



# Planning for Green Building

**Environment Ireland Conference -19 January 2022**



2021

**240 + MEMBERS**

2021

**80+ POLICY SUBMISSIONS**

- Retrofit
- Development Plans
- Energy Efficiency
- Building Regulations
- Standards
- Green Finance
- Climate Action Plan

**HOME PERFORMANCE INDEX**

- 2500+ Certified and Registered units
- WELL building institute recognised
- Recognised as full points certification by GRESB
- EU Taxonomy Aligned 5-STAR RATED by European Commission

2021

**10000+ PARTICIPANTS** to workshops, webinars & conferences

**800+ PROFESSIONALS** trained in LCA, LEED, BREEAM, HPI

2021

**40+ EPD**

**100+ PRODUCTS**

**LEARNING HUB**

**FINANCE**  
Making a case for certified green homes  
Green Mortgages  
Green Finance

IGBC Learning Hub

Collaborate

Educate

Rate

Advocate

Communicate

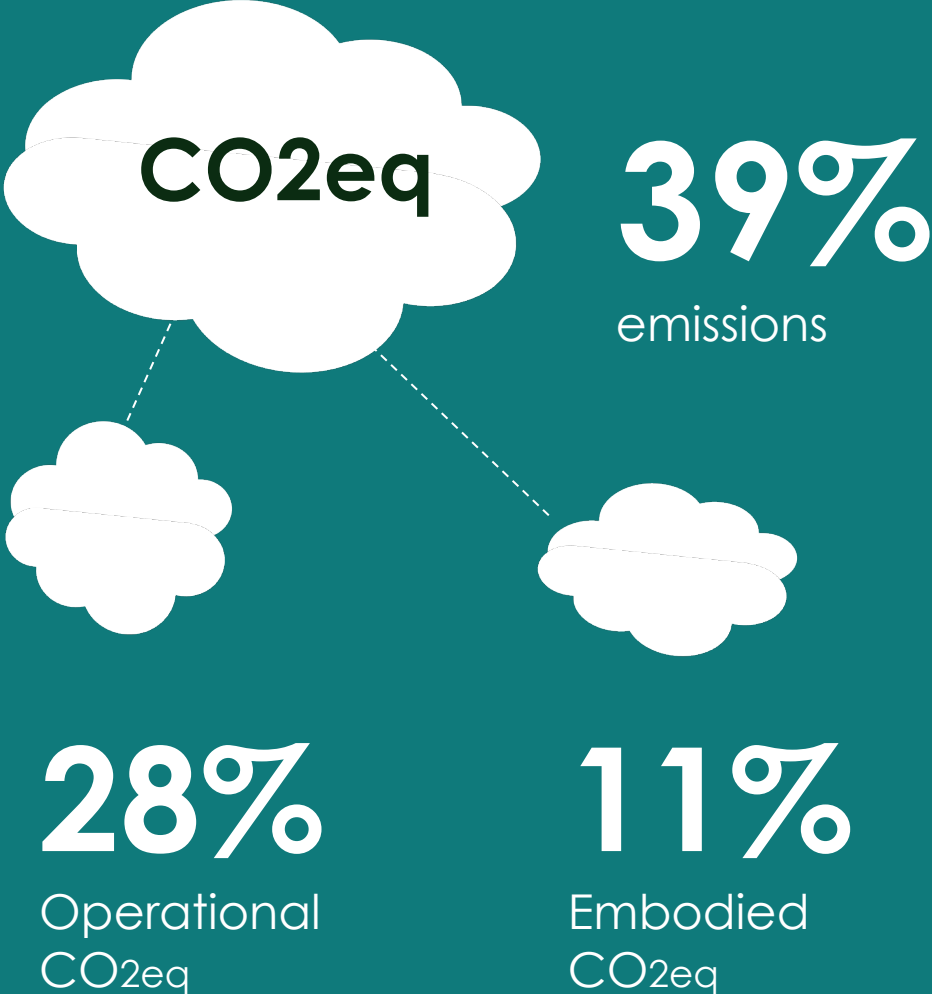
Innovate

# Every path to net zero

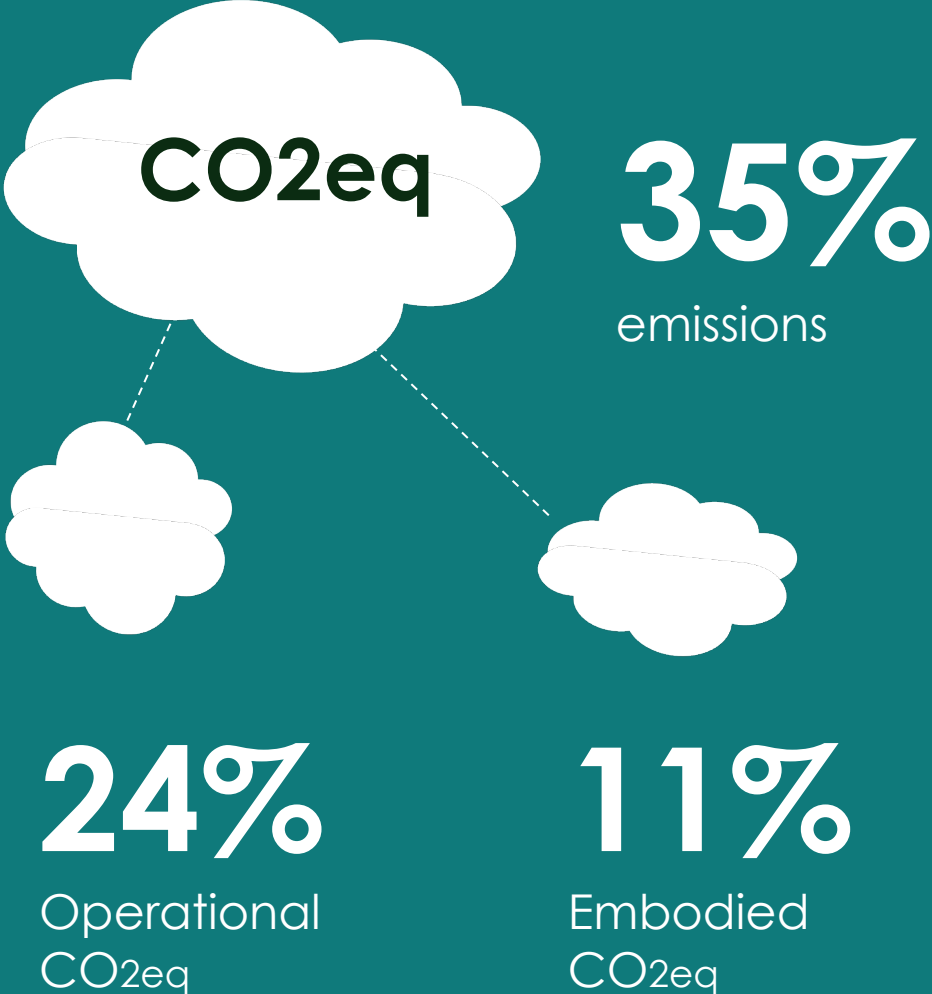
28 years to zero carbon emissions **2050**

8 years to halve carbon emissions

# Globally



# Ireland



Initial findings Research for IGBC - UCD – Kinnane, Hegarty, Wall

# Embodied Impacts of construction



Material extraction



Material Manufacturing



Distribution & Transport



Use



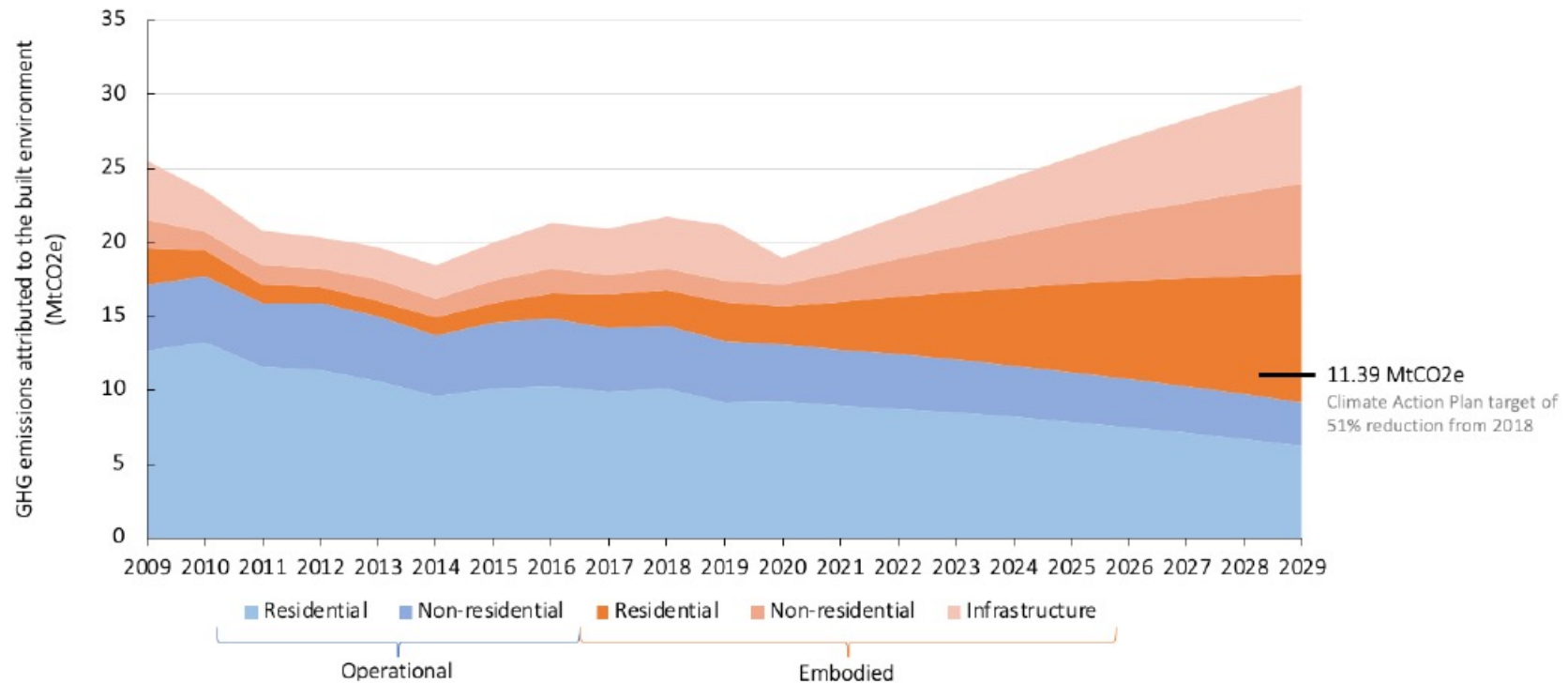
Waste Management



# Embodied carbon

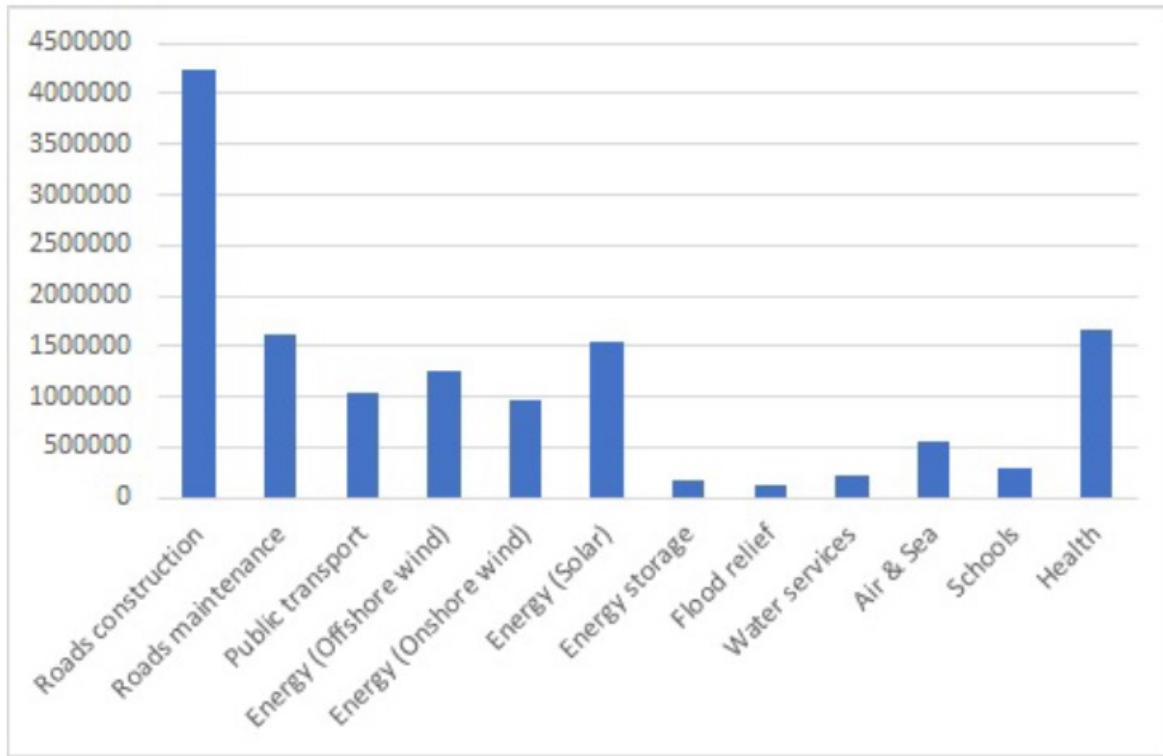
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Quantity x Carbon intensity of  
materials



## Initial findings Research for IGBC - UCD - Kinnane, Hegarty, Wall





Initial estimates of GHG emissions (in MtCO<sub>2e</sub>) of project categories within the NDP using a mostly bottom-up approach



**Initial findings Research for IGBC - UCD – Kinnane, Hegarty, Wall**



**Carbon Impact of constructing infrastructure in NDP**

**#BUILDINGLIFE**



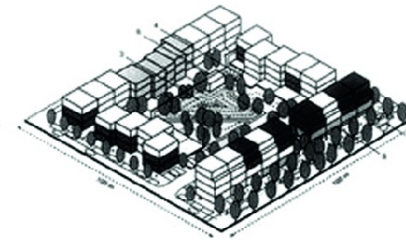
**Avoid oversizing**



**Consider ground conditions in zoning**



**Avoid demolition**



**75 dwellings per hectare**

**Relationship between density + infrastructure**



**Avoid minimum carparking requirements**



**Ask for calculations**



# Carbon Designer for Ireland

A free early-stage whole life cycle carbon assessment tool for Ireland.

GET FREE ACCESS NOW



## Brought to you by

Funded by the Environmental Protection Agency and Land Development Agency.

Developed by the Irish Green Building Council and One Click LCA.



# A simple early design stage Life cycle carbon tool

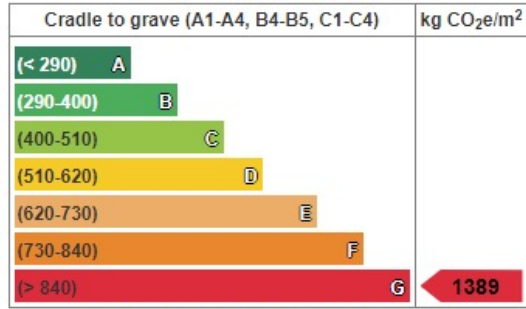
# Irish Carbon Designer demo project

General information

Results and benchmarking - Design: 1 - Early phase design

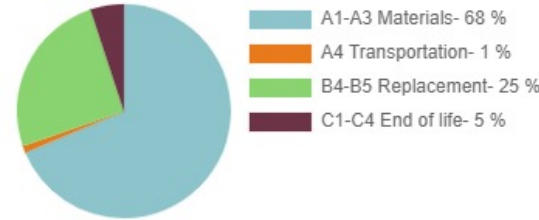
Select design

Embodied carbon benchmark



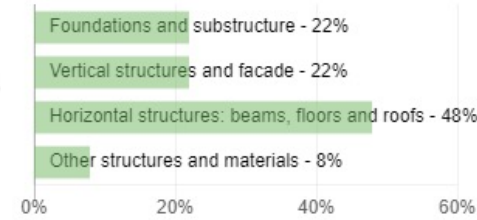
CH Q3 2021 Western Europe - office  
Download as image

Embodied carbon by life-cycle stage



Download as image

Embodied carbon by structure - A1-A3



Download as image

Project level parameters are not defined. Set them under the Parameters menu. Changing them later on will lead to results being recalculated.

Design phase: 5 designs

Parameters Add a design Compare data Tools

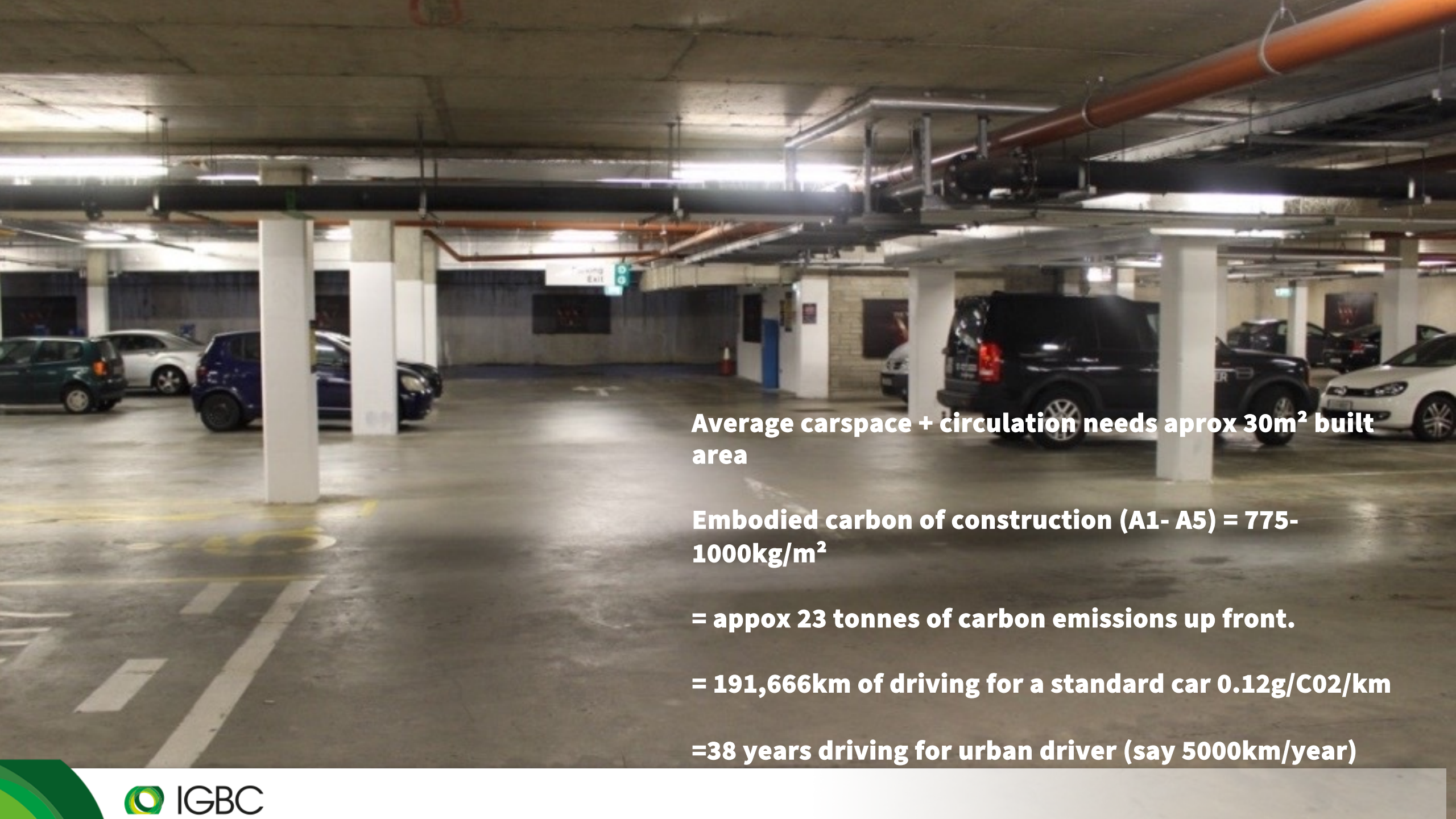
Tool	Unit	1 - Early phase desi	2 - test carbon desi	2 - Design 1	2 - Stephen Test	2 - CD Baseline
Level(s) life-cycle carbon (IE)	kg CO <sub>2</sub> e	Input data	Input data	Input data	Input data	Input data











**Average carspace + circulation needs approx 30m<sup>2</sup> built area**

**Embodied carbon of construction (A1- A5) = 775-1000kg/m<sup>2</sup>**

**= approx 23 tonnes of carbon emissions up front.**

**= 191,666km of driving for a standard car 0.12g/C02/km**

**=38 years driving for urban driver (say 5000km/year)**





## Tesla Model 3

Weight - 1,672 kg

Dimension - 4.6m

Parking space - 2.5m x 2.5m

Max Speed - 200 km/hour

Turning circle - 11.8m

Embodied Carbon - 8-10 tonnes ? (Ricardo report – electric cars)

Charging equipment - Specialist charging equipment needed



## Citroen Ami

Weight - 425kg

Dimension - 2.4 m x 1.4m

Parking space - 2.5m x 2.5m

Max Speed - 30 km/hour

Turning circle - 7.2m

Embodied Carbon - 2 tonnes ? (estimate by weight)

Charging equipment - Standard household socket



Which do we plan for? - Remember Speed limit 30-50km

# The 3 Zero Cs

## 1 - Zero Carbon Operational

Dense sharing walls and floors + Highly efficient fabric + highly efficient services + renewables – see RIAI climate challenge

## 2 - Zero Carbon Embodied

No unnecessary demolition + Space efficient homes (none >130sqm) and buildings + resource efficient design + low carbon materials + offset

## 3 - Zero Cars

dense planning + public transport + mobility sharing + cycle and walking = no minimum parking standards – if it needs dedicated car spaces it doesn't get planning.

+

## Net Positive Biodiversity

Enabled by car free design, higher density > 75-100 homes/hectare



## Home Performance Index aligned with

- All Irish regulations
- BCAR
- International standards
- Reviewed every two years

**57 homes Bridgefoot Street  
SISK Living & DCC**

FINANCING A SUSTAINABLE  
EUROPEAN ECONOMY

# EU TAXONOMY

## Technical Report

EU taxonomy is a framework designed for investors -rigorous about calling things sustainable or green. The goal is not just to label products as green but also assist banks to advise companies on best capital structure to grow and helps investors identify what is green and what is not. It promotes standardization around environmental products and tools



Climate change mitigation



Climate change adaptation



Sustainable + Protection  
Water + Marine Resources



Transition to circular economy



Pollution Prevention



Protection + Restoration  
Biodiversity + Ecosystems

# EU SMARTER initiative Green Mortgages for Certified Green Homes





[www.igbc.ie](http://www.igbc.ie)

[www.homeperformanceindex.ie](http://www.homeperformanceindex.ie)