

Submission by the Irish Green Building Council to Dublin City Council in Relation to the Dublin City Development Plan – 2016-2022

December 2015

The following is the Irish Green Building Council's (IGBC) response to the Dublin City Council's consultation on the City's Development Plan 2016-2022.

About us

The Irish Green Building Council was launched in 2011 and is comprised of organisations and businesses from the entire value chain of the built environment. These include educational institutions, professional institutes, NGOs, local authorities, contractors, architects, engineers, energy companies, leading national and transnational businesses. The Irish Green Building Council exists to provide a framework and the leadership to accelerate this transition.

The Objectives of the Council are to:

- provide a source of leadership for sustainability in the built environment
- promote and assist in the provision of credible metrics for measuring progress towards the end goal of sustainability
- provide a source of resources to companies transitioning their activities towards more sustainable practices
- be central to alignment of the policies of organisations seeking to achieve sustainability in the built environment

Executive Summary

1. The vision of the city is welcome but could set out clearer targets and strategy for how this will be achieved. This is particularly important for the renovation of the city's building stock.
2. There needs to be an expanded vision and long-term strategy for deep energy renovation. Dublin City Council should participate in the *Build Upon*(www.buildupon.eu) project at a senior level to co-create a long term deep energy renovation strategy for the city and Ireland.
3. Out of control climate change could have devastating impacts for a coastal city such as Dublin. Further plans for more frequent flooding are required.
4. Dublin does not compete with other Irish towns and cities for investment, it competes with Vancouver, Malmö, Seattle, etc. A sustainable and liveable Dublin will attract investment and talent. The city should go further than national standards of sustainability.
5. Increased standards of energy efficiency are welcome and the Near Zero Energy standard should be implemented immediately for all non-residential buildings.
6. Action on climate means that building standards need to address more than just operational energy/carbon from new buildings. The introduction of the [Home Performance Index](#) (HPI) in 2016 supported by Dublin City Council should assist in the measurement of sustainability of new residential development.
7. New Development needs to justify large scale demolition of existing buildings based on lifecycle carbon not just operational carbon.

8. The consolidation of the central areas and strategy for a more compact city is essential. Building at higher densities makes more efficient use of land and energy resources, creating a consolidated urban form which fosters the development of compact neighbourhoods and a critical mass which contributes to the viability of economic, social, and transport infrastructures.
9. The outer suburbs also need densification and consolidation if they are not to suffer from depopulation brought about by smaller household size. The development plan needs a strategy to do this.
10. The level of cycle and pedestrian infrastructures in the city needs to be improved to make the city more liveable. In particular, a higher level of on street cycle parking is required.
11. The design of new schools must play a much more positive role in creating urban quality and must always prioritise cycling and walking. Vehicular drop off exclusion and car free zones for safety and health should be considered. Strict adherence to Department of Education's technical standards needs to be re-evaluated.
12. [The Home Performance Index](#) can play a positive role in the measurement of sustainability of both homes and neighbourhoods. Dublin City Council should play a part in the development of the indicators for quality.
13. The proposed reduction in car parking standards is welcome and can play a more positive role in reducing the costs of development than reducing space and quality standards.

Specifically, this submission will deal with issues relating to:

- Chapter 1 – Strategic Context for the city
- Chapter 2 - Vision and core strategy
- Chapter 3 – Addressing Climate Change
- Chapter 5 – Quality Housing
- Chapter 6 – City Economy and Enterprise
- Chapter 8 - Movement and Transport
- Chapter 10 - Green Infrastructure, Open Space and Recreation
- Chapter 11 – Culture and Heritage
- Chapter 12 - Sustainable Communities and Neighbourhoods
- Chapter 16 – Development Standards

Chapter 1 – Strategic context for the city

The overall vision for sustainable City living is welcome. The three core parts of the strategy are essential to creating a modern resilient city:

- 1) A compact, green, connected city,
- 2) A prosperous enterprising creative city,
- 3) Sustainable communities & neighbourhoods.

The development plan needs to sustain this vision despite current pressures such as the housing crisis. This should not mean lowering standards or allowing the vision to be undermined.

Chapter 2 – Vision and Core strategy

"Our 30 year vision is for a zero carbon city with all energy coming from renewable energy sources. All buildings will have been built or retrofitted to near zero energy building standards, which will provide comfortable, warm living and working environments"

This vision is very welcome and will be required to meet Ireland's climate change strategy as buildings will have to be fully decarbonised in order to offset increased emissions in other areas such as agriculture. It is pointed out in **chapter 11 11.1.5** that existing buildings will play a greater role than new buildings in reducing carbon. Yet, there are few references in the development plan that matches the scale of the challenge and how it can play a strategic role in removing barriers to deep rapid energy renovation.

The IGBC is currently working in close cooperation with the Department of Communications, Energy, and Natural Resources to co-create an ambitious national renovation strategy (as per article 4 of the Energy Efficiency Directive 2012/27/EU) as part of the EU funded **Build Upon** project. In particular, the IGBC invites the Dublin City Council at senior level to join the 120 stakeholders from business, finance, NGO and social sectors who will participate in this project to co- create a long term deep energy renovation strategy for Dublin and Ireland. Without an agreed and workable strategy there will not be the long-term confidence from investors to make the vision outlined a reality. For further details please see website www.buildupon.eu.

The scale of change requires a different approach to the traditional shallow retrofit. This challenges the current planning permit system. The development plan needs to be proactive and start to suggest streets and areas where certain approaches are mandated and certain measures can be exempted from planning, e.g. external insulation permitted to a stated standard thickness and with certain finishes.

For instance, how could the development plan deal with or encourage innovative rapid industrialised pre-fabricated net zero renovation such as the very successful [Dutch Energiesprong programme](#) remaking the aesthetic of whole streetscapes? How would we facilitate one day renovation permits? How would it cope with occupiers on terrace streets who opt out?

The [Episcope project](#) sets out data mapping of BERs which can be used to define areas of fuel poverty and highlight areas of concern within the city that require priority renovation. The development plan could consider how planning could remove barriers and guide citizens towards quality renovation that improves their lives and the quality of the built environment in Dublin.



Energiesprong prefabricated panel net zero energy retrofit system.

Chapter 3 – Addressing Climate Change – It is not clear whether the Development plan has fully addressed long term climate change scenarios for sea level rise. Given that Dublin is a coastal city it remains very vulnerable to increased sea level particularly where global temperatures increase by more than 2 degrees. The appendices set out flood protection measures based on 200 year flood events. Given that these events are likely to occur at much more frequent intervals, is this approach sufficient? Should we be looking at scenarios of a greater than 2 degrees temperature rise?

CCO11: “All new buildings will be required to meet the passive house standard or equivalent. In this case ‘equivalent’ means where there is robust evidence to support a building efficacy (with particular regard to indoor air quality, energy performance, and prevention of surface/interstitial condensation). The only exceptions shall be buildings specifically exempted from BER ratings by the SEAI.”

The IGBC welcomes this inclusion, particularly for residential. The Passive house standard is a systems approach that focuses more about skills and training rather than additional materials and cost. With **free** European funded training being provided to construction workers under the QualiBuild Foundation Energy Skills programme (www.QualiBuild.ie), and to professionals through programmes such as DIT’s [MEnS](#), there is now little excuse for procrastination by the industry.

However, the Irish Green Building Council believes that quality and sustainability should also be measured based on a wider set of indicators. [The Home Performance Index \(HPI\)](#) (named Home Quality Rating system in the IGBC’s May issue submission) is Ireland’s 1st national assessment system for new residential housing and will meet the criteria set out above. The HPI is supported by the EPA under the Green Enterprise scheme and provides a holistic means of assessing the quality of development: It includes embodied impacts, and 25 other indicators that directly or indirectly impact climate change such as access and walkability. In particular, it addresses the issues that arise from the current application of Part L 2011 in relation to ventilation, energy performance, surface and interstitial condensation.

For non-residential building, it may be more appropriate to specify the nearly zero energy standard particularly where a fabric only approach may not address the main energy loads of the building. In some cases the process energy will far outweigh the heat energy. Other standards, such as IS399 (which has been used successfully to achieve the Near Zero Energy Standard on the Guinness Brewhouse) or more comprehensive assessment systems such as BREEAM may be more appropriate depending on building type.

The Near Zero Energy standard comes into force at the end of 2020 and at the end of 2018 for public buildings. Part L for buildings other than dwellings has not been updated since 2008. It is particularly urgent that the development plan insists that all non-residential buildings target the Near Zero Energy Standard today. This represents a 60% improvement over current regulations part L regulations.

Typically with the Near Zero Energy standard, the embodied carbon represents 40% of the full building life cycle carbon, but is pumped into the atmosphere in the short period of product manufacture and construction. Issues such as long term occupational density (determined by flexibility of use) and Life Cycle carbon impact now need to be brought to the fore in the development plan in order to address climate change.

There is increasing level of demolition taking place. As an intermediate step, planning applications to demolish large scale functional buildings should justify demolition on sustainability grounds, and provide carbon calculations to prove the case.

IGBC expects to develop a national carbon and embodied environmental impacts for construction products used in Ireland during the first half of 2016. The Irish Green Building Council will also provide the education to professional to make this standard and cost effective.

Chapter 4 - Making a more compact sustainable City

4.5.8 Making Sustainable Neighbourhoods

Bringing under-utilised stock into use is essential. Making the most of the available sites within the core centre and increasing the occupancy of underutilised buildings is key. For new buildings, density does not require height of more than 4 stories to achieve the optimum of family, human scale development and density.

Nevertheless, a compact sustainable city should not be confined to the central areas. The occupancy density of outer suburbs is falling with household size. This leads to further reduction in population density that makes the provision of vital infrastructure such as schools, and public transport even more challenging.

In particular, the option to vertically extend semi-detached or terraced housing by up to two floors and subdivide them horizontally could be explored. Removing the roof, adding a concrete or CLT floor and using this as a platform to construct an additional apartment is one scenario that would achieve both the retrofitting (energy efficiency) and the densification on a single development. The additional unit could pay for the entire cost of the development. The great renovation challenge offers an opportunity to remake, adding density, modern design and character to the Irish suburbs.

It may be necessary to consider with Government site area, or site value based taxes to encourage owners to bring to market corner sites back lands etc. This would increase the supply of development land within the confines of Dublin. DCC should also consider whether much of the poorly designed open space within the very low density suburbs of North and West Dublin dating from the 1970's, 80's and 90's could better serve the community by redevelopment for higher density housing with better quality well-designed and overlooked open space.

For instance, the Colombian city of Medellin made the transition from one storey suburban homes for large families to dense multi-storey apartment blocks for a changed demographic of smaller families in just two decades. This process was largely driven by land area based property taxes.

[The Home Performance Index](#) is intended to be developed in the future to allow measurement of the improvement in sustainability of existing homes and neighbourhoods.

Chapter 5 - Quality Housing

The emphasis on increasing density to make the best use of land and infrastructure is welcome. The Irish Green Building Council would be delighted to work more closely with the Dublin City Council over the coming months in the finalization of indicators for quality of housing in [the Home Performance Index](#), HPI (formerly named Home Quality Rating in the IGBC May's submission). The HPI system is supported through funding from the Environmental Protection Agency and constitutes an opportunity to put in place indicators that can be used either at planning stage by local authorities or within a certification system by developers.



In particular, Dublin City Council could work closely with the IGBC on flexibility indicators. There is a clear trend towards smaller households (the average household size in Dublin city was 2.17 in 2011 and is projected to be 1.9 in 2022). Housing needs to account for changes in demographics.

DCC development plan needs to avoid reacting to market led demand for a certain type of low density family dwelling based on temporary demographics. All residential development should take a longer term perspective and build in the flexibility that ensures optimal occupancy across a 100 year life cycle. Adding to an unbalanced and underutilised stock to answer to temporary market pressure should be avoided.

5.5.8 Demolition and Re-use of Housing

The IGBC agrees that dwellings should not be demolished where there is no density gain to offset the environmental impacts of demolition. However, it does not make sense to apply this where low density housing with poor occupancy density are replaced with high quality, higher occupancy housing close to public transport. Building at higher densities makes more efficient use of land and energy resources, creating a consolidated urban form which fosters the development of compact neighbourhoods and a critical mass which contributes to the viability of economic, social, and transport infrastructures.

Where the embodied impacts of demolition are clearly offset by better land and energy use, there should be no issue with demolition. Where demolition is proposed calculation of the environmental and embodied impacts should be requested to ensure that it is justified on environmental grounds. For this reason, Dublin City Council is encouraged to work closely with the IGBC to create robust ways of assessing actual overall impacts. [The Home Performance Index \(HPI\)](#) creates a holistic indicator set that can be used for this purpose.

Chapter 6 - City Economy and Enterprise

The IGBC welcome the overall thrust of the proposed policies. Dense, well-planned cities are more conducive to productivity and creativity than poorly planned sprawl.

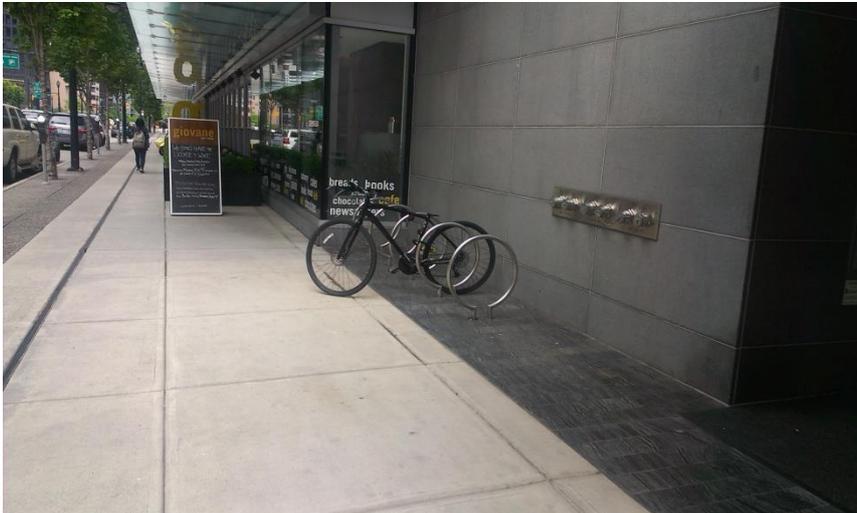
6.5.4 In particular, the IGBC welcome the aim to introduce a vacant site levy to speed up the rate that well located sites are brought into use. Dublin City Council could also encourage Government to review the property tax and consider the use of a site valuation or site area based tax that would encourage bringing underutilized smaller sites in suburban Dublin in to use, and hence encourage the densification of these areas.

Chapter 8 - Movement and Transport

The IGBC welcome the emphasis on modal shift from the car and proposals to extend cycle infrastructure.

The suggested improvements to everything from motor cycle parking to lorry parking are welcome. However, there is no mention of a strategy to ensure adequate on street cycle parking. In order to encourage modal change DCC needs to encourage every incentive to make cycling a safer and more convenient alternative. Generally speaking, the central retail district of

Dublin has inadequate on street cycle parking. Cyclists depend on ad-hoc parking opportunities such as signage poles or railings. Cycling needs to be made visible and convenient to access all offices, retail and cultural centres. As one of the most visible indicators of a Green city, it should not be hidden away in basement carparks.



Down town Vancouver (seeking to be the [World's Greenest City](#)) - Cycle parking is always located right beside retail and office entrances to maximize convenience and normalize cycling.

Chapter 10 - Green Infrastructure, Open Space and Recreation

10.5.7 - Trees

The Dublin City Council should consider revising street landscaping in more established neighbourhoods such as Stonybatter. With the success of initiatives such as car clubs, car numbers should fall in the city centre over the coming years. A strategy to survey levels of necessary car-parking and convert for pocket parks, tree planting and play areas will not only improve the quality of people's lives but increase permeability, reduce surface water run-off and increase climate resilience.

Chapter 11 - Culture and Heritage

11.1.5 - Retrofitting Sustainability Measures – Policy Application

DCC rightly points out that retrofit plays a far greater role in decarbonizing the building stock than new build. There needs to be a review of an overly rigid approach to conservation where this becomes counter-productive. In some cases the approach to conservation of modernist and historic structures is overly restrictive. The latest research and guidance from bodies such as Historic Scotland on achieving energy efficiency should guide what is achievable with historic structures whilst at the same time preserving their cultural value and fabric.

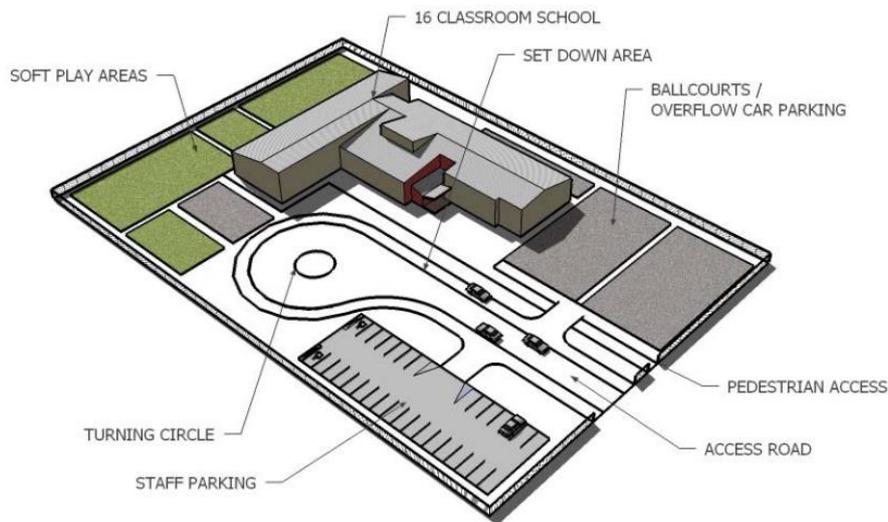
Chapter 12 - Sustainable Communities and Neighbourhoods

The Home Performance Index provides a simple way of measuring and improving the quality of sites and development. The Sustainable location part of the tool measures access to amenities, alternative transport and services such as schools, healthcare, public parks and sports facilities. In particular, it could be used to measure how development improves access to amenities by creating greater permeability in urban neighbourhoods.

SN13 DCC is right to demand better integration and design of schools for quality urban placemaking. The combination of Department of Education's technical guidance documents, generic repeat design and inadequate budgets for school buildings has led in some cases to

poor quality outcomes. Rigid adherence to The Department of Education’s technical guidelines can result in schools being built around car and bus drop off which discourages children walking and cycling to school.

Initiatives such as ‘Park and stride’ could require drop off exclusion and car free zones around schools. This will lead to safer schools, healthier children and better urban place making.



Excerpt from Technical Guidance from the Department of Education document for school layout.

Extensive use of hard landscaping for playgrounds should be offset with green roofs or other measures. In particular where schools are co-located there should be efficient use of shared infrastructure and DCC should consider whether co-locating schools does in fact result in sustainable neighbourhoods.



Google maps– Recent example of Donabate co-located schools shows extreme example of three separate sets of transport set down infrastructure for each of the three schools

Chapter 16 -Development Standards

The changes to standards and the relaxation in the requirement for dual aspect apartments are noted with the need to balance good quality design whilst encouraging development where most needed. The previous higher standards were intended to create a quality alternative to unsustainable low density housing.

This objective must not be lost and the overall strategy should ensure a mix of quality dwellings types, and social mix in all parts of the city including suburban areas. The short term dysfunction of the construction and development sector should not derail the long term sustainable planning of the city.

The IGBC would be happy to engage with DCC on how the HPI system can encourage developers to engage in better standards of design and layout.

16.16 DCC should not rely solely on use of Department of Education’s Technical standards for school design which can result in poor urban quality and unsustainable use of land particularly where generic repeat design is used. DCC should insist on the same requirement for quality as for all other building types and should not reduce standards to meeting inadequate budgets.