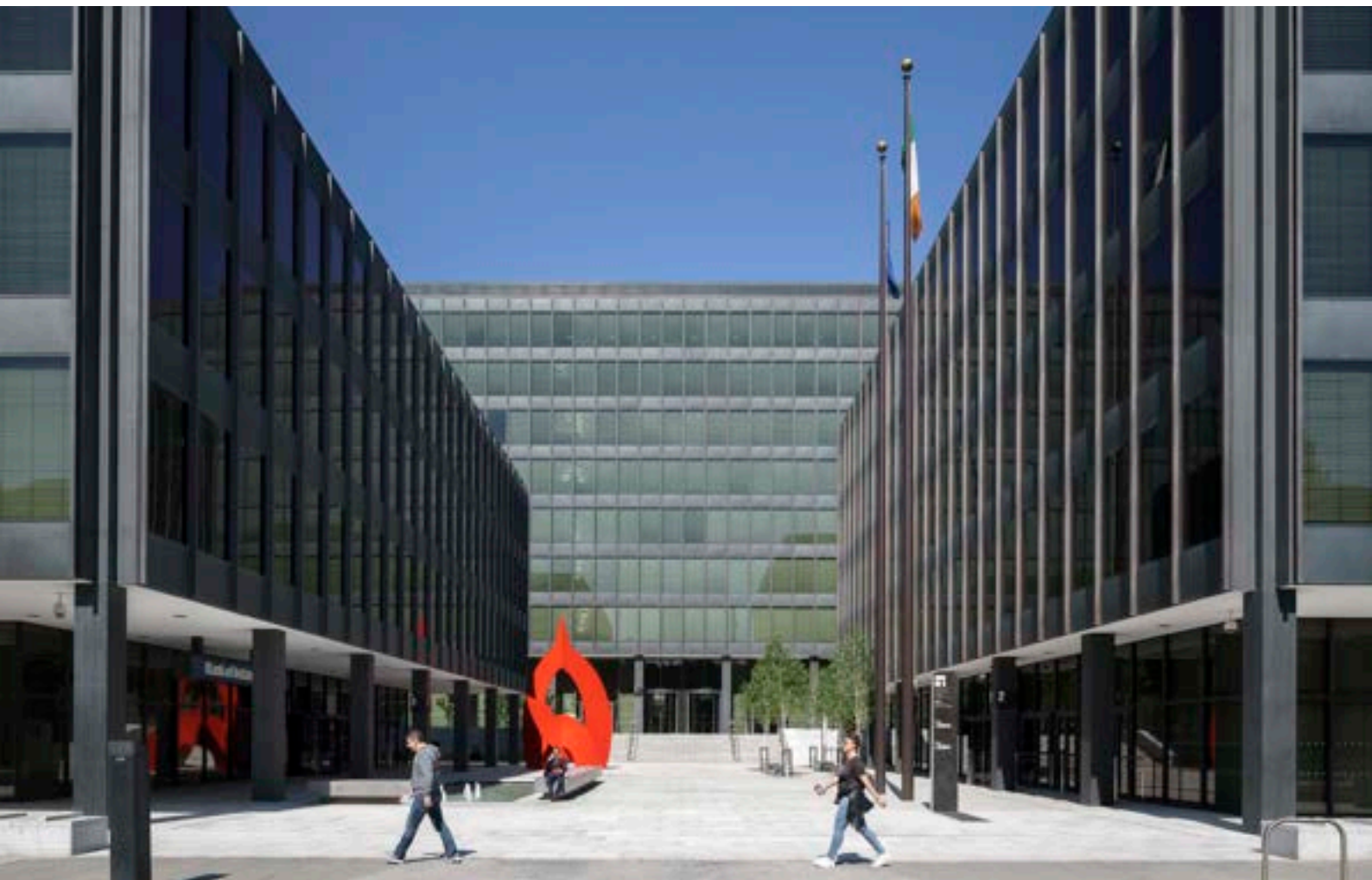


Better than new

The power of existing buildings



“

The deep and comprehensive refurbishment of the Miesian Plaza complex on Dublin's Baggot Street provides a radical blueprint for how to transform mid-20th century city office buildings into comfortable, ealthy and super low energy spaces that support sustainable transport and working patterns.

”

Passive House +

<https://passivehouseplus.ie/magazine/new-build/mies-en-scene-iconic-dublin-offices-get-deep-green-treatment>



Better than new

Achieving net zero economy by 2050 remains essential to minimising the magnitude and duration of the 1.5°C overshoot.¹⁾

80% of the Irish office buildings that will exist in 2050 are already standing. Built when energy performance and carbon impact were not primary considerations, these buildings now require a renewed focus on efficiency. This is particularly pressing as many of their systems are approaching the end of their lifespan, making refurbishment both necessary and logical. A considered fabric-first approach, combined with appropriate upgrades to building services, can transform the performance of existing buildings to levels comparable with well-designed new developments, supporting the transition towards a net zero economy by 2050.

Whole-life-cycle net-zero is more realistic through building reuse.

Retaining the existing substructure and structure provides a significant carbon advantage: their embodied carbon has already been emitted and therefore represents zero additional embodied carbon in the refurbishment. A new building, by contrast, would generate substantial embodied carbon through its new structure and substructure, despite advances in low-carbon technologies. The embodied carbon added through refurbishment is largely associated with fit-out and other interventions that would also be required in a new building. The carbon balance therefore strongly favours retaining and reusing the existing structure.

Beyond carbon considerations, all buildings must meet contemporary demands. They need to support flexible uses, accommodate diverse occupancies, and enhance both occupant wellbeing and environmental resilience. These goals can be effectively achieved through the reuse and reimagining existing buildings, which can also add value by increasing floor area, reconfiguring internal environments, and introducing new architectural features.

Each building that has been around for a while carries unique qualities shaped by its history, design, and context. Whether expressed through distinctive architectural features, materials no longer in common use, or irreplaceable urban settings, these attributes foster identity and attachment. Successful reuse begins by recognising and strengthening them. STW Architects have been actively exploring these strategies, delivering projects that respond to modern workplace demands while improving environmental performance and elevating the intrinsic qualities of buildings constructed decades ago.

What gives existing buildings a true edge is something less tangible, but equally valuable: a character.

This article presents a series of case studies demonstrating the potential for significant energy efficiency improvements, whole-life carbon savings through building reuse, and new value created by reimagining and enhancing the qualities of existing buildings. It aims to demonstrate that reclaimed buildings are not merely viable alternatives to new construction.

In many cases, they are better.



Reimagined Dublin Port Centre

CASE STUDY 1

Miesian Plaza

The refurbishment of the 1970s three-building complex at Miesian Plaza on Baggot Street, completed in 2016, reduced modelled energy use intensity by 68%, from 457 kWh/m²/y to 144 kWh/m²/y, using the LEED v4 methodology, including unregulated loads.

The project achieved a LEED Platinum rating, making it one of the first projects in Europe to reach this level of certification. Achieving high level of energy performance within the constraints of the building's

iconic protected façade was a significant challenge. Still, careful design delivered substantial thermal improvements while preserving the original architectural character.

Enhancements to the curtain walling, roof upgrades, improved airtightness and a complete M&E systems overhaul, combined with smart-building technologies, worked together to maximise energy efficiency while sustaining the architectural character that defines Miesian Plaza.



Renovated facade at Miesian Plaza

CASE STUDY 2

Kiln Building

The 2021 reimagining of the protected structure into a contemporary research facility required a careful balance between preservation and performance, introducing open, collaborative spaces for scientific work while dramatically reducing primary energy demand. A comprehensive fabric-first strategy targeted every element of the building's envelope to improve thermal performance while ensuring breathability and moisture control. Natural cross-ventilation

became the primary servicing strategy for workspaces, supplemented by heat-recovery ventilation and fan-coil units served by heat pumps, all controlled by smart building technologies.

Together, these measures reduced the building's originally calculated primary energy demand by 73%, from 355 kWh/m²/y to 95 kWh/m²/y, securing the country's first A3 BER rating for a protected structure of this age.



Reimagined Kiln Building

CASE STUDY 3

Dublin Port Centre

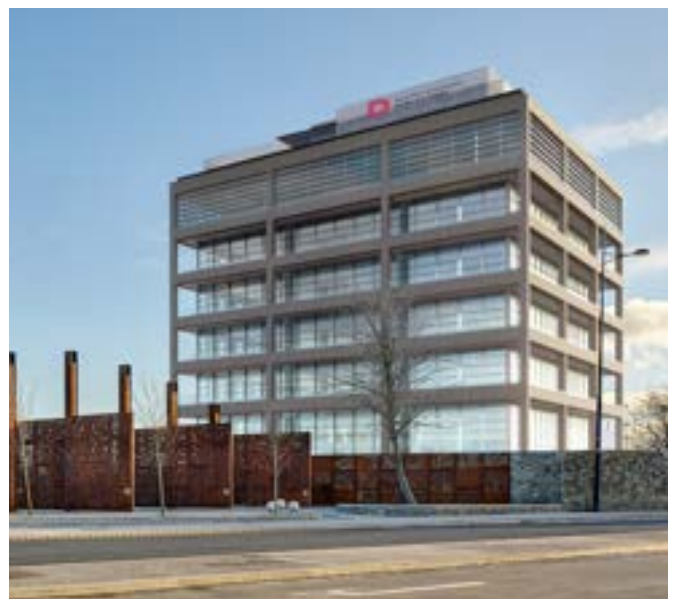


One of the details carefully assessed at the Dublin Port Building

The more recent deep retrofit of the Dublin Port Centre headquarters, currently on site, is projected to reduce the primary energy demand from 297 kWh/m²/y to 84 kWh/m²/y (BER rating using NEAP methodology 2024).

Originally constructed in the 1980s, when energy performance was rarely a design priority, the office building is being transformed to meet the standards expected of contemporary new-build construction. Here again, thermal upgrade interventions are intrinsically interwoven with broader aspects of the design, bringing the building in line with today's standards and ways of working.

The strategy combines façade replacement, careful detailing to minimise thermal bridging, targeted wall and floor thermal upgrades, a new roof, and a fully electric, high-efficiency heating and ventilation system, supported by on-site renewable generation from photovoltaic panels mounted on car park canopies. Together, these measures are projected to deliver an overall 72% reduction in primary energy demand.



Dublin Port Centre proposed view from East Wall

CASE STUDY 4

Eastpoint Office



CGI of the upgraded front facade at Eastpoint Office Block

The regeneration study of the Eastpoint Office Block, featuring a five-storey U-shaped concrete frame, explored how targeted interventions could transform the existing building into a high-performing, energy-efficient workplace, comparable to a contemporary new build.

The proposed strategy combined a fabric-first approach with a complete upgrade of the building services. Façade improvements, enhanced airtightness, roof and targeted wall insulation, and new external envelope elements to accommodate building extensions complemented each other. In parallel, the mechanical and electrical systems were upgraded to an all-electric system with improved controls, creating a coordinated approach to reducing both energy demand and carbon emissions.

Together, these measures are projected to reduce the building's primary energy demand by 73%, from 197 kWh/m²/y to 54 kWh/m²/y.



Reference image of a carpark PV canopy

CASE STUDY 5

Clonakilty Community Hospital



View of existing buildings at Clonakilty Community Hospital

The HSE Decarbonisation Pilot Pathfinder Programme at Clonakilty Community Hospital aims to demonstrate what can be achieved through a fabric-first decarbonisation strategy within a live healthcare environment. The project targets the thermal upgrade of 10 buildings across the campus, ranging from 1850s structures to mid-20th-century buildings, as well as the electrification of building services and the integration of renewable energy.

STW Architects led the design team in assessing existing conditions and developing appropriate upgrade strategies. Fabric improvements include external wall insulation, pumped cavity insulation, and the sensitive internal dry lining of historic stone walls. Existing windows are to be replaced with high-performance aluminium-framed systems, and roofs - extensively upgraded with new insulation and waterproofing. Faced with a variety of construction types, each intervention was carefully designed and sequenced to integrate seamlessly into the hospital's day-to-day operations.

The proposed energy strategy will transition the campus away from fossil fuels, largely replacing existing oil boilers with heat pump systems. The existing Energy Centre will be redeveloped to support the new energy strategy, alongside upgrades to mechanical and electrical systems and replacing existing lighting with energy-efficient LED fittings. A PV farm is also proposed to support the transition to renewable electricity and further reduce the campus's carbon emissions. Collectively, these measures are

projected to deliver a substantial reduction in primary energy demand, with BER-calculated performance improving from 832 kWh/m²/y to 349 kWh/m²/y, representing a reduction of approximately 58%.

The project demonstrates that even in complex, fully operational settings, a well-executed fabric-first and electrification strategy can significantly transform energy performance.



The complexity of the Clonakilty Community Hospital project

SUMMARY

Energy Efficiency Savings

Collectively, the example studies presented demonstrate that deep retrofit can deliver energy performance approaching that expected of contemporary new-build developments.

To put these results in perspective, the recently established Irish Zero Emissions Buildings (ZEB) methodology sets an energy-efficiency threshold of 90 kWh/m²/y for renovated buildings (ZEB Reno), along with additional requirements related, among other factors, to renewable energy sources. The two most recent projects presented in this article, the Dublin Port and Eastpoint offices, achieve energy performance levels of 84 and 54 kWh/m²/y, respectively, while the Kiln Building achieves 95 kWh/m²/y, only slightly above the benchmark.

The Miesian Plaza office complex, completed approximately ten years ago, recorded 144 kWh/m²/y using the LEED methodology, including unregulated loads. Assuming these account for about 40 kWh/m²/y, regulated energy use would be around 104 kWh/m²/y, bringing the project much closer to the ZEB Reno target.

Overall, the results show that while the energy performance achievable through deep retrofit is inherently project-specific, some existing buildings can achieve performance approaching that of new construction, including the proposed ZEB energy-efficiency target of 40 kWh/m²/y for new-build offices, highlighting the role of deep retrofit in the transition to net-zero buildings.

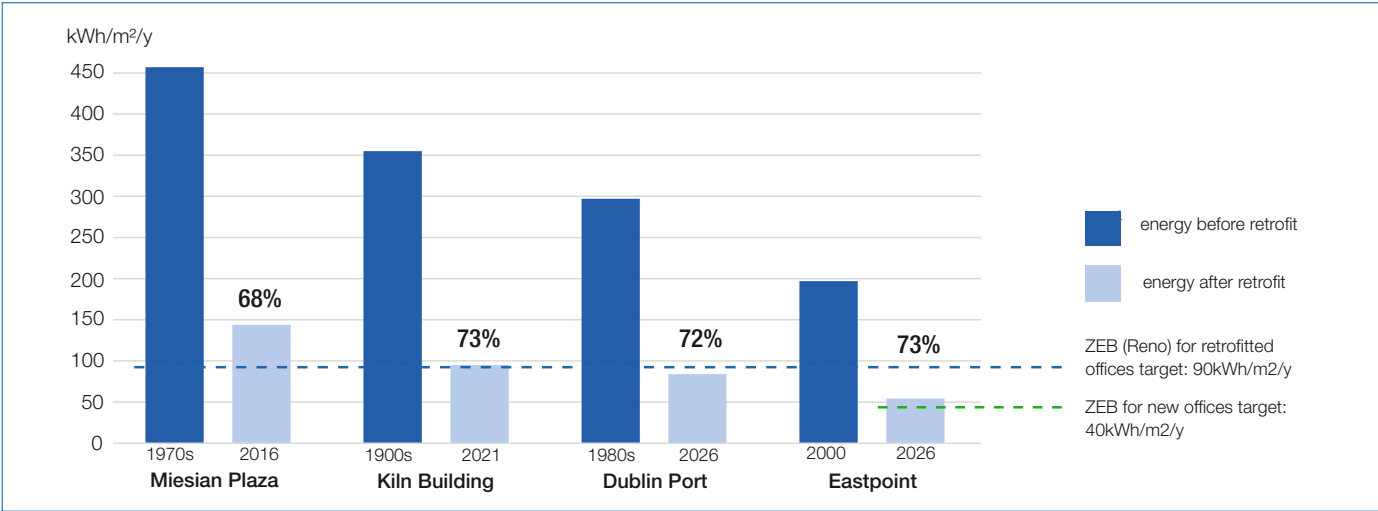


Chart 1 - Energy use reduction for the office buildings retrofits

While the Clonakilty Community Hospital project shows a more moderate reduction of approximately 58%, from 832 to 349 kWh/m²/yr, this reflects the inherent complexity and continuous operational demands of a live healthcare environment, comprising of buildings of varying age, construction and use, with clinical functions requiring high levels of heating and electrical demand throughout the day and night. Despite these constraints, the resulting energy performance is relatively close to the proposed ZEB Renovate threshold of 305 kWh/m²/yr, showing that substantial reductions can be achieved even these conditions. The project therefore highlights the potential for targeted fabric and services upgrades to deliver meaningful energy savings without compromising the resilience or functionality required of a healthcare setting.

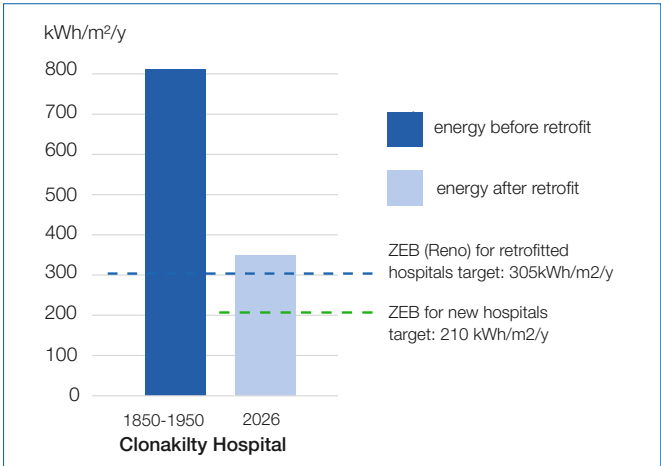


Chart 2 - Energy use reduction for the hospital retrofit

EMBODIED CARBON SAVINGS FROM RETENTION OF STRUCTURE

Dublin Port Centre

The calculation of embodied carbon of the existing structural elements of the Dublin Port Centre is based on measured quantities of the substructure, core and frame, with carbon factors applied as if the same elements were constructed today (concrete: C35/45 with 50% GGBS; steel rebar with 15% recycled content).

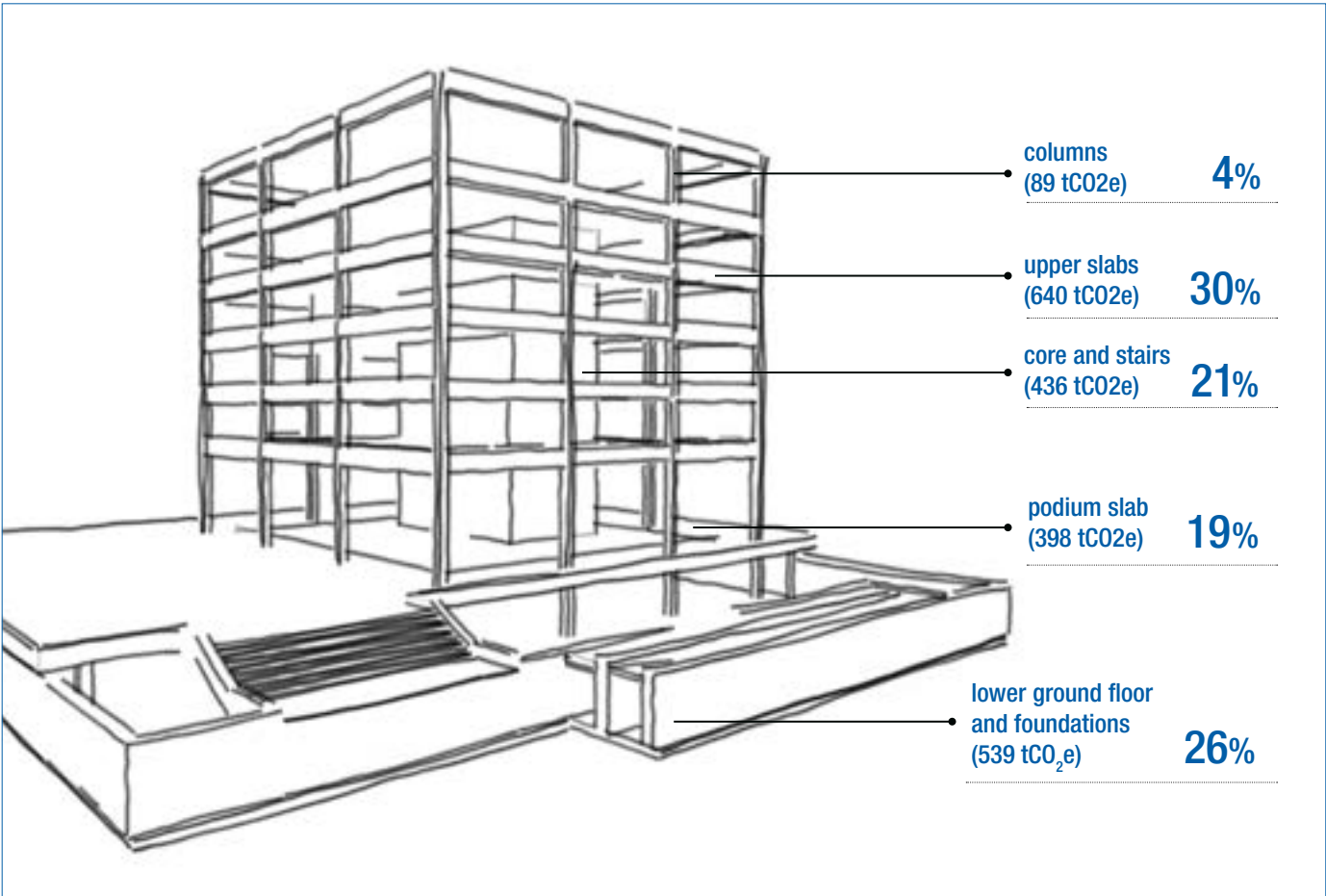
Following this methodology, the embodied carbon saved through retention of structural elements amounts to 2,102 tCO₂e (446 kgCO₂e/m²).

The embodied carbon associated with the proposed retrofit works, including materials for the fifth-floor extension, new roof and façade, internal partitions, insulation, finishes, feature stair, external works to the lower ground courtyards, car park canopies supporting PV panels, and building services, is calculated at 2,972 tCO₂e (572 kgCO₂e/m²).

The hypothetical total embodied carbon associated with the combined retained structure and proposed retrofit works is therefore 5,074 tCO₂e, equivalent to 1,018 kgCO₂e/m².

The proposed works introduce new structural elements to support interventions required to meet current building regulations and to deliver added value, including increased floor area, new flexible uses, and enhanced occupant wellbeing, and in doing so require the removal of parts of the existing structure. Yet even with these interventions, structural retention represents an avoidance of approximately 41% of the building's embodied carbon profile, a substantial saving.

Beyond these carbon savings, retaining the structure avoids the other environmental impacts associated with demolition waste and the extraction and processing of new materials, further strengthening the case for reuse.



The breakdown of embodied carbon impacts of the retained existing building structural elements

WHOLE LIFE CARBON SCENARIOS

Dublin Port Centre

The Dublin Port Centre building in its current state would emit approximately 1,950 kgCO₂e/m² of operational carbon over a 50-year period.

The proposed upgrade, focused on optimising energy efficiency and achieving full electrification, significantly reduces this impact. The interventions add 572 kgCO₂e/m² of embodied carbon but reduce operational emissions by 1,541 kgCO₂e/m² over the 50-year lifecycle.

This shift highlights the fundamental advantage of retrofit: a relatively modest upfront carbon investment can deliver significant long-term operational savings.

As a result, the proposed redevelopment achieves an overall net reduction of approximately 50% in whole-life carbon emissions compared with a ‘do nothing’ scenario, demonstrating the effectiveness of upgrading existing buildings.

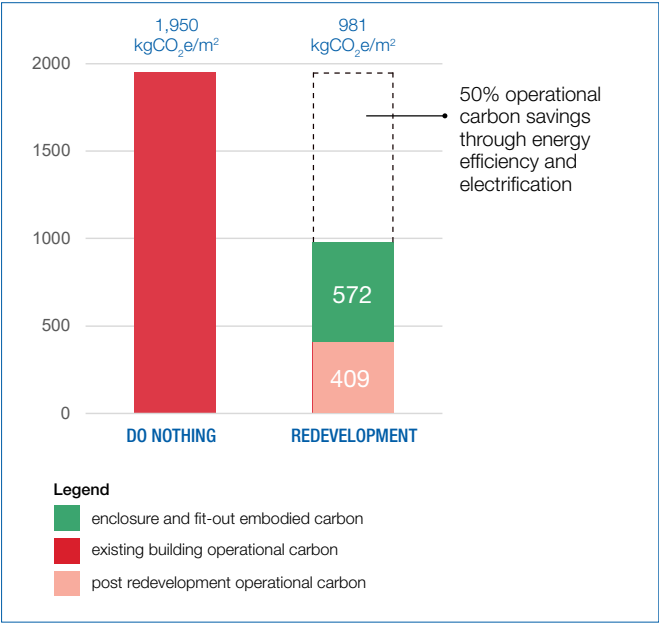


Chart 3 - WLC comparison for a ‘do nothing’ and ‘redevelopment’ scenarios

Another simplified whole-life carbon (WLC) scenario is illustrated below, comparing the impacts of the proposed redevelopment with those of a potential demolition and rebuild.

The demolition and rebuild strategy is estimated to result in a total WLC impact of approximately 1,222 kgCO₂e/m². This comprises 204 kgCO₂e/m² of operational carbon emissions, assuming a new-build ZEB-level of performance, and 572 kgCO₂e/m² of embodied carbon associated with the new enclosure and fit-out works. The latter is based on the assumption that these impacts would be equivalent to those associated with the proposed redevelopment works. A further 446 kgCO₂e/m² of embodied carbon would be associated with the replacement structure, using the estimated embodied carbon of the existing structure proposed to be retained as a proxy.

By contrast, the redevelopment approach avoids the need for a new structure and therefore eliminates this upfront carbon cost. Its total impact is estimated at 981 kgCO₂e/m², comprising 572 kgCO₂e/m² of embodied carbon associated with the upgrade works and 409 kgCO₂e/m² of operational carbon emissions. This represents a reduction of approximately 20% compared with the demolition and rebuild scenario.

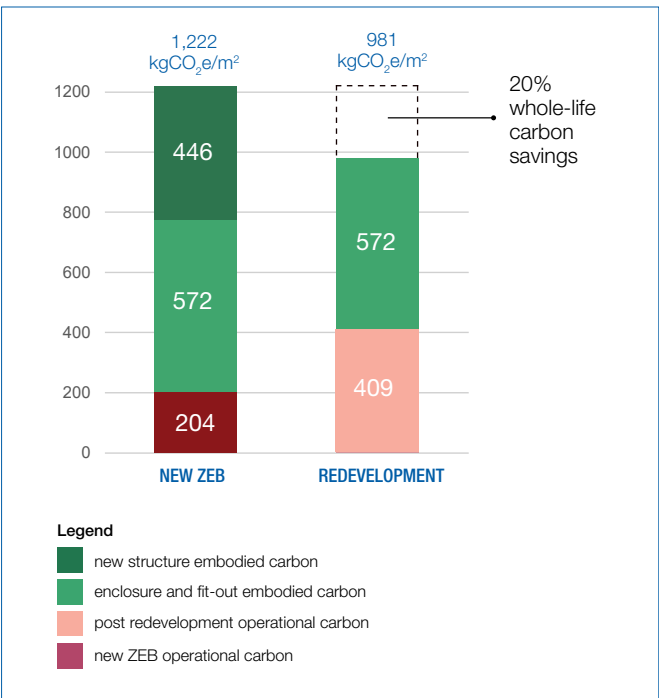


Chart 4 - WLC comparison for a ‘new ZEB’ and ‘redevelopment’ scenarios

SUMMARY

Whole Life Carbon Savings



Without any intervention, over the next 50 years, the existing Dublin Port Centre would produce around 1,950 kgCO₂e/m², driven by high operational emissions.

Demolishing and rebuilding could reduce this to about 1,222kgCO₂e/m² but this result would be weakened by introduction of significant upfront embodied carbon from new construction.

In contrast, the proposed retrofit and redevelopment achieves the lowest impact at approximately 981 kgCO₂e/m² by avoiding a new structure while still delivering major operational savings.

Overall, this represents about a 50% reduction compared to doing nothing and ca. 20% less than a full rebuild, making retrofit the most carbon-efficient option.

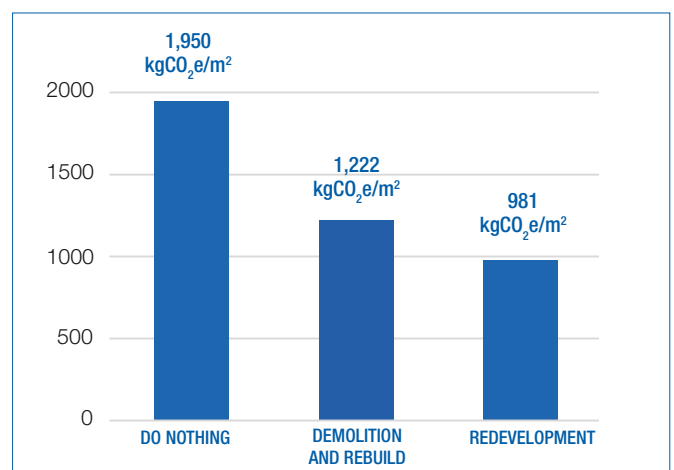


Chart 5 - WLC comparison of all scenarios

HEALTH AND WELL-BEING

Miesian Plaza



New gym at Miesian Plaza

The redesign of mechanical systems at Miesian Plaza, freed up almost 1,000 sqm of space previously occupied by the plant required to provide the heating and cooling equipment. This space beneath the podium of Block A has been transformed to provide the end-of-trip facilities promoting health and well-being for the buildings' occupants, including 400 bicycle parking spots, a state-of-the-art gym, changing and drying rooms, lockers and showers, featuring new windows overlooking the rear lane and a dedicated entrance to accommodate users from all three blocks. The newly established staff welcome centre actively encourages individuals to adopt healthier, eco-friendly modes of transportation, thereby helping advance the city's broader shift toward a low-carbon environment.

The largest of the three blocks was extended by one entire bay (80m long by 6.5m deep) along the building's length to the northeast. The building's facade at this elevation was carefully removed, refurbished, and reinstated at its new location.

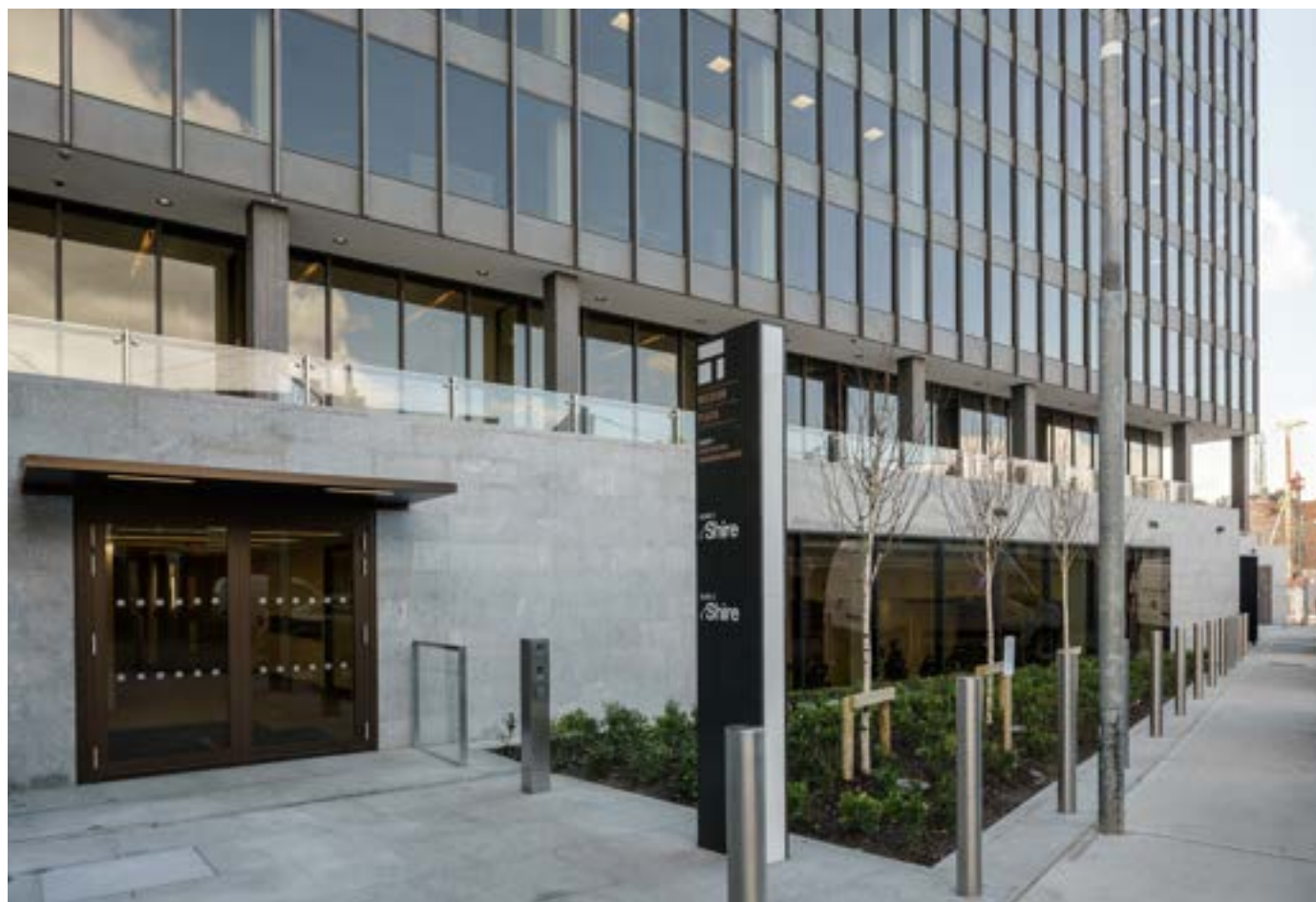
The structural interventions undertaken to create this additional space and to meet modern standards enabled flexibility and futureproofing, allowing for introduction of a spacious reception area, a 150-seater canteen and Town Hall space, together with formal and informal meeting spaces on the public-facing ground floor.



New bicycle storage at Miesian Plaza

RECONNECTING THE CITY

Miesian Plaza



Miesian Plaza - new access from St James' Place

The redevelopment of Miesian Plaza has improved accessibility, movement and permeability throughout the complex, reshaping how people engage with the space and strengthening its connection to the surrounding urban realm.

New pedestrian and cyclist access from the rear lane of St James' Place has opened an additional route into the complex, creating a stronger connection between the plaza and the surrounding streets. Reconfiguring the existing steps connecting James' Place to the podium makes this route more accessible.

At the same time, a new access point from the central plaza to the cycle parking and end-of-trip facilities provides a more direct connection between active-travel infrastructure and the workplace. Together, these interventions have

increased footfall, encouraged movement through the site and enhanced the quality and usability of the public realm

The addition of seating, tree planting and a water feature has further transformed the plaza into a more welcoming place to pause, meet and spend time. These landscape interventions create a tranquil, immersive environment, introducing a distinct sensory quality through planting, water, and opportunities for rest.

This approach actively promotes sustainable mobility by making walking and cycling more convenient and attractive, encouraging a shift towards healthier, low-carbon modes of transport. In doing so, the redevelopment not only improves the experience of the building and its immediate surroundings, but also contributes to a more connected, accessible and resilient urban environment.

EVOLVING WORK ENVIRONMENT GROUNDED IN HERITAGE

Kiln Building



Kiln Building 's new angled windows

A single, decisive intervention on the west façade of the Kiln Building establishes a strong passive design response, expressed through a series of angled, full-height windows on the two middle floors. Oriented towards the River Lee and carefully turned away from the neighbouring schoolyard at Presentation College, the openings maximise daylight and frame long views while maintaining sensitivity to the adjacent context. This intervention transforms previously dim, underperforming interiors into light-filled, spatially generous environments, unlocking the building's full potential.

Working in parallel with this façade strategy, a series of internal reconfigurations strengthens performance and usability. New floor levels, aligned with the adjoining building, enable a shared servicing approach, allowing lift and WC facilities to serve the wider complex efficiently and avoid duplication of infrastructure.



Transformed open space



Converted attic space

Relocating the main circulation to an external staircase, positioned outside the heated envelope, further enhances performance by freeing internal areas for productive use while eliminating the need to condition circulation spaces. This move creates additional usable floor area for meeting and collaborative functions, reinforcing the building's adaptability.

A previously underutilised attic is converted into a bright, characterful upper floor, adding meaningful usable space where none had existed before. Together with the reorganisation of internal levels, these interventions increase the total floor area from 557 m² to 636 m², expanding occupancy from approximately 35 to around 100 people. The result is a significantly more efficient, flexible and legible building, with improved spatial performance and a strengthened relationship with its adjoining counterpart.

ANCHORING WELL-BEING

Dublin Port Centre



The reimagined two-storey foyer in Dublin Port Centre

This project reimagines Dublin Port Centre headquarters as a more open, connected, and people-focused workplace, balancing internal transformation with a stronger relationship to its surroundings. Through a series of targeted architectural interventions, the design enhances arrival, circulation, and amenity within the building, while increasing the floor area and aligning the site with emerging public infrastructure to better integrate the port into the wider Docklands context.

The reconfiguration of the two-storey entrance foyer creates a vibrant and welcoming arrival space. A new mezzanine level is inserted within the upper portion of the double-height volume, anchored by a statement staircase that visually and physically connects the ground floor with the lower ground level, where a new cafeteria is located. This layered intervention enhances public engagement while providing a range of informal breakout and meeting spaces for staff. The staircase acts as both a focal point and a catalyst for movement, encouraging a more active journey through the building and supporting a renewed culture of in-person interaction.



The new feature staircase in Dublin Port Centre

MOVEMENT AND CONNECTION TO NATURE

Dublin Port Centre

The canteen at Dublin Port Centre has been relocated to the lower ground level, allowing it to open onto a sheltered courtyard and extend its use into an outdoor setting. Improved access to natural light and views of the landscaped areas strengthens the connection between the interior and its surrounding landscape. Adjacent conference facilities can also open onto the newly regenerated courtyards, creating opportunities for larger gatherings to engage with the

landscape. A new end-of-trip centre, accessed via the existing ramp, provides generous changing facilities, showers, and a gym, supporting active travel and wellbeing.

The open feature staircase connects the lower ground floor with the entrance level and continues to the mezzanine, providing views towards the surrounding landscape as people move through the building and strengthening visual connections between the different levels.



Improved movement through the building and connection to the nature at Dublin Port Centre

An additional full floor of office space was created on the fifth floor by raising the roof and replacing the external façade. This provided an opportunity to improve the insulation strategy for this part of the building, although the approach was still constrained by the requirement to retain the character and aesthetics of the existing external elevation.

The newly created roof level accommodates the reduced services plant provision, relocated from the floor below, as well as a generous landscaped terrace offering panoramic views across the Port Operations.

The new top-storey staircase providing access to the roof level incorporates a generous gallery overlooking the Port, creating a dedicated sheltered viewing point for Dublin Port's guests and reinforcing an important function of the building: providing a connection to the Port and its operations.

INTEGRATING A GREENER URBAN CONNECTION

Dublin Port Centre



The proposed Liffey-Tolka Project along Dublin Port Centre's site.

Responding to the Dublin Port Centre's wider urban context offered clear mutual benefits, creating an opportunity for the development to help improve its surrounding public realm and active-travel network. The site layout was adjusted to better integrate with the Liffey-Tolka Project, a new greenway under construction along East Wall Road. This safe and accessible pedestrian and cyclist route will eventually connect the River Liffey at the Tom Clarke Bridge with the existing Dublin Port Tolka Estuary Greenway and other local cycling routes, strengthening continuity across the wider public route network and helping integrate the Port more effectively with the surrounding city and waterfront. The improved connections also support a more coherent and accessible movement network, encouraging

active travel and creating stronger links between the Port, neighbouring communities and the wider city.

For the Dublin Port Centre building, this wider investment in active-travel infrastructure provides a more direct and attractive connection for building occupants travelling by foot or bicycle, improving accessibility to and from the workplace and supporting a shift towards lower-carbon modes of transport. By aligning the building with these emerging connections, the project can benefit from, and contribute to, a broader transformation of the area, where improvements to individual sites reinforce wider investment in sustainable mobility, public realm and the relationship between the city and the waterfront.

Better than new



Miesian Plaza aerial view

The presented case studies show that deep retrofit can substantially improve the energy performance of existing buildings, in some cases reaching levels comparable to those proposed for new zero-emission buildings. They also demonstrate that significant reductions are possible across a range of building types and operational contexts, although the scale of improvement remains inherently project-specific.

These findings are particularly relevant to the transition to a zero-emission building stock by 2050. The recast Energy Performance of Buildings Directive (EPBD) provides an important policy context for this process, with increasingly stringent requirements for new buildings and the introduction of life-cycle global warming potential (GWP) assessment. However, while the EPBD sets the direction of travel and requires roadmaps towards life-cycle GWP limits, clear numerical limits are not yet in place. As a result, the current framework does not yet provide a sufficiently clear, quantified basis for determining how the building stock, particularly the existing stock, is expected to achieve the 2050 zero-emission objective.

This study's findings indicate that deep retrofit should be central to this pathway.

The scale of the existing building stock means that achieving the 2050 objective will depend on how effectively buildings can be retained, adapted and upgraded. Deep retrofit can reduce operational emissions, avoid embodied carbon from replacement structures, and extend the useful life of existing buildings. While the appropriate level of intervention will remain project-specific, the evidence shows that retrofit can deliver substantial energy and whole-life carbon reductions.

This makes the retention and upgrading of existing buildings a critical part of the transition to a zero-emission building stock.

But retaining and retrofitting existing buildings extends beyond carbon performance. The projects demonstrate how retrofit can create additional value through improved functionality, accessibility, occupant health and wellbeing, and opportunities for active travel, while also retaining the architectural character and cultural value of existing buildings. These wider benefits reinforce the argument for treating existing buildings as valuable assets rather than carbon liabilities to be replaced. In this context, deep retrofit offers not only a means of reducing emissions, but a broader approach to extending the environmental, social and cultural value of the existing buildings.

Notes

¹⁾ UNEP, Limiting Overshoot - Navigating exceedance of 1.5°C and pathways towards return, 2 September 2026.

²⁾ The 2050 shown scenario is a modelled scenario informed by the *CSO's Population and Labour Force Projections 2023–2057* and the Central Bank of Ireland's analysis of Ireland's commercial property market.

CSO demographic projections indicate continued population and labour-force growth under a range of migration scenarios, providing the basis for assuming population growth to approximately 6.3 million by 2050.

The *Central Bank's analysis, Financial Stability Review 2024:1*, provides context for the scale and characteristics of Ireland's existing commercial and office property stock.

Building on these sources, the scenario assumes a 20% increase in office employment and applies an 11 m² per office worker hybrid-working benchmark, resulting in projected office stock increasing from approximately 8.3 million m² today to 10.0 million m² by 2050.

The additional 1.7 million m² is assumed to be delivered to A0 (ZEB) standard, while the existing stock retains its current BER profile. The current office BER profile is based on the *CSO's Non-Domestic Building Energy Ratings Quarter 2 2026* dataset, which analyses BER certificates administered by SEAI.

This results in approximately 8.0 million m² of existing office stock (80%) requiring upgrading to meet the assumed 2050 building performance standard.



Scott Tallon Walker Architects

www.stwarchitects.com

Dublin
19 Merrion Square, Dublin 2,
D02 VR80, Ireland
Tel: +353 (1) 669 3000
Email: mail@stwarchitects.com

London
10 Cromwell Place, London,
SW7 2JN, UK
Tel: +44 (207) 589 4949
Email: london@stwarchitects.com

Cork
72 South Mall, Cork,
T12 VX9A, Ireland
Tel: +353 (21) 432 0744
Email: cork@stwarchitects.com

Galway
Odeon House, 7 Eyre Square,
Galway, H91 PX9K, Ireland
Tel: +353 (91) 56 4881
Email: galway@stwarchitects.com