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CONSTRUCTION & ENGINEERING

COP26 and the built environment

The 26th annual summit of the UN Climate Change Conference of the Parties (**COP26**) has come to a close in Glasgow, with the penultimate day dedicated to Cities, Regions and the Built Environment.

This was the first time the climate-change summit dedicated a day to the built environment. The built environment has a significant role to play in achieving net zero as it contributes to around 40% of global carbon emissions, over 30% of global final energy use and consumes nearly half of the world's natural resources. These are some of the highest levels ever recorded. It is clear that conscious investment in this sector is vital if the goals of the Paris Agreement are to be met.

6 MIN READ

The purpose of COP26 was to accelerate the goals set by the Paris Agreement:

- to limit global warming to below 2 degrees Celsius and preferably only 1.5 degrees Celsius
- by 2050 all new and existing assets must be net zero across the whole life cycle

The Paris Agreement was adopted by 196 parties at the Paris climate conference, COP21, on 12 December 2015 and was entered into force on 4 November 2016.

In order to achieve these targets, countries around the world have introduced and are continuing to introduce decarbonisation targets and policies. Ireland has done so by implementing the Climate Action and Low Carbon Development (Amendment) Act 2021 (the Act), which strengthens Ireland's commitments under its Climate Action Plan which was developed in response to the Paris Agreement. The Act binds Ireland to net zero emissions by 2050, and seeks to achieve an immediate target of halving emissions by 2030 (relative to a baseline of 2018).

COP26 has put a spotlight on the built environment. Stakeholders within the built environment, which include funders, developers, employers, designers, contractors and owners, need to take responsibility and a more active role in sustainability if the goals of the Paris Agreement are to be met. COP26 has made it clear that the change required to meet these goals is intrinsically linked to conscious and sustainable capital invested in the industry at all points of the lifecycle of a project.

One of the main objectives of COP26 is to mobilise finance to achieve the climate goals established under the Paris Agreement. In order to achieve net zero, developed countries have undertaken to deliver at least USD $100bn in climate finance per year, finance from both public sector and private institutions will be required to meet this. In respect of the built environment, public sector finance will be used for the development of infrastructure needed to transition to a greener and more climate-resilient economy, and private finance will be used to fund technology and innovation.

The Glasgow Climate Pact coming out of COP26 contains some key articles in respect of sustainable development:

1. Article 50 underscores the importance that discussions on climate finance are informed, by the need to strengthen the global response to the threat of climate change in the context of sustainable development and to make finance flows consistent with a pathway towards low greenhouse gas emission and climate-resilient development.
2. Article 54 underscores the urgency of enhancing understanding and action to make finance flows consistent with a pathway towards low greenhouse gas emission and climate-resilient development in a transparent and inclusive manner in the context of sustainable development and poverty eradication.

Emissions from the built environment

The built environment is responsible for some of the highest levels of carbon emissions, final energy use, and consumption of natural resources ever recorded. It is clear that the finance mobilised will be a key driver in the reduction of the emissions, energy use, and natural resources. Significant investment in energy efficient buildings and sustainable construction methods must occur.

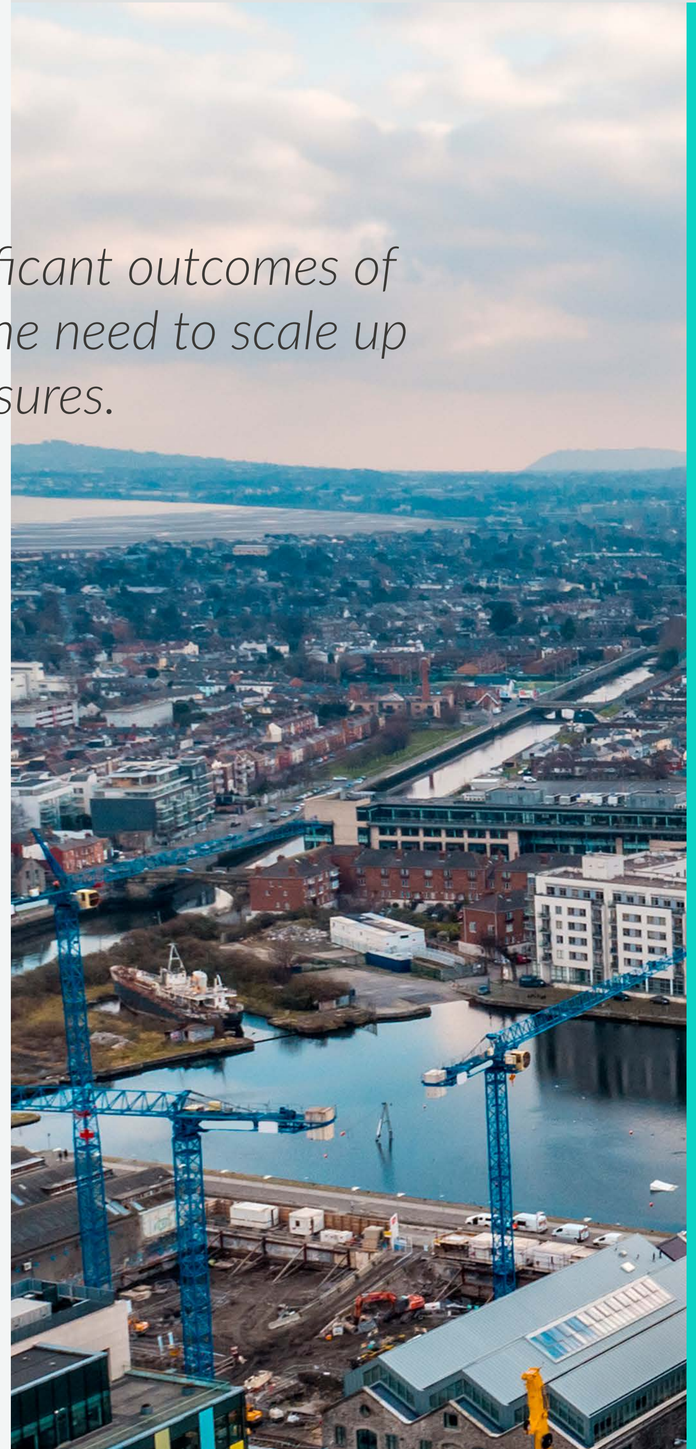
The World Green Building Council, in a report titled 'Beyond the Business Case' (the Report) defines the built environment as:

- buildings of all typologies and in all geographies
- construction as a sector, and considering the creation of both new and retrofitted assets
- infrastructure capturing both horizontal infrastructure, which is composed mainly of transportation, power and communications and waste (both over ground and subterranean)
- vertical or social infrastructure, comprising buildings (particularly spaces that facilitate the delivery of social services by governments)
- structured facilities (e.g. parking areas) and structures

The relationship between the built environment and sustainable development is complex. The way in which stakeholders tender for, are awarded, design, construct, maintain, refurbish, own, finance and occupy buildings means that reducing emissions is both complicated and challenging. Stakeholders involved in the built environment have different and sometimes competing objectives. The World Business Council for Sustainable Development provides that the building and construction sector is fragmented and project-focused, and implores that stakeholders come together to drive change based on a common vision to:

- lessen the impact of construction or engineering projects across the full life cycle of a project
- understand the competing pressures faced including cost, efficiency, quality, health and safety practices, and the reduction of energy emissions

"One of the most significant outcomes of COP26 … highlights the need to scale up energy efficiency measures.



Industry groups at COP26 discussed the decarbonisation of steel and concrete, and while this will play a key role in meeting the goals of the Paris Agreement, such technologies are yet to be developed. It is acknowledged that the industry needs to act now by designing buildings with materials that are intrinsically low in carbon such as timber.

One of the most significant outcomes of COP26 is the inclusion of Article 36 in the Glasgow Climate Pact, which highlights the need to scale up energy efficiency measures. This is the first time that energy efficiency has been explicitly referenced and it will be instrumental in meeting the goals in the Paris Agreement.

Capital

Discussion arising from COP26 highlights that the built environment represents one of the biggest global investment opportunities of the next decade. Capital invested in the built environment will be key in the reduction of global emissions and will have a significant effect on the ability of the world to achieve the goals under the Paris Agreement. Both the public and private sectors need to consider climate action whether providing capital to the built environment or not, and become a driving force for change.

Funders have an increasing appetite for investment in the built environment in respect of those assets which are net zero or support a reduction in emissions. It is now commonplace for funders to align their portfolios with the Paris Agreement, which will ultimately create the required change in the built environment. We are also seeing potential investors undertaking due diligence on assets which are consistent with their own net zero targets. On the other hand, the incentive for other stakeholders is:

- discounted finance offered by such funders for those projects
- developments which align with their portfolio requirements

It is clear the influence capital will have on the built environment's ability to significantly reduce emissions and propel the built environment in achieving the goals set by the Paris Agreement.

"Capital invested in the built environment will be key in the reduction of global emissions

What do stakeholders need to ensure going forward?

The impact of the built environment on emissions, energy consumption and natural resources is significant. The substantial change required to meet the goals of the Paris Agreement is intrinsically linked to conscious and sustainable capital invested in the industry at all points of the lifecycle of a project. In order to meet the goals of the Paris Agreement, stakeholders should consider/ensure the following suggestions are implemented in their move towards net-zero:

1. Funders should ensure their portfolios are aligned with the goals set in the Paris Agreement.
2. Retro-fitting of existing buildings: this is almost always more sustainable than demolishing and re-building.
3. Green retro-fitting of existing buildings: this is the sustainable refurbishment of an existing building to make it more efficient in terms of the utilisation of space, better for the environment and sustainable for the future. A green retro-fit may include either major or minor refurbishment as well as the installation of products in an attempt to reduce the carbon footprint of the building and its future operations.
4. The re-using of materials from building to be demolished.
5. The design of buildings using materials that are intrinsically low in carbon, such as timber.
6. Higher sustainability requirements for new buildings and the use of building level certification such as (i) Leadership in Energy and Environmental Design (LEED) which is a voluntary rating system to certify sustainable buildings and neighbourhoods, and (ii) BREEAM which is an environmental assessment method and rating system for buildings.
7. Increasing use of green materials within the industry. The Irish Green Building Council has however set out a number of existing barriers to achieving this, being (i) the size of the market in Ireland; (ii) confusion about certification systems; (iii) lack of financial incentives; (iv) lack of demand for green products; (v) poor enforcement of specification; and (vi) lack of Irish database containing environmental data for construction materials. Stakeholders should work to eliminate these barriers.
8. The adoption of technologies such as Building Information Modelling (**BIM**). BIM is used to calculate whole building embodied impacts. Data generated during the whole project lifecycle provides for faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning.
9. Environmental Product Declarations (**EPD**). EPDs are a standardised way of providing data about the environmental impacts of a product through the product life cycle. In Europe, they must conform to the European Standard, EN 15804, which ensures that EPD for construction products use a common methodology, report a common set of environmental indicators and have a common reporting format. This means that EPD can be integrated into building level assessment, and used to compare construction products in a building context.
10. A materials database developed for Ireland, which is integrated with other European databases and uses the same standards.
11. Lifecycle carbon assessment to estimate the total amount of carbon emissions generated from buildings over the course of their lifespans.

Stakeholders within the built environment have a significant role in achieving the goals set by the Paris Agreement. Each stakeholder should be striving towards holding a portfolio which reflects the targets set in the Paris Agreement, we consider that this will require a review of the impact of a project across all points of its lifecycle, and stakeholders should ensure the implementation of the methods available while new technologies are being established.

For further information in relation to this topic please contact Conor Owens, Clare McAdam or any member of ALG's Construction & Engineering team.

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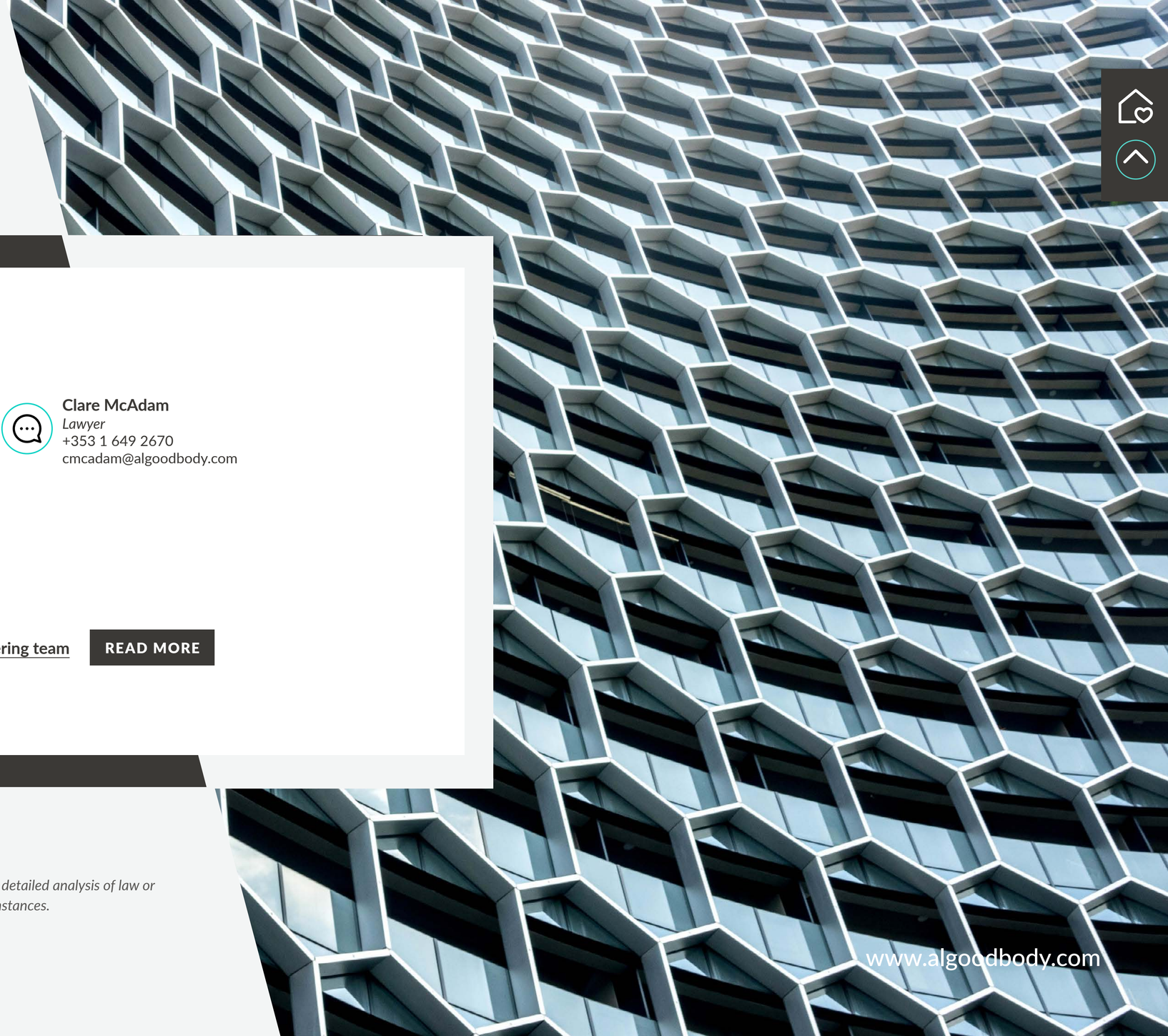

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