



**Our
Greening
Strategy:**
Building a
Sustainable
Future
Together

**clúid
housing**

Clúid's vision is a society where everyone has a great place to live.

With this vision comes the responsibility of creating sustainable homes and communities, reducing the environmental impact of our organisation and contributing to Ireland's emission reduction targets.

Our Greening Strategy sets out our commitment to playing a part in this vital Climate Action work.

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Clúid's Greening Strategy

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Introduction

Context

We have now entered what will be a crucial decade of delivery for climate action. In the wake of the Paris Agreement and the declaration of a global climate and biodiversity crisis, there is a need for unprecedented environmental action by governments, organisations and citizens.

The Irish government published its Climate Action Plan in 2019, setting out how it aims to meet its share of the EU's greenhouse gas (GHG) emissions reduction target. Ireland's goal is to reduce national emissions to 30% below 2005 levels by 2030 and to aim for net-zero emissions by 2050.

Homes are responsible for approximately 25% of Ireland's current energy-related GHG emissions.¹ Emissions from the average home in Ireland are 58% more than the EU average, due to our reliance on oil and gas for heating.² Reducing the emissions from homes is therefore at the heart of a clean energy transition in Ireland.

Since late 2019, building regulations require all new homes in Ireland to be built to Nearly Zero Energy Building (NZEB) standards³, i.e. a Building Energy Rating (BER) of A2. Ireland's Climate Action Plan also focusses on the need for a large scale, deep energy retrofit of existing building stock and identifies construction waste as a key priority area for the building sector to address.

^{1/2} SEAI, Energy in the Residential Sector, 2018 Report

³ Nearly Zero Energy Buildings' means a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.

In addition, the Plan recognises that one of Ireland's fastest growing sources of GHG emissions is from transport, due to our dispersed settlement pattern and low population density, which contributes to a high proportion of journeys being made by car because there is no public transport or active travel substitute. There is, therefore, a clear link between the planning of housing developments and the move towards sustainable transport.

Clúid Housing welcomes the government's Climate Action Plan and acknowledges the contribution that we can make in reducing Ireland's climate impact. Our new Greening Strategy and accompanying three-year action plan are a direct response to the call for greater climate action. Clúid Housing currently owns or manages over 8,000 properties that over 20,000 people call home, and we are working towards our goal of delivering 3,000 new homes by the end of 2022.

As a housing association, we recognise that we are in a unique position to influence not only the environmental impacts of our direct operations but also those of our contractors, partners, suppliers and residents. We have a responsibility and an opportunity to create homes and communities that are fit for a low carbon future.

↓ 30%

Ireland's goal is to reduce national emissions to 30% below 2005 levels by 2030 and to aim for net-zero emissions by 2050.

 25%

Homes are responsible for approximately 25% of Ireland's current energy-related GHG emissions.¹

+ 58%

Emissions from the average home in Ireland are 58% more than the EU average, due to our reliance on oil and gas for heating.²



59

We are committed to developing more ambitious plans for protecting and enhancing local biodiversity on our schemes, in collaboration with our residents.

Clúid's Greening Strategy

Purpose of the strategy

The purpose of this Greening Strategy is to set a clear direction for Clúid over the next decade as we work to reduce our environmental impact, contribute to Ireland's emission reduction targets, and help create a sustainable future for all.



Our Clúid Greening Stamp reflects the three Pillars of our Greening Strategy, Build Green, Live Green and Be Green. Together, these pillars address our key environmental risks and opportunities, and the issues that matter most to our stakeholders.

The Strategy outlines what we will do to 'green' our operations and our properties and encourage our employees and residents to adopt more environmentally conscious behaviours. It sets a long-term vision for Clúid, underpinned by ambitious goals that describe where we want to get to by 2030.

The Strategy is supported by an initial three-year action plan, which defines the concrete steps we will take to put us on the right path towards 2030. Subsequent action plans will be developed in future years.

The aims of the Strategy are fully aligned with our overall strategic objectives as set out in our Corporate Strategy, Building Focus: 2019-2022. It also aligns with our Design Guide 2021-2025.

Supporting the Sustainable Development Goals

Through our Greening Strategy we aim to make a meaningful contribution to the United Nations Sustainable Development Goals (SDGs). These goals provide a shared, global blueprint for a sustainable future by 2030. For Clúid, the SDGs provide the 'big picture' framework for our strategy and guide its overall direction.

The specific Sustainable Development Goals the Strategy will contribute to are:

3 GOOD HEALTH AND WELL-BEING



7 AFFORDABLE AND CLEAN ENERGY



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



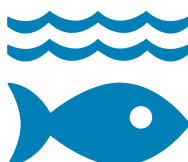
11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



14 LIFE BELOW WATER



15 LIFE ON LAND



17 PARTNERSHIPS FOR THE GOALS



Our 2030 Greening Strategy Vision: Homes that don't cost the earth

We want every Clúid resident to live in a low-carbon, affordable home, in a place that promotes positive wellbeing and sustainable living.

Our Focus Areas

Our Greening Strategy is based around three key pillars: Build Green, Live Green, and Be Green. Together these pillars address our key environmental risks and opportunities and the issues that matter most to our stakeholders.

We are taking a holistic approach, considering our impacts across our entire value chain – our direct operations, our properties, the goods and services we procure through our supply chain, and the impacts stemming from our residents' use of their homes.

We have set an overarching 2030 goal for each pillar and we will define more detailed targets in due course, based on what the science tells us is needed to deliver a low-carbon, sustainable future.





I Build Green

2030 Goal:

For all new Clúid homes to be net zero operational carbon¹ and have 40% less embodied carbon² and for existing homes to be retrofitted to a minimum BER B2 rating.

Green construction

- » We recognise the potential Clúid has to influence the construction sector through our engagement with architects, developers and builders. We commit to deepening our understanding of circular construction, embodied carbon and other sustainable practices with a view to integrating this thinking into the specifications and standards we set for our new homes.
- » As part of this, we will seek to align with the criteria set out in the leading sustainable housing certification schemes currently on the market. We will develop our approach to managing climate risks (e.g. the increase in flood risk due to more extreme weather events), so that we can future-proof all new housing schemes to be resilient to the impacts of climate change. We will also look for opportunities to collaborate and partner with industry players to advance the application of sustainable construction methods in Ireland.

Green retrofit

- » We commit to establishing a targeted programme of deep energy efficiency retrofits for all existing Clúid homes. In parallel, we will seek to increase access to, and the use of, renewable energy to power our homes. This work will build upon and accelerate the work we are already doing across our portfolio. It will include expanding our use of smart energy technologies to enable our residents to manage their energy use more effectively, helping to reduce energy costs and fuel poverty. It will also potentially involve the use of innovative financial solutions to fund the retrofit programme at scale.
- » Beyond the properties themselves, we will look at our schemes and estates to find opportunities to make them greener, for example, by making the lighting in communal areas more energy efficient and by working with our maintenance team to identify ways to reduce environmental impacts from our maintenance activities.
- » In this work we will engage our supply chain, including the many contractors who carry out work on Clúid's behalf, so that they are changing their practices in line with our environmental objectives.

Green infrastructure

- » We recognise the multiple benefits green infrastructure brings in terms of supporting climate resilience in our communities, enhancing biodiversity, creating more attractive places to live, and improving the quality of life and wellbeing of our residents. We commit to incorporating green infrastructure considerations into the design of new housing schemes and the renovation of existing schemes, and we will use the latest thinking to understand how best to do this at scale.

1 The World Green Building Council's definition of a net zero carbon building is a building that is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources.

2 Versus the current baseline, which is to be measured as part of Action Plan.

What we're already doing to Build Green

- » We were early adopters of the NZEB standard. In September 2020, we completed one of Ireland's largest sustainable social housing developments in Derreen, Killarney, Co Kerry. Built using Thermohouse's modular Low Energy Building System, the 61 NZEB compliant homes were 60% faster to build compared to traditional methods, and have superior levels of airtightness, considerably reducing their heating costs.
- » We have made significant investments in retrofitting many of our existing properties, installing insulation, LED lighting, new more efficient heating systems, and new doors and windows. For example, a €23 million regeneration project of St. Marys Mansions in North East Inner City Dublin, completed in September 2020, saw all apartments retrofitted to an A3 BER rating, with 200 photovoltaic panels installed.
- » We also completed the first project in the country to secure funding under the SEAI deep retrofit pilot programme scheme at Ernedale Heights in Ballyshannon, which resulted in homes upgraded from an F/G BER rating to an A3 BER rating.
- » We are currently piloting Climote™ remote heating controls in 2,200 of our properties, and intend to install more. Climote allows residents to control their home heating from anywhere, through a smartphone app, helping them to use energy more efficiently and reduce their energy bills.
- » We have been working to improve green spaces in our communities and to support our residents to do the same. We have added more trees and plants and put in place biodiversity enhancements at several of our housing schemes.





Our €23 million investment in the regeneration of St Mary's Mansions in North Inner-City Dublin saw all apartments brought up to a BER A3 rating.



2 Live Green

2030 Goal:

For all Clúid residents to be empowered to live more sustainable lives.

Green Residents

- » We recognise that the environmental impacts from how our residents use their homes and how they travel to and from their homes is a significant contributor to Clúid's overall environmental footprint. While we cannot dictate our residents' behaviour, we are in a position to influence it and promote positive change.
- » Utilising our resident advisory groups and established community initiatives, as well as building on our existing pre-tenancy programme and regular resident activities and communications, we commit to developing a comprehensive 'Green Resident' programme. The purpose is to encourage, support and drive environmental behaviour change among our 20,000+ residents. We have a great opportunity to inspire and influence our residents through our resident engagement activities and to involve them in green activities, beyond their homes.
- » We also commit to looking at ways to promote a modal shift from car use to cycling and public transport, bearing in mind the varying degree of accessibility to public transport services in different locations.

Green Facilities & Services

- » Linked to resident engagement, we understand that it is essential to make it as easy as possible for our residents to make the right choices, and that means having the right infrastructure and services in place. We commit to seeking out opportunities to improve the facilities available to our residents (e.g. recycling facilities), in order to make it easier for them to adopt environmentally friendly behaviours, and to exploring the potential for offering services in partnership with environmental businesses, social enterprises or charities (e.g. a bulky waste recycling service; a car club service like GoCar).

Green Spaces

- » Aligned with our commitment to integrate green infrastructure into the design of our housing schemes, we are also committed to engaging, informing and supporting our residents on biodiversity and conservation initiatives. As well as the environmental benefits from such initiatives, the social benefits in terms of enhanced wellbeing are well documented.
- » There are some good examples of residents' associations and resident groups in some of our communities caring for communal green spaces, but it is limited. We intend to develop more ambitious plans for protecting and enhancing local biodiversity. This may involve working in partnership with biodiversity experts and developing plans such as community gardens or allotments and for 're-wilding' green areas.

What we're already doing to Live Green

- » We have run resident workshops in a number of our communities to engage residents on waste reduction; explaining the benefits and encouraging them to 'reduce, reuse, recycle'.
- » In February 2020, we established a National Resident Advisory Group (NRAG) consisting of 18 residents from all over Ireland. In January 2021, we established the Clann Resident Advisory Group, consisting of 17 residents from our Clann age-friendly housing service. Together, these two advisory groups represent our full resident population and often partner on some of our initiatives. Through this process of engagement and partnership, environmental sustainability was a common discourse among members and led to the creation of the Sustainability sub-group. These resident groups play an advisory role and work in partnership with Clúid and its Board, to increase resident engagement and help improve the services provided to all residents. We consult with them on the effectiveness of existing and proposed services to residents and on the best ways of involving residents on a range of issues, including environmental issues. We fundamentally believe that initiatives created by residents and promoted by residents will have greater impact in communities and ensure a collective buy-in from residents.
- » There are a growing number of environmentally engaged residents in our communities around the country. Examples of some of their projects include:
 - » Residents of Oriel Lodge in Cavan linking in with their wider community on initiatives such as Belturbet Zero Waste.
 - » Residents of Mill Court in Cork have been attending workshops on waste management and reducing their food waste with the Environmental Protection Agency's (EPA) Stop Food Waste Programme. They have also increased their local biodiversity – with our support, a mix of native and evergreen trees were planted and a wormery was established. A Trug with a variety of herbs was planted which residents are welcome to pick and use. There are further plans to install a bug hotel, solar fountain and much more.
 - » Residents in Esmonde Gardens in Wexford have been working to improve the communal green spaces there. They designed a series of gardens offering an accessible, multi-functional space and multisensory experience for all residents. They built a large insect hotel to block in an area that was a target for fly tipping, and they use the area behind the insect hotel as a composting area for the whole estate. Over a two-year period, they were able to get enough compost to install a raised flower bed along a boundary wall to improve biodiversity and appearance.
- » Going forward we hope to support a Green Champion programme to recognise and support residents' environmental work and to create an opportunity for residents to learn from each other.

We are excited for the opportunity our Greening Strategy gives us to partner with residents on sustainability projects across their schemes. Consulting with our residents on the implementation of our Green Goals will ensure their greater success.



3 Be Green

2030 Goal:

For Clúid's own operations to be net zero emissions.

Green Office

» While the environmental impact of our offices is relatively small compared to that of our property portfolio, we are committed to reducing our impacts to a minimum. This means taking steps to reduce our energy and water consumption and our waste as much as possible, and looking into the possibility of using carbon offsets to balance out our remaining 'unavoidable' emissions. We already have some green office basics in place, but we know we can do more. We will conduct an internal audit to baseline our current impacts and identify areas for improvement. We will integrate this thinking into our three-year Action Plan, supported by our Green Team.

Green Behaviours

- » We realise that when it comes to being green, changing hearts and minds is as important as making structural changes. We want everyone at Clúid to be able to 'walk the talk', so we will take steps to inform, engage and incentivise our people to make environmentally conscious choices, both at work and at home. This will include doing more to encourage and facilitate sustainable commuting and enabling people to work in environmentally conscious ways. It will also involve embedding a culture of environmental leadership within Clúid, championed by our Executive Team and our Green Team.

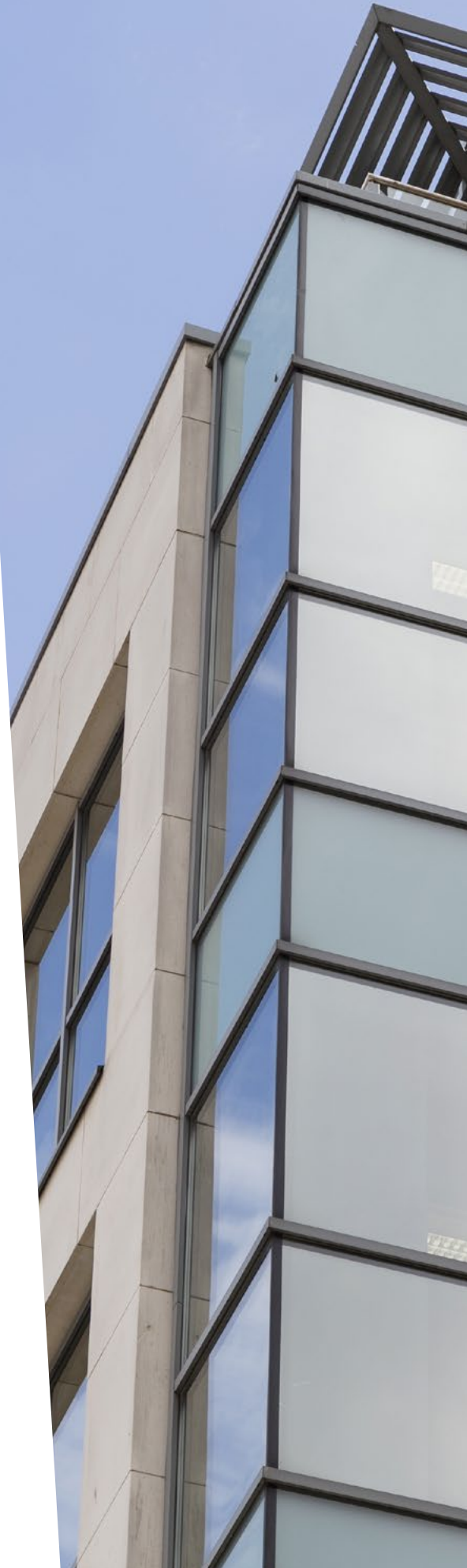
Green Transport

- » Our maintenance team operate a fleet of 26 vans, which travel to and from our housing schemes, responding to resident call-outs and implementing a rolling programme of maintenance and repairs. We recognise that there are changes we can make to improve the efficiency of how our fleet operates – both simple changes such as better route planning and more fuel-efficient driving, to more fundamental changes such as switching to electric vehicles. We are committed to reviewing the business case for electric vehicles in the long-term and working to create efficiencies in the short to medium term.

What we're already doing to Be Green

- » We purchase 100% green electricity to power our office buildings.
- » In each of our offices we have installed recycling bins.
- » We've introduced the Microsoft Teams software programme to enable virtual team collaboration, virtual meetings and remote working.
- » We have implemented software platforms which significantly reduced paper use.
- » We actively promote home working for many roles.
- » We promote the Bike to Work Scheme and Public Transport Pass.
- » There is smart lighting and heating in our Dublin office.
- » We have eliminated single use plastics, where possible, with our office catering suppliers.

Our Greening Strategy looks at all aspects of our organisation, from how we work, to how we build, to how we manage our properties and support our resident communities.



The logo for Clúid Housing is displayed on a white rectangular sign mounted on a building's facade. The sign is positioned above a large window. The building's exterior features light-colored stone or concrete panels and a grid of windows. A metal structure with horizontal slats is visible above the sign. The sky is blue with scattered white clouds.

clúid
housing

Cross-cutting enablers

There are several key enablers that underpin and crosscut the three pillars of our Strategy. These are fundamental to delivering the Strategy and achieving our 2030 Goals.

Green Procurement

Our approach to procurement will be a critical driver of change across all areas of our Greening Strategy. The specifications and criteria that we include in our tenders will set the bar for what we expect from those we buy goods and services from. By setting high environmental standards, Clúid has the potential to influence change across the construction sector and stimulate the demand for more sustainable products and services.

The Irish government has recently issued Green Public Procurement Guidance, and we will follow these and other best practice guidelines to develop our green procurement policy and approach, as part of our Greening Strategy.

Partnerships

Many of the goals and objectives we want to achieve as part of our Greening Strategy will require us to partner and collaborate with others. This includes partnering with State Bodies such as the Sustainable Energy Authority of Ireland (SEAI), with key suppliers and business partners, with our residents, and with environmental experts to pilot new approaches or develop new initiatives. Clúid is committed to working in partnership because we believe it will accelerate the pace of change, add our efforts and voice to other similar minded organisations, and increase the impact we can have.

Innovation

We recognise that the goals we have set for ourselves cannot be achieved by taking a business-as-usual approach. We need to find new and innovative ways of doing things and embrace new technologies that will help deliver environmental targets and behavioural change. Clúid will actively trial new approaches and we will seek out opportunities to integrate technologies that will help us, our residents and employees, and our industry at large to reduce its impact.

Leadership

As the largest Approved Housing Body (AHB) in Ireland and a key member of the Housing Alliance, Clúid has a responsibility and an opportunity to demonstrate leadership in driving the environmental agenda. We aim to do this by setting ambitious goals for ourselves, using our voice to raise awareness of the issues, convene debate and advocate for change.

Finance

Many of the actions to deliver our Greening Strategy will require financial investment by Clúid. While most of our funding is currently provided by the Housing Finance Agency (HFA), we are exploring options to diversify our funding sources. Investors and banks are increasingly interested in climate-aligned and sustainable investment opportunities, and as part of this Strategy we are committed to integrating the requirements of the leading certification systems on the market into our thinking. Doing so will hopefully help us in the future to attract capital from finance providers seeking to invest their money in organisations and infrastructure that deliver positive social and environmental impact.

Governance

Responsibility for the delivery of our Greening Strategy sits with our Chief Executive and Executive Team. They will be supported by our Energy and Environmental Manager and in-house Green Team. We will measure our progress on an annual basis to ensure we stay on track for achieving our 2030 goals.

Green Team

We have established a Green Team, made up of representatives from all Clúid departments, to support the implementation of our Greening Strategy. The role of the Green Team is to:

- » Support the implementation of the Strategy and Action Plan.
- » Lead the delivery of the 'green office' and 'green behaviours' actions under our 'Be Green' pillar.
- » Help to ensure joined-up thinking and action across Clúid.
- » Be ambassadors for our environmental work internally and externally.

Measuring Progress

A key part of our Action Plan in the first year of delivering our Greening Strategy will be to gather baseline measures so that we can set SMART¹ objectives and interim targets to put us on the path to achieving our 2030 goals. We will then measure our progress against these objectives and targets on a periodic basis and refine them as needed.

¹ SMART = Specific, Measurable, Achievable, Relevant, and Time-Oriented.


Action Plan


Our initial three-year action plan was developed with the help of employees from across Clúid's key departments. They will collaborate closely in the coming years to deliver the plan; sharing knowledge, ideas and information. They will be supported by our Green Team, who will be instrumental in championing and coordinating action.


The tables on the following pages provide a high-level summary of the objectives we aim to achieve under each pillar of the plan. There are also some cross-cutting enabling objectives that are relevant to all three pillars. Each objective is underpinned by a set of step-by-step actions, and each action is owned by the relevant team(s) within Clúid.

As mentioned already, year one of the action plan will be focused on gathering information and data, establishing baseline measures and setting targets. In addition, we will implement some 'quick-win' actions to reduce our environmental impacts, particularly within our own operations.

We will also explore opportunities to develop or join 'flagship initiatives', working in partnership with others to advance our thinking and practice. Years two and three will see us build on these foundations and make tangible progress in all areas. At the end of year three, we will review our progress and formulate the next phase of the plan.

Build Green 			
Objective	Year 1	Year 2	Year 3
Green construction			
Improve the environmental performance of our new build homes and construction sites <i>(e.g. by adopting the IGBC's Home Performance Index and integrating its requirements into Clúid's Design Guide).</i>	√	√	√
Green retrofit			
Maximise the energy performance of existing Clúid homes to improve their energy rating <i>(e.g. by modelling a pathway to bring all Clúid homes to a minimum BER B2 rating by 2030).</i>	√	√	√
Develop a structured approach to deep retrofitting and maintenance of existing Clúid homes <i>(e.g. by reviewing our current approach to maintenance and identifying areas for 'quick-win' improvements).</i>	√	√	√
Green infrastructure			
Maximise the potential of our homes and schemes to work with rather than against nature and to make use of the services/ functions that nature can provide <i>(e.g. by developing guidelines on green infrastructure and integrating them into Clúid's Design Guide).</i>		√	√

Live Green 			
Objective	Year 1	Year 2	Year 3
Green Residents			
To work in partnership with NRAG and CRAG and other resident groups to create a green resident programme to deliver on our Live Green Objectives.	√	√	√
Identify and support opportunities for residents to develop and increase awareness and enable "Live Green".	√	√	
Enhance resident engagement on environmental issues via simple and consistent communications.	√	√	√
Green facilities/ services			
Support and encourage sustainable transport options for residents.		√	√
Support and encourage residents to reduce, reuse and recycle.	√	√	√
Support and encourage residents to avail of green services that will reduce their costs, as well as have a positive environmental benefit.		√	√
Green Spaces			
Increase the size and biodiversity quality of green spaces at Clúid schemes.		√	√
Inspire our local communities to connect with nature and improve the biodiversity of their communal areas (e.g. explore options to develop projects on the re-wilding of green areas or on bee pollination etc.).		√	√

Be Green 			
Objective	Year 1	Year 2	Year 3
Green office			
Reduce energy consumption and maximise energy savings through energy efficiency measures.	√	√	
Switch to renewable energy sources. <i>(e.g. investigate the potential for on-site renewables)</i>		√	√
Reduce water consumption and maximise water savings through water efficiency measures.		√	√
Reduce waste and maximise reuse and recycling through embedding new practices and behaviours.		√	√
Explore the option to use carbon offsetting as a transition step on our path towards net zero emissions.		√	√
Ensure executive level accountability for the sustainability performance of Clúid's own operations.	√	√	√
Increase awareness of environmental sustainability across Clúid offices through effective communications.	√	√	√
Green behaviours			
Provide the tools and resources to enable employees to contribute to workplace sustainability.		√	√
Support and encourage employees to choose sustainable travel options.	√	√	
Foster a culture of environmental leadership within Clúid <i>(e.g. through an active campaign of events and training; through empowering the Green Team).</i>		√	√
Green transport			
Reduce the environmental impact of our vehicle fleet.	√	√	√

Cross-cutting Enablers			
Action	Year 1	Year 2	Year 3
Develop, and continue to develop, our internal knowledge and capacity to be leaders in building green, living green and being green through partnerships and training.	√	√	√
Embed sustainability criteria into commercial contract requirements for our suppliers, and as part of that process continue to review and enhance those criteria.	√	√	√
Improve the financial sustainability of Clúid by leveraging our environmental credentials.		√	√
Foster innovation and use technology to continue to improve the environmental performance of Clúid homes.	√	√	√

“Environmental action can be challenging to put into practice. Working alongside Clúid, we feel we can raise awareness and bring about broad positive change, and not just make our communities great places to live but more sustainable and greener too.”

Deborah (Clúid resident and member of NRAG).

In developing our Greening Strategy, we conducted extensive research and engagement. We reviewed relevant global and industry trends, policy and regulatory shifts, and best practice across our sector. We consulted with each of the departments within Clúid as well as a range of external stakeholders. The insights we gleaned have shaped our final Strategy and guided our Action Plan. We have summarised those insights below.



The Thinking Behind the Strategy

Addressing key trends

Historically, the building sector has focused on energy efficiency as the key way to reduce the environmental impact of buildings. Energy efficiency will continue to be central in delivering environmentally sustainable housing, but we recognise that the building sector, and therefore Clúid's Greening Strategy, needs to embrace a number of important trends over the coming decade.

1. Embodied carbon

As operational carbon – the carbon emitted through a building's use or operation – continues to improve thanks to tighter regulation and smart technologies, the building sector's focus must shift to embodied carbon – the carbon embodied in a building's fabric. This includes carbon emitted from the manufacture, transport and construction of building materials, together with end-of-life emissions (i.e. emissions resulting from demolition/ deconstruction).

Embodied carbon accounts for approximately 34% of whole life carbon in an NZEB compliant semi-detached house in Ireland,¹ while in some types of residential apartment blocks it can be as high as 51%.² The World Green Building Council's vision is for all new buildings and renovations to have at least 40% less embodied carbon with significant upfront carbon reduction by 2030, and all new buildings to be net-zero operational carbon. By 2050, they advocate net-zero embodied carbon *and* net zero operational carbon³.

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- 1 'Sustainability and Embodied Energy in Buildings', Dr Jamie Goggins, NUIG, 2012
 - 2 Sturgis Associates cited in 'Towards a Circular Economy in Construction', Irish Green Building Council, June 2018.
 - 3 'Bringing Embodied Carbon Upfront: Coordinated action for the building and construction sector to tackle embodied carbon', World Green Business Council, September 2019.
 - 4 'Towards a Circular Economy in Construction', Irish Green Building Council, June 2018.
 - 5 Netherlands example: <https://www.uia-initiative.eu/en/uia-cities/kerkrade>

2. Circular economy

The term circular economy implies, at its simplest, no waste. In a circular economy, products and materials continue to be reused, remanufactured, or recycled when they have reached the end of their 'first' life. These materials and products are not viewed as waste but as a valuable resource.

Design is key to enabling products and buildings to become more circular. Designing for disassembly, designing for standardisation and modularity, selecting materials for their durability, and avoiding materials that hinder reuse and recycling opportunities (e.g. composite materials or hazardous materials) are all important considerations. There is also the potential to adopt circular business models, for example, leasing models for lighting or carpets, where the onus is on the provider to replace the product periodically as part of the service they provide, and to take back the old product for refurbishment or recycling.⁴

Innovative pilot projects, in countries like Denmark and the Netherlands,⁵ are showing that circular housing is possible. They offer useful insights for Clúid and the sector to learn from.



Embodied carbon accounts for approximately 34% of whole life carbon in an NZEB compliant semi-detached house in Ireland.¹



Some types of residential apartment blocks embodied carbon accounts can be as high as 51%.²

3. Green infrastructure

Green infrastructure involves harnessing nature to provide ecosystem services such as biodiversity management, effective drainage and flood prevention, water purification, air quality control, along with climate mitigation and adaptation. In the case of housing schemes, green infrastructure can be 'designed-in' to new developments or retrofitted as part of a re-design of an existing scheme.

Examples of green infrastructure include:

- » Rainwater gardens – areas of planting that help contain and manage rainwater runoff;
- » Green roofs – rooftop planting with layers of soil that help with drainage and provide a natural habitat for insects and birds;
- » Water butts – containers designed to catch and store rainwater from roofs and other surfaces, which can then be used to water plants or green areas.

Leading housing developers are embracing green infrastructure to create communities that are resilient to climate impacts (e.g. flash flooding), that provide a haven for biodiversity, and that provide green spaces to enhance people's health and wellbeing. This includes planting common areas in ways which require minimal maintenance and are self-sustaining and renewing.

4. Value Chain Approach

In the past, organisations have typically focused on the carbon footprint of their direct operations when setting carbon reduction targets. Today, best practice requires an entire value chain approach, taking account of the carbon impacts throughout the entire supply chain, as well as in the customer/consumer use phase. In many cases, these impacts contribute a much bigger portion of the carbon footprint than those from operational impacts. This is certainly the case for Clúid, where, similar to many housing associations, the relative impact of its operations is small compared to the impact of its construction sector supply chain and the collective impact of the 20,000+ residents living in and travelling to and from its housing schemes.

As well as taking into account impacts across the value chain, carbon reduction targets need to be grounded in science and reflect the necessity to limit global warming to 1.5°C.¹ Clúid's Greening Strategy needs to target reductions in emissions throughout its entire value chain, creating a business model designed for a 1.5°C world.

5. Low Carbon Transport

For housing associations like Clúid, one of the biggest environmental impacts they can influence is the behaviour of residents travelling to and from their homes. Globally, sustainable property development trends are focusing on more compact, connected development, located close to public transport networks. Considering access to public transport during the development phase of a housing scheme can reduce the need for car ownership, which in turn reduces resource consumption. Adequate secure storage for cycling and integrating electric vehicle charging points, in both new and existing properties, can also facilitate the shift to low carbon transport methods.

6. Sustainable Finance

Sustainability is increasingly drawing the attention of finance providers, and there is growing demand for investment opportunities that deliver positive social and environmental impact. Social housing associations have tremendous potential to access this finance through sustainable bonds and loans, provided the relevant social and environmental criteria are met. As the market matures, there may also be a reduction in the cost of finance thanks to the high level of demand from investors or lenders that are eager to provide finance in line with their values and demonstrate their sustainability credentials.

In parallel with this development, there are a number of housing labels coming to market that are being used as a certification tool for investors. These include the Irish Green Building Council's Home Performance Index,² and the Certified Sustainable Housing Label³ that has been developed especially for social housing organisations to facilitate them raising corporate level finance.

1 The Science Based Targets Initiative (SBTI) defines targets as "science-based" if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Climate Agreement – to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.

2 www.homeperformanceindex.ie

3 www.sustainable-housing.eu

Aligning with policy changes

The key trends mentioned will be reflected in forthcoming changes in the policy and regulatory landscape, both in Ireland and internationally. For example, in Ireland, the Part L Building Regulations that implement the requirements of the Energy Performance of Buildings Directive for Nearly Zero Energy Buildings (NZEB), support a shift in focus from energy efficiency and carbon emissions at the operational phase of buildings, to the other life stages of a building (e.g. raw materials and product manufacture stage, construction phase and end-of-life/de-construction phase).

The NZEB requirements, together with Ireland's National Climate Mitigation Plan, National Climate Adaptation Plan, and Climate Action Plan specify important changes that will happen in the next few years including:

- » All new housing must be built to BER A2 level with effect from mid-2019.
- » An effective ban on the installation of oil and gas boilers in new dwellings by 2022 (for oil) and 2025 (for gas) respectively.
- » Retrofit of 500,000 homes to BER B2 level by 2030.
- » The establishment of a new delivery body to ensure the effectiveness and efficiency of the delivery system for retrofits, with a focus on area-based clustering/aggregation.
- » The installation of 600,000 heat pumps by 2030, with 400,000 to be in existing buildings.
- » Construction waste prevention to be a key policy action.
- » New design guides specified for Sustainable Urban Drainage Systems (SUDS) and green infrastructure.
- » Other policy objectives around the promotion of compact, connected and sustainable housing developments and the expansion of walking, cycling and public transport to promote a modal transport shift.

The Climate Action and Low Carbon Development (Amendment) Bill (2021) commits Ireland, in law, to move to a climate resilient, biodiversity rich and climate neutral economy by 2050.

The Irish Government is also developing its own Circular Economy Policy and Action Plan which is due out in 2021.

Meanwhile in Europe, the European Commission is piloting Level(s) – a reporting framework for sustainable buildings, which will bring circular economy indicators such as waste and Life Cycle Assessment (LCA) into the mainstream over the next few years.

Clúid's Greening Strategy needs to align with all of these changes to ensure it is in compliance with existing regulation and staying ahead of where new regulation and policy is going.

Responding to our stakeholders

To ensure that our Strategy is focused on the environmental issues that matter to Clúid and its stakeholders, we conducted a 'materiality assessment'. This involved consulting with a range of internal and external stakeholders (see Figure 1) and asking them to rate the importance of a list of environmental issues.

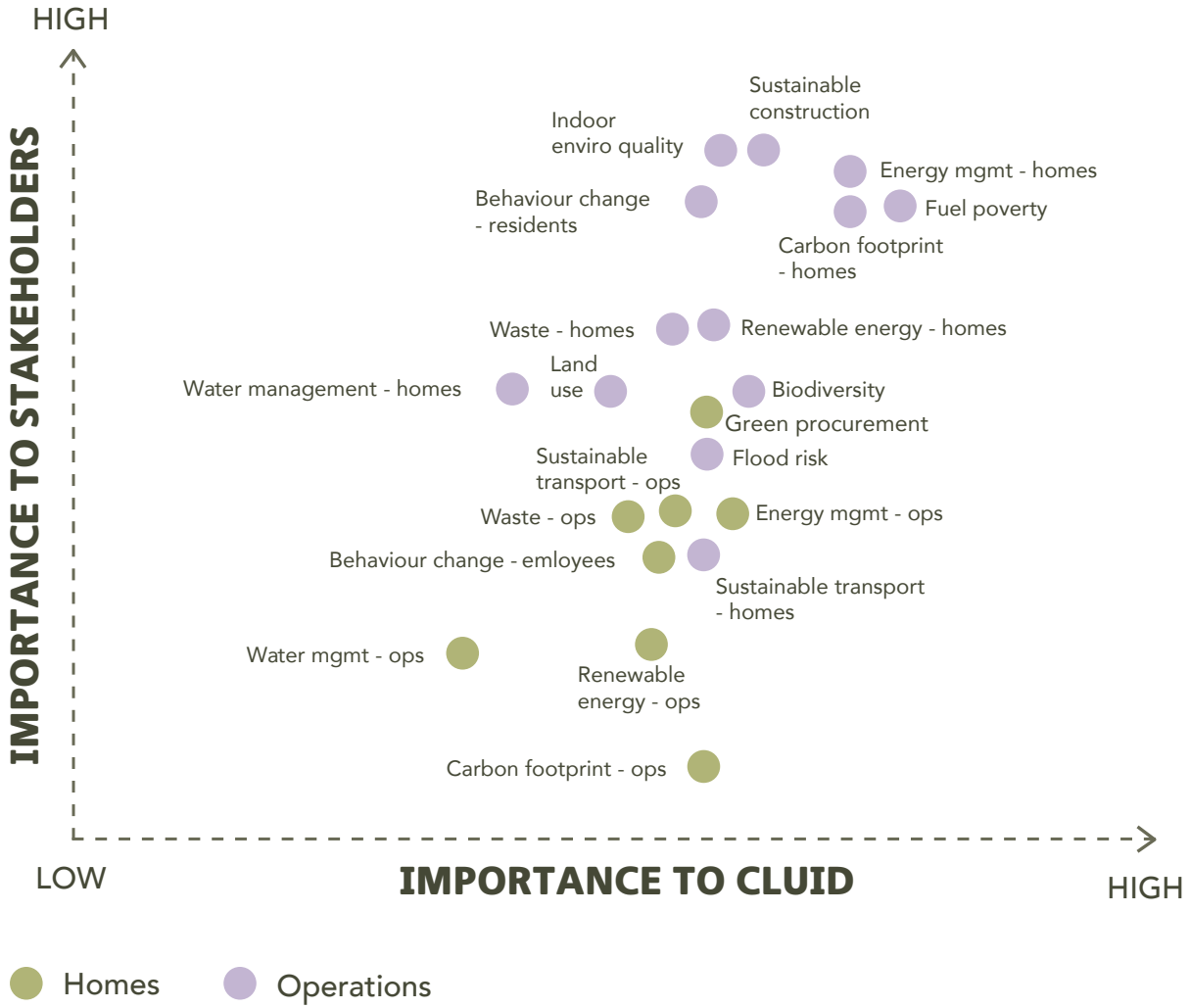
The list was informed by our trends research, a best practice review of our peers, and by reviewing a variety of sustainability frameworks and housing sector certifications (e.g. GRI Standards, SASB Materiality Maps, the UN Sustainable Development Goals, the IGBC's Home Performance Index). The matrix on the following page shows the outcome of the assessment (see Figure 2).

The issues that emerged as the highest priority relate to the environmental impact of our properties and housing schemes and to the opportunity we have to support our residents to live more sustainable lives. While our operational impacts were also seen as important, these were viewed as a lower priority because, relative to other impacts, the impact of our operations is considerably smaller.

Figure 1: stakeholders we engaged

Internal	External
CEO	Local Authorities
Policy and Communications team	Developers
Property Services team	Housing Finance Agency
New Business team	Key Suppliers
Finance and Treasury team	Irish Green Building Council
Housing Services team	Clúid Residents
Green Team	

Figure 2: our material issues

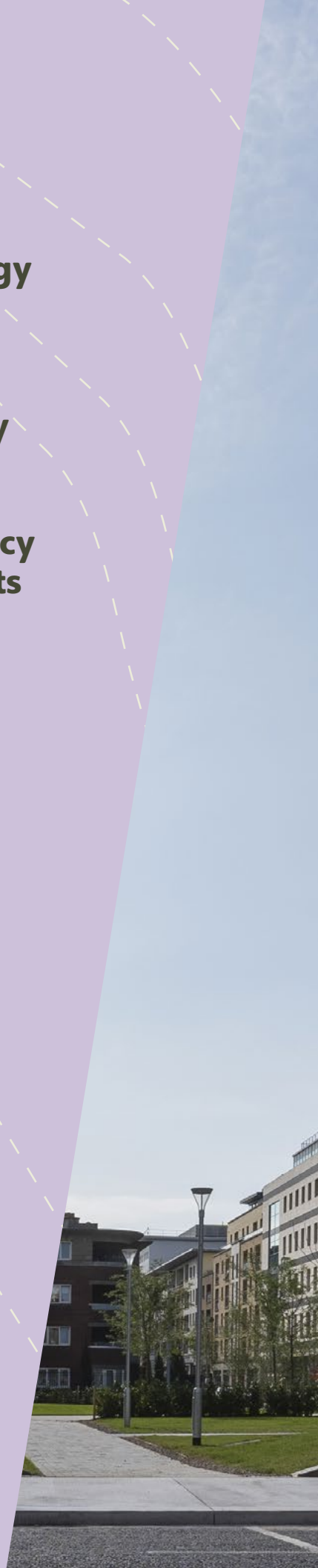


“Building and living sustainably is an inevitable and pressing necessity. We have the benefit of modern technology and the knowledge that we cannot endlessly deplete natural resources or increase environmental burden. Mitigation of the climate and biodiversity crisis is sadly where we are.

I wish for Clúid to take on board the legacy of this moment and to work with residents to create sustainable communities that preserve the things that matter most.”

“This work would also help reduce the stigma associated with those who live in social housing, and show that we can contribute to our communities and not be perceived as a drain on resources.”

Niamh (Clúid resident and member of NRAG).



Building a Sustainable Future Together



clúid housing

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