provision on the A259.

The proposal suggests that the first homes will be on site in 2012. This is a demanding time frame for the project. Develop further the phasing of the masterplan to demonstrate how the proposed growth of the community is linked to transport and education provision during construction. Consider who will extend the residents' homes if they require more space. Create a masterplan which allows for adaptation as the community matures.

Reduce each resident's carbon footprint from a national average of 12 tonnes to two tonnes per person per year. Working back from this figure will highlight the areas in which more work is needed. Develop the proposal's approach to delivering both residential and commercial low carbon buildings. Look at the Passivhaus standard for guidance and explore how the necessary skills will be developed to achieve this.

High-quality agricultural land will be lost by the creation of an eco-town on this site. Develop the proposal's approach to allotments and smallholdings to help address this loss and provide a strategy for linking with local food production, distribution systems and a strategy for organic waste. Assess the implications of the biogas facility on the wider road network if waste is to be imported to the energy centre.

Examine the possibility of the Community Trust providing services beyond the boundary of the development. The proposal begins to define an ambitious role for the Community Trust; progress the idea of involving Arun Youth Council as part of the Trust to give teenagers a voice in the development. Give further detail on how the vision will be maintained and examine the outline business plans for gifting assets to the Trust.

For further information on the scheme proposal see:
http://www.fordairfieldecotown.co.uk/

Weston Otmoor

"There is no doubt that the transport strategy is transformational, but there is little about the governance of the town. The transport strategy should be just part of a wider vision."

"The transport strategy is very innovative and interesting, given the fact that this will inevitably be to some degree a satellite town for Oxford. But it appears to be related to plans for a new long-distance commuter rail service that could compromise sustainability."

The proposal needs to put forward a clear vision for what it will be like to live in Weston Otmoor. Although the masterplan has progressed well since the first session and it is important to develop a close working relationship with the local authority regarding housing need, the scheme lacks a sense of place. What will attract residents to the town? And what impact will the town have on the surrounding area? Explore how the linear high street may change over time as the market segregates and the social profile of neighbourhoods evolves. In the first session the masterplan was undermined by the proposed education strategy failing to fit with that of the local authority. Examine alternative models of education provision potentially through a Community Trust as one way in which conflict between desired layout and county educational policy might be resolved.

The proposed transport system is innovative. However, a town with free public transport is not an eco-town. Transport must contribute to an overall strategy of reducing a resident's carbon footprint to fewer than two tonnes. This can only be achieved if a holistic approach to the proposal is taken which includes work on energy, water and waste. The new tram-train service represents a sustainable approach to the challenge of out-commuting to Oxford, which may be inevitable given the constraint that the Oxford green belt places on further growth of the city. But it will achieve its full potential only if extended on-street to Central Oxford and via the existing, freight-only line, to Cowley together with fast bus linkages to the Radcliffe Hospital. Although Oxford City Council has said a city-wide tram system is unaffordable, the present proposal could make a city centre extension viable.

Undertaking work around energy, water and waste forms an integral part of an eco-town's objectives, however no detail was given during the presentation.

While low carbon transport is difficult to achieve, significant headway has been made by the proposal. However, the development now needs to look at carbon emissions across the development. Buildings make up 50 per cent of current emissions, according to the method for reporting emissions set out in the Kyoto agreement. Therefore a proposal for an eco-town needs to tackle this issue to reduce a resident's carbon footprint. Examine the energy performance of a range of buildings both residential and commercial. Look at the Passivhaus standard for guidance.

The lack of information on the governance on the town is disappointing. Focus on developing a model for a Community Trust to uphold standards in the town.

For further information on the scheme proposal see:
http://www.westonotmoor.co.uk/inovem/consult.ti/haveyoursay/consultationHome

Bordon Whitehill

"Clearly the proposal has made significant progress since the last session."

"It is exciting to see a presentation from a community and local authority base."

"This is the right way to go about building an eco-town."

"Enjoyable presentation. Congratulations on beginning to establish a brand as this will be important to the identity of an eco-town."

"It's fantastic to see a community grass-roots proposal."

"Very refreshing presentation, in part because the scheme is local authority-led."

"The proposal is very encouraging; go further with your metrics."

It is promising that both the Regional Spatial Strategy and the Local Development Framework support the proposal for an eco-town at Bordon Whitehill. Examine the scale and potential growth of the town in the context of the surrounding area. The development of the site relies on the withdrawal of the Ministry of Defence. Undertake a risk assessment to help prepare for any potential delays to the project. Ensure organisations concerned about the proximity of the Special Protection Areas have the correct information and work with them to help mitigate the affect of the construction.

The existing settlement structure provides an extraordinary opportunity in terms of urban design. Encourage the team of consultants, when appointed, to develop the relationship between the existing dense urban areas and the attractive green space. The description of a day in the life of a resident communicated the aims of the proposal well. This emphasis should be retained throughout the masterplanning process by focusing on place-making.

Develop the travel plan and the strategy to internalise trips in the town. Expand the work begun on current commuting distances, as even a small percentage of residents undertaking a long commute can have a large impact on the carbon emissions for a town. Examine connecting to the Alton rail line by Bus Rapid Transit or tram to serve the estimated 50% of residents commuting to the north and east of Bordon Whitehill. The preserved right of way of the former Bentley-Bordon Light Railway and Lightmoor Military Railway offer an unusual opportunity to develop a high-quality link, bypassing the congested A325.

This is one of the only proposals that has attempted to reduce a resident's carbon footprint to two tonnes per year as suggested by the Panel in the first session. However, look at ways to achieve this more quickly. Once occupied, eco-towns need to demonstrate how it is

possible to reduce carbon emissions by 80 per cent from current levels, in order for the rest of the UK to follow their lead and achieve this by 2050.

The proposed three-year system for trialling new homes is very sensible and may help with the selection of the developer for the site, as they will need to be willing to monitor and evaluate their progress. A key question to ask the developers will be how much energy in kWh/m2/yr will the building use? The retrofitting work already begun on existing properties is commended. Obtain the energy bills for existing buildings in order to estimate more accurately the existing carbon footprint of the town. It is promising that the proposal's focus has been on reducing energy demand. Develop the approach to supplying green energy to the town; assess the potential of the local unmanaged forest to supply biomass to the scheme.

Develop the Community Trust's asset structure and management. Look at establishing community ownership rather than just representation on the management body of the town.

For further information on the scheme proposal see:
http://www.easthants.gov.uk/ehdc/quicklinks.nsf/webpages/Whitehill+Bordon

Pennbury

"The proposal has moved on a long way."

"The scheme is interesting and it is encouraging that the link with Leicester is more developed."

"Congratulations on looking wider than the boundary of the site in terms of energy."

"The proposal represents an encouraging progression on lots of fronts."

"This is the only scheme that represents effectively an urban extension, or satellite, to an existing city, and therefore offers unusual possibilities if it can be further developed."

An eco-town at Pennbury presents an opportunity to enhance the city of Leicester, while creating a new community and employment in the area. The proposal needs to do more in terms of infrastructure projects to link with inner city Leicester. Examine the impact of the proposal on the regeneration of Leicester and work harder with English Partnerships/ Homes and Communities Agencies to support this strategy.

Many of the employment destinations are not in the centre of Leicester so it is difficult to generate a transport strategy to serve these areas. Examine how to create more jobs centrally in order to reduce the need for residents to travel. Explore further attracting companies involved in the manufacture of high specification building components and businesses associated with green technologies or agriculture to the area.

The targets for modal shift are encouraging, as are the scheme's network of cycling routes. However, the public transport strategy does not yet propose a convincing way of achieving these aims; nor does it have a clear commitment to carbon reduction. The transport infrastructure needs to be fully connected with Leicester. Ensure the proposed Bus Rapid Transit or light rail is in place from day one to aid behaviour change. The proposals for new tram and bus links are encouraging, but still need to be developed in detail as to their viability, given that they involve using road space into Leicester city centre. Develop comparative business and travel plans for the different masterplans in terms of transport, including targets for the number of trips on site.

The 'Great Park' concept of a multi-functional working landscape farmed for both energy and food is interesting and unique. Examine the possibility of a Community Trust taking ownership of the park in the long term. Assess the park's role in the town's ability to adapt to climate change, as it is likely to become an important resource, potentially reducing the urban heat island affect for example.

The extent of the countryside and working landscape that will be retained by the scheme is a strength of the proposal and would benefit from assurances about its governance. Communicate this with the local community to help them understand the aims of the eco-town.

Develop the carbon and ecological footprinting further. The eco-town needs to be based around one planet living, that is, a two-thirds reduction in ecological footprint and a carbon footprint reduction from 12 tonnes to two tonnes. Reduce the proposal's target for space heating in line with the Passivhaus standard of 15 kWh/m2/yr. Assess the scheme's approach to Combined Heat and Power, aiming not to waste the heat created. Also develop the approach to recycling and energy from waste.

While the co-op is in a good position to deliver commitment to the project, the responsibility for the long-term governance of the town is still unclear. Develop the idea of a body which will ensure some housing stock is permanently affordable as part of a Community Trust. Explore further the possibilities for creating innovative types of tenure and the potential for land to be released for self-build plots.

For further information on the scheme proposal see:
http://www.ecotownforleicestershire.coop/default.html

Middle Quinton

"The proposal presents an attractive vision. It sounds like Middle Quinton would be a great place to live."

The team's commitment and enthusiasm to create an eco-town at Middle Quinton is impressive. The proposal has developed in the short time between the two panel sessions; however there are still some potential inconsistencies in the bid's transport and waste strategies.

The proposal should consider who will live in Middle Quinton and develop a place-making approach and a strategy for creating employment. This will be important in reducing the environmental impact of transport and creating a viable community, which the team acknowledges is important. Pursue a frequent rail connection to Stratford and examine a network rather than corridor approach to transport that allows an eco-town at Middle Quinton to transform its wider area. The rail/guided bus station may need to be located more centrally to the development, for a comparator example look at the Australian Ped Shed approach. There still seems to be a presumption that households will own cars, and that the revenue generated will contribute to the long-term funding of public transport. Use risk analysis to expose the potential conflicts of relying on car revenue for this long-term funding.

The modern interpretation of a Cotswold market town, with building heights of two or three storeys, at most four, while maintaining average densities of 48 homes per hectare is welcome. Such densities are necessary if the project is to achieve an eco-town's sustainability objectives. The design of the car-free areas within the masterplan will be key to increasing their desirability to a broader social group than only to those who cannot afford a car, and will help to prevent social polarisation. The proposal to include land to be released for self-build options to promote distinctiveness and diversity is welcomed.

Analyse the risk of a potential conflict between the proposed SkyGas facility and recycling initiatives. Set targets for the ambitious recycling strategy and determine how these will be achieved without undermining the commercial viability of the gas facility. If the SkyGas plant is dependent on importing waste from the wider area show how this is sustainable.

Consider an eco-town resident's total carbon emissions using a bottom up approach. Assume residents will need to reduce their carbon footprint from the national average of 12 tonnes to two tonnes per person per year and consider what that will mean for the proposal. Develop and explain the detail of the zero carbon strategy for the buildings including energy supply. What percentage of CO_2 will be allocated to buildings? What will this mean in terms of square metres per person of living space? Develop the use of the SPeAR diagram as a quantitative as well as qualitative tool.

The creation of the Community Interest Company with a design panel and representation of teenagers is encouraging. Develop this further to include the ownership of the vision for the town. It is promising that the bidder has begun community engagement, however, there is a need to address the concerns of the existing community. How can the proposal allay their fears?

For further information on the scheme proposal see:
http://www.middlequintonecotown.co.uk/

North East Elsenham

"Congratulations on your progress."

"Very interesting proposal which showed good progress from the first session, with the bid heading towards what we are looking for."

The target of 50 per cent of the economically active population to be employed on site is welcomed. The ways of working described in the 'day in the life' represent a culture shift away from current patterns. The proposal should address how the eco-town will attract the type of person described, in addition to the existing community. Develop the scheme's ideas to make the necessary changes in lifestyle attractive to both groups.

The proximity of the M11 may mean becoming zero carbon will be difficult for the town. Even if longer commutes make up only 10 per cent of journeys out of the town they can significantly increase carbon emissions, therefore economic development, road management and restrictions will be important elements of the scheme. Develop a network rather than a corridor approach to transport and examine the duration and frequency of the biofuel powered bus service, especially the impact of the proposed reductions of service after 8pm.

Show the data for carbon emissions per capita alongside the ecological footprint and explain how these are allocated across different energy uses in the town. Develop the parameters for the site-specific approach to public buildings. Expand the work begun on the impact of development on the site, setting targets for the amount of embodied energy used in the construction of the development.

Detail how the 47 hectares of land for food production included in the masterplan will contribute to the sustainable aims of an eco-town through connecting to local food distribution systems. Explain how the bid will encourage high levels of recycling and explore opportunities for the generation of energy from waste.

Developing both the roles of the Community Co-operative and the town masterplanners/ architects gives the potential for an exemplary model. Integrate rather than segregate the ownership of the vision among these two groups.

For further information on the scheme proposal see:
http://www.elsenham-info.co.uk/

St. Austell (China Clay)

"Great potential to be transformational but need a travel plan for the whole community."

"Great on re-cycled materials but need clear targets for waste and recycling and say how you will reach them."

"Love your energy vision."

"The participation of the Eden Project is very welcome but the development of firm proposals is now behind the game in terms of clarity, particularly regarding the transport strategy."

The proposal provides an opportunity to develop sustainable tourism in Cornwall, which will have an impact on those living in the eco-town, St. Austell and the wider area. Look to the work undertaken on sustainable tourism in the Alps for an example.

A sustainable transport strategy will be difficult in this location but this is part of the challenge in Cornwall; begin by developing a travel plan for the whole community. Explore the bus and rail options afforded by the private routes in Imerys control and test the assumption that 'dial-a-bus' and electric cars will meet the mainstream demand for the development. It will be difficult to reduce the community's reliance on cars if there is a wide availability of parking space in the town centres.

Although at an early stage of development, the vision for the renewable energy supply locally is impressive. The idea of generating surplus energy to power vehicles and to use electric vehicles for the mass storage of power is an interesting approach, provided it does not become a substitute for enabling walkable communities with local facilities. Assess whether the string of smaller settlements will have the critical mass to allow the residents access to sufficient services, as this arrangement potentially places even more importance on a sustainable transport strategy.

Commit to carbon targets and state what elements will be included in those targets. Consider how to balance a resident's carbon footprint assuming that each resident's CO_2 emissions per year need to be reduced from the UK average of 12 tonnes to two tonnes. The proposed masterplan may mean the composition of their carbon footprint may differ from the national average as transport could make up a larger percentage than buildings.

The Panel welcomes the new partnership with the Eden Project and the vision presented but would encourage the team to set down clearer standards and markers for the proposal. Give further thought to the suggestion that the development might include a sustainable construction training facility, drawing on the experience and expertise of

Imerys outside the UK. Focus on the demand side of the energy equation, examining how demand will be managed. Set targets for building performance and detail how this will be monitored during and post construction.

How will the development reduce the environmental impact of construction? Consider how to encourage residents to achieve high rates of recycling. Developing roof tiles from clay waste is interesting, use this strategy as a means to consider what Imerys can do regarding sustainability more widely.

The model proposed for engaging the community suggests they are informed and engaged but do not have a leading role in the development. Develop an innovative model, which makes more of the existing community support.

For further information on the scheme proposal see:
http://www.claycountryvision.imerys.com/

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 session 1 on 19/20 May and 3 June; and session 2 on 7/11/15 June)

Dr Liz Goodwin – Chief Executive, Waste and Resource Action Programme (WRAP). Expert in use of natural resources and recycling (attended session 1 on 19 May; and session 2 on7/11 June)

Stephen Hale – Director, Green Alliance. Environment expert (attended session 1 on 20 May; and session 2 on 15 June)

Sir Peter Hall – President, Town and Country Planning Association. Expert in urban issues, housing and planning (attended session 1 on 19/20 May; and session 2 on 11/15 June)

Wayne Hemingway – Founder, Red or Dead. Expert in design and social issues (attended session 1 on 19 May and 3 June)

Stephen Joseph – Executive Director, Campaign for Better Transport. Transport expert (attended session 1 on 19/20 May and 3 June; and session 2 on 7/15 June)

Nick Mabey – Chief Executive, E3G. Expert in energy issues and economic development (attended session 1 on 19 May)

Kris Murrin – TV presenter, expert in sustainable transport and children's issues (Attended session 1 on 19 May and 3 June; and session 2 on 11 June)

Sunand Prasad – Royal Institute of British Architects President. Expert in design and architecture (attended session 1 on 20 May; and session 2 on 11 June)

Liz Reason – Director, Reasons to Be Cheerful consultancy. Expert in innovative approaches to energy issues and climate change (attended session 1 on 19/20 May and 3 June; and session 2 on 7/15 June)

Sue Riddlestone – Director and co-founder, BioRegional Development Group. Expert in sustainability and sustainable development (attended session 1 on 19/20 May and 3 June; and session 2 on 7/11/15 June)

Joanna Yarrow – TV presenter, green-lifestyle specialist and founder of sustainability company Beyond Green (attended session 1 on 19/20 May; unable to attend session 2 due to illness)

Richard Simmons – Expert in architecture and the built environment (attended session 1 on 20 May; and session 2 on 15 June)

Lynda Addison – Managing Director of Addison & Associates. Transport and planning expert (attended session 1 on 3 June; and session 2 on 7/11 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 session 1 on 3 June; and session 2 on 7/15 June)

Communities and Local Government and the Panel would like to thank **Claire McKeown** of CABE for helping with the preparation the Panel's notes and recommendations and **Daniel Smith** of the Department for providing administrative support.

Annex B

Promoters' submissions to the Panel

For session 2, the Panel asked every promoter to respond to the following, as published in the Panel's 'general comments' from session 1. See "Notes and recommendations from session 1 of eco-town Challenge".

- **Describe a 'day or week 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 different ages and interests, including those of teenagers. In doing this show how commercial and domestic residents and other users of the eco-towns will be able to reduce their carbon and ecological footprints. Illustrate the indicative carbon and ecological footprint of a resident of the town and principal components of their carbon emissions and ecological footprint.
- **Confirm who will own the vision for the eco-town throughout its design and development 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 production 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' and ensure that the whole-life value of the development is recognised and achieved? How will community involvement be secured and how will the community be empowered in the processes described above?

Promoters were also asked to submit a two-page summary covering their responses to these issues. The submissions are set out below.

1. Martson Vale

A Day in the Life of the Marston Vale eco-town

It's 2021 and the Marston Vale eco-town is nearing completion. This radical experiment in sustainable development has helped to change the face of new development in the UK, creating beautiful, successful, thriving new communities. Working in partnership with local stakeholders, O & H Properties, an extensive landowner in the Marston Vale, has created an inclusive and self-sustaining new community between Brogborough Hill and the southern outskirts of Bedford.

The settlement embraces an ethos of sustainable living to help address some of the most significant environmental, social and economic challenges facing us today. Water, energy and waste were selected as the three original exemplars of the scheme and today living in the Marston Vale presents the opportunity for a new lifestyle approach achieving the highest possible standards of sustainability through the built form of the new development, landscape, energy supply and usage, and in its social fabric and infrastructure.

The completed development provides around 15,400 dwellings, a town centre, long term employment opportunities, schools, healthcare and community facilities.

A typical visitor, on a tour around the Marston Vale, might expect to see the following:

- A rich tapestry of wooded hillsides and a network of waterways that meander across the valley floor; beautiful lakes and large areas of woodland that create a series of blue and green spaces; a patchwork of productive land uses including agriculture, biomass and local food production, commercial forestry and small orchards
- A bustling town centre created around a series of canals, a car-free environment with cars parked on the edge and good access to the train station nearby; civic and community uses in the main square, busy streets that feel safe, buildings and trees that provide shade on the long, hot sunny days that have come with climate change
- Local shops selling locally produced goods, markets selling locally grown fruit and vegetables, 'slow food' restaurants and cafes; facilities to cater for most day-to-day needs and a bit more
- New homes, built at a variety of densities, of different types and mix, with performance standards that far exceed those applied at the start of the development; excellent cycle paths and footpath networks; children free to play outside, good sports and recreation facilities; places to live that reflect the character of the area in which they are located
- The Marston Vale as a centre for innovation in the construction and automotive industries, utilising the natural resources of the Vale and building on existing centres of excellence; manufacturing building components using Modern Methods of Construction and pioneering new technologies for personal transport
- The Energy Park that grew up around the Energy from Waste plant but now has a state-of-the art business park showcasing the latest environmental technologies; power that is used to heat and cool some of the local homes and businesses; a demonstration centre to explain how everything works from the wind turbines on the ridge to the water saving devices used in new buildings
- A new transportation hub based around the new station, with good access to pedestrian, canal and cycle networks, and to the Bus Rapid Transit; workspaces in a variety of formats to encourage local entrepreneurship and home working

- New schools at the heart of the community, providing facilities for lifelong learning, youth and adult education; academic and vocational training; buildings open all year round; mixed media library and a gallery supporting culture and the arts; cultivating excellent relationships with local educational institutes
- Excellent opportunities for sport and recreation, nature conservation and green space; sports facilities shared with community groups and local teams.

Delivering the Vision

The vision for the eco-town will be 'owned' by the Marston Vale Development Company (MVDC), a free-standing property development company established by O & H Properties as part of the O & H Group. The company will be run by a Board of Directors, the composition of which will be established at the outset of the development. The delivery of the Vision and the resulting planning permission will be the responsibility of the Board.

MVDC will perform the role of 'town developer' putting in place a dedicated team whose purpose is to deliver the agreed master plan. MVDC will provide essential infrastructure in accordance with the section 106 agreement, and will create the civic and other public spaces. Serviced parcels of land will be sold to specialist contractors (housebuilders, office/retail/mixed use developers, etc.) in accordance with development agreements. The quality of the development will be controlled through the use of development briefs, design guides, design codes, etc. all of which will be agreed in accordance with the local planning authority. There will be a particular emphasis on the quality of the public realm. MVDC will create an advisory panel comprising both experts and local people to comment upon compliance with the original concept; the panel will report to the Board of MVDC.

As the development proceeds there will be transfer of assets from MVDC to a variety of stakeholders (eg individual purchasers, investors, community trusts, etc) and a transfer of responsibilities for management and maintenance. The intention is that at the end of the development 100 per cent of the assets will be privately or community owned and appropriate arrangements will be put in place for local Trusts, service suppliers, etc to assume control.

2. Hanley Grange

The Vision

Hanley Grange is designed to rethink the way we live. While an eco-town will contain a range of transport and other technical initiatives, it will fail unless the future residents change their behaviour patterns. It is the Town Trust which has a pivotal role in leading, facilitating and educating to achieve these changes.

Since Hanley Grange will be a unique place in the Cambridge sub region, it will widen market choice and will be a most attractive development on which to live. Hanley Grange will facilitate low carbon living for all.

The Town Trust

This will be an independent body elected by residents. It is effectively the 'glue' which holds the eco-town ideals and binds the community together. It will be endowed with both a dowry by the developers and land assets. As such, it will be self funding and its profits can be re-invested in the community. The Town Trust or a subsidiary will be Hanley Grange RSL controlling a proportion of the on site affordable housing. RSL status will allow the Trust to control the nominations policies and institute innovative tenures. The nominations policy would give priority to on site employees, employees in the surrounding high tech cluster and residents from local villages. New forms of tenure could include the ability to progress from rented accommodation to shared equity within the same house.

The Town Trust will also act as travel coordinator, run a 'reward card' system to encourage behavioural change, manage open space and allotments, run the nursery and may also be part owner of the Hanley Grange ESCO.

Employment

Over the last 15 years the high technology cluster around Hanley Grange (Genome Centre, Babraham Hall, Granta Park and Chesterford Park) has grown significantly with little commensurate increase in local housing. The cluster also has significant unimplemented employment commitments.

If these are taken up with no additional local housing, the international success story of the South Cambridge high-tech cluster will become increasingly unsustainable. Hanley Grange is designed to intervene in this process and provide high quality low carbon homes close to the cluster for both existing workers and workers coming to jobs in the cluster. It is assumed that 20 per cent of all workers at Hanley Grange will be employed in the local cluster.

Hanley Grange will also provide three types of on site employment. These are: jobs in services (retail, window cleaners, postmen etc.), B1 office type jobs in the centre and B1 jobs in the 12.5h employment zone. In view of the cachet of being based on an eco-town, this area will be attractive to the growing number of companies involved in 'eco business'. In total, these jobs will provide on site employment for around 30 per cent of the workers in Hanley Grange.

Approximately 25 per cent of workers will work in the Cambridge urban area with quick public transport links via buses and trains. It is also likely that between 5 per cent and 10 per cent of workers would work in London. However, with the excellent bus links to the station most of these trips will not be by car. The remainder of the workers will inevitably have a more dispersed pattern of employment, however persons proposing to use the car are unlikely to be attracted to the eco-town ethos of Hanley Grange.

Transport

Since it is neither practical nor realistic to expect everyone to live and work at Hanley Grange, it is necessary to have excellent public transport in place on day one so that the bus or train is the logical mode of choice for the majority of residents. For those wishing to use the train, a segregated fast bus route can be provided to Whittlesford Station. Journey times to Cambridge Station are then a maximum of 9 minutes. Investment is already proposed by Network Rail to lengthening trains to 12 coaches. A separate road running bus rapid transport service with limited stops would run via Great Shelford (with bus priority measures) to connect with the Cambridge Guided Bus termini at Trumpington and Addenbrookes. This would use the same vehicles as the guided bus so it would be possible to travel from Hanley Grange to Huntingdon without changing buses. A range of other measures (design, charging and incentives) will be put in place to limit car based internal trips to 10 per cent of the total and external peak hour car trips to 40 per cent of the total. The Town Trust will again have a key role in encouraging modal shift as part of the Hanley Grange life style choice.

Energy/Carbon

All homes will achieve at least level 6 of the Code for Sustainable Homes. In addition, the low carbon ethos will permeate to all aspects of Hanley Grange including waste recycling and treatment, local food production, water treatment, transport and the use of renewable energy sources.

Water

The promoters of Hanley Grange accept the challenge of developing an eco-town in one of the driest parts of the UK. Cambridge Water has confirmed that it can adequately serve the development but the design focuses on limiting the use of this potable supply through low-consumption building design standards and extensive recycling, treating all effluent on site to very high standards. Consequently, the town has the potential to use less water than the rainfall it receives in an average year and by using treated water to recharge the acquifer, can contribute to achieving water neutrality in the region. The use of waste from the treatment plant to create energy via anaerobic digestion further enhances the recycling credentials of the site.

Conclusion

Hanley Grange is not a town of 'eco warriors', it will be a place with an ethos which is attractive to the growing number of people who wish to live a more environmentally responsible lifestyle.

3. Rossington

Outline of Revised Proposals

Following extensive discussions with DCLG and DMBC, along with stakeholder, community and eco-town Challenge Panel feedback, the Rossington eco-town proposals have been revised to take account of the areas of greatest concern. The following key points form a summary of the revised eco-town Proposals and are intended to inform the activities of the eco-town team and more detailed community engagement going forwards over the next few months.

Key Characteristics of New Proposals

- The Rossington eco-town will now be set in the context of a Doncaster Eco-borough that will include multiple environmental initiatives and communities developed around a strong, borough-wide sustainability and environmental agenda
- The Rossington eco-town is being designed to deliver a target of 5000 new homes in a range of sizes and tenures with a significant emphasis placed on meeting the affordable housing needs and providing greater choice for the community
- No homes will be built in the greenbelt or Flood Zone 3
- All new homes, shops and commercial development will be constructed on the former colliery and/or previously developed land
- The majority of the land is in the ownership of UK COAL with the residual forming part of the Bankwood Estate. 4.9ha (12 acres) of the existing employment area within Bankwood Estate will be retained and in addition the total employment opportunities in Rossington will be increased through the eco-town proposals
- A range of sports, recreation and leisure opportunities and activities targeted at children and young people.

Development Mix: Homes and Employment

The Rossington eco-town will be a genuinely mixed use development and has been designed to include:

- A target of 5000 homes on previously developed land including a regenerated Bankwood Estate (an underutilised brown field site of low density employment to the north of Rossington that borders onto the former colliery site)
- Two new neighbourhood centres each with local shops, medical centre, primary school and community facilities within walking distance of every new home

- A net increase of up to 2,300 new jobs within new, dedicated employment floor space.
- Additional employment opportunities within the proposed new schools, retail units, medical centres and services infrastructure, plus a diverse range of new construction related jobs.

Skills and Training Opportunities

It is recognised that the new and emerging construction standards required to deliver an Ecotown will create an opportunity to re-skill parts of the existing, local workforce. This re-skilling will facilitate the delivery of the required standard of new housing, designed and built to the higher levels of the Code for Sustainable Homes, as well as commercial development built to the latest BREEAM standards. Dialogue has begun with organisations and agencies that can help deliver both the necessary training as well as assist in the establishment of new, on site manufacturing facilities utilising Modern Methods of Construction (MMC).

A Regeneration Strategy

A regeneration strategy for Rossington is being prepared that will develop a partnership approach with public sector agencies to deliver the following benefits:

- Act as a regeneration catalyst to raise the level of ambition and aspiration within the existing community
- Facilitate the diversification and strengthening of the local economic base
- Create social, health and community enhancements including a revitalised town centre and market
- Create enhanced local education provision including opportunities for new, extended and upgraded facilities
- Increase local housing choice, mix and tenure
- Remove an existing blight – ie the former colliery
- Create enhanced linkage and connectivity within and beyond the existing settlement
- Deliver environmental and green space improvements including increased availability, access and quality
- Provide sporting and wellbeing enhancements.

A New Public Park

The land to the south of the tip that is owned by UK COAL will be remodelled using some of the existing colliery spoil to form a new public park that integrates and is continuous with the Holmescarr Wood. This public park would include water features, sports facilities and recreation areas including cycle, bridle and walking connections to the west and to the St Leger Horse Park to the east. It also provides one of a number of potential locations for renewable energy generation subject to the outcome of more detailed, ongoing technical investigations.

Transport Strategy

A transport strategy is currently being prepared that includes:

- A new northern gateway to the site in the form of a quality bus corridor with frequent direct bus service from the Rossington via White Rose Way
- The quality bus corridor will provide access to junction 3 of the M18 Motorway and White Rose Way (which leads directly into Doncaster Town Centre) with peak time restriction of access to the strategic road network for private car users
- Investigations into the opportunities and implications of opening a new rail station with direct and frequent services into Doncaster (the timescale and feasibility of delivery will be subject to support from Network Rail, network capacity issues, rail operators and third party landowners)
- A general vehicle design speed within the Ecotown of around 10mph with every home no more than 400m from a bus stop and local services
- All houses adjacent to a cycle route and pedestrian oriented environment with accessible cycle storage.

An Energy Strategy

An energy strategy is being prepared that includes:

- A mix of sustainable on-site power generation sources
- The majority of buildings and houses oriented to maximise passive gain
- The vast majority of domestic gardens to be south or south-west facing
- Houses capable of accommodating existing, new and emerging renewable energy technologies.

An Environmental Strategy

A wider environmental strategy is being prepared and integrated with the wider masterplan that includes:

- A network of green spaces with ecologically connected green corridors and linkages to the Holmescarr Wood SSI, Potteric Carr SSSI, River Torne and the proposed new country park to the south
- A network and hierarchy of water corridors, designed to work alongside the green corridors and including a range of features to manage surface water run-off, act as focal points for community activity, create opportunities for new wildlife habitats and minimise the risk of flooding within the development, existing communities and in the wider borough.

4. Ford

Government Challenge Panel

This note summarises the second presentation made by the Ford Airfield Vision Group (FAVG) to the Eco-town Challenge Panel. At its first presentation, FAVG outlined its vision for the Ford Airfield site and indicated the nature of the work that was underway to prepare the various strategies for transport, energy, waste, the water cycle, and design. For this second appearance, the Challenge Panel requested that the presentation focus on the ownership of the vision, securing the quality of the design, and a typical day in the life of a resident family.

Vision

The proposals of FAVG for an eco-town at Ford, present a unique opportunity to deliver an exemplar development in the fields of energy, waste and water. The proposals are for a new settlement of 5,000 dwellings, of which 40 per cent will be affordable homes, together with around 4,000 new jobs, community infrastructure (including shops, a health centre, primary schools, and a multi-use education campus at the heart of the community, incorporating secondary, sixth form and adult education and community sports and arts facilities). The vision is currently owned by the FAVG, a consortium of concerned landowners, Wates Developments, and Redrow Homes, supported by a strong consultant team centred on Barton Willmore, Planners, Architects, Urban Designers and Landscape Architects, and WSP, consulting engineers. The aim is to transfer this vision through the course of the development from FAVG to the Ford Airfield Community Development Trust (see below), so that the vision becomes one held by the community itself both in the middle and later stages of the development and its future management.

FAVG is working in partnership with the Ford Enterprise Hub, co-promoters of the eco-town at Ford Airfield, with FEH effectively providing FAVG with its own 'challenge panel' of interested and concerned local people.

Consultation

In the time since the first appearance at the Challenge Panel, FAVG has invested significant energy in consultation and engagement with the local community. FAVG took an active part in the Arun District Council Select Committee process, informing the Council and communities of the vision; hosted a web-site which had attracted over 300,000 'hits'; met with many Town and Parish Councils in the area; and held an exhibition of the proposals in Bognor Regis, Littlehampton and on the site itself. Over 500 people visited the exhibition in three days. Of those who responded to the questionnaire or by email, 48 per cent indicated considered the eco-town to be a good idea (albeit a number had concerns to be addressed) and 38 per cent felt it was a bad idea. The majority felt more new homes and particularly affordable homes, were needed in Arun District.

Community Development Trust

A Community Development Trust will be sponsored by FAVG, with seats on the Trust for the District and County Councils and local parish councils. FAVG would initially sit on the Trust but progressively concede its seats to representatives of the town's residents as the population grows, with the residents having the majority of the seats and therefore control.

The Trust would be vested with all communal assets, including the open spaces, community buildings, employment buildings, land for affordable and self-build housing, and the infrastructure of the shuttle bus service. Income would be derived from rents and ground rents of the employment space, sale of land for affordable housing (with the discount returning to the community for on-going investment in the town), service charges on homes, and a share of the energy-generation network, providing long-term security of income. The Trust would be charged with sharing and extending investment and infrastructure into the neighbouring villages as resources permitted.

Securing quality

The presentation described the intended process of turning the vision into reality through a combination of regulation/control and management/engagement. A diagrammatic path was shown, passing the vision from FAVG to the Community Development Trust. Regulation encompasses planning measures of the production of the Design and Access Statement and a related statement of the environmental vision setting out the objectives (in the form of measurable outcomes), leading to overall strategic and area master plans, in turn required and secured by planning conditions and Planning Obligation Agreements. The 'management/engagement' process would influence design quality through active engagement of the Trust from the early stages (and of the existing communities throughout the design evolution); through design conferences; through involvement of bodies such as the South East Design Panel; and through the involvement of Ford Enterprise Hub. Key buildings and spaces will be the subject of individual design briefs with design competitions for focal buildings.

Day in the Life

A typical day was presented through the eyes of the teenage son of an extended family, all of whom had moved to the eco-town. The son was seen from breakfast time, through his journey to school, lunchtime social activities, after-school activities with grandparents and friends, and evening activities of sport, attending a concert at the arts 'hub' on the education campus, and walking his girlfriend back to her home in nearby Yapton.

Key activities and messages included:

i. recycling the breakfast cereal carton in the in-kitchen sorting facility; observing the low energy costs of this 'Code 6' home; and programming the Smart Meter to set sun-shading for the predicted weather conditions, while noting times of bus services on the meter;

ii. walking to school along safe routes, while observing school pupils and workers at the railway station arriving to walk or cycle or catch the shuttle bus at the transport inter-change;

iii. observing his father cycling home for lunch from his business premises close to the heart of the town, with the business engaged in recycling materials;

iv. meeting friends over lunch at a skate-park, a facility requested and designed by the first teenagers to move into the town. Whilst there, the son remembers to book the car from the car club for the weekend and does so over his mobile phone, accessing the information system that also serves the Smart Meter in the home;

v. meeting his grandfather after school to visit the multi-purpose market that has developed from Ford Airfield's existing Sunday market and then taking his wheel-chair bound grandmother from her nursing home along the level paths to see food production on one of the central allotment gardens, part of the network of greenspaces in the town;

vi. arriving home to see the communal spaces in his neighbourhood used for an outdoor, community meeting (to discuss design proposals for the next phase of the town), while the 'green street' space is used by his young sister for outdoor play in a car-free zone. On the way, the quality of the public realm is seen alongside the reintroduced canal and waterways that make up the sustainable drainage system;

vii. meeting his girlfriend in the sports facility in the education centre, going on to a local concert in the arts hub (which in addition to exhibition and performance space, provides rehearsal and studio facilities for local musicians and artists); and

viii. walking his girlfriend to her home along safe streets in the well-designed town, following the level ground and relatively short distance to Yapton.

Sustainable Infrastructure

Meanwhile, the infrastructure of the town delivers:

- reliable, secure energy supply through the reuse of the waste stream that cannot be recycled, anaerobic digestion of sewage sludge, and biomass units within the business and community buildings
- 'closed loop' waste treatment through the recycling of all household and business waste, diverting non-recyclable waste to the energy stream, and reducing to the absolute minimum that proportion of the waste stream that requires disposal by landfill
- centralised water supply recycling for domestic purposes but also for irrigation of the green spaces and for maintenance of the open-water drainage system, which contributes to the quality of the public realm and to urban cooling within the town

- safe, level and attractive paths and cycle routes throughout the town and into the neighbouring villages (and as far as Littlehampton)
- public transport services within the town and with connections by bus and rail to the surrounding communities and further afield, providing smarter transport choices which utilise the Smart Meter information portal at home and work.

5. Weston Otmoor

Eco-towns are the Government's response to three specific challenges; climate change, the need for more sustainable living and the need to increase housing supply. Eco-towns should be well designed, self-supporting, attractive places to live, with good services and facilities which connect well with larger towns or cities close by.

There are three absolutely fundamental issues:

Location – eco-towns have to be places where people want to live and where employers want to locate and where both "need" and "demand" for homes and jobs can be accommodated.

Transportation – the largest component of carbon generation which is able to be influenced is transport; be it for goods or people; so getting the transport right is essential.

Sustainable Development – the development needs to meet the highest possible standards in environmental, economic and social design and set new standards in delivering an integrated approach to sustainable development.

Why does Weston Otmoor fit these criteria?

Weston Otmoor is in the right place because:

1. It is an area where people want to live and where affordable homes are desperately needed. There is a very high demand for market housing and over 7,500 people on the waiting lists for affordable housing in Oxford City and Cherwell District Councils.
2. It is on the Oxford to Bicester railway line which is the only operational part of the much desired East West Rail Line planned to link Oxford to Milton Keynes. This will deliver sustainable connectivity.
3. It is large enough to accommodate sufficient employment land to provide up to 12,000 jobs meaning that most of the eco-towns residents will have the opportunity to live and work in the same town in the same way that many residents of most towns do throughout the country. The eco-town's location in the south east, close to Oxford, Bicester and the M40 also means it is in the right place to attract occupiers for the employment space.
4. It is located in an area already identified for growth within SEEDA's Central Oxfordshire Diamond for Investment and Growth and within the Oxford to Cambridge arc – a nationally recognised area for growth of knowledge based industries.
5. The team is committed to delivering an exemplary sustainable environmental design that integrates sustainable solutions for low energy; carbon management, biodiversity and ecology; landscape; site wide water and waste water management; sustainable materials and waste recycling.

How will these things be made to work?

The development of Weston Otmoor will deliver:

1. The East West Rail Line between Oxford and Milton Keynes.
2. A new railway station at Weston Otmoor.
3. A new railway station at the Pear Tree Park & Ride facility in north Oxford to allow an interchange with existing and new bus routes to destinations in east Oxford.
4. A chord line to link the East West Line to the Chiltern Line and facilitate direct services from Oxford and Weston Otmoor to London Marylebone.
5. A rebuilt junction 9 of the M40 will increase capacity to solve existing problems and provide sufficient space for the Weston Otmoor traffic.
6. A Fast, Free & Frequent tram system serving the entire eco-town with no home or place of work being more than about 300m walk from a tram stop.
7. A rail based Park & Ride facility to take traffic off the already congested A34 and to encourage people (who live outside the eco-town but travel through junction 9 into the city or employment areas of Oxford) to make a quicker journey by train.

This balanced mix of housing and employment land uses and combination of transport investment (provided from the outset) will deliver a viable and very sustainable alternative to private car-borne journeys. This will enable residents to change their transportation habits from the day they move in.

What will Weston Otmoor provide?

Weston Otmoor will be a sustainable community comprising:

1. Up to 15,000 homes.
2. Up to 12,000 jobs in the employment space.
3. Additional jobs in other buildings such as schools, shops etc.
4. 25 per cent green infrastructure including formal and informal parks, allotments, woodland and other habitats.
5. An appropriate provision of retail, leisure, business, health and other community facilities to provide for day-to-day needs without requiring people to travel into or out of the eco-town.
6. A long-term management regime which is designed for the eco-town's future needs where inspiration will be taken and lessons learned from the industrial philanthropists who created Bourneville, Port Sunlight, Saltaire and New Lanark and the early twentieth century new towns.

7. Innovative and state of the art energy, water and waste management solutions. Specifically Weston Otmoor will:

    - Deliver an integrated carbon and energy management strategy by adopting a hierarchical approach to management; demand reduction through energy efficient design, construction, management and encouraging and enabling sustainable behaviours; on-site energy production generating as much remaining energy demand from on or near site renewable sources.
    - Community MUSCO or ESCO which may include wind generation and CHP-linked to anaerobic digestion from sewage and controlled waste.
    - A community education and awareness programme.
    - An on-site carbon emissions reduction and trading scheme that will deliver zero carbon through construction and a carbon fund and carbon transfer credit scheme to be used to incentivise the community.
    - An integrated water management strategy in which water will be treated as a precious commodity with dual water supplies, on site sewage treatment, tertiary foul water management and SUD's storm water disposal that will recognise and encourage bio-diversity and ecology not only on site but also in conjunction and in harmonisation with the surrounding land.

8. An identifiable "place" with recognisable features and elements, routes and destinations. Iconic buildings will reflect their importance through design; including, the railway station and the Secondary Schools. A distinctive character will emerge through a pattern of development emanating from walking, cycling and tram journeys. The town will be admired and respected from without; it will be enjoyed and loved by those within.

6. Whitehill Bordon

The eco-town at Whitehill Bordon will become the largest town in East Hampshire District Council's area with a total population of about 30,000 by 2026. We plan to construct between 5,000 and 5,500 new homes. We also plan a mixed economy of up to 7,000 varied jobs as employers are attracted to the Eco-town status and ethos. We propose a new infrastructure, the best quality public transport and a new town centre.

Eco-vision

In 2005 a unanimous district council vote endorsed the Green Town Vision for Whitehill Bordon. This community-led vision for Whitehill Bordon will put the outstanding natural environment and landscape surrounding the town at the centre of the masterplan. The Green Town Vision means that new infrastructure, housing, employment, education and leisure opportunities will be developed to complement this unique area and develop a model sustainable community that is recognised locally, nationally and internationally.

Delivery structure

The mission the council has chosen to accept is to lead a project, working with a number of partners, to build a community that meets the needs of residents, businesses and visitors. The project is currently managed by a partnership between East Hampshire District Council, the MoD and Hampshire County Council, who are all contributing expertise and resources to the scheme. There is an executive group consisting of the three partners and augmented by SEEDA, English Partnerships, Natural England and the town council. Serving this executive are four policy advisory groups, covering community, business, town centre, environment, housing, leisure, infrastructure and the challenges of transition.

It is recognised that in procuring development we will need to transform the partnership into a development delivery vehicle. In order to function well the executive panel will require support and skill development so it can fulfil a strong briefing and supervisory role. In addition we have or plan to have:

- A visionary masterplan (We have appointed an excellent team)
- Make use of national and regional resources
- Ensure that the project is open to a range of developers, including innovative, local, self build and smaller organisations as well as the national and muti-national teams.
- Develop a strong Planning Framework. The town is recognised in the emerging RSS and has recently been recommended for designation as a Strategic Development Area. The project is also embedded in our LDF process.

We also want to benefit from the ECO brand that designation will provide.

Delivering quality – empowering the community

Quality in the project will be protected through political leadership and via the scrutiny of our community, local professional and advisory networks.

Communities are collections of individuals with a common bond but individual aspirations. We will develop a town where individuals are important and development is designed with people and nature in mind. Above all, as the politically accountable body, we are committed to being responsive to community needs and listening. Whitehill Bordon will be a 21st century eco-town – recognised as a model sustainable community built by the community for the community.

Eco-futures

A day in a life in 2020

An imagined letter from the future written by Cllr Ian Dowdle

Dear Mum,

This Eco-town is now a modern flagship town with heart, community and identity. Jobs created in the town have produced a closer-knit community, a vibrant business scene and a live/work society with a café culture that feels almost continental. We have created an outdoor feel by preserving a sustainable biodiversity, building a new leisure centre and now when you're in the town centre you have the feeling that you could step straight into the woodland.

There is now a local fresh food market, supplied by nearby farms (fewer food miles) which provides an even closer link with our immediate countryside and affordable, healthy food options. This countryside connection combined with our "Green Town Vision" delivered through an eco-town has changed the landscape. Now you can see allotments and vegetable gardens back in schools. Schools are doing farm trips again.

Schools are performing well. The children now have new opportunities and career paths since a successful skills centre and a new college were built. A trained/re-trained/up-skilled workforce is now supplying the demands from local employers in meaningful jobs.

The new "green energy technologies" have been a huge success. This is like the Industrial Revolution No. 2, with production, research and distribution established in the town which have brought increased local employment. (I am thankful these items are made in this country and not the Far East). The new business park is doing well as are the smaller business outlets in the town. We have good national stores, but a good selection of specialist shops and businesses too.

Everyone is out walking and cycling in the town. There is a slower pace of life, everyone stops to chat and there is more interaction between neighbours. The public transport system is clean, reliable and effective, and the new rapid rail link to the main line station has produced comments such as, "Why was this not done before?" It is a huge success. Cars are still here, but people only use them when they need to. Oil prices have gone up again; thank goodness we made the right decision.

Teenagers still get their adrenalin fix at the skate park but "hang-out" in a more sociable way. The café culture is more inclusive than the old pub culture. Today's kids are "cool", there is no binge drinking! There are no real problems of antisocial behaviour. Kids have a clear career direction and the new social groupings seem less about age and more about shared interests.

My friend Seb is doing well. He was 25 when this all started. At that time he commuted two hours in a car each day to work. That was 10 hours a week or three months spent in a car getting to work a year. I can remember we worked out that it was costing him £5,500 to get to work in 2008! Now his new job is here; he always wanted to work locally. His son David has come on leaps and bounds; he was having trouble at first. Seb, who is now 37, puts it down to the extra time he and his wife were able to spend with their son when they stopped commuting. David is 14 now and he will do well in his GCSEs and will go to college. That would not have happened before.

Would I like to be a 16-year-old again? Well, I would have said 20 years ago that I wouldn't, but now maybe! Never mind. Every time I get on my bike I feel 16 again.

Your loving son
Ian

7. Pennbury

A new way of living

The eco-town for Leicestershire will be more than just a place to live – it will offer a way of living that is radically different from the way that many people live today – modern and environmentally sustainable. The technical solutions and expertise are already available – The Co-operative Group's role is to bring them together to create an exciting and resilient vision.

The governance structures that we put in place will be flexible to the changing needs of the community. Our approach will be based on co-operative values and principles and will guarantee everyone's right to be informed, consulted and heard on decisions that affect their lives.

All residents will be automatically entitled to join the eco-town Community Company which will evolve out of the initial Design and Development Advisory Panel (DDAP) as the town's population increases.

The governance structures for the eco-town will account for the range of needs and differing levels of engagement desired by those living in the community. Bodies such as the DDAP will enable those who wish to be actively involved in the development of the town and community to do so, whereas if people choose not to participate on a regular basis they will still be able to easily access information to keep them up to date and included.

Ease of interaction and provision of information is therefore key to enabling the community governance model to work effectively and to encourage more of the community to participate actively. Flexibility is also critical to ensure that changing needs are captured that residents can interact more or less depending on their current circumstances.

We have developed the concept of a 'Community Window' to provide the principle method for people to engage in community life. Using high-speed broadband – a screen in every home will be connected to the community governance portal. This will promote the use of opinion surveys, voting and interest forums. The portal will also provide real time data, information and advice in on such things as energy use and the availability of public transport. We expect this technology to evolve over time to provide the capability for in-home services such as health assessment and monitoring.

We are also exploring options for a variable service charge in the community to encourage sustainable transport behaviour and to incentivise people to deliver community activities and services such as local food production or running local interest groups.

Our 'Community Window' is a practical and innovative way of enabling communities of interest to come together, information to be provided and participation in decision making to be encouraged.

Protecting the vision

We are working with all the Leicestershire local authorities to develop a methodology to ensure that our vision for the town is protected and to safeguard a high quality of design throughout – from the production of the brief through to development.

As master developer, the Co-operative will jointly own the vision for the community with the DDAP and we will be responsible for delivering the vision and driving the standards. We will set out the parameters for delivery in agreement with the DDAP and will bring each phase forward in line with the overall master development plans.

Membership of the DDAP will comprise The Co-operative Group, the town management body, recognised experts, local authority representatives and residents of the town. The DDAP will be responsible for developing technical specifications, detailed briefs and tender documents for each element of the master-plan. The DDAP will adapt specifications to meet the changing needs of the community and also to reflect feedback from each completed phase of the development. The DDAP will also be responsible for measuring performance against agreed indicators to assess how well the town functions in the areas of ecology, transport, housing and community, environment, health and well being, education and skills, employment and vitality and climate change.

To imagine how this will work in practice, consider the lives of the Jones family in 2030 – Mike (50); his wife Helen (48) and their children Anthony (19) and Laura (15).

A day in the life of the Jones family

Mike was one of the first residents and got involved in the Design and Development Advisory Panel at the outset. He played an important role in the design of the town and the development of the community. Mike was also one of many entrepreneurs attracted to the town and he received start up support from the town partnership and the Co-operative Group to set up a consultancy specialising in community empowerment initiatives.

Helen works in Leicester and moved to the area from London before meeting Mike and having children. A self-confessed shopaholic and avid theatregoer, Helen loves how easy it is to travel to Leicester City on public transport.

Before they moved to the town, Mike and Helen had two cars. Living in the eco-town, they need only one car and can foresee the day when they will rely solely on the car share club.

Instead of the sixth form Anthony undertook an apprenticeship as part of the academy programme linking the town businesses with the school. Anthony is now a trainee at Stretton Homes where he is learning to design high thermal insulation modular houses. These are delivered around the UK using the rail freight link at Great Glen. Stretton Homes was one of the first companies to take advantage of the business incentive scheme, which stimulated economic growth and job creation in the early days.

Laura sits on the Town Youth Panel and, since voting on community issues is open to all ages, has been active in local politics from the age of 10. She is also on the Welcoming Committee and meets teenagers from families new to the community to help them settle in. Laura loves keep fit and horse riding and spends much of her time in the Great Park. The 'Community Window' helps the Jones family organise and co-ordinate their busy lives. They have set their own 'favourites' page to display bus times and car share availability and to receive news downloads and updates from the community diary to find out what is going on in the town. They also use it to find out what local seasonal produce is available from the Town Farm.

Farming is a key element of this eco town and an increasing amount of the food consumed by the Jones family comes either from the community farm, the Co-operative's commercial farm or the other farm businesses on the land.

Mike and Helen love living in the eco-town. They feel an important part of the community and are proud to have played a part in helping to create it.

Delivering the vision

All eco-towns should achieve excellence in sustainable construction, environmental strategies, energy efficiency and generation and transport solutions. Here are just a few of the elements of our proposals that set us apart:

- Our experience in delivering engaged communities.
- The opportunity to support the wider regeneration of the Leicester city region.
- Our ability to deliver community farming and local food production.
- Our proposal to deliver a Great Park for Leicestershire as an integral part of our proposal.
- Our commitment to the land – we have owned and farmed here for almost 100 years and we are committed to retaining an ongoing role in the site's future.

8. Middle Quinton

Describe a day or week in the life of a household living in the eco-town in 2020.
It is envisaged that the eco-town will be accessible to all. There may be some groups who have a greater preference for living in an eco-town, these may include: people who have an 'environmental conscience' who are keen to live more sustainably, families who will benefit from having resources on their doorstep, and people that wish to influence how their community is managed. Middle Quinton residents will reduce their ecological and carbon footprints, and the demographics and interests of the potential residents will provide a firm foundation for enabling more sustainable living across the town. Footprints are currently being estimated for Middle Quinton based on the proposals. The design and operation of the master plan will help to reduce the ecological and carbon footprints of residents within the site. However, this influence is predominantly limited to: energy; transport; food and services.

A behaviour change framework that complements the master plan can potentially reduce the ecological footprint of residents further. This should help to catalyse residents to make more sustainable lifestyle choices by enabling, engaging, and encouraging the community and providing strong examples. This can influence the 8 key components of a carbon and ecological footprint:

- Housing (eg reducing energy demand; zero carbon energy supply options; A rated energy appliances)
- Transport (eg reducing the need to travel and discouraging private fossil fuel vehicles)
- Holidays (eg holidays within the UK and recreation features onsite)
- Food (eg locally sourced organic food; farmers markets and allotments)
- Consumables
- Durables
- Services
- Energy (eg renewable and low carbon sources; energy monitoring)

The 'Day in the Life of' scenarios enable lifestyle choices to be considered within the context of the master plan. Here are two examples that we are using in relation to potential residents:

For the following scenario walking is 'encouraged' by the layout of the master plan over the use of fossil fuel transport, and residents are 'enabled' to purchase locally produced food:

> **'It's 7.30am and Richard starts his day with a quick stroll to the corner shop to pick up his daily newspaper. It's a nice walk down pedestrian friendly streets over wet ditches and under trees. At the shop, the owner Samuel has already put on display his colourful array of locally produced fruit, Richard picks up two apples for his daughter.'**

In the next scenario, the building design is energy efficient, the local microclimate influences internal building temperatures and renewable energy is used. Water consumption is reduced by rainwater harvesting. The technology is exemplified to the children.

> **'Elsa thinks her new school is cool because it's a funny shape. Apparently that's because it's easier for the sun to keep it warm and the walls are well insulated too. There's also grass on the roof and trees shading the lower classrooms to help keep them cool in summer. Solar panels on the roof help to make electricity. Sometimes they learn about energy in science lessons, and they go and explore the technology around the school. Elsa's favourite is the rainwater harvesting tank above ground in the playground as she likes to follow the pipes down to the school allotment. Apparently their school is state-of-the-art, and uses little energy compared to many other schools. Lots of other schools want to be just like them.'**

The combination of a well designed and operated master plan and a behaviour change framework will provide a strong basis for moving towards the desired ecological and carbon footprint. However, there will be elements of the ecological footprint that are beyond the direct influence and control of the residents, for instance the carbon emissions associated with services at the national scale such as the UK's military forces.

Confirm who will own for the vision for the eco-town throughout its design an development and the mechanisms available to control development, monitor, maintain and improvement standards.

Middle Quinton will be developed around a Shared Vision, with a number of organisations and individuals sharing the 'ownership' of the Vision:

At the pre-application stage/iteration and improvement of the proposals the Vision will be shared by:

- Communities and Local Government
- St Modwen and The Bird Group
- Local Planning Authorities / Regional Development Agency
- Schools (Head Teachers) and Further Education providers
- Local interest groups and the voluntary sector
- Existing communities

During the first phases of construction and occupation the Vision will be shared by:

- St Modwen/The Bird Group
- Statutory and Non Statutory Consultees
- New residents/employers
- Schools (Head Teachers) and Further Education providers
- Local Planning Authorities/Regional Development Agency
- Local interest groups and the voluntary sector
- Existing communities
- The Community Interest Company

Going forward post construction, the Vision continues to be shared by:

- St Modwen/The Bird Group (in the early years)
- New residents/employers
- Schools (Head Teachers) and Further Education providers
- Local Planning Authorities/Regional Development Agency
- Local interest groups and the voluntary sector
- Existing communities
- The Community Interest Company.

The Community Interest Company will be at the heart of the shared vision. This will comprise representatives from residents and community groups, as well as local businesses, the Local Planning Authorities and the master developers. The Company will be funded through contributions from residents in the form of a local tax, and an elected management body will be responsible for decision making in such areas as development of the green infrastructure and public realm; community transport; energy and waste recycling (including potential links to an ESCo) and design.

The Community Interest Company, working with Local Planning Authorities and Statutory and Non Statutory Consultees will ensure design quality is maintained throughout the development process. Community engagement in the design process in the form of comments in respect of positive local characteristics and the site's assets, will feed into a side wide masterplan and design strategy. This in turn will lead to and guide the development of area based masterplans and design codes which will also be informed by a design panel linked to the Community Interest Company. All of this process will be underpinned by the SPeAR® Assessment in respect of sustainability.

9. North East Elsenham

A Day in the Life

The Smith family moved to Elsenham in 2016 to be near their grandmother who has lived in the village since she was a girl. They have a family house within the Eco-town which is full of discrete low energy and low impact thinking. Mum and Dad work within the town, the eldest child attends Elsenham Academy, the middle child the local primary school and the youngest is at one of the pre-school nurseries.

Mr Smith works close to the station and has the option of walking, cycling or taking the bus to the office. Since moving to Elsenham they have been able to sell one of their two cars as they can reach all of their day-to-day activities without using the car. They are thinking of selling the other car as they have realised that they can save around 50 per cent by joining the car club operated by Elsenham Co-operative Ltd (ECL). Mr Smith sometimes uses the train to attend meetings in London and Cambridge.

Mrs Smith's employer is a service supplier to businesses based at Stansted Airport. It relocated from the edge of London in 2014 to new premises in Elsenham to be closer to its customers and to benefit from the local labour market. It is small at present but needed flexible premises and an attractive rental deal to enable it to grow in scale. ECL offered the business space in its new business unit scheme in the town centre.

This enables Mrs Smith to drop the youngest child at the nursery on her way to work. On the way back she will use the local shops and services to buy something for tea, which might include locally grown vegetables from ECL's retail unit. Grandmother is meeting a friend for coffee this morning in the town centre and will pick the youngest child up later and take her for a 'mini-beast' hunt in the Elsenham Green Ring which provides an attractive and extensive open space resource for the town.

The Smiths are members of ECL and Mrs Smith has just been elected on to its Board as one of the first members elected by residents. They buy all their low carbon utilities and 'triple play' telephony services from ECL; as energy prices have continued to rise over the last few years they reckon they are saving more than £200 a year compared to their previous house taking advantage of the community energy networks operated by ECL. Although their new house is very energy efficient, they are careful not to waste energy. Because their consumption falls within a lower band, they benefit from the lower monthly energy tariff which encourages them to use less. They can easily track their consumption patterns online so there are no surprises on their monthly bill. They can they compare their household carbon and ecological footprint with averages for their household type.

After school the elder children take part in sports clubs operating from the sports centre associated with the Elsenham Academy. After this they cycle home via the town park, catching up with friends on the way at the café in the discovery centre. Their bikes were

bought from the ECL on a special offer when they moved in to their new house. This was a good idea to encourage them and their friends to use the bikes to get around and the schools, town centre and station all have plenty of secure places to leave them along with convenient cycle parking at the front of the house.

The bus service is very reliable and frequent. The buses and stops are well-lit, clean and welcoming. Because the service is operated by ECL, ticket prices are kept low and the timetable is often reviewed in the light of customer feedback. The special late night and weekend services and real time information on stops, the community website and also on hand held devices that ECL runs mean they can go out to the neighbouring towns without worrying about missing the last bus.

The family has a small allotment operated by ECL which is hard work but fun. They consume most of their own seasonal produce but on occasions sell on surplus stock to ECL's food retail business, which sells produce in the farmers market in the town centre, and also runs a vegetable box scheme as a joint venture with other farmers in the region.

The total ecological footprint of the Smiths has reduced from 6.2 global hectares per person in their old house to 2.1 global hectares. This could reduce further to the One Planet Living target of 1.8 global hectares if they chose not to fly to their summer holiday in Spain. Their Carbon footprint has also been reduced to reflect the careful use of resources and the services provided in Elsenham eco-town, from approximately 12.6 tonnes of CO_2 per person per year to approximately two tonnes of CO_2 per person.

Who will own the vision for the eco-town?

The development of the vision for Elsenham will be led by the Fairfield Partnership and its consultant team. The Fairfield Partnership is not a housebuilder and is under an obligation to landowners to deliver value and quality across the life of the development. The Fairfield Partnership's consultant team will form the basis of an exemplary master developer design, management and delivery team (the Master Developer Team or MDT) led by a 'town architect' to draft the original design vision and establish it through the planning process.

The MDT will ensure the delivery of the vision through the direct design of proposals for new infrastructure and also through the oversight of all detailed proposals brought forward by other developers/housebuilders prior to their submission to the Council as planning applications. This pre-application review process may be written into land sales contracts.

At all stages of its activities the MDT will engage with relevant stakeholders and the local community including the Elsenham Co-operative Ltd, Essex Design Initiative, Inspire East, CABE East, Parish and District Councils etc through the vehicle of a Design and Delivery Panel convened by the MDT. This will include an annual review of progress with the Design and Delivery Panel.

A key element of our proposals is the Elsenham Co-operative Ltd (ECL). ECL will be known as the UK's leading consumer owned sustainable community enterprise, delivering a range of high quality services for all the local community. The ECL mission will be to build its business in line with the Elsenham Eco-town master plan vision, ensuring that essential infrastructure and services are available on time to meet the expectations of the community.

The core values of ECL match strong community and environmental ethics with an entrepreneurial spirit and sound business management that seeks to provide benefits to all citizens that use its services and especially its members. These values will be enshrined in ECL's Charter, which will set out how its performance will be measured across the multiple bottom line: financial, environmental and social. The ECL is envisaged to have responsibility for a portfolio of services under the following broad headings:

- Bundled utility services – including district heat and energy systems, water, ICT and waste management networks;
- Transport and travel planning – including bus services, community transport services, car and cycle sharing schemes, goods collection and delivery, car clubs, car parking managements, travel information and monitoring, travel promotions and personalised travel planning;
- Health and Children – including primary care services (GP etc), day nurseries, after school clubs, holiday schemes, crèches, play centres and community facilities;
- Enterprise – including business start-up incubator centre, start-up and Move-on work spaces, inward investment services, business support network, low cost retail outlets, self-build housing and a credit union; and
- Open Space (the Elsenham Green Ring) – including allotments, orchards, market garden/community farm, sustainable urban drainage systems, recreation facilities including community sports hub and other open space management.

In terms of delivery Elsenham Co-operative Ltd. will have a role in the procurement and ongoing maintenance of new infrastructure and services and in the oversight of new proposals as part of the Design and Delivery Panel. The control of the Co-operative will initially be largely with the Fairfield Partnership, but will progressively pass to new residents as the scheme is built out. This will ensure that the design vision endures across the lifetime of the development and thereafter.

10. St Austell (China Clay)

Clay Country Vision – a world class eco-town development

At a time when global communities, economies and the environment are under increasing pressure and facing immense challenges from climate change, the China Clay eco-Town is a vision for a trailblazing development for low-impact living in the twenty-first century that will meet these challenges.

Based on the re-development of six former china clay industrial sites the eco-town will be an inspiring place where locally distinctive communities and new economies will lead to a step-change in the way 'living places' function and interact with their environment by reducing their carbon and ecological footprint – but still being a really fun and stimulating place to be. The potential benefits will go beyond the six eco-town sites by raising the sustainability of the existing communities through a range of positive impacts such as access to green energy and community facilities.

What will it be like to live in the eco-town?

So – what will it be like to live in the eco-town? Well, we've described how we think it will look in 'A Day In the Life…' of a typical Clay eco-town family in 2020. You can see this on our website www.claycountryvision.imerys.com and keep up to date with how the project is progressing – in any case there's a limit to how much we can cram in to these two pages!

There are some key messages in 'A Day in the Life…' Perhaps the most important is that the eco-town is about joined-up thinking. On their own, you may think that the eco-town concepts aren't particularly new or radical, however, what is new and really radical is bringing them all together in one place for the benefit of a rural community.

So here are some key points for how we think the eco-town will work. Firstly, we think its not just about creating an eco-town, it's more about creating an **'Eco-Zone'** that includes the existing communities in the clay area – and using the six Eco-Town developments to raise the sustainability of the whole area. The starting point is the restored landscape – its biodiversity and land-use – this will form the canvas against which all new developments will take place. Here we start from a strong basis with 1500 hectares of restored landscape from Imerys' Heathland and Woodland projects, something that went well beyond mere compliance.

You'll not have missed how the cost of energy has gone up! One of the cornerstones of the eco-town will be **Climate Change and Energy Management** – aiming to control carbon dioxide emissions to two tonnes per annum per person and replacing fossil fuels with affordable and sustainable renewable energy. To do this we'll radically cut the amount of energy used in materials to construct the eco-town, and ensure we supply significant levels of renewable green energy. This will come from a 'decentralised integrated generation system' – in plain language complementary sources of green energy. We've already

got advanced plans for the provision of 20-25MW of wind power and, through other technologies, such as Hydro and inter-seasonal heat storage, we believe there is potential to supply at least another 20MW. That's enough for up to 10,000 homes.

Of course 5,000 new homes means more traffic, but we're working with partners to develop an innovative **transport** solution. Let's face it the transport network in the clay area could be improved, so we're working hard to find cost effective solutions through new infrastructure, using Imerys' haul roads and surplus land, and what's called 'modal shift' – a change to different forms of transport including increased use of buses and rail.

Our plans include new modes of public transport as well as walk and bike-friendly solutions. But we also think that public transport is only part of the solution – in a rural location like the Clay Area we're realistic enough to know that people will also want ready access to more personal transport – so we're looking at the potential to facilitate a shift to electric and hybrid cars.

Creating new **Employment opportunities** will be critical, not only to help address recent losses in the china clay mining industry but also to cater for those attracted by the Eco-Town. We plan for these jobs to be close to residential areas so travel can be minimised as far as possible. One area where we see real opportunity is through **E-Technologies** – new environmental technologies – the creation of new jobs through new industries such as low-carbon building materials from clay waste and, energy generation and management. We see Cornwall and the Mid Cornwall China Clay Area becoming a leader in this field.

Leisure is already a major part of Cornwall's economy – but we see significant opportunities for the eco-town and the Clay Area to develop quality leisure jobs and facilities, working in partnership with the Eden Project. We're planning an inclusive approach to leisure with 60% of the sites designated as open space – from extreme sports through to the use of the restored landscape for quiet enjoyment, allotments, and play through to green tourism – something for the whole community.

We see the **Living Places** – the houses and communities that will be built, as being key to the success of the eco-town – from their design and layout through to the sense of community and affordability – we want to build on the existing strong sense of place and local distinctiveness and powerful sense of community and belonging to enhance existing communities and places and build a truly robust eco-town and wider community.

One of the key benefits of a dispersed six-site approach over a single development is that our proposal can be used to achieve 'critical mass' among the existing settlements and help raise overall sustainability. We'll do this by developing accessible **Facilities and Live-Work** capacity – such as schools, shops, surgeries, and workspace. We'll also look at water management with the aim of 80 litre water consumption rates through partnership with a leading water utility company.

All of this will be something to be truly proud of that can be used to promote the eco-town and low-impact living – by telling others about it we'll create the supply of goods and services – and boost the new economies. To achieve this we're planning, with partners, to develop a **'Centre for Sustainable Living'**.

How can we maintain and deliver the vision?

Delivering something as complex and ground-breaking as an eco-town is going to be a real challenge. We'll need to maintain quality of design, and remain true to the vision. Reassuringly Imerys, the promoter and landowner, has strongly signalled a commitment to this process – an enlightened approach and a real break with the past where rapid land sale would normally follow cessation of mining activity.

To set our sights high and maintain standards we've devised, with our partners, a set of **Sustainability Measures** across eight key Sustainability Themes. Using this we've set standards and targets for performance against which we can be measured – so success or failure will be there for all to see. Where national targets exist we've incorporated these, but where they don't we're developing our own – see our website for more on this important topic.

To deliver the eco-town **formal structures and agreements with key partners and stakeholders** will ensure that key delivery processes ands structures exist to agree and drive the delivery of standards and outputs. Allied to this strategic **partnerships** with key stakeholders and delivery partners, such as Cornwall County Council, Restormel Borough Council, the South West RDA and Eden Project, will ensure that the Vision is maintained through appraisal, input and the advice of 'critical friends.'

Learning from others will be vital and here our partners can help with bringing best practice to bear from elsewhere. Similarly **Community Involvement** and **Community Empowerment** will be fundamental to gaining support and ensuring that the voice of local communities is heard and listened to. This process is already underway and formal and informal structures are currently being developed to ensure this is achieved. Eden Project and key community animators are in the forefront of this process and are drawing together good practice models from their global partners and peers.

Building and delivering an eco-town will be potentially very costly. It will be essential to maintain **financial viability** through the development of novel and appropriate structures and business models, with value being developed in different ways rather than purely at development, as is the current model. These models are now under development and their financial viability is being tested. You can see a fuller explanation and a diagram of this on our website.

www.claycountryvision.imerys.com

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