

# CLIMATE CHANGE IMPACT ASSESSMENT

*In respect of*

**Proposed Strategic Housing Development at  
Glencairn, Murphystown Way, Dublin 18**

*Prepared by*

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*In Association with*

**DBFL Consulting Engineers, OMP Architects, BSM,  
and Byrne Environmental Consultants**

*On behalf of*

**Castdale Limited**

**September 2018**



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## **INTRODUCTION**

A Development Management Thresholds Information Document, included in Appendix 10 of the County Development Plan, has been prepared by Dun Laoghaire Rathdown County Council to provide guidance for applicants in relation to the documents they may be required to submit as part of their planning application. It includes a Climate Change Impact Assessment for developments with *'50 residential units or more'*. The Thresholds Information Document indicates that a Climate Change Impact Assessment should include *'an assessment of the impacts of climate change on the development and provisions for these impacts in particular relating to drainage design'*.

Firstly we note that the issue of climate change is addressed in various reports, including the EIAR, submitted with this application. Notwithstanding the above, this report seeks to provide a Climate Change Impact Assessment of the proposed Glencairn Strategic Housing Development which proposes 341 residential units, a childcare facility and associated infrastructure on an application site of 9.59 ha. This document has been prepared in consultation with the following consultants, and should be read in conjunction with their reports that accompany the SHD planning application:

- DBFL Consulting Engineers
- OMP Architects
- BSM Landscape and Environmental Consultants
- Byrne Environmental Consultants

This site is primarily zoned objective 'A' in the Dun Laoghaire-Rathdown Development Plan 2010-2016. The objective of this land use zoning is *"to protect and / or improve residential amenity"*. Residential development is permitted in principle under this zoning objective. Part of the site is also zoned Objective F – *'to preserve and provide for open space with ancillary active recreational amenities'*. The site also includes an objective to retain mature trees.

The lands are served by the Luas Green Line B1 with Glencairn stop located immediately adjacent to the application site.

The development of these lands at a sustainable and appropriate residential density therefore accords with the principle of integrating land use and transportation which is a key measure promoted to reduce the generation of man-made greenhouse gas emissions which results in climate change. This report will also summarise how the impacts of climate change have been factored into the design of the proposed development.

Firstly, we will summarise the relevant references to climate change in the Dun Laoghaire Rathdown County Development Plan 2016-2022.

### **DUN LAOGHAIRE RATHDOWN COUNTY DEVELOPMENT PLAN 2016-2022**

Section 5.2 of the Dun Laoghaire Rathdown County Development Plan 2016-2022 is concerned with climate Change, Energy Efficiency and Flooding.

Policy CC1: National Climate Change Adaptation Framework States *'It is Council policy to implement the 'National Climate Change Adaptation Framework - Building Resilience to Climate Change' by supporting the preparation of a Climate Change Adaptation Plan'*.

*'The Adaptation Plan will ensure that Climate Change Adaptation measures are embedded into all relevant sections of the Development Plan – including those sections on promoting the use of alternative and renewable energy sources, sustainable built environment, sustainable transport through reductions in the use of the private car, flood risk assessment, biodiversity and land use planning'.*

As noted above the proposed residential development is considered to be consistent with the principles of sustainable built environment, proper planning and sustainable development and promotes sustainable transport measures, and therefore is considered to be consistent with the objectives of the proposed Climate Change Adaptation Plan.

Policy CC3: Development of National Energy Policy and Legislation states that *'it is Council policy to support on an ongoing basis the Government Programme for the development of Energy Policy and Legislation through the implementation of supporting policies in this County Development Plan - particularly those promoting use of renewable energy sources, energy efficiency, sustainable transport and land use planning'.*

The principles of sustainability and in particular sustainable transport and land use planning have been incorporated into the proposals from the masterplanning to the detail design of each of the unit types and mix. Higher density development, which reflects proximity to the LUAS line, has been proposed for the site, and permeability and connectivity are key principles which informed the design and layout of the development, leading to increased potential for sustainable transport options to be utilised by residents.

Policy CC6: Energy Performance in Existing Buildings states that *'it is Council policy to promote innovative building design that demonstrates a high level of energy conservation, energy efficiency and use of renewable energy sources in existing buildings'.*

The general orientation of building blocks has been set out to maximise daylight and optimising the benefits of sunlight. The buildings and layouts have been configured to provide active edges to street frontages, and ensure good levels of surveillance (passive) of all common areas and open space.

The layout has ensured the integration of pedestrian and greenway/cycle ways, connecting to existing networks, with the creation of homezones, where traffic is tightly managed and controlled.

The scheme provides for a suitable mix of dwelling and unit types which are capable of supporting family living and apartment living, ensuring a varied and sustainable community within each of the areas.

## **CLIMATE CHANGE AND THE PROPOSED DEVELOPMENT**

The following section summarises how the potential for climate change impacts have been considered and addressed in the design of the proposed development.

### ***Landscape Design***

The landscape design for the proposed development takes into account the requirements to mitigate against climate change and minimise the impacts on biodiversity, both locally and within the wider landscape. The landscape scheme proposes significant ecologically sensitive

planting and utilises sustainable drainage, swales and low mounding to provide for potentially diverse habitats.

### ***Energy Efficiency in Building Design***

OMP Architects, in their role as the building services design consultants for the development, will ensure the design of the buildings are completed in line with EU energy performance of Buildings Directive (EPBD), the Building Regulations Technical Guidance Document, Part L (whichever are in force at the time of construction) and Dún Laoghaire Rathdown County Council's energy policy.

The building services design strategy for the Glencairn residential development is to utilise as many sustainable design options and energy efficient systems that are technically, environmentally and economically feasible for the project to achieve low energy and environmentally friendly buildings.

The layout and orientation of the scheme has been designed by OMP Architects to have regard to aspect and views and to maximise the levels of solar gain and natural light available to both dwellings and areas of open space.

### ***Flood Risk Assessment***

A Site-Specific Flood Risk Assessment for the proposed residential development has been prepared by DBFL Consulting Engineers in accordance with the requirements of the Planning System and Flood Risk Management Guidelines for Planning Authorities", November 2009.

The SSRA confirms that the subject site is within Flood Zone C as defined by the Planning System and Flood Risk Management Guidelines for Planning Authorities. Therefore , the proposed development of housing and a childcare facility on the subject site does not require a justification test as outlined in the Guidelines. The development will not increase the risk of flooding in the surrounding area once mitigation measures contained within the SSFRA are implemented.

### ***Sustainable Urban Drainage Systems (SUDS)***

It is proposed to use a sustainable urban drainage system (SuDS) approach to stormwater management throughout the site, the overall strategy aims to provide an effective system to mitigate the adverse effects of urban stormwater runoff on the environment by reducing runoff rates, volumes and frequency, reducing pollutant concentrations in stormwater, contributing to amenity, aesthetics and biodiversity enhancement and allow for the maximum collection of rainwater for re-use where possible. In addition, SuDS features will aim to replicate the natural characteristics of rainfall runoff for any site by providing control of run-off at source.

There are various SuDS measures proposed for the scheme which will also attenuate surface water runoff from the site. These include swales, permeable paving and green roofs. Please refer to DBFL's reports for further details.

### ***Green Roofs***

Green roofs provide ecological, aesthetic and amenity benefits and intercept and retain rainfall, at source, reducing the volume of runoff and attenuating peak flows. Green roofs will

be provided on a minimum of 60% of the apartment roof areas, which exceed the 300m<sup>2</sup> threshold.

### ***Waste and Environmental Management***

The application is accompanied by a Construction and Operational Phase Waste Management Plan prepared by Byrne Environmental Consulting Ltd.

Waste materials generated by construction activities will be managed according to the Department of the Environment, Heritage and Local Government's 2006 Publication - *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects*.

The proposed Glencairn development shall be constructed and developed to minimise the generation of construction waste. During the construction Phase, construction waste shall be stored and segregated in dedicated waste storage areas which shall optimise the potential for off-site reuse and recycling. All construction waste materials shall be exported off-site by an appropriately permitted waste contractor.

The operational waste management plan has been prepared in accordance with *The Eastern-Midlands Region Waste Management Plan 2015-2021* which defines the following Waste Targets:

- 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan.
- Achieve a recycling rate of 50% of managed municipal waste by 2020
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill

The development shall be designed to provide adequate domestic waste storage areas for common residential areas (apartments) and houses shall use grey, green and brown waste bins which shall be stored within the curtilage of each residential property. This will promote the appropriate segregation at source of domestic generated waste from all residential units at the development.

### ***Other***

The retention of woodland areas and trees, and significant replacement planting within the development, will also contribute to the natural absorption of CO<sub>2</sub> and help reduce the climate change impact of the scheme.

## **CONCLUSION**

This report includes an assessment of the impacts of climate change on the development and provision for these impacts in the design of the scheme in accordance with the requirements of the Development Management Thresholds Information Document. For a more detailed assessment of specific aspects of the scheme design and impact please refer to the relevant reports, or specific Chapters of the EIAR.

The report summarises how the proposed development accords with the policy of integrating land use and public transport and is consistent with the proper planning and sustainable development of the area. Thus, it can be concluded that the scheme will help promote the reduction of man-made greenhouse gases. The report also summarises how the potential for climate change impacts have been factored into the design of the proposed development.