

# Sustainability Checklist for Developments

## Guidance Notes

### Introduction

To ensure that applicants consider the full range of sustainability implications of development, the council will require a sustainability checklist to be completed and submitted prior to validation.

This requirement is supported by policy EV3A(j) in the UDP, by the Planning Policy Statement 1 supplement on Climate Change, and through the Governments programme to achieve zero carbon developments.

The Council's sustainability checklist for new developments applies to all new applications no matter how big or small. However, the amount of information provided should be proportionate to the size and type of the development.

The aim of the sustainability checklist is not to duplicate other planning requirements to provide reports and information.

We understand that there will be a degree of crossover and it will therefore be appropriate for applicants to refer to other reports and documents they have submitted as part of the application. The Code for Sustainable Homes is one way of demonstrating the sustainability credentials of new housing development for example.

### 1. Locational Issues

#### 1.1 Ecology

Most development sites will have some existing or potential value to wildlife. It is important that any important habitats and species are protected, and that mitigation measures are implemented if adverse impacts are identified. Efforts to enhance biodiversity should also be taken, and this may include section 106 contributions to improve areas elsewhere.

Applicants should outline the measures being taken to protect and enhance biodiversity on the site and surrounding areas.

This can be evidenced through reference to ecology studies / reports to illustrate consideration of these issues and suitable solutions.

For housing, evidence of meeting 1 credit from category Eco2 or Eco3 and / or 2 credits from category Eco 3 of the CFSH homes would also be adequate.

## **1.2 Surface water run-off**

New development can increase the amount of impermeable land in an area, therefore increasing surface water run-off. This has knock on effects on flood risk and drainage.

All new development must ensure that surface water run off does not increase.

A number of measures can be implemented to help maintain or improve surface water run off patterns. This includes a range of techniques such as permeable paving, swales and basins, green roofs, reed beds and settling ponds.

Sustainable Urban Drainage systems are encouraged as they can help to improve the quality of the rainwater being discharged.

Applicants should outline the measures to be implemented to maintain or improve surface water run off patterns. Reference to a satisfactory drainage plan is acceptable.

For housing, evidence of achieving 2 credits under category Sur1 will also suffice.

## **1.3 Land use**

The use of land that has been previously developed should be the first priority for new development as opposed to Greenfield sites. This sequential approach promotes the regeneration of areas that lie derelict/vacant and gives greater protection to environmental assets.

Applicants should summarise the steps taken to follow this sequential approach to land, outlining any alternative sites that have been considered.

This information can be outlined briefly as part of a sustainability statement.

## **1.4 Transport and travel**

If development occurs in places that are not easy to get to by public transport, walking and cycling, then the reliance on cars to travel will persist; along with the associated congestion, carbon emissions and safety issues.

Applicants should outline the measures it will take to ensure that the need to travel is minimised and that transport via walking, cycling and public transport is promoted.

This information can be included as part of a Design and Access statement.

Reference to a satisfactory travel plan ([www.travelplans.org.uk](http://www.travelplans.org.uk)) would also be acceptable.

For housing, evidence of achieving at least one credit from categories Ene8 and Ene9 can be submitted under this section of the checklist.

## **2. Energy and carbon emissions**

### **2.1 Passive solar design**

Passive solar building design takes advantage of the sun's energy to help reduce the requirement for lighting, heating, cooling and ventilation systems. When implemented to high standards, the need for artificial heating and cooling can be removed completely.

Passive design principles should be the first consideration when seeking to reduce energy demand from developments in the most effective way.

South facing plots with appropriate glazing and shading are basic principles which can be built upon.

Passive design measures should be outlined as a key part of a sustainability statement.

For housing, evidence of **meeting 1 or more credits from xxxxx** of the Code for Sustainable Homes would also be adequate.

### **2.2 Building efficiency**

The next step in ensuring developments have a lower demand for energy is to ensure that they are thermally efficient. This means achieving high levels of air tightness and insulation (without compromising ventilation) and implementing effective thermal massing and bridging techniques.

Applicants should outline the measures taken to ensure that the development is thermally efficient. This information can be included as a part of a sustainability statement or energy statement.

Reference can also be made to Part L assessments submitted for Building regulation purposes. (For example: U values)

Evidence of achieving one or more credits from category Ene2 of the Code for Sustainable Homes would also be adequate.

## 2.3 Heating and cooling systems

To meet any demand for heat remaining after designs and efficiency measures have been implemented, an active heating system will need to be installed into buildings. The type and efficiency of the system chosen will affect the amount of carbon emissions produced and the cost of energy provision.

Typically, heating is provided through gas boilers and wet heating systems or through electric heating. It is important to ensure that such systems are as efficient as possible and that user controls allow for flexibility.

Other options for heat systems such as low carbon technologies should also be considered as an alternative or to support traditional systems (see section 2.5 for more detail).

Applicants should briefly outline the heating systems that will be installed, describing measures that have been taken to secure higher efficiencies. This information could be included as part of a sustainability statement or reference can be made to part L assessments.

## 2.4 Lighting

The amount of lighting required can be minimised substantially through passive design measures. However, even in highly efficient buildings, there will still be a need for lighting at night and in areas not receiving daylight.

The use of energy efficient lighting should be a standard specification for fittings, with consideration of the most efficient technologies such as LED lighting where it is appropriate. The use of intelligent lighting systems should also be explored, as these can also minimise unnecessary illumination through timers and sensors.

Applicants should outline the measures being taken to ensure that the energy consumption from lighting is minimised. This can be included as part of a sustainability statement or energy statement.

For housing, evidence of achieving two or more credits from a combination of Ene 3 and Ene6 categories of the Code for Sustainable Homes would also suffice.

## 2.5 Low carbon technologies

Low carbon technologies are becoming increasingly attractive due to their potential financial returns, cost savings and carbon reductions.

Efficiency measures should always be secured first, but to achieve higher levels of carbon reductions from developments technologies such as wind, solar, biomass, heat pumps and district heating need to be considered too. These technologies will become increasingly important as carbon standards become tighter in the lead up to zero carbon developments.

For all housing developments of ten units and above, and other development over 1000square metres, it is our requirement that applicants must provide evidence that 10% of the energy demand from the development will be met through low carbon sources.

As part of an 'Energy Statement', applicants should outline the different technologies that have been considered, outlining the merits and barriers to each technology for their development. The applicant should then outline which technologies have been chosen and how these will impact upon carbon emissions reductions.

For housing, evidence of achieving 1 or more credit from category Ene7 of the Code for Sustainable Homes would also be adequate.

If the applicant believes that their project is unviable with low carbon technologies, then robust evidence should be provided to back this up.

The council has produced a separate guidance note on producing a suitable energy statement.

The 'energy statement' guidance also outlines financing measures and links to useful resources such as the Feed in Tariff table.

The Energy Statement Guidance Document can be downloaded from the planning section of our website at [www.wigan.gov.uk](http://www.wigan.gov.uk)

## 2.6 Carbon emissions

The overall carbon emissions from a development are dependant upon design principles, efficiency measures and low carbon technologies included. This information may be presented as part of sections 2.1 to 2.5 of the checklist.

An energy statement should outline carbon emissions from the development, with a 10% reduction for developments over the threshold outlined in section 2.5 above.

A predicated Energy Performance Certificate would also provide this information, as would evidence of achieving 6 or more credits from category ENE1 of the Code for Sustainable homes (for houses only).

### **3. Other Resources and Pollution**

#### **3.1 Water use**

Water resources may seem plentiful in this part of the country, but projections show that we could see real shortages in supply in the future due to increased demand and climatic changes. The treatment, supply and 'disposal' of water also uses significant amounts of energy with associated carbon emissions.

There are a number of measures that can be taken to reduce water consumption from new developments. This includes low-cost, simple measures such as spray taps, water butts and low flush toilets, and expensive technical solutions such as grey water recycling. The council encourages developers to explore the range of options for their site and to outline what measures will be taken to reduce water use / improve efficiency.

A short paragraph as part of a sustainability statement will suffice.

For housing, evidence of meeting 3 or more credits from a combination of category Wat1 and Wat 2 of the Code for Sustainable Homes would also be adequate.

#### **3.2 Waste**

Waste disposal is becoming increasingly expensive and it is clear we need to manage our waste more effectively as a society. Although our reuse and recycling rates are improving, householders and businesses can find it difficult to manage their waste streams if buildings are not designed appropriately.

Design considerations should take account of the need to store a variety of waste streams during the occupancy of the building. Applicants should outline areas suitable for storing recyclate and other waste both within and outside any buildings. Issues of access for trucks should also be outlined.

A short paragraph as part of a sustainability statement will suffice, with reference to detailed plans to illustrate appropriate design measures.

Evidence of achieving 2 or more credits from category Was1 of the Code for Sustainable Homes would also be adequate.

#### **3.3 Noise and light**

Development needs to ensure that neighbours are not adversely affected by noise or light pollution.

A short paragraph outlining mitigation measures in the design and access statement will suffice.

## 4. Communities

### 4.1 Community safety

The layout and security features of developments can have a huge impact on the scope for crime and antisocial behaviour. Buildings should be specified so that they deter criminals (without affecting accessibility for others), and the development as a whole should promote natural surveillance.

The provision of diversionary activities for young people is also an important consideration.

Well designed developments will save substantial amounts of public spending on future reactive measures such as policing.

Applicants should outline the measures that will be taken to ensure that appropriate safety measures are incorporated within the development. This may range from robust locks on doors and windows for smaller schemes, to well-lit, safe and attractive layouts for larger schemes

This information can be supplied through reference to a Secured by Design Assessment. [www.securedbydesign.com](http://www.securedbydesign.com)

For housing, evidence of achieving 2 credits from category Man4 of the Code for Sustainable Homes will also suffice.

### 4.2 Lifetime buildings

Adapting homes and buildings to meet the changing needs of our communities (parenthood, growing older, different working patterns for example) can be expensive and inconvenient if carried out in retrospect.

Good design from the outset can make buildings more adaptable over their lifetime and save on heavy expenditure at a later date.

Applicants should set out the measures that will be taken to ensure that homes are adaptable to meet the needs of different users and changing circumstances. (This information may already be included as part of a Design and Access Statement).

For housing, reference to relevant Lifetime Homes documentation will be adequate as would evidence of achieving 4 credits from category Hea4 of the Code for Sustainable Homes.

[www.lifetimehomes.org.uk](http://www.lifetimehomes.org.uk) - Homepage for the standard outlining guidance, toolkits and case studies.

### **4.3 Climate Change Adaptation**

Even if we can drastically reduce our carbon emissions from homes, business and transport in the future, the evidence tells us that we can still expect changes in our climate over the next century. This is a result of historic emissions that have built up in the atmosphere and are already having an impact on temperature and precipitation patterns across the world.

It is important that we adapt to the potential changes (and associated impacts) that are predicted for Wigan Borough (See the Council's Climate Change Strategy for more detail)

In response to these issues, applicants should outline what measures will be taken to improve the resilience of their developments. This may include measures to tackle flood risk, sustainable urban drainage systems, green roofs, natural ventilation etc.

### **4.4 Consultation**

At all scales of development, applicants should consider the potential impact of their scheme on existing communities or neighbours. Community feedback and input should be sought to ensure that development is inclusive and to minimise the likelihood and intensity of opposition.

Applicants should outline the measures taken to ensure that any neighbours or communities likely to be affected by the development have been well informed of the proposals and their feedback taken on board. The consultation should be proportionate to the scale and type of development.

A short paragraph as part of a sustainability statement / Design and Access Statement would be adequate.

## **5. Construction**

The choice of materials and procedures followed during construction can have long-lasting impacts on the environment.

It is therefore important to look at the impact of building materials over their whole life-span, taking into account environmental, economic and social issues in a balanced way.

[www.bre.co.uk/greenguide/](http://www.bre.co.uk/greenguide/) - Provides a list of construction products and their environmental ratings.

## 5.1 Embodied energy

Highly manufactured materials such as steel, plastics and concrete usually require large amounts of energy in their production and transportation. This gives some materials a high 'embodied energy' content, which means they are typically more environmentally damaging to produce and dispose of.

There are a range of other more sustainable materials that can be used as a substitute to energy intensive materials. This includes sustainably sourced timber, hemp and straw.

When materials with a high embodied energy content are to be used due to their durability, strength or other technical reasons, these should be from secondary sources (recycled and reuse) rather than mining new materials (see section 5.2 below).

Applicants should outline the measures taken to reduce the environmental impact of construction materials. This information can be included as part of a sustainability statement / Design and Access Statement.

For housing, evidence of achieving credits from categories Mat1 would also be acceptable.

## 5.2 Reuse and recycling

Materials that are made from recyclate are more environmentally friendly because they typically need less energy in their manufacture and transportation. They also minimise the amount of waste being sent to landfill.

A wide range of building materials are produced with varying degrees of recycled content. This includes windows, carpets (plastics), frames (steel and timber), tiles (glass), low cement concrete (fly ash), insulation (paper, glass), bricks (fly ash, glass, ceramic waste) and many more.

Materials reclaimed from demolition can also be reused effectively for the new development, for example hardcore and landscaping.

Applicants should outline the measures being taken to maximise the reuse of waste materials. This can be outlined in a sustainability statement or Design and Access Statement with reference to the elements involved.

For housing, evidence of achieving credits from categories Mat1 would also be acceptable.

### 5.3 Local and sustainable sourcing

Sourcing construction materials and labour locally and from sustainable sources has several benefits. Local materials are often more in keeping with the character of the local areas, and have lower transport costs and associated emissions.

Sustainably sourced materials are also important as they have a lesser impact on the environment and the community's where they are produced. Such materials may not always be from the immediate local area though, but may be a sustainable option. This is for the developer to explore.

Labour can be sourced locally too, helping to support local communities.

Applicants should outline the measures being taken to source materials and labour from sustainable and local sources. This may be achieved by ensuring contractors are EMS accredited, or by securing certification for certain materials such as FSC accredited timber.

For housing, evidence of achieving credits from categories Mat1 would also be acceptable. A minimum of 7 credits should be sought from Mat1 overall to contribute to 5.1, 5.2, and 5.3 of the sustainability checklist.

### 5.4 Site waste management

By eliminating the amount of waste being produced, reusing and recycling materials, large cost savings can be realised whilst helping to protect the environment.

Any construction projects begun after 6<sup>th</sup> April 2008 that are worth over £300,000 are legally required to produce a Site Waste Management Plan.

All other developments would also benefit from paying close attention to the waste being produced and disposed during construction.

Applicants should outline the measures being taken to ensure construction waste is minimised and managed sustainably. Reference to a Site Waste Management Plan will suffice for projects over £300,000.

For housing projects, evidence of achieving one or more credits from category Was2 of the Code for Sustainable Homes will also be adequate.

[www.wrap.org.uk/construction/tools\\_and\\_guidance/site\\_waste\\_management\\_planning/](http://www.wrap.org.uk/construction/tools_and_guidance/site_waste_management_planning/) - Site waste management Plan guidance and tools

[www.smartwaste.co.uk](http://www.smartwaste.co.uk) - Guidance on construction waste management.

## **5.5 Considerate constructors**

Construction activities can have a range of impacts upon local communities, the environment and the image of contractors / developers.

For example, the use of energy to carry out construction activities, the pollution of watercourses, waste generation, health and safety hazards, noise and amenity issues, and the treatment of the workforce.

All developments should outline measures that will be taken to address the potential impacts associated with construction.

The Considerate Constructors scheme is a national standard that aims to improve the image of the construction industry by managing impacts upon the general public, environment and the workforce. Reference to relevant documentation relating to the Considerate Constructors standards would be acceptable. Otherwise, this information can be outlined briefly in a sustainability statement.

For housing projects, evidence of achieving 1 credit from category Man2 or Man3 of the Code for Sustainable Homes will also suffice.

## **6. Building use**

### **6.1 Building use and aftercare**

The environmental performance of a building does not just depend upon the build quality and technologies installed. Users of a building also need to be aware of technologies / design features and be able to use these effectively so that resource use is minimised.

Applicants should outline the measures taken to ensure that building users are aware of sustainability measures integral to the building and are encouraged to operate buildings more efficiently and sustainably.

For example, timers and controls for lights, heating and cooling systems can be installed with clear user guides to allow efficient operation. Appliances that are installed before completion could also be highly energy efficient.

User friendly displays for energy consumption, public transport links, waste generation etc can be informative and encourage action too.