
Energy Statement

Castle Buildings
Hull

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1.0 Executive Summary

1.1 General

This energy statement has been undertaken for the proposed Castle Buildings development in Hull to address the requirements of planning. This is for the demolition and (partial) relocation of the Earl De Grey building, subsequent use for A3/A4 uses and /or B1. Erection of a 9-storey hotel building. Associated hard/soft landscape works, access and infrastructure.

This statement demonstrates how the development will address carbon emissions reduction, energy efficiency and BREEAM.

The new-build hotel development will comply with the requirements of Building Regulations Approved Document Part L2A. Listed buildings are granted an exemption from compliance with the energy efficiency requirements under Building Regulations Approved Document Part L2B.

The following energy efficiency and demand reduction measures will be considered:

- i) Improve U-values of the external envelope.
- ii) Improve U-value of glazing/maximise solar shading.
- iii) Improve air permeability of building envelope.
- iv) Improve efficiency of the space heating and cooling.
- v) Use of energy efficient lighting.
- vi) Use of intelligent lighting controls.
- vii) Use of variable speed pumps, fans and drives to match supply and demand.

The feasibility of the following potentially appropriate decentralised, renewable or low carbon energy sources will be considered further as the mechanical and electrical services strategy develops:

- i) Air source heat pumps.
- ii) Photovoltaics.
- iii) Combined heat and power.

The proposed development will incorporate design measures and relevant decentralised, renewable or low carbon energy sources as necessary to achieve compliance with Part L of the Building Regulations 2013.

The Hotel development will aim to achieve a BREEAM Very Good rating under the 'Other Buildings' New Construction 2018 scheme.

It is requested that a BREEAM rating is not viable for the refurbishment of Castle Buildings or the relocation of Earl De Grey public house due to listed building constraints.

2.0 Introduction

2.1 General

This energy statement has been prepared in support of the planning application for the proposed Castle Building development in Hull. This is for the demolition and (partial) relocation of the Earl De Grey building, subsequent use for A3/A4 uses and /or B1 use. Erection of a 9-storey hotel building. Associated hard/soft landscape works, access and infrastructure.

The analysis provided identifies the sustainability objectives and indicators that are established within the sustainability policy frameworks and demonstrates how the proposal will deliver these requirements.

The statement recognises the policy imperatives at national and local levels to achieve high standards of sustainability performance, both in terms of the strategic fit of the proposal and the realisation of the development through its design and construction. The approach underlying the design and construction of the development is to recognise the need for future- proofing, enabling high levels of energy performance and minimised resource use.

This statement demonstrates the energy efficient design of the building and responds to policies 17 and 18 of the Hull City Council Local Plan 2016 to 2032.

3.0 Policy Review

3.1 Summary Review of Planning Policy Context

This section summarises the policy context for the development energy statement.

The various policies from international to local level that aim to reduce greenhouse gas emissions, particularly carbon dioxide and hence contribute to sustainable development are identified below.

3.2 International Energy Policy – The Kyoto Protocol

The Kyoto Protocol obligates countries to commit to reduce national carbon dioxide (CO₂) emissions. Total reductions from the combined nations must equal at least 5% from 1990 levels in the commitment period 2008-2012.

For its part under Kyoto, the UK has a legally binding commitment to reduce greenhouse gases by 12.5% below base year levels over the period of 2008-2012.

3.3 EU Policy

In 2006, the Energy Performance of Buildings Directive (EPBD) was introduced to contribute to achieving the Kyoto Protocol obligations. The directive works by facilitating requirements to measure energy use in buildings by:

- i) Introducing agreed measurements of relative energy performance.
- ii) Regular inspections and re-evaluations.
- iii) Requiring higher standards for upgrading larger buildings.
- iv) Improving standards for new buildings.

3.4 National Planning Policy Framework

The National Planning Policy Framework (February 2019) sets out the Government's planning policies for England and how these are expected to be applied. It sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own local and neighbourhood plans and as a material consideration in the determination of planning applications.

At the heart of the National Planning Policy Framework is a 'presumption in favour of sustainable development'. Within this context National Guidance says that:

- i) The purpose of the planning system is to contribute towards achieving sustainable development.
- ii) Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

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- an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
 - a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
 - an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
- iii) These objectives are not criteria against which every decision can or should be judged. Plans and decisions must take into account local circumstances to ensure sustainable development is responded to appropriately in different areas.
- iv) At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking. For decision-making this means that:
- Approving development proposals that accord with the development plan without delay; or
 - Where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:
 - a) the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or
 - b) any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

Planning policies should follow the presumption in favour of sustainable development approach so development which is sustainable can be approved without delay. All plans should set clear policies that will guide how the presumption should be applied locally.

3.5 Local Energy Policy

3.5.1 General

The Hull City Council Local Plan 2016 to 2032 was adopted in November 2017. The Local Plan is part of the statutory development plan for Hull and it contains two policies which are particularly relevant to the energy efficient design of the building:

- i) Policy 17 – Energy efficient design.

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- ii) Policy 18 – Renewable and low carbon energy.

3.5.2 Policy 17 – Energy Efficient Design

1. Development should demonstrate how the design will reduce energy and water use and mitigate flooding, pollution and over-heating. This should include consideration of the siting, form, orientation, layout and construction materials of buildings. The principles of passive solar design should be followed to minimise the need for mechanical heating and cooling.
2. Non-residential development should seek to achieve BREEAM 'Very Good' or better, unless it has been demonstrated through an economic viability assessment that it is not viable to do so.

3.5.3 Policy 18 – Renewable and Low Carbon Energy

1. All allocated employment sites (except employment allocations 44 and 45), designated employment areas and the Port Area, as shown on the Policies Map, are potentially suitable for wind turbines. Areas of open space potentially suitable for wind turbines are shown as such on the Policies Map. Applications for wind turbines will also need to demonstrate that they are acceptable using the criteria set out in Parts 2 and 3 of this policy.
2. Development that generates, transmits and/or stores renewable and/or low carbon energy will be supported where the impact is or can be made acceptable. Potential impacts that are particularly relevant to this type of development are:
 - a. local amenity, including noise, air quality, water quality, traffic, vibration, dust, visual impact, shadow flicker and odour;
 - b. biodiversity, particularly in relation to national and international designations, and priority species and habitats and geodiversity;
 - c. historic environment, such as Conservation Areas and Listed Buildings;
 - d. telecommunications, so as not to interfere or block radio communications and radar systems;
 - e. the cumulative impact of development.
3. Assessment of the impact of wind turbine development on biodiversity should, where appropriate, specifically address the impact of the proposal on the Humber Estuary Special Protection Area, Ramsar site, and Site of Special Scientific Interest birds including:
 - a. loss of habitat including the use of structures used by birds;
 - b. displacement of birds within and outside the Humber Estuary designated site;
 - c. collision risk.

Where effects cannot be avoided, appropriate mitigation measures should be provided to ensure no adverse effect to the Humber Estuary designated site.

4. Arrangements should be put in place for the effective decommissioning of renewable and low carbon energy technology when it gets to the end of its useful life. The aim should be to prevent abandoned technology from blighting areas of the city.
5. New development will be expected to connect to a district energy network, if there is a suitable one in place, and if it is viable and feasible to do so.
6. Development that includes renewable or low carbon technology as an integral part of the design will be encouraged.

4.0 Energy Assessment

4.1 Proposed Development

4.1.1 Hotel

The new-build hotel development will comply with the requirements of Building Regulations Approved Document Part L2A.

The energy strategy will seek to ensure high levels of energy efficiency through a fabric first approach in line with current building regulations. A number of key design principles underlying this approach look to maximise the efficiency of the development. In particular the following energy efficiency and demand reduction measures will be considered:

- i) Improve U-values of the external envelope.
- ii) Improve U-value of glazing/maximise solar shading.
- iii) Improve air permeability of building envelope.
- iv) Improve efficiency of the space heating and cooling.
- v) Use of energy efficient lighting.
- vi) Use of intelligent lighting controls.
- vii) Use of variable speed pumps, fans and drives to match supply and demand.

4.1.2 Listed Buildings

Listed buildings are granted an exemption from compliance with the energy efficiency requirements under Building Regulations Approved Document Part L2B under regulation 21 as follows:

Regulation 21 of the Regulations, however, grants an exemption from compliance with the energy efficiency requirements to certain classes of buildings:

a. Buildings which are:

- i. Listed in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990;*
- ii. In a conservation area designated in accordance with section 69 of that Act; or*
- iii. Included in the schedule of monuments maintained under section 1 of the Ancient Monuments and Archaeological Areas Act 1979,*

Both listed buildings will still aim to incorporate energy efficiency measures within their fit-out dependent upon final use and Historic England requirements. The feasibility of the following will be investigated during detailed design for incorporation:

- i) Improve efficiency of the space heating and cooling.
- ii) Use of energy efficient lighting.
- iii) Use of intelligent lighting controls.
- iv) Use of variable speed pumps, fans and drives to match supply and demand.

4.2 Decentralised, Renewable or Low Carbon Energy Sources

The feasibility of the following potentially appropriate decentralised, renewable or low carbon energy sources will be considered further as the mechanical and electrical services strategy develops to ensure compliance with the carbon emissions targets as defined in the Building Regulations.

For the proposed development the following renewable and low carbon technologies are considered the most suitable for the hotel:

- i) Air source heat pumps.
- ii) Photovoltaics.
- iii) Combined heat and power.

For the listed buildings it is expected that air source heat pumps will be the only feasible low carbon technology to incorporate within the design. This will be investigated further during detailed design, and liaison with possible future occupants.

There is no district heating network within close proximity of the proposed development, therefore this has not been considered.

4.3 Summary

The proposed new-build development will incorporate design measures and relevant decentralised, renewable or low carbon energy sources as necessary to achieve compliance with Part L2A of the Building Regulations 2013.

The development of the listed buildings is exempt from the requirements of Part L2B of the Building Regulations 2013. The incorporation of energy efficiency and low carbon technologies will be incorporated where feasible within the proposed buildings.

5.0 BREEAM

5.1 Hotel

The Hotel development will aim to achieve a BREEAM Very Good rating under the 'Other Buildings' New Construction 2018 scheme.

5.2 Listed Buildings

It is requested that a BREEAM rating is not viable for the refurbishment of Castle Buildings or the relocation of Earl De Grey public house due to listed building constraints.

Historic England have confirmed there is a requirement for minimal or no impact internally and externally for both buildings. This will reduce the scope to achieve credits relating to the external building envelope such as those for low embodied carbon and responsible sourcing as the materials to be used will be pre-determined based upon the listed buildings.

Internal credits relating to internal finishes and fittings, view out, glare control and thermal comfort will also be restricted as little or no alterations internally will be possible as dictated

The listed buildings are both speculative developments, therefore do not have an occupier who can input into the BREEAM process for operator led-credits, therefore these will also be unachievable.

5.3 Summary

The Hotel development will aim to achieve a BREEAM Very Good rating under the 'Other Buildings' New Construction 2018 scheme.

It is requested that a BREEAM rating is not viable for the refurbishment of Castle Buildings or the relocation of Earl De Grey public house due to listed building constraints.