Sectoral Emissions Ceilings

Q4: What do you view as the key actions required to ensure the emission reduction targets set out in the Sectoral Emission Ceilings are met?

[redacted]Irish Green Building Council:

A number of actions are required to ensure the emission reduction targets set out in the sectoral emission ceilings are met.

Operational emissions in the built environment

In the residential sector, homeowners and small landlords require further support (financial and technical) in their renovation journey. Most of them don't know what to do or where to start when it comes to energy renovation. It is key to give them access to independent professional advice, including for phased renovation. This could be done through the introduction of Buidling Renovation Passport and an extension of SEAI's List of Registered Technical Advisors. They also need access to low-cost finance and those without the means, to free upgrade. Furthermore, the cost of energy renovation could be further reduced through lower taxation of retrofit products and materials.

The performance gap also needs to be addressed as CSO figures currently show little correlation between BER rating and gas/electricity usage which is more influenced by home size and type. This requires among others, significant upskilling of building professionals and construction workers.

Additional actions are required to speed up the decarbonisation of non-residential stock by encouraging disclosure of energy use and in particular, Government, investors and developers need to ask for energy intensity performance and per capita targets to be met rather than asset ratings such as the BER.

For both residential and non-residential buildings, Minimum Energy Performance Standards (MEPS) should be introduced by 2025 (and signalled from 2023) and tighten up to 2050 to reach net zero by then. To avoid lock-ins MEPS must be supported by the introduction of Building Renovation Passport and introduce alongside strong technical and financial support.

Decarbonisation of the grid means that electrification of homes and buildings will deliver reductions in carbon but the roll out of district heating based on waste heat and fossil free fuel will need to be a significant part of the solution. More specifically, the roll out of district heating in areas where there are available sources of waste or fossil free heat must be speed up and developments in these areas must be designed to connect to these grids.

Finally, we need to move beyond the BER as the sole indicator for carbon emissions from homes and buildings to look at indicators such as size of home, compact form factor (i.e., heat loss surface area), water efficiency, embodied carbon, etc.

For further information on these recommendations, please see "Built Environment" section.

Industry

Tackling embodied carbon of construction will require a three-prong approach, firstly prioritising projects within the National Development Plan (NDP) based on environmental and social needs to

2030, secondly maximizing existing buildings stock, by bringing Ireland's very high levels of vacant, derelict and suboptimal use of space back into more intensive use across the country and finally a radical strategy of reducing the carbon intensity of the remaining construction by a minimum of 60%.

These recommendations are based on a report commissioned by the IGBC to UCD which shows that without addressing embodied emissions in the built environment, the construction and built environment sector cannot halve its emissions by 2030 – Full report available at: https://www.igbc.ie/wp-content/uploads/2022/05/22-WLC-IGBC-Build-Green-Now-P1-and-P2.pdf.

Reductions in carbon intensity will be required not only per square meter but per capita reducing unnecessary floor areas, and this will be achieved initially by leaner design driven by clear signalling of intent by government on regulations and disclosure. Whole life carbon in the built environment is already regulated in a number of EU countries, including France, the Netherlands and the Nordic. To support the decarbonisation of the sector, it must be accompanied by stronger support for innovation and low carbon materials (e.g., trough public procurement and grants), as well as a review of building regulations which currently have a negative impact on renovation, i.e., TGD B and D. This is key to accelerate a decade of innovation to delivering new processes, systems, products, and services to decarbonise construction.

All of these strategies must be accompanied by a massive increase in skills and awareness to deliver these targets and a financial system which supports rapid transition. Please see enterprise for further details.

Transport

Transport is the second and fastest growing source of carbon emissions in Ireland. While EVs have a role to play, the only way to reach our transport targets is to reduce our dependency on private cars. In particular, the 400,000 homes to be delivered by 2030 must ALL be located in walkable areas with access to public transport. Focusing on regeneration of our village, town and city centres would also contribute significantly to reduction of transport emissions as these homes are located in walkable areas (not to mention that it would reduce operational and embodied emissions in the built environment).

Agriculture

Only a small proportion of construction materials currently in use in Ireland are biobased materials. Generally speaking, biobased materials have lower embodied carbon than conventional construction materials. Ireland has the perfect climate to produce more of these materials (e.g., timber and hemp) and the development of these industries should be encouraged. It would allow to reduce both agriculture and industry emissions, while potentially providing sustainable jobs across the country. See agriculture section for more information.

Delivering all these combined strategies is likely to be politically sensitive particularly driving better optimisation of buildings so it makes sense to get agreement on a set of policies by using the successful citizens assembly model focused on climate and housing.

Q5: What do you view as the main challenges/obstacles to the Sectoral Emission Ceilings being met?

[redacted] Irish Green Building Council:

The biggest challenge will be to bring everyone on board. Saying that we are in an emergency is not enough, we need to act like we are in an emergency. This will require large awareness raising campaign and education to inform all key stakeholders and citizens on why some actions are required. In the built environment, given the scale of the challenge (see UCD report - https://www.igbc.ie/wp-content/uploads/2022/05/22-WLC-IGBC-Build-Green-Now-P1-and-P2.pdf) and that some actions needed are likely to be politically sensitive, it might make sense to set up a citizen's assembly on climate and housing, so that these actions can be widely and transparently discussed.

As previously mentioned, to reduce operational emissions in the built environment, we must ensure all building owners, including homeowners and small landlords have access to quality independent information and funding (being through low interest loans or free upgrades for the unable to pay). To deliver on this, we must also ensure we have capacity within the industry. We are currently facing both labour and skills shortages. Addressing these may require prioritising projects and will definitely require significant upskilling of the industry.

Finally, based on the report commissioned to UCD previously mentioned, it's clear that we cannot reach our targets in the construction and built environment if we do not address embodied emissions. IGBC will be launching a report on how to decarbonise Ireland's built environment across its whole life cycle on 7th October and would be more than happy to share it with the department.

To decarbonise our transport sector, we must also ensure that all new homes are built in walkable areas with access to public transport. This is key in reducing our dependency on private cars, and hence our emissions.

Carbon Pricing & Cross-Cutting Policies

Q6: Are there any unintended barriers within the planning system that should be addressed at national policy level in order to deliver our climate ambitions?

[redacted] Irish Green Building Council:

Based on the large-scale consultation run by the IGBC to develop a roadmap to decarbonise Ireland's built environment across its whole life cycle (over 200 key stakeholders consulted), we believe the following actions are needed:

- The Minister should immediately publish guidelines under section 28 of the planning act to support low carbon planning. These should at least cover compact growth, Whole Life Carbon measurement, re-use and demolition, as well as solar access for renewables, and highlight the importance of enforcement and consistency across local authorities to avoid unintended consequences – e.g., developments happening in counties with the lowest environmental standards.

- The list of ""Reasons for the Refusal of Permission which Exclude Compensation"" and section 10 (Content of development plans) of the Planning and Development Act, 2000 should be reviewed to fully reflect Ireland's climate ambitions.

Finally, it's critical that local authorities have sufficient resources to enforce planning policies.

Q7: What further opportunities exist within our taxation system, beyond measures already implemented and planned, to promote emissions reductions, either on an economy-wide basis, or in specific sectors?

[redacted]Irish Green Building Council:

The Climate Action & Low Carbon Development (Amendment) Act (2021) set a new legally binding target of a 51% reduction in national CO_2eq emissions by 2030 and an overall target of a climate neutral economy by 2050. In times of climate and biodiversity emergency, all government's expenditure and fiscal policies must align with these objectives.

Buying an existing property is often riskier and more expensive, but given the additional benefits to society, funding should be allocated to support re-use: E.g., through the introduction of a "Help to Buy and Renovate" scheme (similar to the Help to Buy scheme) for existing properties in village, town and city centres, and a capital allowance scheme for small landlords and developers to convert empty/underused space above the shop to apartments. A tax relief could also be introduced for money spent on refurbishing or converting commercial and residential properties in all Irish towns and cities centre. Generally speaking, retrofit grants and tax incentives to schemes supporting reuse must be better linked. Financial support for energy efficiency should also be reviewed on a regular basis to ensure it provides additionality and supports a just transition.

Replacing the property tax by a site value tax charged on the value of the land would also be helpful in disincentivising under use of properties and sites.

To further support energy renovation, the VAT should be reduced to 9% on professional services for retrofits. Too often, homeowners do not all know what to do and where to start in relation to energy renovation. Independent high-quality advice is key, especially to support phased renovation and retrofit of traditionally built buildings.

Likewise, a reduced or zero VAT rate for all construction products which improve energy efficiency, signalling that by 2025, the reduced rate would only apply to products with low embodied carbon as demonstrated by Environmental Product Declarations (EPDs) would support energy renovation and a reduction in industry emissions.

Q8: Further to recent reforms to Ireland's green budgeting and public procurement policies, are there any additional measures that could be taken to integrate climate considerations into these policy frameworks?

[redacted] Irish Green Building Council:

A first step is to ensure all government's expenditure are fully aligned with Ireland's 2030 Climate targets. Where government invests in buildings, including housing through grant aid or procurement ensure that these developments adhere to higher sustainability requirements - e.g., through green building certifications. More specifically, from 2023, public sector should demonstrate alignment with the Taxonomy for all investment in new build and major renovations.

Furthermore, a full assessment of the carbon impact of all projects included in the National Development Plan is key, and would allow to prioritise them based on their environmental and social impacts where necessary.

The public spending code must be reviewed, and the shadow price of carbon increased, differentiation between ETS and non-ETS within the code must be eliminated, and replace with a bill of carbon, requiring a full lifecycle pricing of energy and carbon.

The Capital Works Management Framework (CWMF) must also be reviewed so that environmental, decarbonisation and social objectives are included in the project appraisal parameters. The evaluation of carbon must be incorporated within Pillar 3 of the CWMF.

Green Public Procurement (GPP) has a key role to play in supporting the decarbonisation of our built environment, but also in supporting innovation and building capacity within industry. GPP must become the norm, but this requires strong GPP policies.

From 2023, GPP should implement a biobased first policy, create exemplar buildings with MMC and biobased materials, and encourage the sharing of second-hand furniture and equipment through reuse platforms.

High quality guidance documents for GPP must also be developed, including guidance to underpin the application of Whole Life Carbon within public procurement for all building types and a knowledge bank with examples of tools that can be used or piloted.

The OGP template and contract documents must also be developed to lower the perceived risks associated with GPP and ensure all procurers are clear on the requirements.

From 2024, the use of GPP should be mandated for all public notices published for procuring buildings and renovations – including social housing, and more specifically, the Level(s)* indicators 1.2 – Whole Life Carbon, 2.3 - Design for adaptability and renovation, 2.4 - Design for deconstruction, reuse and recycling and 6.1 - Life Cycle Costing.

In 2025, the first per square metre and per capita carbon targets for different building types should be introduced in public notices for procuring new buildings and large renovation and tighten them progressively so that all new public buildings are procured to Net Zero carbon standard by 2028, and all major renovation by 2030.

*Level(s) is the EU framework for sustainable buildings and is mentioned in many EU policies and regulations, including the proposed revision of the EPBD and EED, and the Taxonomy.

Q9: Are there any significant cross-cutting gaps not previously discussed in Climate Action Plan 21 that need to be addressed?

[redacted]Irish Green Building Council:

The built environment cross-cuts carbon emissions from all sectors, including energy,

transport, industrial processes, and land use changes. Research commissioned by the IGBC to the Building in a Climate Emergency (BIACE) Research Lab at the UCD School of Architecture, Planning and Environmental Policy indicates that 37% of Ireland's national emissions are linked to the construction and operation of our built environment, the same as agriculture. This 37% is made up of 23% operational emissions associated with the energy we use to heat, cool, and light our buildings

and a further 14% embodied carbon emissions from the production of construction materials, transport of materials, construction process, maintenance, repair and disposal of buildings and infrastructure.

Projections to 2030 show that the national retrofit scheme and energy efficiency improvements in new build (NZEB standard), alongside a decarbonising grid, will drive operational emissions down in the next decade, however, new construction outlined in the national development and housing plans will lead to a significant increase in embodied carbon, effectively negating the savings in operational emissions.

Consequently, besides production based GHG emissions, consumption based GHG emissions should be published and progress tracked on a regular basis with data made widely available.

A full assessment of the carbon impact of all projects included in the National Development Plan is urgently needed as it's likely that prioritisation (based on environmental and social needs) will be required to reach our 2030's targets.

Finally, as delivering key actions in the built environment and construction is likely to be politically sensitive (particularly driving better optimisation of buildings and planning), it would make sense to get agreement on a set of policies by using the successful citizens' assembly model with a focus on climate and housing.

Public Sector

Q73: What opportunities exist for the public sector to step up its climate ambition?

[redacted]Irish Green Building Council:

In times of climate emergency, all government's expenditure and fiscal policies must align with our climate objectives.

A full assessment of the carbon impact of all projects included in the National Development Plan is needed to start prioritising them based on their environmental and social impacts.

Where government invests in buildings, including housing through grant aid or procurement ensure that these developments adhere to higher sustainability requirements - e.g., through green building certifications. More specifically, from 2023, public sector should demonstrate alignment with the Taxonomy for all investment in new build and major renovations. Grants and tax incentives must also be aligned with the Taxonomy by 2026.

As highlighted in several policies the public sector must lead by example. To do so, Green Public Procurement (GPP) must become a reality. This is key in supporting innovation, building capacity within the industry and sharing best practice. More specifically, the use of GPP must be mandated for all public notices published for procuring buildings and renovations – including social housing, and more specifically, the Level(s) indicators 1.2 - WLC, 2.3 - Design for adaptability and renovation, 2.4 - Design for deconstruction, reuse and recycling and 6.1 - Life Cycle Costing.

Q74: What sort of practical changes would you expect the public sector to make in leading and delivering Ireland's climate ambition?

[redacted], Irish Green Building Council:

To lead by example, the use of GPP must become the norm and the public sector must build examplar projects (e.g., with biobased materials and MMC) and share key learnings.

Two other actions could be powerful:

Reducing in provision of car parking for elected officials and public sector workers is the clearest signal government can send, followed by reductions in car parking in our towns and cities. As many local authorities are reliant on carparking charges as a source of income, additional income will need to offset this loss.

To lead by example in optimising building use, an office scheduling protocol and portal should be developed to optimise public bodies' office space use.

Q75: How can the public sector lead wider society to change? In the short-term, medium-term, long-term?

[redacted], Irish Green Building Council:

As previously highlighted the public sector must lead by example. To do so, GPP must become the norm and exemplar projects should be developed. This would also help in building capacity within the industry, including the development of a biobased construction industry in Ireland. All learnings must be widely shared through open data and "open house" type of events.

Q75 How can the public sector lead wider society to change? In the short-term, medium-term, long-term?

[redacted] Irish Green Building Council:

As previously highlighted the public sector must lead by example. To do so, GPP must become the norm and exemplar projects should be developed. This would also help in building capacity within the industry, including the development of a biobased construction industry in Ireland. All learnings must be widely shared through open data and "open house" type of events.

Q76/77 (repeated): What are the biggest barriers (resourcing / tech gaps / funding / policy gaps / etc.) for the public sector in reducing greenhouse gas emissions and how can they be overcome?

[redacted] Irish Green Building Council:

Upskill public bodies in Whole Life Carbon, low carbon materials and Green Public Procurement. More specifically, develop and deliver carbon literacy training programmes for local authorities and regional authorities' staff. These should cover Whole Life Carbon requirement, Life Cycle Assessment, low carbon construction and renovation, as well as policy tools and procurement of low carbon products and circular use of buildings and materials

Local authorities also need to be properly resourced to implement and enforce planning policies and building control.

Q78: What practical steps should the public sector take to adapt to climate change?

[redacted] Irish Green Building Council:

1. Develop adaptation roadmap at local level
2. Develop guidance document on adaptation for the built environment
3. Only develop buildings aligned with these guidance documents

Q79: What is your vision for the public sector in 2050 in a climate neutral Ireland?

[redacted], Irish Green Building Council:

Our vision for the public sector is not different from our vision for other sectors, i.e., the built environment developed, managed and operated by the public sector must be decarbonised, circular, and resource efficient.

However, as the public sector must lead by example, and to support capacity building within the industry, public sector should reach that objective earlier than other sectors.

Q80: Where can the most optimum investment be made by the public sector in climate action?

[redacted] Irish Green Building Council:

In a climate emergency, all government's expenditure and fiscal policies must be fully aligned with Ireland's 2030 Climate targets. This means:

- Measuring the Whole Life Carbon impact of all actions under the NDP and prioritising them based on societal and environmental impact

- Where government invests in buildings, including housing through grant aid or procurement ensure that these developments adhere to higher sustainability requirements. More specifically, from 2023, public sector should demonstrate alignment with the Taxonomy for all investment in new build and major renovations.

Q81: What should be prioritised / where should actions be prioritised for the public sector to realise its climate vision?; Q82: What would be an appropriate level of ambition/targets/challenge for public sector climate action?

[redacted] Irish Green Building Council:

The public sector must lead by example, and support Ireland's transition to a decarbonised economy. Through the generalisation of the use of Green Public Procurement, the public sector can support the development of a low carbon construction materials industry, including biobased and re-used materials, and build capacity within the industry.

Renewable Gases

Q22: What measures can be introduced to reduce to F-Gases in the Enterprise sector?

[redacted], Irish Green Building Council:

It would make sense to use the Accelerated Capital Allowance (ACA) scheme to encourage the use of the best performing heat pumps in the market (e.g., working with natural refrigerants with global warming potential below 5) to deliver higher climate benefits.

Enterprise, Waste & Circular Economy

Q20: What measures can be taken to accelerate the uptake of carbon-neutral low temperature heating in manufacturing?

[redacted] Irish Green Building Council:

Some of the most carbon intensive and commonly used materials in Irish construction, including cement, cannot be easily decarbonised. The production of cement involves the chemical release of CO_2 which is not related to the fuels or energy used in the industrial process. For example, when converting limestone to cement clinker, CO_2 is released in the chemical process. Calcium Carbonate (CaCO3) converts to Calcium Oxide releasing Carbon dioxide (C02). Substitution with zero carbon fuels can only reduce up to 40% of these emissions. Consequently, government should work with industry to support innovation in this sector (clinker replacement), the development of Carbon Capture Storage solution, (but the wide scale implementation of the later is unlikely before the 2040's) and alternative renewables like geothermal and waste water heat recovery.

Smaller Irish construction product manufacturers should be able to access funding to develop full Life Cycle Assessment for their main construction product lines and publish Environmental Product Declarations. This is a first step in reducing their emissions.

Increase support for innovative methods of construction and materials is also needed. E.g., increase funding for Enterprise Ireland's Built to Innovate programme to further support MMC. This action is key as in the current emergency, it makes sense to diversify away from products that require high heat where possible.

Q21: What measures can be taken to decarbonise high temperature heating in industry?

[redacted] Irish Green Building Council:

The carbon emissions for the production of materials are often tied to the energy input of the process. Generally, the more energy needed in the production process, and the dirtier the energy supply, the higher the carbon cost of production, so the first step should always be to reduce demand. One big exception is cement for concrete. Only some of the carbon emissions in cement are a result of energy input. Up to 60% can come from calcination – the chemical reaction that transforms limestone into clinker, the essential binding agent in most cements. This is the reason cement is such a difficult material to decarbonise – renewable energy will not address the whole problem.

In the current emergency, the priority should hence be to support innovation to decarbonise the manufacturing process, but also to diversify away from products that require high heat where possible.

Q22: What measures can be introduced to reduce F-Gases in the Enterprise sector?

[redacted]rish Green Building Council:

It would make sense to use the Accelerated Capital Allowance (ACA) scheme to encourage the use of the best performing heat pumps in the market (e.g., working with natural refrigerants with global warming potential below 5) to deliver higher climate benefits.

Q23: How can we encourage the diversification away from products with high levels of embodied carbon, such as traditional cement in construction to lower carbon alternatives?

[redacted]rish Green Building Council:

There are a number of actions required to diversify away from products with high levels of embodied carbon in construction. The IGBC has been working on this topic over the last 18 months as part of the development of its roadmap to decarbonise Ireland's built environment across its whole life cycle – to be published on Oct. 7th - and would be happy to share the roadmap with the Department when ready.

To summarise, the first thing would be to mandate Whole Life Carbon measurements for all larger buildings (over 2,000m²) from 2023, as this is already done in several European member states. This could simply be achieved by mandating a "level 1" response in the EU framework for sustainable buildings (Level(s)) as this requires no training and would make the industry more aware of the issue. As shown in the UCD report previously mentioned, addressing embodied carbon in construction is absolutely critical in reaching our sector 2030's targets.

Some regulatory changes are needed to support more innovative products in construction. For instance, TGD D should be clarified to ensure that requirements for Agrement for materials with relevant EU certification do not create a barrier to entry for low carbon materials. Likewise, the performance requirements of TGD B should be revied to enable best practice timber construction above 10m. So many of developers are interested in using CLT timber if it was possible to do so in Ireland.

A number of actions could be taken to support innovation. For instance:

- Providing financial incentives or directly funding production facilities for biobased construction materials (e.g., CLT, sheep's wool, hemp, and straw), as it was done in Scotland to support the development of natural fibre construction insulation. E.g., through an accelerator scheme.

- Increasing support for innovative methods of construction and materials. E.g., increasing funding for Enterprise Ireland's Built to Innovate programme to further support Modern Methods of Construction

- SEAI's EXEED programme has been highly successful in promoting innovation in reducing operation emissions. A similar design and capital grants scheme should be introduced for project developers engaged in innovative, measurable low carbon construction technologies.

- Using Green Public Procurement (GPP) policy to support innovation and ensure Ireland's become a leader in low carbon building materials. For instance, it could be used to create exemplar buildings with MMC and biobased materials, hence supporting their development and building capacity within the industry.

Further grants and tax incentives are also needed to encourage further uptake of these products. For instance, it could be signalled that by 2025, a zero or reduced VAT rate would be apply to products with low embodied carbon, based on environmental product declarations. ACA could also be extended extend to renovation products that have at least 50% lower than average Global Warming Potential in their product category as demonstrated in their Environmental Product Declaration (EPD).

All these actions will require significant upskilling in the industry but also a large-scale awareness raising campaign to ensure all citizens understand the benefits and importance of tackling Whole Life Carbon emissions. The campaign should for also address the perception that reused materials and timber frame buildings are of lower quality and may compromise safety.

Q24: What role could Carbon Capture and Storage (CCS) have on industry, and what steps would encourage its deployment?

[redacted] Irish Green Building Council:

As previously highlighted, government should work with industry to identify feasible options for Carbon Capture and Storage (CCS) and support its development to deal with hard to - abate emissions for which there are no alternative mitigation options. However, as this technology is immature and unlikely to become widely available before 2040's, government cannot rely too much on it to reach any of the targets.

Q25: What other opportunities exist to drive the decarbonisation of the enterprise sector?

[redacted] Irish Green Building Council:

Energy renovation of the non-residential stock is key. Please see responses to Q.28 and 29.

Q27: Are the measures that can be taken to assist businesses sustain the additional operating costs associated with moving to new low-carbon technology?

[redacted]Irish Green Building Council:

Smaller Irish construction product manufacturers should be able to access funding to develop full Life Cycle Assessment for their main construction product lines and publish Environmental Product Declarations. This is a first step in reducing their emissions. They should then be supported in decarbonising the production process.

Q72: What other opportunities exist to support decarbonisation through the acceleration of a transition to the circular economy?

[redacted]Irish Green Building Council:

The construction and built environment sectors account for 37% of Ireland's carbon emissions, equalling agriculture. Just under two-thirds (23%) of these emissions come from operating buildings but more than a third (14%) comes from the manufacture and installation of building materials themselves – usually referred to as 'Embodied Carbon'. As shown by the carbon modelling report commissioned by the IGBC to UCD, the construction and built environment sector cannot halve its emissions by 2030, without addressing embodied emissions.

A key part of the strategy is to better use the existing stock (including vacant properties and under used areas above the shops), but also to reduce the carbon intensity of construction materials. A greater use of reused and recycled materials can support that.

Mandating whole life carbon measurement of buildings is key in reaching this objective. This could first become a requirement of Green Public Procurement, where the use of Level(s) indicators 1.2 – Whole Life Carbon, 2.3 - Design for adaptability and renovation, and 2.4 - Design for deconstruction, reuse and recycling should become the norm.

This also requires introducing building material passports, supporting recertification and the use of exchange platforms. As is noted already, there is currently no mapped-out supply of secondary construction materials in Ireland, and it is unclear where people can find secondary construction materials for their projects. The testing procedure and recertification of secondary materials is currently non-existent in Ireland, unlike in countries such as in the UK and the Netherlands where, for example, reusing structural steel is becoming standard practice.

All construction product manufacturers should be encouraged to provide a material passport for their product and enable a take-back-scheme for their products. This will enable products to last and to move away from the extraction of virgin materials.

The government should also highlight the benefits of leasing rather than purchasing (e.g., through public procurement). From the research in the Irish Green Building Council, there is still a fear of

leasing in buildings. This could be addressed by sharing case studies on leasing and how this is widely used in building in countries such as the Netherlands.

The Government of Ireland's annual public sector purchasing accounts for 10% to 12% of Ireland's GDP, a large part of economic activity and demand. The focus on reusing building stock for government projects, reusing materials and specifying low carbon materials in buildings would have a big impact on Irelands' carbon emissions and contribute to building capacity within the industry. The focus on designing building for adaptability and disassembly should be made a core value in Green Public Procurement. More specifically, the Level(s) framework, and indicators 1.2 - WLC, 2.3 - Design for adaptability and renovation, and 2.4 - Design for deconstruction, reuse and recycling should be used.

As highlighted in other sections, additional financial incentives are needed to support reuse. For instance, a "Help to Buy and Renovate" scheme (similar to the Help to Buy scheme) could be introduced for existing properties in village, town and city centres, as well as a capital allowance scheme for small landlords and developers to convert empty/underused space above the shop to apartments, and a tax relief for money spent on refurbishing or converting commercial and residential properties in all Irish towns and cities centre. Also, where demolition is proposed, planning authorities should require pre-demolition assessments, that present the environmental and economic case for repair or replacement. In cases where demolition is an appropriate course of action, a waste audits conducted by external auditors ahead of demolition to support the mitigation of Construction & Development Waste (CDW) should be requested.

Electricity

Q11: What options are available to increase the penetration of renewable electricity beyond the up to 80% committed to in Climate Action Plan 2023?

[redacted] Irish Green Building Council:

Achieving 80% renewables energy by 2030 will be challenging, but the following actions should be considered:

District heating: The roll out of district heating in areas where there are available sources of waste or fossil free heat must be speed up and developments in these areas must be designed to connect to these grids (once developments are confirmed).

Grants currently available for renewables should be reviewed to ensure funding is available for a wider range of renewable. For instance, in areas where district developments are confirmed, grants could be made available for connections to district heating.

The grid should also be upgraded to support demand response in buildings. Large commercial buildings should be incentivised to manage and limit their peak electricity demand, to reduce burden on the electricity grid infrastructure.

Eirgrid should develop carbon metering protocols and tariffs that adjust carbon tax applied accordingly. This would enable Building Management Systems (BMS) control for load shifting linked to grid CO_2 intensity rather than time of day, and optimisation of local energy storage for lowest carbon intensity.

To summarise, to decarbonise building energy use, financial incentives are needed for consumers to store and trade energy flexibly, as well as new pricing solutions such as flexible tariffs (e.g., based on the grid CO_2 intensity at time-of-use).

Q12: What can be done to accelerate/facilitate the delivery/deployment of offshore wind and solar PV in particular, in the context of Climate Action Plan 2021 and the REPowerEU ambition?

[redacted]rish Green Building Council:

See previous comments on district heating.

On solar PV and other renewables that may be used in the built environment, the IGBC suggest introducing a 9% VAT rate on construction products which contribute to carbon savings in the operational phase of a building life cycle. This would provide an additional incentive to make buildings more energy efficient, while addressing inflation and is fully aligned with recent developments at EU level.

E.g., Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. REPowerEU plan (SWD(2022) 230 final) – "Member States should also make full use of supporting measures such as reduced VAT rates for high efficiency heating systems and for insulation in buildings and other energy pricing measures, which encourage switching to heat pumps and purchase of more efficient appliances."

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - EU 'Save Energy' (COM(2022) 240 final) – "Member States should also make full use of the opportunities available to them to promote energy efficiency such as reduced VAT rates for high efficiency heating systems, ensuring energy pricing encourages switching to heat pumps and encouraging purchase of more efficient appliances".)

Q14: What role could carbon, capture and storage have in decarbonising our power sector?

[redacted], Irish Green Building Council:

Government should keep working with industry to support innovation in the sector, identify feasible options for Carbon Capture and Storage (CCS) and support its development to deal with hard to-abate emissions for which there are currently no alternative mitigation options. But one should not forget this is not a mature technology and it's unlikely to be available before the 2040's.

Q15: What other opportunities exist to support the decarbonisation of the electricity sector?

[redacted] Irish Green Building Council:

Energy efficiency is the first fuel and improving it should remain the priority - The less energy we use, the easier it will be to provide it through renewables.

However, to increase solar energy production, we believe that all new homes and buildings should be designed to optimise their solar energy generation potential on the basis of the solar irradiance of the site, enabling the later cost-effective installation of solar technologies. This will ensure that buildings and homes are designed to be future proofed and contribute to an increase in energy security.

Q17: What role do you see for electricity storage and demand-side response in providing flexibility to a system comprised of high renewable penetration and in supporting the decarbonisation of the electricity sector?

[redacted] Irish Green Building Council:

Electricity storage and demand-side response have a role to play in supporting the decarbonisation of the electricity sector, however this requires upgrading the grid to support demand response in buildings, and a number of actions to facilitate the uptake of these technologies – Please see our response to Q11 for further details.

Q18: What financial incentives are needed to increase renewable generation capacity?

a. To incentivise commercial scale production.

b. To incentivise microgeneration.

[redacted] Irish Green Building Council:

To be successful, any microgeneration scheme must be simple and transparent - Consumers need certainty on feed-in tariffs to invest.

An acceleration of the roll out of smart meters with Import/Export metering capability is also key.

Finally, and as previously highlighted, financial incentives must be introduced for consumers to store and trade energy flexibly, as well as new pricing solutions such as flexible tariffs (e.g., based on the grid CO_2 intensity at time-of-use).

Transport

Q42: What Obstacles exist in the planning system that may prevent greater modal shift from being achieved? Are there specific measures that can be implemented to avoid further forced car dependency or lock-in of unsustainable practices?

[redacted] Irish Green Building Council:

The most strategic way to reach our emission target in this sector is to focus on planning, i.e., ensuring that no new developments are car dependent.

This requires increasing both density and thresholds for minimum percentage of new homes to be built within the built-up footprint of existing settlements in the National Planning Framework.

The Minister should also immediately publish guidelines under section 28 of the planning act to support low carbon planning. These should cover compact growth, Whole Life Carbon measurement, re-use and demolition, as well as solar access for renewables, and highlight the importance of enforcement and consistency across local authorities to avoid unintended consequences – e.g., green field residential developments given approval in counties which encourage urban sprawl and high carbon developments through car usage and unsustainable land use.

Car centric design are still encourage by too many local authorities allowing in curtilage and excessive parking, excessive road widths and layouts and opposing distances that lock in car use. Innovative non car centric layouts are needed, as well as provision for smaller parking spaces for

cargo bikes or additional cycle storage (or micro cars) in lieu of standard parking. This requires guidelines on denser car free development.

Review the list of "Reasons for the Refusal of Permission which Exclude Compensation" and section 10 (Content of development plans) of the Planning and Development Act, 2000 to fully reflect Ireland's climate ambitions.

Ensure local authorities have sufficient resources to plan, implement and enforce t sustainable low carbon policies and actions.

Q43: What changes should be considered in relation to the management of Ireland's road network (e.g. reducing speed limits, parking policy, road user/congestion charging) to reduce congestion and support the priorisation of more sustainable modes?

[redacted] Irish Green Building Council:

The embodied and operational carbon impact of all proposed construction and infrastructure according to the National Development Plan must be measured and its impact on the Climate action plan reported and evaluated. Once the measurement is completed, the easiest way to reach the climate target will be prioritise actions based on social and environmental impacts. This would require looking at all the externalities associated with road development.

Minimum parking requirements should be reviewed in all development plans to reduce need for carbon intensive underground car parking structures in urban areas. Maximum carparking limits should be extended to wider urban areas. Use of onsite or nearby car sharing must be strongly encouraged to allow substantial reductions in parking spaces

Finally, the public sector must lead by example. Reduction in provision of car parking for elected officials and public sector workers is the clearest signal government can send, followed by reductions in car parking in our towns and cities. As many local authorities are reliant on carparking charges as a source of income, additional income will need to offset this loss.

Q44: What additional measures should be considered to improve the quality or attractiveness or active mobility solutions as an alternative to private car use (e.g. dedicated lanes, secure bike parking, rest areas).

[redacted], Irish Green Building Council:

As previously highlighted planning is key to ensure car dependency does not increase. The average commute is now 14.7km and still increasing. Regeneration of village, town and city centre should be

an absolute priority as these areas are less reliant on private cars. All new residential development must be walkable, with active travel line and with access to public transport. Active travel should also be made more attractive through prioritisation of pedestrians and cyclists at traffic lights (as already done in Freiburg but also on the Comber Greenway in Belfast). Finally, cycling and car share schemes should be encouraged (and initially subsidise) to reduce car ownership and on street car storage, freeing up space for walking and cycling

Q45: What policies or measures can be considered to further incentivise the use of more sustainable modes of transport for education and leisure-related journeys?

[redacted] Irish Green Building Council:

As per previous questions

Q46: What potential do blended working policies or remote working hubs have to help reduce commuting travel and volume of transport emissions?

[redacted] Irish Green Building Council:

As shown during the Covid pandemic, remote working has a key role to play in reducing commuting travel, but this should be monitored to ensure it does not lead to longer travel two days a week for instance.

Q47: Is the level of transformation required of our transport behaviour patterns well understood and what more can be done to demonstrate the benefits of modal shift? How can the overall impact of wider decarbonisation measures be measured most effectively (e.g. capturing wellbeing impacts, health impacts, liveability, permeability, etc.)?

[redacted] Irish Green Building Council:

The relationship between where a home is built and transport emission remains poorly understood. Further data and communication on this topic (including on the cost of long commutes and owning

two cars) is needed. It might also be useful to highlight the health impact of our high dependency on private cars (e.g., air quality, healthy lifestyles).

Q48: How can EV and other transport grants/supports be more targeted (spatially, demographically) to deliver additional emissions reduction or address distributional impacts in a more equitable manner?

[redacted]rish Green Building Council:

EVs are part of the solution but not "the solution". They won't address high embodied emissions associated with road construction/ maintenance, or the production of cars, nor the impact of urban sprawl on biodiversity loss, resources usage, etc.

In urban areas, grants could be provided to households who get rid of one of their cars for a minimum number of years. Grants for e-bikes should proportionally be higher than grants for EVs, given their lower embodied and operational carbon impacts.

Q50: What specific actions can government take to help accelerate or achieve parity in the total cost of ownership between electric vehicles and ICE vehicles?

[redacted] Irish Green Building Council:

It may be preferable to instead subsidise pay per use electric car sharing fleets to encourage a modal shift not only from ICE cars but away from car ownership altogether as this will have greater benefits in the long run of carbon emissions, resource consumption and creating healthier towns and cities. This way everyone can access an electric car without purchasing.

Q51: Please see our responses on the importance of planning, and remote working. Motor tax based on weight to encourage the use of smaller, more efficient vehicles, with future tax linked to lifecycle GWP with requirement for manufacturers to produce Environmental product declarations by 2025 for environmental impact of car

Encourage pay per use carsharing as once car ownership is locked in there is no incentive for users to switch to other modes.

Q56: What expectation or level of public transport service is appropriate in rural communities and what other key measures can support a transition to sustainable modes?

[redacted] Irish Green Building Council:

To support a transition to sustainable transport in rural areas, regeneration of town and village centres must be an absolute priority.

The 2022 census shows that 166,000 properties are vacant in Ireland, with over 48,000 vacant for six years or more. However, recent studies from the Collaborative Town Centre Health Check (CTCHC) Programme show this is only the tip of the iceberg. CTCHC land use surveys (Step 2 of a 15- Step assessment process) highlight that the ground floor commercial vacancy rate in towns in Ireland is 18- 31% - the normal target at a European level is 5%. The upper floors in towns are at c. 80% - both these levels are unheard of in a European context.

By bringing these properties back into use through high quality renovations we can tackle several challenges at once. As highlighted in the carbon modelling report commissioned by the IGBC to UCD, better using our existing stock and prioritising re-use is critical to reach our 2030 climate targets: The carbon cost of a home deep retrofit is approximately ~0.25 of that of new build, and as many of these homes are located in central locations, people would be less reliant on cars, which in turn would reduce our fastest growing source of carbon emissions, transport. This approach is not only good for the environment. It is also good for people and the economy. It represents a unique opportunity to provide much needed homes, to make our city, town, and village centres more vibrant, to enhance air quality, and to restore the cultural and aesthetic value of these areas.

For existing properties located in more remote areas, remote working and EVs should be considered.

Q57: What infrastructure or further measures are required to help improve the safety of rural roads and further incentivise the use of walking and cycling for shorter journeys in rural areas?

[redacted] Irish Green Building Council:

As previously mentioned, all new developments must be walkable, with access to public transport. Pavements as well as a reduction of speed limits (and enforcement) in some rural areas, and the introduction of traffic calming measures are all needed.

Q58: What are the key elements of a just transition in transport? Are there certain cohorts that should be given exemptions / insulated from potential increased costs?

[redacted] Irish Green Building Council:

Given the current housing and energy crises, those on low income and living in car dependent area should be supported, but it must be clear that these measures are temporary to avoid driving further sprawl developments.

Q59: What platforms or mechanisms can best facilitate the sharing of data, transport modelling and research findings with policy makers, local authorities, research groups, local communities and the wider public?

[redacted] Irish Green Building Council:

Existing data on transport, including active travel, must be made available as open data and communicate in a user-friendly so that they can be used by politicians, decision-makers, etc. E.g., cycling and pedestrian counter data should be made public.

Agriculture & LULUCF

Q61: What are the opportunities to increase take-up of measures identified in AgClimatise and encourage adoption of other practices which reduce emissions?

[redacted] Irish Green Building Council:

As highlighted under built environment and enterprise, to reach the construction and built environment 2030's targets embodied emissions must be targeted. This requires (among other things), reducing the carbon intensity of construction materials. Biobased construction materials tend to have lower embodied carbon. Ireland has the perfect climate to grow materials such as timber and hemp for the construction industry.

Developing this industry presents a perfect opportunity to diversify agriculture, reduce agriculture and industry emissions, while creating jobs across the country.

However, a number of actions are needed to support the development of the industry. For instance, government should provide financial incentives or directly fund production facilities for biobased construction materials (e.g., CLT, sheep's wool, hemp, and straw), as it was done in Scotland to

support the development of natural fibre construction insulation. E.g., through an accelerator scheme.

It is worth noting that industrial hemp production offers potential for rapid sequestration of carbon into construction materials which offers an alternative to timber for farmers who don't want to lock up land use for extensive period with forestry.

The roadmap that the IGBC is developing in close cooperation with industry to decarbonise Ireland's built environment across its whole life cycle will include recommendations on biobased materials. The IGBC would be happy to share it with the Department when finalise.

Q62: What policies and measures would be needed to support farmers diversify their farm activities to include opportunities such as bioenergy, vegetable growth, forestry, organic farming, etc.?

[redacted] Irish Green Building Council:

As previously highlighted a number of actions are needed to support the uptake of biobased construction materials. These include:
- Provide financial incentives or directly fund production facilities for biobased construction materials (e.g., CLT, sheep's wool, hemp, and straw), as it was done in Scotland to support the development of natural fibre construction insulation. E.g., through an accelerator scheme.
- Increase support for innovative methods of construction and materials. E.g., increase funding for Enterprise Ireland's Built to Innovate programme to further support Modern Methods of Construction.
- SEAI's EXEED programme has been highly successful in promoting innovation in reducing operation emissions. A similar design and capital grants scheme should now be introduced for project developers engaged in innovative, measurable low carbon construction technologies.
Regulating embodied carbon emissions in construction and measuring whole life carbon as part of public procurement (using the Level(s) framework) would also support the development of the industry.
Please see section on enterprise for further information on actions needed to support the development of a biobased construction materials in Ireland, including actions relating to skills and awareness raising.

Q69: What other opportunities exist to support the decarbonisation of the agriculture, land-use and marine sectors?

[redacted] Irish Green Building Council:

Besides actions suggested in Q.62, the use of the EU Taxonomy criteria could support decarbonisation of land-use.
More specifically, from 2023, public sector should demonstrate alignment with the Taxonomy for all investment in new build and major renovations. From 2026, all public grants and tax incentives to be fully aligned with the EU Taxonomy. In particular, new construction should not be built on "arable

land and crop land with a moderate to high level of soil fertility and below ground biodiversity as referred to the EU LUCAS survey".

Built Environment

Q28: Currently SEAI provides approx. 50% of the grant of retrofit to Landlords, Housing for All commits to introducing a minimum BER for rented properties from 2025 onwards. What further supports can be put in place to address the split incentive when retrofitting rental properties (residential and commercial)?

[redacted] Irish Green Building Council:

The IGBC welcome the commitment to introduce a minimum BER for rented properties from 2025 onwards. This should be clearly signalled by 2023 to provide certainty. More specifically, a clear implementation pathway should be published with key dates for regulation to reach net zero by 2050. This new requirement must be introduced alongside Building Renovation Passports, so that a clear renovation roadmap is developed for each building and the new standard does not lead to locks-in. Minimum energy performance standards must also be introduced alongside strong technical (independent advisors) and financial support for both landlords and tenants.

For instance, the Free Energy Upgrades scheme should be reformed to ensure low-income households (e.g., based on P60) living in low BER homes are eligible - regardless of home ownership status and/or welfare payment eligibility. This is key to ensure grants provide additionality and support a just transition. Although many SEAI schemes are already opened to landlords, to further incentivise renovation and reuse, a capital allowance scheme should be introduced for small landlords and developers to convert empty/underused space above the shop to apartments.

A number of immediate actions could also be taken immediately to better address the split incentive in the private rental market. In particular,
- Ensuring that all properties advertised for rent have a BER and linking RTB and BER registers
- In the commercial sector, updating the landlord and tenant (amendment) act 1980 to incorporate green clauses as a basic provision to raise energy efficiency and environmental awareness in the industry.
- Introduce a DEC-like system to capture data on actual energy use, and better address the performance gap.

These recommendations are based on the work completed by IGBC as part of the SEAI's funded BUNRS project. A full set of recommendations is available at: https://www.igbc.ie/wp-content/uploads/2019/06/IGBC-SEAI-Report-Final.pdf. The IGBC is also working on this topic in relation to the SME sector as part of the SEAI funded ENACT project (https://www.igbc.ie/enact-commercial-retrofit/). Initial findings are expected in Q2 2023.

Q29: How can we encourage SMEs to upgrade the energy efficiency of the buildings they own?

[redacted], Irish Green Building Council:

SMEs are very similar to homeowners and small landlords, and often do not do what to do and where to start. Furthermore, several studies have shown that retrofit is often not one of their priorities. As SMEs often have different motivations to upgrade, it's important to gain a better understanding of these motivations to better communicate on the benefits of retrofit through the right channels. Energy renovation must be made easier and more affordable to them. As not interrupting business operations is key for most SMEs, phased renovation may be more appropriate, but this requires building renovation passports to avoid lock-ins. The passports and advise should be provided by independent advisor (possibly through an extension of SEAI's Technical Advisor role). Financial mechanism previously mentioned such as reduced VAT on energy efficient products and advise, and low interest loans (close to zero) are also important.

As previously mentioned, the IGBC has started working on an SEAI funded project called ENACT whose objective is to support energy renovation in commercial buildings, with a specific focus on SMEs. First results are expected in Q2 2023. More at https://www.igbc.ie/enact-commercial-retrofit/.

Q30: What immediate actions can we take to address the skills shortage in the construction sector, to facilitate meeting our annual retrofitting targets?

[redacted] Irish Green Building Council:

Ireland's energy renovation targets are extremely challenging in the current context and may require prioritisation based on environmental and social impacts.
A key priority should be to provide certainty to the industry and citizens, including students and their parents, that energy renovation is important and will remain a priority for the next 30 years. Besides this, targeted communication campaigns are needed to inspire, recruit and upskill in energy renovation school leavers, those working in declining sectors and construction workers. Industry and Government should also work with educational partners to promote built environment options within primary and post-primary curricula. Possible actions include using the STEM template to attract more young people to the industry, organising school visits and career guidance to ensure young people are aware of the diversity of work in the industry and working with girls' schools to ensure STEM subjects are available.
Construction and built environment degrees, as well as apprenticeship must be reviewed to ensure key skills (including whole life carbon and circularity) are fully covered by 2025. Construction companies should also be better incentivised to take on new apprentices.
Besides attracting more people to the industry, it's also key to ensure those working in construction have the right skills. The IGBC has been working on a number of SEAI, HEA, LIFE and Horizon 2020 projects over the last 5 years to incentivise upskilling and our key recommendations are:

- To facilitate upskilling, all education providers must ensure their training programmes are flexible, affordable, and widely available. In particular, they should be available online, in blended format or onsite.
- By 2025, a "safe pass" for sustainability should be introduced for construction workers based on NZEB courses run by ETBs.
- In the meantime, green public procurement could be used to incentivise upskilling – Wexford county council and Galway City Council are already piloting an "energy efficiency training clause" to support upskilling.
- The Construction Industry Register of Ireland (CIRI) must be put on a statutory footing and integrate minimum upskilling requirements in energy efficiency. Professional bodies should also be encouraged to mandate that a certain percentage of CPDs focusing on this topic are completed annually.

Finally, having better quality data on the existing building stock (e.g., through building logbook or a national building survey) would support more industrialised offsite renovation.

Q31: How can we ensure that necessary skills will be available to support district heating projects?

[redacted] Irish Green Building Council:

Given the shortage of skilled workers there will be a need to prioritise projects to be built. This could mean moving workers with pre-existing skills from sunset areas such as road building and gas networks into district heating. However, this would require upskilling. While Ireland is well advanced in other areas (e.g., NZEB training), it would probably make sense to look at countries that have years of experience of district heating (e.g., Finland, Sweden, and Denmark) and learn from their existing programmes.

Q32: Housing for All Commits to 100% funding to retrofit 40% of local authority housing stock to B2 by 2030 at a cost of 1.4 billion euro. How can we further support local authorities to help them deliver on social housing retrofit targets?

[redacted] Irish Green Building Council:

The IGBC welcome this funding and approach, but a clear plan would need to be developed for the remaining 60% of the stock. Given the current energy and climate crisis, Government should consider increasing this target.
Furthermore, a number of actions could be taken to improve the programme. These recommendations are based on the work completed by the IGBC as part of the Horizon 2020 funded Build Upon 2 programme (develop a framework to capture better quality data on the impact of the local authorities' renovation programmes):
- Ensure that Local Authorities have adequate resources to appropriately design, manage and supervise the energy retrofit.
- Funding for upgrade of ventilation works and to liaise with tenants need to be included in scope of

works.
As local authorities must lead by example and to get better quality data on the impact of renovation programmes (to see what is working and what is not working), the following actions are suggested:
- Short term: Department of Housing could ask Local authorities to report on the impact of their renovation programmes (considering more indicators included in the Build Upon Framework) to secure central government funding. This would also help with the delivery of Ireland's long term renovation strategy
- Medium term: Make Whole Life Carbon measurement a requirement for local authorities to secure funding for social housing from the Department of Housing, Local Government and Heritage.
Further information on the Build Upon Framework and indicators is available at https://www.igbc.ie/wp-content/uploads/2021/10/Build-Upon²-Energy-Renovation-Framework-Methodology-Update-11-January-2022.pdf.

Q33: In addition to the existing financial supports and policy measures, are there any other incentives/assistance needed to help homeowners upgrade the energy efficiency of their homes?

[redacted] Irish Green Building Council:

Based on the feedback received from our members, there are a number of actions needed to make energy renovation more accessible and affordable to homeowners:
- Accessible
o Too often building owners simply don't know what to do or where to start when it comes to energy renovation. Independent high-quality advice is key to support them in that journey, and more specifically to support phased renovation and retrofit of traditionally built buildings.
o Review the SEAI's List of Registered Technical Advisors so that it becomes a register of independent energy renovation advisors to make it easier for building owners to identify building professionals who have upskilled in energy renovation, hence supporting quality renovation.
o Reduce VAT to 9% on professional services for retrofits. The current 23% VAT rate on professional services discourages building owners from getting professional advice.
o Allocate funding to the development of a warranty scheme for all SEAI's retrofit schemes to better protect building owners and increase trust in the process.
o Introduce Building Renovation Passports to support phased renovation / alongside logbook to reduce cost in accordance with the proposed revision of the EPBD.
- Affordable
o Reform the Free Energy Upgrades scheme to ensure low-income households (e.g., based on P60) living in low BER homes are eligible - regardless of home ownership status and/or welfare payment eligibility. E.g., open SEAI free energy upgrade scheme to low-income tenants with a long-term lease.
o Zero interest loans for the able-to-pay market must be introduced immediately
o Introduce a 9% VAT rate on construction products which contribute to carbon savings in the operational phase of a building life cycle. This would provide an additional incentive to retrofit, while addressing inflation and is fully aligned with recent developments at EU level (rePowerEU).

Q34: How could the roll-out of district heating be accelerated and what needs to be done to expand its coverage in Ireland?

[redacted] Irish Green Building Council:

Develop and implement local-level energy plans (as already done in Dublin) with clear pathways and long-term commitments to a low-carbon future, identifying areas where there are available sources of waste or fossil free heat and ensuring developments in these areas are designed to connect to these grids (when developments are confirmed).
Given the shortage of skilled workers there will be a need to prioritise projects to be built. This could mean moving workers with pre-existing skills from areas such as road building and gas networks into district heating. Significant upskilling would also be needed. A first step would be to review training courses available in countries where district heating is much more common, and ensure that all courses made available in Ireland are delivered in an affordable and flexible way.

Q35: Are there any specific obstacles in the planning system that is impeding the rollout of district heating and the national retrofit plan? How can we overcome these barriers?

[redacted] Irish Green Building Council:

Energy renovation and reuse policies, as well as transport and roads policies must be much more connected.
Publish guidelines under section 28 of the planning act to support low carbon planning. These must cover compact growth, Whole Life Carbon measurement, re-use and demolition, as well as solar access for renewables, and highlight the importance of enforcement and consistency across local authorities to avoid unintended consequences.
Review planning regulations and how they can support the decarbonisation of the built environment across its lifecycle and reflect Ireland's climate objectives. I.e., review the list of "Reasons for the Refusal of Permission which Exclude Compensation" and section 10 (Content of development plans) of the Planning and Development Act, 2000.
Implement evidence-based zoning for District Heating and requirements for buildings in these areas
Request pre-demolition assessments, that present the environmental and economic case for repair or replacement. In cases where demolition is an appropriate course of action, request waste audits conducted by external auditors ahead of demolition to support the mitigation of Construction & Development Waste (CDW).

Q36: What policy levers are needed to encourage and support the retrofitting of shared properties e.g. apartments?

[redacted] Irish Green Building Council:

A key priority should be to reform the Free Energy Upgrades scheme to ensure low-income households (e.g., based on P60) living in low BER homes are eligible - regardless of home ownership status and/or welfare payment eligibility. E.g., open SEAI free energy upgrade scheme to low-income tenants with a long-term lease.

Q37: Further to the existing supports financed by carbon tax revenues, how can we protect those who are currently experiencing fuel poverty and those who are at risk?

[redacted] Irish Green Building Council:

- Reform the Free Energy Upgrades scheme to ensure low-income households (e.g., based on P60) living in low BER homes are eligible - regardless of home ownership status and/or welfare payment eligibility. E.g., open SEAI free energy upgrade scheme to low-income tenants with a long-term lease.
- Review financial support for energy efficiency on a regular basis to ensure it provides additionality and supports a just transition.
- In relation to health and wellbeing, allocate funding to cover ventilation costs as part of the local authorities' social housing retrofit programme.

Q38: What specific measures can be implemented to improve the efficiency of rolling out the National Retrofit Programme?

[redacted] Irish Green Building Council:

Phased retrofit must be better supported through the introduction of Building Renovation Passports and digital logbook.
Energy renovation must be made easier and more affordable for homeowners, small landlords and SMEs. This requires implementing all the actions suggested in Q.33.
Actions recommended in Q30 should be implemented to address current labour and skills shortages. Many tradesmen want to work independently and earn a decent income. The set-up of One-stop-shops needs to encourage this. For example, government could consider how the HSE's drug purchasing could be applied to retrofit using economies of scale for mass purchasing of heat pumps and renovation materials at national level. This would allow reductions in costs and enable smaller local contractors to access materials and equipment at the same rates as larger contractors.

Q39: Further to those technologies identified in previous iterations of the Climate Action Plan, what other additional measures could be used to reach our emission reduction target in this sector?

[redacted]Irish Green Building Council:

Use the Accelerated Capital Allowance (ACA) scheme to encourage the use of the best performing heat pumps in the market (e.g., working with natural refrigerants with global warming potential below 5) to deliver higher climate benefits, and extend the scheme to renovation products that have at least 50% lower than average Global Warming Potential in their product category as demonstrated in their Environmental Product Declaration (EPDs).

Capture better quality data on the existing stock, e.g., through a national housing survey to further support the industrialisation of the sector (off site).

Q40: What specific measures would incentivise a greater rate of oil boiler replacement?

[redacted]Irish Green Building Council:

Government must provide certainty on the cut-off date for sales of new gas and oil boilers for both new build and existing buildings, ensure building owners can access the technical and financial support they may require. The priority should always be to bring the fabric of a property up to a level that will ensure the efficient functioning of heat pumps.

Q41: What is the next step for geothermal energy application to the built environment?

[redacted]Irish Green Building Council:

Focus on geothermal energy for district heatings.

Marine Environment

Q69: What other opportunities exist to support the decarbonisation of the agriculture, land-use and marine sectors?

[redacted], Irish Green Building Council:

Besides actions suggested in Q.62, the use of the EU Taxonomy criteria could support decarbonisation of land-use.
More specifically, from 2023, public sector should demonstrate alignment with the Taxonomy for all investment in new build and major renovations. From 2026, all public grants and tax incentives to be fully aligned with the EU Taxonomy. In particular, new construction should not be built on "arable land and crop land with a moderate to high level of soil fertility and below ground biodiversity as referred to the EU LUCAS survey".

Research & Innovation

Q91: Are the required research and innovation programmes and structures in place to support our climate ambitions; including the provision of the evidence needed to underpin policy in a timely manner?

[redacted] Irish Green Building Council:

Funding must be in place to support research into climate action, including social science to support behaviour change as this is one of the main challenges.

Q92: Have you identified any research and innovation gaps which need to be addressed? If so, how can these gaps best be addressed?

[redacted] Irish Green Building Council:
Production and consumption based GHG emissions accounts must be published on a regular basis to improve baseline. Likewise, progress towards 2050 targets must be tracked on a regular basis, with data made widely available.

Based on the work completed to develop the roadmap to decarbonise Ireland's built environment across its whole life cycle, we believe that the following additional research is needed:

- Complete a full review of the existing stock to decide what is needed in the future and for whom. This could be supported by expanding the CTCHC programme to all towns and cities and launching a

national housing condition survey.

- Allocate funding for research initiatives to support Ireland's transition to a fully decarbonise built environment. More specifically,
o Increase support for innovative methods of construction and materials. E.g., increase funding for Enterprise Ireland's Built to Innovate programme to further support MMC.
o Research on the WLC impact of deep and shallow retrofits on different building typologies in an Irish context. This should then inform research into opportunities to standardise retrofit of Ireland's existing building stock, including the potential for off-site manufacturing of certain elements, the potential to standardise heat pumps, and the potential to use economy of scale to make retrofit cheaper.
o Research suitability, affordability and efficiency of heat pumps, district heating and solar PVs for different building typologies in Ireland, taking a Whole life carbon approach. This would support the development of Guidance on when heat pumps are most appropriate.
o Life Cycle Assessment of traditional vs off-site manufacturing in the built environment in an Irish context to create baseline database.

A comprehensive study on the impact on Whole life carbon emissions caused by different zoning decisions (e.g., considering ground conditions, carbon sequestration, infrastructure, and parking requirements) should also be funded, as well as pilot projects showcasing alternatives to current methods of construction/retrofit and their benefits (e.g., through the Construction Technology Centre).