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Eco Bicester – One Shared Vision

DRAFT

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INTRODUCTION

Bicester is a large market town in central Oxfordshire strategically located between London and Birmingham and Cambridge and Oxford and close to both Banbury and Milton Keynes. Since the 1950s Bicester has grown substantially and now has a population of approximately 30,000. Further population growth, up to approximately 40,000, is projected by 2026. But physical and social infrastructure has lagged behind housing growth, bringing high levels of out-commuting, unacceptable congestion and insufficient facilities.

The designation of a future part of Bicester (so-called North West Bicester) as one of a national programme of eco towns has led Cherwell District Council, Bicester Town Council and Oxfordshire County Council, with their regional and local partners, to a fundamental rethink about how Bicester should develop in the future while keeping robust physical and psychological links to its historic centre. From this trigger the concept of Eco Bicester has been born and this document describes the Vision for Eco Bicester in an attempt to paint the picture of the future of the town which all those who have a role to play in it can share and set out together to deliver.

To date this Vision has been developed by the organisations which are represented on the Eco Bicester Strategic Delivery Board. In developing it further we will work actively with the existing community ensure this is the vision of the local community.

The Eco Bicester Strategic Delivery Board is committed to making Bicester as a whole town a national exemplar, achieving the highest possible environmental standards and quality of life for residents. Bicester Town Council's vision for Bicester as "a great place to live, work and bring up the family" is a great starting point, but this Vision aims for this to be achieved in a wholly sustainable way, enabling residents to reduce their impact on the environment while achieving a high quality of life.

The eco development at NW Bicester will be the catalyst for the repositioning of the town, by providing high quality, well-designed eco housing, reducing carbon emissions, encouraging healthy lifestyles and attracting new employers and jobs to the town. But at the same time we need to address the energy inefficiencies of much of the existing homes in the town by retrofitting measures to reduce energy use. All new development in Bicester will be to the highest possible environmental standards but we can't wait for this alone to start to deliver the new vision for the town as a whole.

Cllr Barry Wood

Chairman
Eco Bicester Strategic Delivery Board

July 2010

THE VISION

To create a vibrant Bicester where people choose to live, to work and to spend their leisure time in sustainable ways, achieved by:

- Effecting a town wide transition to a low carbon community triggered by the new eco development at NW Bicester;
- Attracting inward investment to provide sustainable jobs and commerce, especially in green technologies;
- Offering transport, health and leisure choices while emphasising zero carbon and energy efficiency; and
- Ensuring green infrastructure and historic landscapes, biodiversity, water, flood and waste issues are managed environmentally sustainable way

COMMUNITY FIRST – PEOPLE AND PLACES

Local people will have a huge opportunity to influence the ongoing development of Bicester which the Board believes needs to provide:

Community Infrastructure

- High quality community facilities and play space for all, making best use of the town centre, public open space, streets and gardens
- Local cultural facilities, including a venue with theatre auditorium for 300 people and commercial standard catering facilities to cater for 120 people in formal dining setting. It is recognised that The Garth could have the potential to fulfil this role
- A sports stadium
- A new cemetery/green burial site for the town.
- Local sports and leisure facilities
- Attractive, convenient walking and cycling routes and convenient public transport
- Accessible high quality health and social care to include a community hospital
- Opportunities for local communities to own and govern local community assets

Exacting Eco Standards for New Development

- Homes built to the highest environmental standards
- Buildings which incorporate high quality, contemporary design
- Buildings that are zero carbon and achieve at least Building for Life Silver Standard, level 4 of Code for Sustainable Homes or BREEAM excellent and have high speed broadband to facilitate information and smart management systems
- Reduced water use
- Low carbon energy
- Use of local and sustainably sourced materials

Retrofitting for a Low Carbon Community

- Energy efficiency of homes improved to reduce carbon emissions and fuel poverty.

ECONOMY

Eco Bicester needs to provide local jobs for its residents as a hub of the low carbon economy and the location of choice for business and inward investment.

Employment Opportunities

- New employment opportunities to complement the existing economic base to support the creation of a balanced economic base with opportunities requiring a broad spectrum of skills.
- Bicester as a significant location in the Oxford to Cambridge Arc, with an increase in science and technology businesses, exploiting innovations and spin-outs from academic research
- A centre for innovation capitalising on the location within a world class sub region

Sustainable Travel to Work

- Local jobs to reduce out commuting significantly
- Walking and cycling will be promoted through working with new and existing businesses to prepare and implement green travel plans.

Skills and Training

- Skills and training focused on meeting the needs of business and allowing allow the local community to benefit from the emerging green economy.

Employment space

- A sub regional service centre within a buoyant part of the sub region
- Employment space/office stock suited to modern employment requirements, particularly those of low carbon businesses – BREEAM excellent and designed to reduce energy use
- Employment creation as part of residential development sites
- Employment opportunities for the eco development's population

TRANSPORT AND MOVEMENT

Walking and cycling must be encouraged as the first choice for travel within the town to improve health, reduce carbon emissions and improve the quality of the environment.

Improvements to the existing transport network

- Improvements to Junction 9 of the M40 to unlock the employment growth potential of the town (Phase 1 due to start in July 2010)
- A perimeter road at 'South West Bicester' to relieve congestion in Bicester and reduce 'rat running' through surrounding villages
- Chiltern Railways' improvements to the Bicester to Oxford line and services to London
- Sustainable locations for development and highway improvement schemes as part of the 'Bicester Integrated Transport and Land Use Study' commissioned by Oxfordshire County Council in partnership with Cherwell District Council
- Improvements to walking and cycling provision in the town

A 30% increase in travel by means other than the car across the town

- Promote walking, cycling and public transport within the town
- A focus on travel to schools
- Build to densities which support walkable neighbourhoods and provide services locally
- Improved non vehicular access links to town centre facilities and other important destinations from across the town
- Give priority to walking, cycling and public transport where possible
- High quality cycle parking and storage
- Car clubs
- Electric vehicles and supporting infrastructure

Travel Planning

- Schemes and initiatives to promote sustainable travel planning set out in the DfT's Sustainable Travel Towns document developed in more detail for Bicester
- Innovative approaches to personal travel, including reduced energy consumption, low emission vehicles

ENVIRONMENTAL SUSTAINABILITY

The provision of green infrastructure and biodiversity and habitat creation is fundamental to Eco Bicester and already an important component of the town.

Open Space and Green Infrastructure

- Maximise ecological and biodiversity gains from all open space
- 40% open space at NW Bicester extended to integrate with existing green space within the town
- A network of open spaces incorporating river corridors and linking not only to existing space within the town but also the wider countryside
- Multi-functional green infrastructure incorporating footpaths and cycle paths, sports and recreational space, play, ecological enhancement, adopted sustainable urban drainage systems and flood alleviation
- Opportunities for new wetland areas and creation of local priority habitats
- Possible use of the new cemetery as a quiet and sensitive green space

Biodiversity

- To protect existing habitats
- To enhance biodiversity in the town and habitat creation
- Include features in buildings such as green walls and roofs, bat tubes and swift boxes to support priority species
- Shelter belts to enhance the range of habitats and provide for micro climates

Water Use

- To develop a sustainable water management approach to new development
- Water neutrality and more efficient water usage across town
- Grey water recycling
- Sustainable urban drainage to ensure that existing water courses are maintained and contaminants treated within surface water

Flood Risk

- Measures to ensure that run off created from development does not introduce flood risk elsewhere.
- Take opportunities to address flood risk downstream within the town

Waste and energy

- Low carbon energy generation
- Explore sewerage and food waste providing bio gas for energy centre.
- Storage for recyclable materials included in new buildings
- Measures to reduce all waste including that from construction

ECO BICESTER DEVELOPMENT STANDARDS, BUILDING ON ECO TOWN STANDARDS

The following standards will be required to be met for development at NW Bicester and where appropriate other new developments.

Zero carbon

The definition of zero carbon in eco-towns is that over a year the net carbon dioxide emissions from all energy use within the buildings on the eco-town development as a whole are zero or below¹. The initial planning application and all subsequent planning applications for the development of the eco-town should demonstrate how this will be achieved.

The health and social care needs of residents, and the resulting energy demand, should be taken into account when demonstrating how this standard will be met.

This standard will take effect in accordance with a phased programme to be submitted with the planning application. It excludes embodied carbon² and emissions from transport but includes all buildings – not just houses but also commercial and public sector buildings which are built as part of the eco-town development. The calculation of net emissions will take account of:

- (a) emissions associated with the use of locally produced energy
- (b) emissions associated with production of energy imported from centralised energy networks, taking account of the carbon intensity of those imports as set out in the Government's Standard Assessment Procedure, and
- (c) emissions displaced by exports of locally produced energy to centralised energy networks where that energy is produced from a plant (1) whose primary purpose is to support the needs of the eco town and (2) has a production capacity reasonably related to the overall energy requirement of the eco town.

This standard attempts to ensure that energy emissions related to the built environment in eco-towns are zero or below. Standards applicable to individual homes are set out in policy ET 9 of the Eco towns PPS.

Climate change adaptation

Eco-Bicester should be a sustainable community that is resilient to and appropriate for climate change. It should be planned to minimise future vulnerability in a changing climate, and with both mitigation and adaptation in mind. Developments should be designed to take account of the climate they

¹ This definition of zero carbon applies solely in the context of eco-towns, and applies to the whole development rather than to individual buildings.

² i.e. carbon emissions resulting from the construction process – see ET19.1.

are likely to experience. Eco-Bicester should deliver a high quality local environment and meet the standards on water, flooding, green infrastructure and biodiversity set out in the vision, taking into account a changing climate for these, as well incorporating wider best practice on tackling overheating and impacts of a changing climate for the natural and built environment.

Homes

As well as being zero carbon as part of the whole built environment, homes in eco Bicester should:

- (a) achieve Building for Life³ Silver Standard and Level 4 of the Code for Sustainable Homes⁴ at a minimum (unless higher standards are set elsewhere in this Planning Policy Statement)
- (b) meet lifetime homes standards and space standards⁵
- (c) have real time energy monitoring systems; real time public transport information and high speed broadband access, including next generation broadband where possible. Consideration should also be given to the potential use of digital access to support assisted living and smart energy management systems
- (d) provide for at least 30 per cent affordable housing (which includes social-rented and intermediate housing)⁶
- (e) demonstrate high levels of energy efficiency in the fabric of the building, having regard to proposals for standards to be incorporated into changes to the Building Regulations between now and 2016 (including the consultation on planned changes for 2010 issued in June 2009 and future announcements on the definition of zero carbon homes), and
- (f) achieve, through a combination of energy efficiency and low and zero carbon energy generation on the site of the housing development and any heat supplied from low and zero carbon heat systems directly connected to the development, carbon reductions (from space heating, ventilation, hot water and fixed lighting) of at least 70 per cent relative to current Building Regulations (Part L 2006).

The intent of the energy efficiency and carbon reduction standards is to ensure that, without being too prescriptive as to the means employed to achieve the overall zero carbon standard, reasonable opportunities for energy efficiency and on-site carbon mitigation (including directly connected heat systems) are utilised.

³ Building for Life – www.buildingforlife.org/

⁴ Code Level 4 contains within it standards to be achieved for: household waste recycling, construction waste, composting facilities, water efficiency measures, surface water management, use of materials, energy & CO₂, pollution, health & well-being, ecology & ongoing management of the development.

⁵ Space standards refer to the Space Standards published by English Partnerships which are now encapsulated in the HCA's Design Quality Standards.

⁶ See PPS 3 for definition and policy approach.

Employment

It is important to ensure that eco-towns are genuine mixed-use communities and that unsustainable commuter trips are kept to a minimum. An economic strategy should be produced that demonstrates how access to work will be achieved. The strategy should also set out facilities to support job creation in the town and as a minimum there should be access to one employment opportunity per new dwelling that is easily reached by walking, cycling and/or public transport.

Transport

Travel should support people's desire for mobility whilst achieving the goal of low carbon living. The town should be designed so that access to it and through it gives priority to options such as walking, cycling, public transport and other sustainable options, thereby reducing residents' reliance on private cars, including techniques such as filtered permeability. To achieve this, homes should be within ten minutes' walk of (a) frequent public transport and (b) neighbourhood services⁷. The provision of services within the eco-town may be co-located to reduce the need for individuals to travel by private car and encourage the efficient use of the sustainable transport options available.

A town wide travel plan should be prepared which demonstrates:

- (a) how the town's growth will enable at least 50 per cent of trips originating in eco-towns to be made by non-car means, with the potential for this to increase over time to at least 60 per cent
- (b) good design principles, drawing from Manual for Streets⁸, Building for Life⁹, and community travel planning principles¹⁰
- (c) how transport choice messages, infrastructure and services will be provided from 'day one' of residential occupation, and
- (d) how the carbon impact of transport in the eco-town will be monitored, as part of embedding a long term low-carbon approach to travel within plans for community governance.

It should also demonstrate:

- (a) options for ensuring that key connections around the eco-town do not become congested as a result of the development, for example by extending some aspects of the travel plan beyond the immediate boundaries of the town, and
- (b) significantly more ambitious targets for modal share than the 50 per

⁷ Specific proposals for the location of health and social care services should reflect the particular local circumstances and be made following discussions with the Primary Care Trust.

⁸ Manual for Streets – Department of Transport – <http://www.dft.gov.uk/pgr/sustainable/manforstreets/>

⁹ Building for Life – <http://www.buildingforlife.org/>

¹⁰ See Building Sustainable Transport into New Developments (DfT 2008) and Good Practice Guidelines: Delivering Travel Plans through the Planning Process (DfT/CLG 2009)

cent (increasing to 60 per cent over time) mentioned above and for the use of sustainable transport.

Ultra low carbon vehicle options, including electric car schemes should be considered to help achieve a sustainable transport system therefore it should be demonstrated that:

- (a) there will be sufficient energy headroom to meet the higher demand for electricity, and
- (b) the scheme will not add so many additional private vehicles to the local road network that these will cause congestion.

Eco-Bicester should grow in a way that supports children walking or cycling to school safely and easily. There should be a maximum walking distance of 800m from homes to the nearest school for children aged under 11, except where this is not a viable option due to natural water features or other physical landscape restrictions.

Healthy lifestyles

The built and natural environments are an important component in improving the health and well-being of people. Well designed development and good urban planning can also contribute to promoting and supporting healthier and more active living and reduce health inequalities¹¹. Eco-towns should be designed and planned to support healthy and sustainable environments and enable residents to make healthy choices easily.

Local services

Building sustainable communities is about providing facilities which contribute to the well-being, enjoyment and health of people. Planning applications should include a good level of provision of services within the eco-town that is proportionate to the size of the development. This should include leisure, health and social care, education, retail, arts and culture, library services, sport and play facilities and community and voluntary sector facilities.

Green infrastructure

Forty per cent of the eco-town's total area should be allocated to green space, of which at least half should be public and consist of a network of well managed, high quality green/open spaces which are linked to the wider countryside. Planning applications should demonstrate a range of types of green space, for example community forests, wetland areas and public parks. The space should be multifunctional, e.g. accessible for play and recreation, walking or cycling safely, and support wildlife, urban cooling and flood management.

Particular attention should be given to land to allow the local production of food from community, allotment and/or commercial gardens.

Landscape and historic environment

The implications of eco town status should be considered for the local

¹¹ See also – Promoting and creating built or natural environments that encourage and support physical activity. – National Institute for Health and Clinical Excellence – Nice Public Health Guidance 8

landscape and historic environment. This should be used to ensure that development complements and enhances the existing landscape character. Proposals should set out measures to conserve and, where appropriate, enhance heritage both assets and their settings through the proposed development.

Biodiversity

A net gain in local biodiversity should be the target for Eco Bicester and nature conservation assets should be enhanced wherever possible. A strategy for conserving and enhancing local biodiversity should be produced. This should be based on up-to-date information about the biodiversity of the area including proposals for the management of local ecosystems and where appropriate, the restoration of degraded habitats or the creation of replacement habitats. It should set out priority actions in line with the England Biodiversity Strategy and Local Biodiversity Action Plans, including appropriate mitigation and/or compensation measures, required to minimise adverse effects on individual species and habitats of principal importance and to enhance local biodiversity overall. Developers should seek the advice of Natural England and other relevant statutory advisers when developing their strategies and decision making authorities should also consult those bodies as to the adequacy of such strategies. Delivery bodies should be identified in the strategy and its implementation should proceed in parallel with the development.

Water

Eco-Bicester should be ambitious in terms of water efficiency across the whole development, particularly as it is in an area of water stress. A water cycle strategy that provides a plan for the necessary water services infrastructure improvements should be prepared and developed in partnership with interested parties, including the local planning authority, the Environment Agency, and the relevant water and sewerage companies through a water cycle study. The strategy should:

- (a) assess the impact that the proposed development will have on water demand within the framework of the water companies' water resource management plans and set out the proposed measures which will limit additional water demand from both new housing and new non-domestic buildings
- (b) demonstrate that the development will not result in a deterioration in the status of any surface waters or ground-waters affected by the eco-town; and
- (c) set out proposed measures for improving water quality and avoiding surface water flooding from surface water, groundwater and local watercourses.

Eco-Bicester should:

- (a) incorporate measures in the water cycle strategy for improving water quality and managing surface water, groundwater and local watercourses to prevent surface water flooding from those sources; and

- (b) incorporate sustainable drainage systems (SUDS) and, except where this is not feasible, as identified within a relevant Surface Water Management Plan, avoid connection of surface water run-off into sewers.

A strategy for the long term maintenance, management and adoption of the SUDS will be required. Eco-Bicester should aspire to water neutrality, ie achieving development without increasing overall water use across a wider area. In particular, the water cycle strategy should set out how:

- (a) development would be designed and delivered to limit the impact of the new development on water use, and any plans for additional measures, e.g. within the existing building stock of the wider designated area, that would contribute towards water neutrality
- (b) new homes will be equipped to meet the water consumption requirement of Level 5 of the Code for Sustainable Homes; and
- (c) new non-domestic buildings will be equipped to meet similar high standards of water efficiency with respect to their domestic water use.

Flood risk management

Eco-Bicester should not increase the risk of flooding elsewhere and should use opportunities to address and reduce existing flooding problems. All of the built-up areas (including housing, other public buildings and infrastructure) will be fully within Flood Zone 1 – the lowest risk. Flood Zone 2 (medium risk) should, as far as possible, be used for open spaces and informal recreational areas that can serve as multi-functional spaces, for example, those used for flood storage. There should be no built-up development in Flood Zone 3, with the exception of water-compatible development and, where absolutely necessary, essential infrastructure as defined in Table D.2 of PPS25: Development and Flood Risk.

Waste

A sustainable waste and resources plan should be developed for the town, covering both domestic and non-domestic waste, which:

- (a) sets targets for residual waste levels, recycling levels and landfill diversion, all of which should be substantially more ambitious than the 2007 national Waste Strategy targets for 2020; it should be demonstrated how these targets will be achieved, monitored and maintained
- (b) establishes how all development will be designed so as to facilitate the achievement of these targets, including the provision of waste storage arrangements which allow for the separate collection of each of the seven priority waste materials as identified in the Waste Strategy for England 2007
- (c) provides evidence that consideration has been given to the use of locally generated waste as a fuel source for combined heat and power (CHP) generation for the eco-town, and
- (d) sets out how developers will ensure that no construction, demolition and excavation waste is sent to landfill, except for those types of

waste where landfill is the least environmentally damaging option.