Stop Climate Chaos Coalition

Submission to Call for Evidence
Climate Action Plan
21st May 2021

Carbon Pricing and Cross-Cutting Issues

The society-wide change that is required to reach our 2030 ambition and net zero by no later than 2050 can only be achieved if it is fully supported by a broader supportive national policy framework, including our fiscal policies, sustainable finance, spatial policy, and the national and EU research ecosystem. While these policies may not have an immediate or direct emissions mitigation impact, they act as foundations that will support change, and create the environment that will allow for the successful implementation of other initiatives. It is essential, therefore, that they remain coherent with Ireland's climate action policies.

carbon pricing and cross-cutting policies in the 2019 Climate Action Plan

The actions associated with the carbon pricing and cross-cutting policies in the 2019 Climate Action Plan emphasise the importance of putting these foundations in place to allow other sectoral policies to be successfully implemented. Examples of the types of actions identified in the 2019 plan include:

- *Taxation policies, in particular carbon tax and other environmental taxes;*
- *Implementation of the National Planning Framework;*
- *Reforming the Public Spending Code to ensure that the shadow price of carbon is included in public sector project appraisal; and*
- *Supporting the development of a Sustainable Finance sector in Ireland.*

1. 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?

Stop Climate Chaos believes that achieving rapid, deep and sustained cuts in greenhouse gas emissions should be the overarching goal of the Irish government's contribution to the achievement of the Paris Agreement's temperature goals and to global climate justice. This must be achieved by the rapid and large-scale deployment of renewable energy alongside the electrification of other sectors, chiefly buildings and transport. Such a transformation must be sufficiently underway within 8 years to achieve the 51% economy wide target but also set Ireland on a pathway to achieve net zero emissions much earlier than 2050, with a 100% renewable electricity target of no later than 2040 and ideally much earlier. The scale of the energy transition should drive both investment, tax policies and job creation and upskilling initiatives to compensate for the loss of jobs in the fossil energy sector.

The International Energy AGency report 'Net zero by 2050: a Roadmap for the Global Energy Sector' sets out a pathway to achieving net zero emissions for global energy by 2050. It includes some important recommendations for governments regarding the policies needed to support rapid and deep decarbonisation. The report states:

"As the world continues to grapple with the impacts of the Covid-19 pandemic, it is essential that the resulting wave of investment and spending to support economic recovery is aligned with the net zero pathway. Policies should be strengthened to speed the deployment of clean and efficient energy technologies. Mandates and standards are vital to drive consumer spending and industry investment into the most efficient technologies. Targets and competitive auctions can enable wind and solar to accelerate the electricity sector transition.

Fossil fuel subsidy phase-outs, carbon pricing and other market reforms can ensure appropriate price signals. Policies should limit or provide disincentives for the use of certain fuels and technologies, such as unabated coal-fired power stations, gas boilers and conventional internal combustion engine vehicles. Governments must lead the planning and incentivising of the massive infrastructure investment, including in smart transmission and distribution grids."

In addition, SCC argues that:

- In the first instance, **environmentally damaging activities should be prohibited by regulation**, rather than relying on market-based instruments. Regulation is a more effective and faster method of influencing behaviour. Regulations have the advantage of being more precise, predictable, and exact in ensuring desired outcomes. Market based instruments such as carbon pricing or emissions trading, while they play a role in providing a price signal to stimulate innovation, have not by themselves delivered meaningful emission reductions. Any such regulations however must be carefully developed to ensure there are no unintended consequences on any particular community.
- **Climate action policies and measures should be implemented alongside ecological tax reforms** that internalise the environmental, social and health costs associated with fossil fuel use. Carbon pricing is a necessary, but not sufficient, measure to drive decarbonisation. Carbon and other ecotaxes should be coupled with regulatory instruments that taper off dependence on imported fossil fuels and other environmentally harmful products (e.g., nitrogen fertilisers, single use plastics).
- Tax revenues could be ringfenced for climate action or used to **reduce taxes on labour**. It makes no sense to charge firms for hiring human labour whilst subsidising the use of robots (via tax write offs on capital expenditure) and ignoring completely the burden on land and non-renewable resources.
- The tax system should **promote the circular economy**, by focusing on increasing resource productivity rather than labour productivity. Regulations should also push industrial design towards regenerative rather than degenerative business models.
- **Taxes on aggregates** such as gravel and stone should be considered to discourage the use of virgin resources. Such taxes/levies must be accompanied by incentives to ensure that the generators of recycled materials improve their sorting of waste materials for re-use. In Ireland there is too big a reliance on cement in the construction industry which should be replaced where feasible by indigenous and sustainably grown timber.
- Consideration should be given to the introduction of an effective vacant property tax to incentivise the utilisation of empty and vacant land and to discourage speculation. The current vacant site levy is not working to release sites.
- There is one obvious area where an immediate tax reform to the VRT could impact on air and climate quality. **SUVs that are not EVs should face prohibitive taxes**, given their environmental impact per km and the threat they pose to other vulnerable road users. All luxury carbon goods and services (.ie. goods and services with an excessively high carbon footprint that are non-essential) should be taxed out of existence - private jets etc.). Consideration should be given to the introduction of a frequent flyer tax on airline tickets as a way to encourage a shift in business models and travel mode.

- **The state will be key in financing the decarbonisation agenda.** Only the state can provide the 'patient finance' that is needed to transform our economy into one that is regenerative and socially fair over the long run. There needs to be a greater recognition of the need for long-term sustained investment in public goods and national assets/resources. These should be owned as far as possible by the state rather than the private sector, to ensure transparency and public legitimacy.
- Climate action will be taking place against a backdrop of growing wealth inequalities both between and within countries. To build a social consensus and support for greater public investment in climate action, there must be a commitment to **tax justice.** There should be a shift away from taxing personal incomes to taxing accumulated wealth, such as property and financial assets.
- The CSO has recently estimated that subsidies in 2019 amounted to €2.4 billion – 69% higher than in 2000 when CSO analysis of such subsidies began. **Both direct and indirect fossil subsidies should be eliminated** as a matter of urgency.
- Changes to the National Development Plan and the National Planning Framework should be made to ensure that **all development and associated infrastructure is consistent with the objectives of the Climate Bill (2021)** and associated national and EU targets. The NPF in particular is not ambitious enough to drive compact, dense growth that will be essential for decarbonisation and to ensure the viability of public services in towns and cities.
- All climate actions should be equality proofed and gender proofed. Mechanisms should be set up to offset significant negative impact of climate action on low-income groups. Investment decisions and taxation decisions need to take account of potentially disproportionate impacts on either women or men.
- The 2021 report into net zero emissions for Ireland, conducted by the MaREI institute for Wind Energy Ireland finds that significant investment will be required to put Ireland on a pathway to achieve net zero emissions, and that large amounts of public and private finance will be required to achieve this. However as these investments are paid back over decades the investments as a % of GDP for a Net Zero energy system is relatively low. MaREI calculates that the additional incremental investment in 2050 over the current level of climate ambition of an 80% reduction in CO2 is approximately 1.4% of GDP. Provision should be made in the 2022 budget and capital plan for all necessary expenditure to achieve these targets.

2. What supporting policies might be required to offset the impact of any taxation changes on low income households or those most at risk from fuel poverty?

The Programme for Government provides, inter alia, '*This fundamental step change in ambition and broadening of our target horizon to a 7% reduction average per annum will be underpinned by the core philosophy of a Just Transition. We are committed to ensuring no sector of society or community is left behind in the movement to a low carbon future.'* It is

critical that the Climate Action Plan ensures that climate action measures are consistent with climate justice and just transition, including a clear commitment to address inequality.

Carbon tax revenues must be fully hypothecated (i.e. pledge money to a specific purpose) if the tax is to receive any public support, and ideally returned to citizens as either a lump sum transfer, as increases in social welfare payments or other tax cuts. The current practice of hypothecating revenues towards climate action should be reviewed, to ensure that the revenues are being distributed in a way that targets the groups and households most vulnerable to rising energy and fuel costs.

Measures to address the effects of carbon tax rises on low-income households should be considered alongside broader tax and eco-tax reforms that remove the tax burden from labour and instead direct taxes at unearned or accumulated wealth, and environmentally harmful resource use.

People affected by inequality and rising fuel costs will benefit from a focus on improved public and shared services, especially in transport. It will be essential that realistic and affordable alternatives are provided for people who will be most affected by the rises in the carbon tax. For example, rural public transport should be expanded, alongside integrated mobility planning to encourage people with longer commutes to share rides or combine active travel with car driving. Solutions are available that are affordable, but they need to be implemented by the State or by local authorities - they will not materialise on their own accord.

The Joint Oireachtas Committee on Climate Action's 2019 report should be consulted for its detailed recommendations on citizen engagement and incentivising climate action. Subsidies will be required to support many low-income households in retrofitting. In addition, the committee recommended the following:

1. A de-risked loan facility for deep retrofit through the Strategic Banking Corporation of Ireland;
2. Green mortgages and low-cost loans from An Post and Credit Unions;
3. *'Pay As You Save'* type measures, whereby householders could pay back on retro-fitting costs through their energy bills which should be mandated by the Commission for Regulation of Utilities; and
4. A deferred repayment Loan Scheme, operated by the local authorities, for low-income homeowners, which would not have to be repaid in the lifetime of the householder.

Information and education will be essential to helping households and businesses make the transition as the cost of energy rises. The public must have straightforward, neutral information about the need for climate action, the alternatives to fossil fuel use, the technological options available (e.g., energy efficiency measures or retrofitting options) and the costs/savings and benefits over time. Importantly, householders should be given a choice about which home improvements they wish to prioritise and still avail of state subsidies.

Energy poverty or the inability to maintain a warm, thermally comfortable home is a serious overlapping issue with low incomes, high energy costs and energy inefficient dwellings are

contributing causes of household energy poverty. In terms of the impact of higher energy costs on the fuel and energy poor, distinctions must be made between the different types of situations that householders are in and tailored measures for each cohort should be developed:

- Low-income households in rented sector
- Low-income households in privately owned sector
- Low-income households in local authority housing

Tailored approaches will be needed to support low-income households in rental accommodation alongside the better regulation of this sector, including a phasing in of minimum BER ratings by 2025. Older local authority housing must be prioritised in large-scale retrofitting plans.

3. What further measures might be required in the planning system to realise the objectives of the National Planning Framework in respect of climate action?

In this answer we refer to the principles set out by An Taisce in its submission in response to the draft NPF in 2017:

1. **Equity:** Rather than the promotion of economic growth as the primary aim and aspiration of Ireland 2040, An Taisce argues for the creation of a better society through a planning and land system that spreads public goods to meet societal needs.

2. **Localisation:** a core NPF objective should be that no new housing development shall be permissible which is greater than 15- minute walking distance from basic services and infrastructure.

3. **Pragmatism:** We must be pragmatic and realise that our current settlement patterns are ‘locked in’ and represent ‘facts on the ground’. Instead of redirecting scarce resources towards achieving implausible regional population targets, the focus of the NPF should therefore be the adaptation task and retrofitting our inherited and widely dispersed settlement structures to make them more resilient and adaptive.

4. **Land Reform:** In the absence of a firm political commitment to national planning, the market produces the places in which we live, in ways which meet a concern for individualism and profit rather than the needs of society. Land reform is therefore essential to give the public and communities a stake in development and future value. To acquire land to meet public need, Land Value Tax, CPOs and other powers must be used as levers to transfer ownership from private landowners and developers who will not build, to communities, local authorities and other accountable bodies who will.

5. **Decarbonising Infrastructure:** The NPF is replete with contradictory objectives which, on the one hand, advocate the decarbonisation of society but, on the other hand, promote the development of airports, motorways, data centres etc., which are carbon and energy intensive infrastructures.

6. **A New Rurality:** The current policy approach to Ireland's rural areas is productivism, either in large- scale agri-business or suburbanised housing. Ireland's low population density and rural areas can be our most precious resource for a post-carbon world in terms of sustainable local food production, native forestry, and decentralised energy generation through, for example, small-scale wind, hydro, biomass, geothermal, combined heat and power, and solar. If planned correctly, this opportunity could be a significant boon for rural communities, help increase their resilience and buffer them from the vulnerabilities of global uncertainty and energy price inflation.

4. What specific additional measures might be required to promote sustainable growth in our urban centres, including to realise the potential of a "15-minute city"?

At present, Ireland's towns and cities are planned for the convenience of cars and commercial vehicles. There is a prevalence of traffic congestion, and poor air quality is the norm. Retail footfall is declining due to online shopping and the prevalence of large out of town shopping developments. This shows a lack of coherence – planners want people to 'shop' in town but do not provide for other public services such as good quality housing, schools and other public facilities that would entice people to live in town and city centres.

Towns and cities should be permeable for pedestrians and cyclists. Active mobility for all ages should be encouraged by the way that roads, footpaths, cycleways and linear parks are designed so that citizens are 'nudged' into active travel modes, which provide spaces for nature as well as a healthier, more people-centred environment.

Mobility is the key social good that needs to be planned for: growth should only be permitted where it takes place alongside first class public transport infrastructure and cycleways. Greater densities should not mean compromises to the variety of housing types and forms that are needed to encourage families back into town and city centres.

Our towns and cities do not have enough parks and green spaces especially in areas of Dublin city that are already densely populated and relatively low-income. A failure to provide good quality urban public spaces pushes better-off households out into the suburbs and the countryside and can lead to less of a social mix in certain areas. Planning policies should aim at providing a high-quality environment for everyone, regardless of their household incomes.

The planning system must prohibit one off housing within urban areas (i.e., increase the efficiency of how land is used). This could be achieved with a site value tax to encourage zone land to be developed as productively as possible.

There should be a scaling down of all free and on-street car parking with a view to restricting car parking in town and city centres, including multi-storey car parks. Carparking requirements in new developments should be very limited, and situated in ways that promote active travel first.

Our cities and towns should be aiming to end the dominance of the car through the provision of integrated, shared mobility planning, park-and-ride and car/bike/ebike hire.

5. What specific additional measures might be required to promote sustainable growth in rural areas?

Firstly more detailed analysis of demographic change needs to be carried out prior to the introduction of policies to promote 'sustainable growth'. What defines 'rural', for example, an area that is traditionally mostly in agricultural use, or an area outside of a town or city that has a low population density?

Growing parts of Ireland are now seeing the 'suburbanisation of the countryside' as households flee congested, noisy and polluted towns and cities in search of more affordable housing, and higher quality amenities associated with rural communities.

The practice of facilitating one-off housing development is mostly unsustainable and should not be permitted except in certain specific cases associated with agricultural or local economic activity. The current rules do not require enough clustering to generate the scales needed for the provision of infrastructure at reasonable costs, and thus car dependency and associated lock-in is set to continue.

Expanding rural transport schemes like the Local Link service and upgrading it to a digital shared mobility service is essential as will promoting it so that it becomes a popular and reliable service for people of all ages.

Provision of local services: the departure and closure of banking and Post Office functions threatens the viability of many small towns and villages. These closures undermine the resilience and connectedness of rural communities, which in turn is essential to avoid social isolation. The closure of these services also requires people to travel longer distances to avail of basic services, usually by car.

6. Are there further measures that the Government should take to channel private finance into low-carbon investments in Ireland?

We need to ensure that all existing investments are low-carbon as well as channelling future investment in this area. Currently the EU banking industry has invested between €460bn and €480bn on fossil fuels. A first step would be mapping the level of fossil fuel and high carbon investments held by Irish based financial institutions and exploring policy options for regulating and penalising such investment choices. Public benchmarking of financial institutions' compliance with the Paris Agreement should be developed.

The EU Taxonomy Regulation is certainly a step forward, but it is only the first milestone to greening the financial system. Defining what kind of financed projects are green is important, but Ireland needs to go further by developing a 'significant harm taxonomy' (as provided for in the Taxonomy law). While the current EU Sustainable Finance Action plan only 'promotes green investments', this approach should be broadened by 'greening all financing', so that financial institutions' lending activities, and all investments are covered, not only green investments. The European Central Bank and the governments of France and the Netherlands have backed the development of a such 'brown' taxonomy, which defines not only green economic activities but also environmentally-harmful activities.

Such an approach needs to target the agri-food investments not just in Ireland but from Ireland to other destinations globally. The Agri-food sector is not only top GHG emitter in Ireland, but also has a profound impact on biodiversity and considerable effects on the function and productivity of ecosystems. Furthermore, according to portfolio managers, agriculture in general, and farmland in particular, can be considered an emerging asset class. Specialised financial vehicles are emerging and competing to attract potential investment in this asset class.

Because of the large diversity of activities within agri-food systems, it is difficult to have a standardised model for assessing investments aiming to reduce GHG reduction in this sector. Specific challenges in this sector—such as accounting for indirect land-use change and emissions, inclusion of reforestation strategies, heterogeneity of production processes and farm sizes and types, and non-CO2 GHG emissions—also need to be better taken into account in typologies and best practices. However, a standardised model is certainly necessary as both big agribusinesses and individual farmers benefit from public funding and commercial loans, but there are no existing criteria to ensure they align with the Paris agreement objective.

7. Are any changes required in Ireland's research policy to channel research funding into climate action-related topics?

The 2019 Joint Oireachtas Committee on Climate Action report recommended the establishment of a Just Transition Taskforce, and that it should commission research on which sectors of the economy and regions are most likely to experience serious disruption over the next decade during the transition to a low carbon economy.

Stop Climate Chaos believes that the Disruptive Technologies Innovation Fund should support research into energy system transformation without fossil fuels, and technological solutions to aid communities and enterprises in scaling up local climate actions such as shared mobility and grouping retrofits/new building materials. The Fund should be used to identify and support ways to bridge the technological gaps between 70-100% renewable electricity and innovativeness in the area of energy efficiency.

8. Is there any additional information you would like to submit in relation to Carbon Pricing and Cross-Cutting Issues?

Government bail-outs, subsidies and supports as a result of the pandemic should end for high carbon sectors especially those associated with luxury carbon consumption. Future investment and support should be expanded in low carbon sectors like health and social care which overwhelmingly benefit low income, marginalised groups and women who are shouldering the majority of paid and unpaid care work during the Covid-19 crisis.

The Government should set and report annually against new indicators of economic success that reflect both the extent to which decent minimum standards of living have been met, and to which ecological limits such as the carbon budget have been respected.

Adequate additional resources should be given to the CSO to ensure they can produce such indicators at a similar level of detail and frequency as other economic indicators.

Electricity

Emissions from the electricity sector remained relatively static between the period 20110 to 2016 as a rising demand for power offset the increase in generation from renewables. Emissions from electricity have fell annually from 2017, with further increases in the level of renewable generation. The Climate Action Plan 2019 recognises the importance of decarbonising the electricity sector by taking advantage of our significant renewable energy resources. The Climate Action Plan sets a target for 70% renewable electricity by 2030. The Sustainable Energy Authority Ireland (SEAI) published their Energy in Ireland report in December 2020, which is available at www.seai.ie. The report shows that the share of electricity generated by renewables was 37.6% in 2019, up from 33.0% in 2018. Wind was the largest share of renewable electricity at 32% with hydro at 2.8% and other renewables, including biomass, at 2.7%.

Electricity targets set in the 2019 Climate Action Plan

Under the 2019 Climate Action Plan, the following targets were set for the electricity sector by 2030:

- *Reduce CO_2eq. emissions from the sector by 50 to 55% relative to 2030 pre-NDP projections*
- *Deliver an early and complete phase-out of coal and peat-fired electricity generation*
- *Increase electricity generated from renewable sources to 70%, indicatively comprised of at least 3.5 GW of offshore renewable energy, up to 1.5 GW of grid-scale solar energy and up to 8.2 GW total of increased onshore wind capacity*
- *Meet 15% of electricity demand by renewable sources contracted under Corporate Purchase Power Agreements*

1. What options are available to increase the penetration of renewable electricity beyond the 70% committed to in Climate Action Plan 2019?

Separate questions about energy demand from shares of renewable energy

The question as posed is highly problematic and skews the debate away from the key indicators of energy sustainability. The question in this consultation assumes that overall demand is not relevant to the target of 70% RES-E. However overall energy demand is increasing, and there should be explicit measures aimed at reducing consumption by households and industry with a particular focus on ensuring that efficiency gains are not eaten up by rebound effects. The Climate Action Plan should be explicit about any assumptions made about electricity demand in 2030 or 2050, and any implied assumptions about the availability of negative emissions technologies over these timescales. For instance, the UK FIRES report into absolute zero emissions concluded that with 'tremendous

commitment' the UK could generate enough non-emitting electricity to deliver only about 60% of current final energy-demand, which in turn would require significant reductions in final energy demand, and changes in end uses of electricity, energy efficient technologies and appliances. If the primary government policy is to achieve a target share of renewable energy, this could be achieved while the ultimate goal of getting to 100% RE slips further and further out of sight.

The primary goal of energy policy should be to aim to meet all our energy needs with non-emitting sources of electricity well before 2050, which in turn, will require the electrification of everything, and an end to carbon and energy intensive consumption and production patterns that cannot be electrified. The goal should be to make the power sector the backbone of the entire energy system. Various studies have shown that this is both technically feasible and cost optimal without reliance on carbon capture and storage.[1]

SCC argues therefore that it is more important to focus on reducing total energy demand, and tackling emissions from electricity generation rather than highlighting the share of renewables. RES shares is a means not an end of a sustainable energy policy, and targets for RE are a poor proxy for climate action as they ignore the impacts of demand e.g. from data centres. For instance, energy models show that with the same level of 70% RES-E in 2030, emissions can vary in the power system by almost 1 Million tonnes mainly due to the impact of data centre growth.

The magic number for 2030 in the power system is 4.5 Millions tonnes (about 50% lower than what it is today) as 4.5 Mt this is what the CAP would deliver. So a better question for the Department to ask is, how can we get below 4.5 Million tonnes? Going below 4.5 Million tonnes will be challenging due to wind variability and the lack of large but affordable energy storage. Ireland has a world renowned renewable energy resource, with huge potential for achieving well in excess of 100% of our electricity demand from renewables such that we could be exporting electricity instead of importing oil and gas.

The PfG commits to a 7% GHG emission reduction compounding every year - 51% total in PfG. The answer for variable RE has been increasing fossil gas-based generation. It is vital that the research supports hydrogen deliver viable green hydrogen pilots as soon as possible.

In terms of hydrogen development, (by GNI or another entity), 'blue' fossil-based hydrogen is not zero emissions and risks a lock-in of high carbon infrastructure and jobs.[1][2] Regarding green hydrogen, it is essential that such development is thoroughly interrogated and is not simply used to prop up ongoing fossil gas usage. It is important that green hydrogen development does not hamper increases in renewable energy production. Renewable hydrogen should be limited to those areas where it is the only available solution to replace fossil fuels (i.e. where electrification is not possible). This would mean limiting the use of

[1] Bogdanov, D., Ram, M., Aghahosseini, A., Gulagi, A., Oyewo, A.S., Child, M., Caldera, U., Sadovskaia, K., Farfan, J., Barbosa, L.D.S.N.S. and Fasihi, M., 2021. Low-cost renewable electricity as the key driver of the global energy transition towards sustainability. *Energy*, *227*, p.120467.

[2] See https://www.e3g.org/publications/between-hope-and-hype-a-hydrogen-vision-for-the-uk/ and https://www.globalwitness.org/en/blog/why-blue-hydrogen-is-fossil-fuel-industry-greenwash-and-wont-fix-the-climate/

hydrogen to special industry needs, and not promoting it in areas where cheaper and more efficient, alternatives exist. The UK thinktank E3G has undertaken in-depth research in this area, and raised several concerns regarding increased energy costs for citizens and proposals to blend hydrogen into the gas grid.[3]

The risk of stranded gas assets increases in the event that hydrogen development, in particular blending, is erroneously supported as the main or only viable decarbonisation strategy or used to subsidise obsolete gas pipelines. Hydrogen development is linked to concerns about the usage, viability and remuneration of the gas transmission and distribution networks. The Department in conjunction with the CRU must lead a long-term plan to provide for gradual and safe phase-out of fossil gas infrastructure taking into account both climate obligations and energy security implications. National Energy and Climate Plans should include steps for gas phase out plans by 2025 and 2030. Regulatory and fiscal incentives and just transition plans need to support reduced fossil gas use and eventually the fossil gas phase out.

To take advantage of our incredible renewable electricity potential we will need to greatly accelerate the electrification of heating and transport, as well as develop demand management and smart metering to assist with storage and grid balancing. Pumped hydro should be considered as part of the mix of storage solutions.

We believe that the Climate Action Plan should put citizens and communities at the heart of transition to 100% renewables, with increased access to information, consultation and public participation. The potential for microgeneration and community owned renewable energies to transform our energy system, as well as public attitudes, is as yet untapped in Ireland. The barriers to realising community energy projects for households, schools and individuals must be removed.

Scaling up renewables

The recently published report of the International Energy Agency 'Net Zero by 2050' sets out a global pathway to achieve net zero emissions by 2050. The report makes it clear that the pathway to net zero is 'narrow' and requires immediate and massive deployment of all available clean and energy efficient technologies. Achieving the target will require a singular unwavering focus from all governments, but for developed countries in particular.

Researchers Dr. Paul Deane and Dr. Hannah Daly of UCC[4] have modelled the potential for increasing the share of renewables on the grid to 80% by 2030. They estimate that this would require an additional 1.5 GW of offshore wind on top of 12.2 GW renewable capacities already envisaged in the Climate Action Plan as well as increasing the All-Island interconnection capacity to 2.7 GW [1 GW today] – 0.5 GW greater than currently planned – would lead to a RES-E share in excess of 80%. Headline results indicate that emissions

---

[3] See https://www.e3g.org/publications/hydrogen-factsheet-series/ and https://www.e3g.org/publications/between-hope-and-hype-a-hydrogen-vision-for-the-uk/

[4] Daly, H. and Deane, P. (2021) Policy Brief: Increasing the ambition on the 70% RES-E target https://www.marei.ie/wp-content/uploads/2020/05/Policy-Brief-Increasing-the-ambition-on-the-70-RES-E-target-June-2020.pdf

savings would amount to 0.5 Mt in 2030, wind curtailment would stabilise at 7% and the emissions intensity of electricity would fall to 109 gCO2/kWh.

Adding more renewables to achieve 80% RES-E would require a remarkably flexible power system and strong market signals for storage and smart loads. The researchers note that adding the additional offshore wind capacity without simultaneously increasing the planned interconnection would lead to excessive curtailment.

The danger of falling back on 'net' zero targets

The UK FIRES project published a study in 2019 on getting to zero emissions by 2050. This study is important because it focuses on achieving absolute zero emissions for the UK from the energy system on a territorial and consumption basis by 2050, without relying on negative emissions technology or CCS. For electricity it recommended the rapid scaling up of renewable energy, chiefly wind and solar, noting that a 3x expansion in non-emitting electricity generation, storage, distribution and load-balancing would be required. No such study with the same guiding assumptions has been conducted for Ireland and as such there has been no treatment of important sectors such as international (freight and air) transport in the models. Nor has the scale of change required by consumers and business been addressed in any government policy or study by the Climate Change Advisory Council e.g. in the area of diet. This in turn gives the impression that Ireland's decarbonisation policies require relatively invisible technological changes only, instead of society-wide changes to production and consumption in ways that will transform our economy and lifestyles.

Data Centres

The current policy of supporting data centres as strategic infrastructure must be reviewed, due to the additional energy demand they will require prior to the completion of offshore wind energy projects and associated emissions of at least 0.7mtCO2. The rapid expansion of data centres threatens the achievement of the PFG decarbonisation goals by 2030 and related public support for the rollout of renewable electricity infrastructure. According to the Irish Academy of Engineering 31% of all electricity demand will come from data centres by 2027. The IAE estimates that the total investment requirements to provide the required increase in generation and storage capacity is estimated at almost €9 billion but it is not clear how these costs will be paid for.

The 2018 Government Policy Statement on the role of data centres in the enterprise strategy notably lacked any analysis of the future energy demand of data centres, nor did it include a climate impact assessment of data centres but noted that 'a balance will need to be maintained between the distributional impacts of higher energy costs on the economy and the longer term economic impacts of utility intensive enterprise investment' without specifying how or where in the decision-making process such a balance should be struck. The policy statement assumes that the main issues arising are higher energy costs rather than higher emissions, and as such, the statement is glaringly out of synch with post 2020 climate policy and should be immediately discarded or updated.

In its recent 'All-Island Generation Capacity Statement', which includes forecasts to 2026, EirGrid states that there are currently about 250 MVA of installed data centres in Ireland, with another 600 MVA of capacity applications being processed at the moment. It notes that

there were inquiries for more than 1,000 MVA for future data centres. Their forecast for 2026 is that DC demand could be as high as 1,400 MVA. Data centres are given accelerated access to the planning system as they are designated 'strategic infrastructure' under sec.49 of the Planning and Development (Amendment) Act 2016. The 2006 Planning and Development (Strategic Infrastructure) Act defines strategic infrastructure in sec.37.A(2) as:

> (a) ... development [that] would be of strategic economic or social importance to the State or the region in which it would be situate,
>
> (b) ... development [that] would contribute substantially to the fulfilment of any of the objectives in the National Spatial Strategy or in any regional planning guidelines in force in respect of the area or areas in which it would be situate,
>
> (c) ... development [that] would have a significant effect on the area of more than one planning authority.

However it is not anywhere explained either in the policy statement or in the planning legislation why data centres fall into any of these categories. While the economic case for supporting data centres is made in the 2018 policy statement, this level of government support flies in the face of Ireland's climate obligations and is certainly inconsistent with climate policy since 2019.

The Climate Action Plan should hit the 'pause' button on further data centres until the 70% target has been achieved, or until offshore wind comes onshore. For existing data centres, the revised Climate Action Plan should require data centres to go '24/7 renewables' rather than using synthetic offsetting. This would drop emissions by about 0.7Mt. They could be required to provide on-site battery storage to bridge the gap when wind is not blowing.

The tech companies building and using the data centres are keen to market themselves as relying on close to 100% renewables and reflects a growing corporate commitment to at least conducting business in a climate neutral manner. However climate neutrality goals do not equate to full transparency over the climate impacts of data centres and the tech sector. Despite the biggest cloud companies' commitments to address climate change, Microsoft, Google, and Amazon all have connections to some of the world's dirtiest oil companies for the explicit purpose of getting more oil and gas out of the ground and onto the market faster and cheaper.

Because these developments are tapping into the onshore wind generation market via power purchase agreements, data centres and tech companies claiming to be powered by 100% renewable electricity are not required to comply with the community benefit rules under RESS. In each of these ways, data centres undermine Ireland's renewable energy strategies.

Greenpeace US has carried out an important analysis of the role of the tech sector in supporting fossil fuel exploration, and its responsibility to address its climate impacts throughout the supply chains. Their 2020 'Oil in the Cloud' report makes the following recommendations for the tech sector that should be incorporated into any updated government policy in support of the sector, or of data centres specifically:

High-Impact Corporate Renewable Energy Plan Checklist

1. Set clear, ambitious, and absolute near-term targets (samples below)
2. Complement ambitious targets with high levels of transparency to chart progress
3. State clear procurement principles that maximize renewable energy uptake, to include the prioritization of renewables that are local, additional, and displacing fossil fuel demand (see below)
4. Support policies that will drive renewable energy deployment linked to corporate footprint

Sample High-Impact Corporate Commitments

- 100% renewable energy for own operations before 2025
- Fossil fuel phase out from direct energy consumption before 2030
- 100% renewable energy including supply chain before 2035
- Net Zero operations and supply chains between 2025-2035
- Strong and consistent policy advocacy in favour of 1.5°C consistent policies

Renewable Energy Procurement Principles

To ensure corporate renewable energy (RE) purchases will result in the reduction of CO2 and other pollutants from fossil fuels, the following core principles should be used to shape and guide strategies for achieving 100% renewable energy goals:

- **Local:** Renewable energy supply is located on the same grid as the company's demand.
- **Additional:** Renewable energy is new and additional, going beyond what would have occurred with existing policy targets or mandatory requirements for utilities.
- **Displace dirty energy demand:** New renewables supply displaces demand for existing dirty electricity generation.
- **Avoid Shortcuts:** Taking harmful shortcuts to reaching 100% renewable energy dramatically reduces the real world impact of corporate RE purchasing and undermines the credibility of companies sustainability claims. Shortcuts to avoid include using unbundled renewable energy credits and overstating progress by signing one large power purchase agreement in one region and claiming it accounts for energy use everywhere.
- **Renewables advocacy:** Pursue strong policy advocacy to change the regulatory and policy framework to rapidly increase the supply of renewable energy on the grids where companies have operations and major suppliers.

<u>Fossil fuel infrastructure</u>

The questions in the consultation do not address fossil fuel consumption or infrastructure, which is a major weakness that skews the debate about decarbonisation away from upstream planning and infrastructure to individual behaviour. Strategies in other countries that aim to achieve carbon neutrality tend to address the issue of reducing dependence on fossil fuels more directly (e.g. Zero Carbon Britain).

Carbon lock-in risk remains as long as the mandates of Irish utility companies and especially GNI permits it to expand its infrastructure. It is essential that no new fossil fuel infrastructure

is permitted (LNG, offshore fields, gas-fired stations, oil/gas boilers, gas network extensions). Fossil fuel subsidies must be ended, and independent energy planning must ensure that our present and future energy needs are provided for without reliance on fossil fuels.

The mandates of key public bodies such as the ESB and GNI should be reviewed and changed if necessary, to ensure that their activities comply with the Climate neutrality objective and carbon budget mechanisms set out in the Climate Bill 2021.

Phase out plans for Moneypoint by 2025 and Edenderry 2023 should be developed and published alongside Just Transition plans for affected workers and communities. A revised government policy should rule out all LNG infrastructure and imports of fracked gas, and the Climate Action and Low Carbon Development (Amendment) Bill 2021 should include an explicit ban on offshore exploration of oil and gas, alongside a ban on LNG infrastructure.

Every planning decision should include the question of whether the proposed development would add to national GHG emissions or help to reduce carbon. All proposed infrastructure must be climate proofed at the offset, and the planning system must facilitate the rollout of renewable energy and associated grid improvements. Local authorities should mandate renewable energy in all property development, as well as be required to support community energy projects and district heating.

2. What can be done to increase the uptake of offshore wind and solar PV in particular, in the context of the Programme for Government ambition?

3. What role does renewable gas have in the power generation sector?

There needs to be a strict definition of sustainable hydrogen and biogas. Fossil gas consumption will be reduced through applying the energy efficiency first principle, electrification and shifting to 100% renewables. Burning fossil gas does not only emit carbon dioxide, it also emits methane, a greenhouse gas with a 86 times stronger climate warming potential than CO2 over a short time frame. Methane emissions occur across the entire fossil gas supply chain and need to be resolved.

National Energy and Climate Plans should include intermediate steps for gas phase out plans by 2025 and 2030. **Regulatory and fiscal incentives need to support reduced fossil gas use and eventually the fossil gas phase out. Stop supporting the build out of fossil gas infrastructure and creating stranded assets.** Therefore no new fossil gas infrastructure project should be integrated to the 5th PCI list the Commission is meant to adopt this year. Only punctual linking segments of new hydrogen pipelines should be constructed. Retrofitting existing infrastructure for blending hydrogen into the fossil gas mix is not an option.

Putting people first by giving everyone the option of choosing the best available technology that contributes to climate neutrality, and that avoids the creation of energy poverty.

Develop a phase out plan for fossil fuel subsidies. Ireland should phase out all fossil fuel subsidies, including for fossil gas, immediately to align with the Paris Agreement, the Energy Union Governance and the European Green Deal. 84% of EU citizens would support removing fossil fuel subsidies in favour of support to clean energy. Fossil gas projects across the full supply chain, including blue hydrogen, should not be eligible for public funding sources.

Put independent and science-based decision making at the heart of decisions. Remove the entanglement of fossil fuel interests in defining infrastructure needs and instead make independent science and energy planning the guiding principle. Governance mechanisms should be put in place to ensure that transition periods for fossil gas and fossil-based hydrogen have clear phase out dates.

Prevent the fossil gas industry's Renaissance through hydrogen. Only hydrogen produced with renewable electricity through electrolysis can bring about a climate benefit. Hydrogen produced with fossil gas worsens the climate crises, with or without betting on questionable carbon capture and storage (CCS). Therefore, independent assessments conclude that its use should be limited to those sectors where direct use of renewable electricity is impossible, such as high-temperature processes in steel and chemicals industry, aviation, and long-distance shipping. Hydrogen should not be used to heat homes or for passenger transport.

Ensure the financial and economic risks associated with gas are clearly articulated and managed. Sustainable finance labels such as the taxonomy should not label the use of fossil gas as "green" and economic strategies, such as recovery plans, should not increase exposure to gas assets likely to go stranded in light of cleaner alternatives becoming available.

Ensure adequate financial and technical resources are available for those wanting to transition. Enable a transition from gas to clean energy, avoiding a second lock-in into fossil infrastructures and fossil-based jobs. Instead, support regions and cities currently highly dependent on fossil fuels, including gas, to develop Paris-aligned transition plans and securing adequate financial and technical support.

Gas Networks Ireland - although state owned – is committed to a business model that depends on ongoing use and investment in the gas grid. GNI forecasts renewable gas being key for Ireland in coming decades but on closer inspection they are assuming a big chunk of that is fossil gas where the carbon is captured and stored. It's key therefore that there is independent assessment and planning on the future of the gas grid and the role of renewable gas rather that than planning being driven by GNI, given its vested interest.

The source used to make hydrogen is crucial, the feedstock. Whether it's biomass, electricity or fossil fuels. Renewable gas is a mirage: 99.9% of hydrogen in the EU now is currently from fossil fuel sources. The source used to generate biogas is also critical. When this source includes organic waste from industry (food waste, manure, algae etc) it can be an efficient form of energy generation, however these feedstocks need to be proofed for any unintended consequences such as incentivised food waste.

While livestock manure is a relatively efficient source of biogas it involves having the livestock indoors more and more to be able to collect the manure. Therefore the promotion of biogas (biomethane) potential could be used to justify the ongoing increase of the national herd and the further intensification of agriculture.

4. What role could carbon, capture and storage have in decarbonising our power sector?

In 2008, the SEAI examined the potential for CO2 storage at several offshore fields. Only four were deemed effective and feasible. The report noted that the Kinsale Gas Field (330Mt capacity) is the only field which could be developed in the short term (<10 years). Most recently Ervia stated in 2019 that there are two main options for CCS development in Ireland - 1) the depleted offshore Kinsale field for CO2 and 2) An export model where it is compressed into liquid form and shipped out to a dedicated storage field in another jurisdiction. Ervia note that their 2050 vision sees a decision being made on use of Kinsale for CCS in the next 5 years. They have also signed an MoU with Equinor (formerly Statoil) to examine the potential for Ervia to ship CO2 to a field off the coast of Norway.

The Climate Change Advisory Council has stated that “investment in the exploration and recovery of new natural gas reserves can only be justified in the context of early displacement and retirement of existing coal and oil systems, coupled with large scale deployment of CCS with natural gas.” In their energy system modelling, MaREI produced scenarios based on different assumptions to explore greater or lesser decarbonisation from Bioenergy and Carbon Capture and Sequestration. They note that “[n]egative emission technologies are critical for carbon neutrality due to emissions from unmitigable sources, such as cement and lime production, passenger trains, hybrid vehicles.”

The contention that emissions from these sources cannot be mitigated should be examined in light of the latest technology developments, as well as the EU’s new Green Deal policy framework which will involve the introduction of new obligations and strategies in some these sectors.

Against the above findings, several risks and challenges associated with CCS development and reliance have been raised.

Ervia acknowledge a “legacy risk” that CO2 may leak from such facilities in in the future. They also note that in the case of transportation to Norway, it is currently not be clear to which country the carbon credit would be applied (Ireland or Norway).

McMullin et al (2019) note that the expectation of successful sequestration through CCS raises a considerable moral hazard risk to the effect that insufficient decarbonisation would be deemed acceptable on the basis that ongoing shortfalls may be compensated at some future point by CO2 removals through CCS (or other technologies. McMullin (2018) also points out that potentially limited capacity for geological carbon storage within Ireland.

MaREI acknowledge that while BECCS may be “critical for negative emissions, [the technology] is comparatively more cost intensive and should only be deployed when sufficient biomass supply can be secured.”

The EPA note international studies which show that negative emissions technologies including bioenergy with CCS may only extend the 2050 carbon budget by modest amounts and that they are subject to significant uncertainty.

E3G have highlighted the production of natural gas is characterised by significant methane emissions along the supply chain and as a result, CCS alone is unlikely to bring emissions down to zero.

It is important to note that both major CCS development and large scale indigenous biomethane supply are yet to prove feasible at scale and may have significant cost implications. We believe that CCS should not be relied upon in energy policy to achieve 'net' zero emissions and instead Ireland should focus on scaling up battery storage, pumped storage and demand management solutions to the intermittency issues related to renewables, alongside greatly improved interconnections with the UK and mainland Europe.

5. What other opportunities exist to support the decarbonisation of the electricity sector?

Climate action and the need to decarbonise the energy system is an opportunity to democratise the energy system, and to give communities and householders the chance to generate, own and benefit from their own energy. Only 1% of the energy auctioned through RESS is allocated for community owned power. Opportunities abound in connecting local development and the energy transition as a way of getting investment into local communities. The 1% pot under RESS needs to be increased as the demand is high but there is not enough reserved capacity in the renewables support scheme for community energy projects.

Access to the grid is a huge challenge and approvals/consents need to be speeded up. It is still a huge problem – when the grid is being upgraded there needs to be specific development to allow easier community connections.

If the government is committed to a Just Transition, there will need to be greater support for community energy to build greater community and societal support for the changes in the energy system, alongside a commitment to Need a real just transition including a proper fund which has easy access.

The situation now is that technically no power company is technically 100% renewable energy all the time. Communitypower.ie is 100% community owned power generation but currently on calm / cloudy days they can't supply 100% renewable and sometimes has to get a supply from the national grid however it aims to provide as much as possible.

For larger suppliers who say they guarantee 100% renewable energy they just use certificates of 'Guarantee of Origin' from excess renewable energy suppliers abroad however the actual energy production is not renewable.

We need a mix including solar and wind and storage to achieve higher renewable energy mix through all weather conditions. Eirgrid are considered world leader on this. While we will

see more offshore coming on but need more community generation for 100% renewable energy to become a reality.

SCC recommends that the government develop with interested stakeholders a community energy strategy, to build awareness of the potential for locally owned renewable energy, and to increase community understanding of & influence on the energy system. DECC should lead in the creation of a network of community energy projects, by facilitating a systematic learning programme to build community capacity on smart energy opportunities. Increasing community ownership, control and benefit of renewable energy will require demonstration projects and the creation of local energy plans. For instance, there is huge potential to harness curtailed wind for electric heating and vehicles utilising localised grids and smart meters. Many examples can be found in Scotland and in Germany, where 34% of installed renewable energy capacity is in the form of community energy projects. To date Ireland's potential has been held back by regulatory flexibility and insufficient supports and incentives.

6. What measures might be taken to improve the resilience of the electricity system to the impacts of climate change?

Electricity is a keystone in our world, when we lose it problems do occur, lives may be put at risk. We need to be prepared, and have back-up plans to protect critical infrastructure (e.g., hospitals and waste water treatment plants). We need to prepare for the future, the government needs to also work on resilience for when a crisis occurs. Our economy and society is so dependent on energy and electricity that a disruption could have a major impact. Ownership of resources and data is a key issue that relates to resilience. We need to ensure that resources, infrastructure and data is kept in public ownership to ensure that the public interest is the top priority in energy planning.

Enterprise

Enterprise will play a pivotal role in our ability to meet our 2030 and 2050 targets. It shapes the way materials are managed, from raw states to final consumption and disposal. It manages large transport flows. It builds and uses a large share of our buildings and it influences a vast supply chain by the priorities it sets. Emissions from the enterprise sector reduced by approximately one third between 2005 and 2011. However, they rebounded by over 25% up to 2018, with a slight reduction seen in 2019. This demonstrates how correlated emissions in this sector are to economic growth. While the economic recovery did see some switch to renewable energy sources, the increase in emissions has shown that the link between emissions and economic growth has not been broken.

Enterprise targets set in the 2019 Climate Action Plan

Under the 2019 Climate Action Plan, the following targets were set to reduce emissions by 2030 in the enterprise sector:

- *Reduce Ireland's ETS industry emissions by 10 to 15% by 2030, relative to 2030 projections*
- *Enterprise must contribute to the more ambitious targets for buildings (20 to 25%) and transport (45 to50%)*
- *Expand the EXEED programme to influence and deliver new best practices in energy efficient design management in at least 80 companies in 2019*

1. What measures can be taken to accelerate the uptake of carbon-neutral low temperature heating?

2. What measures can be taken to tackle high temperature heating in industry?

3. What measures can be introduced to reduce to F-Gases in the Enterprise sector?

4. How can we encourage the diversification away from cement in construction?

5. What role could Carbon Capture and Storage (CCS) have in industry, and what steps would encourage its deployment?

Please see CCS question in Electricity

6. What other opportunities exist to support the decarbonisation of the enterprise sector?

SCC does not have a particular expertise or work programme in relation to enterprise. However we would like to make the following observations/ recommendations:

1. The government must ensure that the voluntary carbon market is tightly regulated, and that the EU taxonomy directive is implemented stringently by Irish companies. The biggest threat that the enterprise sector poses to climate action is in the area of 'greenwashing' where companies present and advertise services and products as climate neutral when in fact they are not. This is particularly true of the car sales and advertising sector which is promoting self-charging and plug-in hybrids as environmentally friendly alternatives to ICE cars.
2. There is significant job creation potential in retrofitting and renewable energy, but there will also be significant job losses due to the energy transition that must be acknowledged and planned for. Companies must be guided with clear policy and legal trajectories for emissions reductions so that they can plan accordingly, and avail of supports and research funding in innovative solutions.
3. Companies must be legally obliged to provide transparent information on their whole of supply chain climate impacts. They should be given clear and legally-binding methodologies on how to measure, analyse and report GHGs.
4. All actors in the commercial sector should be required under the CAP to reduce their total energy consumption, increase their uptake of renewable energy technologies and reduce waste and obsolescence so that goods and services are designed better and designed to last longer and to be repaired.
5. Larger companies with 25+ employees should be required to prepare firm-level transport/mobility plans to reduce the impact of commuting. There should be no free / untaxed work-related car parking spaces provided. Consideration ought to be given in such plans for the potential for home working and flexible working arrangements to accommodate both family needs and to reduce commuting.
6. Procurement by public and private enterprises could be a major driver of climate action by for example setting minimum standards for renewables, organic production of food and low-impact products and services.

7. What measures should be taken to address the risks that climate change poses for enterprise?

Built Environment

Preliminary emissions data published by the EPA in January 2021 indicate that emissions from the residential sector increased by 9% in 2020, primarily due to the increase in home working and Covid-related restrictions on movement forcing people to spend more time at home. Covid has also placed a focus on the need for improved ventilation in our homes, schools and other buildings. Therefore, it is important that we improve the energy efficiency and construction quality of our buildings. This will improve our living standards by making our buildings more comfortable, healthier, safer and less costly to heat.

Built Environment emissions reductions identified in the 2019 Climate Action Plan

The 2019 Climate Action Plan identified 29 actions that would reduce emissions from the sector by 40-45%. These actions included:

- *Reducing fossil fuel use in the sector and moving to electricity to provide heating and hot water in buildings*
- *500,000 building retrofits to a BER B2 / cost optimal equivalent or carbon equivalent*
- *Installation of 600,000 heat pumps, with 400,000 of these in existing buildings*
- *Development of district heating, including two initiatives of municipal scale with the potential to provide heat equivalent to the needs of about 50,000 homes*
- *Complete the rollout of the Support Scheme for Renewable Heat*
- *Increasing the number of Sustainable Energy Communities to 1,500*

1. Can Ireland exceed the target of retrofitting 500,000 homes by 2030? If so, how?

The targets set in the Programme for Government mean that we have just 8 ½ years to cut greenhouse gas emissions by 51%. The focus of policy should be on eliminating the use of fossil fuels in buildings for heating and hot water. Most of the retrofits that were funded by the SEAI over the past decade have been shallow retrofits that have done little or nothing to reduce greenhouse gas emissions. Ireland still has a very high proportion of dwellings relying on oil, gas and solid fuels for heating. It is vital that the replacement of oil and gas boilers with heat pumps and retrofits is accelerated and that no further oil and gas boilers are installed in any new buildings.

Financing: low-cost loans and pay-as-you-save

Ireland still lacks a simple, affordable pay-as-you-save mechanism to ensure that those households who lack savings and capital can benefit from retrofitting. Currently only the Fair Deal mechanism allows loans to be attached to the property. All other loans are attached to individuals, but in many cases, people may not outlive the payback period on a retrofit.

We recommend that the Government investigate the possibility of low cost loans that are designed not as personal loans but attached to the property or service costs. The Dutch municipality of Assen, in cooperation with the Province of Drenthe and The Netherlands Investment Agency (NIA), set up this model specifically aimed at retrofitting of apartments.

The model is an innovative form of financing that allows owner-occupied apartments to be renovated towards zero-on-the-meter without using personal loans. It is based on “object based-funding” instead of person-based funding. Individual apartment owners pay a regular fee to the management company, and this entity pays for the renovation of the complex. The fee paid by the apartment owners is called service costs and increases. However, this increase is balanced by a decrease in energy costs. The selected consortium of builders who realize the renovation of the apartment complex will guarantee an agreed-upon energy performance of the building for a period as long as the payback time. This consortium is responsible for the renovation itself, and also for maintenance and management of the building. The property owner thus exchanges the energy costs for service costs.

Consider buildings and environment together

We need to invest money wisely and effectively to ensure that we meet the targets without wasting precious resources. While the focus of the Climate Action Plan is on reducing the climate impact of buildings by switching to heat pumps for sources of energy, it is more sustainable to consider buildings and environmental issues in an integrated way that considers the relationship of the building to its surroundings and its uses. Buildings are not just places of residence or work, they must be flexible over people's lifetimes to accommodate changing needs and new uses. They should contribute to local biodiversity rather than take away from it, and they should enable people to live in communities that are compact enough to provide for basic social needs without requiring a car, or at least car ownership.

Consider the difference between a large one off house that is retrofitted to a high standard, and an EV parked outside. It uses a lot more resources and energy than well-designed car free communities that enable people to live low-carbon lifestyles. We need to invest in towns and villages, not just retrofitting, to make that vision a realistic option for everyone. Grouping retrofits, or retrofitting terraced buildings will cost less too, due to lower insulation costs and more water efficiency.

Additional policy instruments for GHGs from buildings

There are three main ways in which we can enhance the climate mitigation targets for the buildings sector:

1. Put a cap on house size
2. Reduce the carbon intensity of building materials (e.g. cement)
3. Require the use of alternatives to high carbon materials.

However there is a major obstacle in the way of achieving even the existing 2030 targets. The housing crisis, coupled with the split incentives between landlords and tenants mean that the large private rented sector needs bespoke initiatives to ensure that these dwellings are also retrofitted. There is no mention of landlords in the 2019 CAP but 21% of homes in the PRS are G and F BER rated which means they have little or no insulation, have single glazed windows and may have oil boilers or rely on solid fuel for heating. The reality is that many of the people who live in this category of dwelling are likely to be fuel poor and already on low incomes. Addressing the retrofitting issues with the PRS should be prioritised as a measure to tackle energy poverty. But it is essential that policies do not have perverse outcomes such as driving up rents, or driving tenants from their homes.

Private to Public Payback Proposal

Private rental sector

In 2016 326,000 households were in the private rental sector. These houses have low level of environmental efficiency with 51% of housing stock scoring a D1 BER rating or worse, only 7% have a B2 rating or better and 21% of homes in PRS have lowest BER of G or F. There is a split incentive in terms of retrofitting rental property which will need to be

addressed if this subsection of the housing stock is to be retrofitted. Protections also need to be put in place to protect the tenant from the risk of eviction or rent increase as a consequence of retrofitting.

There are several proposals from other jurisdictions to help solve this problem including:

1. ‘Cost-balancing arrangement’ where landlords would have to either choose to upgrade to minimum BER rating or compensate tenants for energy bills

2. Link energy upgrades to HAP scheme where local authorities would fund free upgrades in return for long lease agreements

3. Extra grants for landlords who retrofit both home and rental property to minimum standards

Another proposal is a Private-to-Public Buyback:

1. Set minimum energy efficiency standards for rental properties (B2). Allow time for compliance. Requires enforcement
2. Increase the grant for deep retrofit from 35% to 50%
3. Bi-annual rent increase or decrease in line with CPI. Minimum 10-year lease
4. If landlord is unwilling, local authority to offer to purchase property for market rate.
5. Upgrades by LA to high standard. Rent back to low-income families

2. How should Ireland’s training and education system scale to meet the skills requirements to achieve this target?

There is a major shortage of skilled labour in retrofitting, we need to get from about 2,500 skilled workers to over 60,000 if targets are to be met. This should be tackled in a two-pronged manner:

1. Attract more workers into retrofitting as a career
2. Upskill existing workers and incentives workers to retrain

As part of this there is a need for a register of skilled professionals, that documents the range and level of skills available. At minimum short-term cost, BnM could reassign office workers to identify the skills gaps of BnM employees facing redundancies from the phase out of peat to retrain for retrofitting. BnM or the ESB (or both) could divert organisational capacity and human capital to establish an apprenticeship centre or facilitate upskilling elsewhere, and even hire additional skilled workers to meet demand. Support staff could also canvass and identify opportunities/requirements in the social and public housing stock. Manual and skilled trades workers could be redeployed and reskilled as necessary in interior, exterior and cavity insulation. Rather than forcing redundancies, BnM could offer peat workers a career progression path starting with retraining/apprenticeships and ending with a role in the state-led push to improve energy efficiency in the building stock where the ESB would install heat pumps and solar panels.

In the absence of direct entry to the market, BnM and the ESB are in a strong position to design and/or provide a retrofitting apprenticeship programme. In Belgium, for instance, the three main trade unions and employers work together in the development of training courses for construction workers for green buildings and retrofitting which government then provides. No such programme currently exists in Ireland. Both organisations are also in a position to conduct a canvassing programme to identify retrofitting needs, especially of public buildings, and provide information on costs, grants and subsidies to encourage take-up.

3. Should Government consider bringing forward a phase out of the installation of fossil fuel boilers?

Yes the phase out should commence immediately.

4. Should further specific changes be made to Ireland's building standards be introduced to support the decarbonisation of Ireland's private and commercial building stock?

The reuse of older buildings and the regeneration of towns and villages around the country has been made difficult by building regulations especially fire regulations that aren't flexible enough to accommodate changes of uses for older buildings. Sustainable design needs to be embedded into every aspect of the building regulations, but mainly in relation to structure. 'Factors of safety' are too high or too conservative which results in over-engineering and excessive use of materials. Buildings are currently designed to be 3 and half times stronger than they need to be to eliminate risk. Rather we should encourage more innovative building methods and material use. Building regulations are policed by local authorities, they tend to favour more conservative conventional forms of construction. We should be looking more at light weight or alternative forms of construction.

A priority for the Climate Action Plan should be the promotion of timber construction rather than concrete and steel. In some zero carbon scenarios, there is some provision for recycled steel but in the main new steel construction should be avoided.Due to the housing demands in Ireland new housing construction could use up to 50% of our carbon budget by 2050.

We should instead focus on utilising existing buildings more efficiently and aggressively taxing vacant sites/buildings. The government must regulate embodied carbon and incentivise the reuse of existing buildings. The avoidance of steel and cement will require a significant increase in timber production and this in turn will require Ireland's timber industry to be able to supply increased quantities of suitable soft and hard woods.

5. What emerging technologies (e.g. in relation to heating, lighting, and/or building fabric) should be considered for use in Ireland's construction industry to promote further decarbonisation?

6. What supports can we provide to assist the greater use of low-carbon building materials? How much consideration should be given to embodied carbon in construction materials?

Embodied energy

It is not enough to think about reducing emissions from existing buildings or new buildings: a lifecycle approach requires consideration of embodied energy in existing buildings and the materials used to construct them. The BER rating for example is attached to the operational energy use of a building, not the materials in the building envelope. There should be targets to meet criteria for embodied carbon - regulations have been introduced in other European countries such as Denmark. The Danish policy sets out a staged phasing in and tightening of targets combining embodied CO2 emissions and operational CO2 emissions for buildings, including separate requirements initially for larger and smaller buildings. Buildings below 1,000 m2 will initially only be required to calculate the life cycle assessment (LCA), while buildings over 1,000 m2 will also be required to meet embodied CO2 equivalent (CO2e) limits, which includes CO2 and other greenhouse gases converted into equivalent values of global warming potential.

The objective of such an approach to regulating embodied carbon should be to ensure the reuse of existing buildings as much as possible. 'Tired' properties that have fallen into disuse or poor repair should be utilised e.g. heritage or old buildings in centres near transport connections. Work will be needed to address fire safety, legal and other potential barriers. Government action is needed to provide VAT relief on works and fees, derogations to resolve contradictions in regulations on Heritage, planning, fire safety, univ access, inheritance and capital gains taxes, and gift taxes. All of these issues can pose a challenge to the reuse of an older building. However the emphasis in the Programme for Government on 'Towns First' should mean that resources are channelled into ensuring that town centres are brought back into use with the right policies.

7. Are there specific technologies that should now be prohibited?

Oil and gas fired boilers should no longer be permitted in new housing and commercial buildings.

8. What trade-offs between decarbonisation and air quality may need to be further considered in policy design?

9. Are there specific household behaviour changes that should be considered? Should such changes be mandated by way of regulatory changes?

10. What specific further measures should be considered to promote decarbonisation of Ireland's existing commercial buildings?

11. Is there scope to further develop and deploy district heating opportunities in Ireland?

12. What specific approaches should be taken to accelerate decarbonisation of Ireland's public sector building stock?

The financial architecture governing the way that public bodies work needs to be reassessed so the incentives and regulations work to incentivise energy efficiency 'on the ground' within each of these bodies and their respective buildings. The payback needs to be at local level to ensure there is sufficient incentive to reduce emissions. If energy payments are not coming from a particular budget but paid at national level then energy savings are not realised. Publicly owned social housing needs to be prioritised for bulk retrofitting.

13. What other opportunities exist to support the decarbonisation of the Ireland's building sector?

In summary:

- High standards for new buildings and the retrofit of all existing buildings could reduce energy demand for heating by around 50%.
- Efficiency improvements in cooking, lighting and electrical appliances can significantly reduce their energy demand.
- Industry can also be made more efficient, but a growing population and the need to build more housing and infrastructure mean that new developments should be designed to achieve zero emissions and even below zero (ie. be net contributors to energy), which in turn requires thinking about low and zero carbon communities and not just low and zero carbon housing/buildings.
- Most heating and hot water, all appliances, and most of industry will be powered by electricity, but we also require some biomass for heating buildings which will need to be carefully planned for due to the potential for adverse land-use and biodiversity impacts.

14. Are there further specific measures and policies, including through planning and building regulations, that might improve the resilience of our building stock to climate change?

SCC would like to make the following observations/ recommendations:

- There is a problem with the over-reliance on BER rating to standardise approaches to retrofitting: it fails to consider the opportunities for energy and emissions reduction by for example, lowing heating use and temperatures or the low embodied carbon in older but less energy-efficient buildings.
- The public may resist the emphasis on heat pumps as these require major retrofits to older housing in order to be effective. Consideration ought to be given to staged

retrofits to accommodate 'hesitant' householders who are reluctant or unable to afford deep retrofits, by subsidising staged retrofits over time.
- It is important to consider the lifecycle impacts of some insulating materials. Many of these are manufactured from oils and plastics.
- We need to monitor buildings after retrofitting. We need to understand how they work over time, to inform how to improve. The centralisation of data with smart meters could be problematic as the information could be held by utility companies.
- Higher BER standards in housing could lead to indoor air quality issues. There must be minimum ventilation standards that are applied alongside retrofits.

Transport

The transport sector accounted for 20.3% of greenhouse gas emissions in 2019. Preliminary data published by the EPA in January 2021 indicate that emissions from the transport sector decreased by 17% in 2020, primarily due to the increase in home working and other restrictions on movement. Transport-related emissions are, therefore, highly likely to strongly rebound once Covid-related restrictions are eased. Projected growth in Ireland's population to 5.7 million by 2040 and in economic activity have always been reflected in a growth in demand for transport. As our population is predicted to grow, it is vital to consider how we can provide a sustainable transport system that can meet that demand. In addition, we need to consider how walking, cycling and other forms of active mobility can be part of our daily lives.

Transport targets set in the 2019 Climate Action Plan

The 2019 Climate Action Plan identified 29 actions that would reduce emissions from the sector by 45-50%. Key targets included:

- *Reducing emissions from the sector by 45-50% relative to 2030 pre-NDP projections*
- *Increasing the number of Electric Vehicles on the Irish market to 936,000 by 2030, including 840,000 passenger EBs, 95,000 electric vans and trucks and 1,200 electric buses*
- *Developing an EV charging network to support the growth of the electric vehicle market*
- *Requiring the installation of charging points on new non-residential buildings with more than 10 parking spaced*
- *Raising the blend proportion of biofuels in road transport to 10% in petrol and 12% in diesel*

1. What further policy measures might be required to enable Ireland to meet the CAP 2019 target of 936,000 electric vehicles on the road by 2030?

We need robust legislation against greenwashing in order to meet our 2030 targets for emissions and to get 1 million EVs on the road. A particular issue is the Irish Car Carbon Reduction Alliance (ICCRA), who represent the majority of Irish car dealers, and who are

lobbying hard to delay emissions regulations until 2040 in order to keep internal combustion engine (ICE) vehicles on the road for longer – as they have higher profit margins and also generate considerable income from servicing.

There is a huge opportunity to support the emerging industry of EV conversion, and policies to support the conversion of ICEs to run as EVs would have a major impact in reducing emissions, and the amount of scrap produced – as 160,000 cars are already scrapped each year in Ireland and we know that the government has previously used scrappage schemes as an incentive to get drivers into cleaner cars.

Two other quick policy fixes would be removing the €120 road tax for EVs – as this is based on CO2 emissions – which EVs don't produce – which would bring us in line with the €0 road tax seen in other countries. At present, this makes both new and second-hand EVs needlessly more expensive, especially for lower income families.

But this needs the government to step up and stop putting the onus for change on individuals, as this threatens to increase the wealth gap – it will take systemic change to ensure a just transition to zero-emissions transport to ensure that lower income people are not left behind or tax for not being able to afford to adapt to more sustainable lifestyles.

In addition, the Climate Action Plan should consider engine idling laws – which are commonplace in other European nations – to tackle the incredibly high rate of emissions produced in Ireland from engine idling and especially from buses. Coupled with an awareness programme, this could be implemented quickly and have benefits on Ireland's emissions and on public health.

As per Question 2, there is scope to increase Ireland's EV targets as consumer demand is increasing rapidly, and out-stripping supply at present. While only 30,000 EVs are on the roads currently, a target in excess of 1 million isn't unachievable at current pace, with sales having increased by 96% year-on-year in 2021 already.

To achieve this goal we should also look to implement a ban on hybrid vehicles alongside the ban on diesel and petrol vehicles in 2030, as hybrids are still internal combustion engine vehicles in disguise. I would also say that legislation to restrict SUV and Crossover sales – both electric and internal combustion engine – would improve road safety and reduce emissions significantly, as SUVs are incredibly inefficient and are responsible for the second largest CO2 emissions growth this decade.

Question 7 about biofuel blends – there is major greenwashing in this area, and we must consider that biofuels not only produce harmful emissions, but also require the cultivation of more farm land, which has a major impact on local ecology, carbon sequestration, food production and public health.

We should also consider the role that fuel payments from employers play in stopping people from switching to EV usage, and understand if a change in policy is needed to incentivise battery electric vehicles. This will also have a major impact on the commercial transport sector, as mentioned in Question 3.

While the charging infrastructure is currently ample for the number of EVs on public roads, this needs to be assessed for the future – as per Question 9. Based on the data we have seen, the creation of 20 new rapid-charging facilities – located on the entrance and exit of Ireland's major road networks – with each offering a minimum of 20 charging points, would more than satisfy public charging demand. Albeit, work needs to be done to educate the general public that the majority of charging will always take place at home, overnight when the charging cost and carbon intensity is lowest.

There is, however, major scope to offer dual financial incentives for EVs and solar installations in tandem. This will increase microgeneration of renewable energy by making photovoltaic arrays less expensive, while also ensuring as many EVs are being run on clean, renewable energy as possible.

Of course electric cars are no silver bullet, and do not offer the same carbon reductions that public transport, cycle infrastructure and increased pedestrianisation do. However, Ireland is a nation addicted to cars, as many are, and with a higher proportion of diesel vehicles than most European countries, the move to electric vehicles powered by renewable energy represents a meaningful transition when the need for climate action is so urgent.

2. Is there scope to increase this target for 2030? What should the new target be?

See question 1 above

3. What specific measures might be required in the commercial transport sector to encourage a change to EVs or other zero carbon alternatives?

Vans are the fastest growing road transport sector in the EU and a rising source of air and climate pollution, especially in urban areas. Yet, they benefit from less stringent CO2 targets than cars.

The Irish government should prioritise zero-emission vans in the upcoming revisions of the CO2 standards Regulation and the Alternative Fuel Infrastructure Directive (AFID).

Incentivise modal shift to rail: the use of rail for freight has been declining for some decades now and it is ideal for transporting containers but this requires associated equipment to move the rolling stock into warehousing or onto local transportation. Rail transport is ideal for transporting certain goods such as timber, and the use of rail should be optimised as much as possible.

Optimise logistics efficiency and reduce freight demand: The reintroduction of the 'guard's van' in addition to the existing rolling stock could provide a flexible solution for transporting smaller parcels/ freight goods along with bicycles, e-bikes and scooters. Introduce parcel hotels at train stations and use the rail network to transport the parcels.

Zero-emission urban freight zones (ZEZ-Fs): Well-designed ZEZ-Fs encourage more efficient logistics (reducing the number of trips); a better mix of transport modes (e.g. using shared cargo bikes or light electric vehicles for the last mile of delivery); and a transition of the remaining vans and trucks to zero-emission.

Devising a ZEZ for freight is a complex process involving many stakeholders. Owners and operators of freight vehicles range from multinational companies to sole-proprietor shops, from tradespeople to professionals providing repair and maintenance services. Understanding the interests and concerns of the many stakeholders is key to enabling collaboration and devising effective rules and incentives regulating ZEZ-Fs.

- Providing preferential treatment to zero-emission freight vehicles in zone accessibility, time-windows, and through subsidies and other incentives, can help jumpstart the market for zero-emission freight vehicles and hasten the overall transition to zero-carbon transport.
- Charging infrastructure for zero-emission freight vehicles can be a major hurdle. A coherent strategy needs to be developed cooperatively with logistics and charging-infrastructure operators and the public sector.
- Comprehensive data on freight vehicles, their routes and types of use is essential to designing a successful ZEZ-F. The data typically comes from private operators, so cities need to develop methods and incentives for information sharing.
- CO2 pricing: distance-based road tolling and fuel taxes is key to successfully signalling the need for technology change when fleets are being replaced.
- Zero-emission vehicles (battery and hydrogen): The future is electric, even for trucks. Electric and hydrogen-powered trucks require specific charging and re-fuelling infrastructure because of their high power and energy demand, as well as space, parking and access requirements. The Government must consider these requirements in the Climate Action Plan review, ensuring charging and re-fuelling is possible at truck depots, at logistics hubs (when loading and unloading), at public sites in urban areas and along motorway corridors.
- Support charging infrastructure deployment: the ENGO Transport & Environment estimates that 10,000 truck charging points will be required in the next four years, at truck depots, logistics hub and along every main highway in Europe. In addition, some 300 hydrogen re-fuelling stations suitable for heavy-duty vehicles should be rolled out across the EU no later than 2025, increasing to around 1,000 no later than 2030. The Irish Government should support proposals at EU level for binding targets for charging infrastructure across the EU to ensure seamless cross-border operations.

4. What additional measures should be considered to promote greater use of public transport or active mobility options?

[These recommendations come from the Irish Heart Foundation/Irish Climate and Health Alliance, the Regional Cycling Collective and Cyclist.ie.]

Consult with as wide a range of people as possible when transforming our transport systems. Particularly listen to the needs of disabled people, people in rural areas and the elderly.

Walking:

- Allocate 10% of the capital budget in transport to walking infrastructure
- Provide our cities, towns and villages with wider and properly lit footpaths of quality materials and ensure regular maintenance to facilitate all age demographics and levels of ability and disability.
- Provide separate, physically segregated footpaths between cycling and walking. Cyclists and walkers do not mix well, and paint is not infrastructure.
- Provide more zebra crossings to prioritize walking and introduce new regulations to reduce the waiting time to a maximum of 30 seconds for pedestrian signal times to ensure that pedestrians of all ages have adequate time to cross the road
- Create a 'safe routes to school' programme to make it safer for children to make their own way to school and implement school clean air zones that will restrict car access. This will help to embed a culture of walking and active travel among children from early on.
- Expand the Green-Schools Programme, the environmental and awards initiative that promotes sustainable travel, to all schools in the state
- Accelerate the development of walking greenway routes in rural areas for commuters between towns and villages but also to boost tourism
- Create large traffic-free areas in urban areas

Cycling:

- Provide safe cycling routes to all primary and secondary schools and third level colleges. Carry out an audit of every school/routes leading to the school from residential areas before September 2021 and ensure that safe cycling routes are in place, even on a temporary basis, by the commencement of the autumn school term.
- Revise and implement the 2009 National Cycle Policy Framework
- Allocate 10% of the capital budget in transport to cycling infrastructure
- Construct 20,000km of cycling paths in the form of an expansive network of segregated cycling paths in urban areas and cycling greenways across the country by 2030 to facilitate leisure, tourism and commuting needs

- Ensure that all future and existing cycling paths are physically segregated from roads and pedestrian paths, sign posted, maintained to a high standard and well lit

- Expand the Green-Schools Programme, the environmental and awards initiative that promotes sustainable travel, to all schools in the state

- Implement the cycle bus initiative, which has been working with and adopted by several local country councils, nationwide. A cycle bus is a system whereby a group of parents and schoolchildren cycle to school together, the children on the inside, the parents forming a barrier all around them, protecting them from vehicles on the road.

- Carry out a national road audit to identify the most dangerous junctions and roads for cyclists. Accordingly, retrofit all dangerous junctions and roads to the standards set out in the National Transport Authority's National Cycle Manual and the Department of Transport's 'Design Manual for Urban Roads and Streets' at a minimum

- Ensure that all road upgrades and new roads include provision for cycling built with Dutch style cycling infrastructure

- Ensure all new roundabouts are built to the Dutch-style roundabout design while retrofitting existing roundabouts

- Provide safe, secure and well-lit bicycle parking in towns and cities; DART, train, and bus stations; and all park and ride facilities

- Introduce bike transport facilities on all Irish Rail trains

- Promote cycling using ''soft interventions'' such as public awareness campaigns, bike week and information targeting certain users
-
- Ensure that cycle safety becomes a core part of the driving test, particularly for HGV and LPSV drivers

- Allow contra-flow cycling in one-way streets on specifically signed roads with low volumes of traffic

- Expand the bike to work scheme to €2,000 in order to accommodate and include eBikes

Rural cycling vision:

1. Create an environment in our cities, towns, villages and rural roads where CYCLISTS ARE EXPECTED AND RESPECTED. This would mean for example that provision of bike parking becomes mandatory at all public buildings, for example post offices, libraries etc and that provision of bike parking at workplaces and commercial premises becomes the norm.

2. Create and map a network of useful, CONNECTED CYCLE ROUTES throughout Local Authority Areas LAs must be instructed to think Networks, not isolated segments of routes. This priority is allied to the overall integration of Transport and Planning, to the concept of the 10 minute town and the viability of rural villages.

3. Implement BEST PRACTICE DESIGN to ensure routes are safe and comfortable for cyclists of all ages and abilities. National oversight of design, otherwise what we sometimes get is unusable and will not contribute to reducing emissions.

4.Prioritise SAFE CYCLE ROUTES TO SCHOOLS and car free zones at school gates. Increase funding available for routes to school - the school run is one of the prime causes of short car trips. The €15 M allocated this year is welcome, but it will cover just over 100 schools. There are 4,000 primary and post primary schools in Ireland.

5. LOWER SPEED LIMITS to make our roads and streets safer and more accessible for everyone, and to reduce casualties. Lower speed limits in built up and in rural areas will promote active travel which in turn will lead to a reduction in emissions. It is not feasible to expect people to walk and cycle on rural roads with a speed limit of 80 km/h. It is absolutely essential to introduce a default 30 km limit in built up areas and around schools as per the Stockholm Convention.

6. Ensure clear and timely ACCESS TO FUNDING, by improving capacity at all levels of local and national government. Active Travel Teams within LAs to expand - we need to ensure they are multi-disciplinary. The programme announced in January is welcome but many counties are only getting an allocation of 2 extra staff which is not enough to form a team. Consideration should be given to combining resources to form larger teams to serve smaller counties.

7. COLLABORATE WITH ALL STAKEHOLDERS - including cycling and community groups - at all stages of planning and design. Adopt and promote the CRAC tool (or a version of CRAC) as a national tool to be used as part of the design process by both designers/engineers and people participating in the process - create a common language and common understanding of good quality design and provide a simple way for people to meaningfully input.

8. Provide CYCLE TRAINING for all ages, especially children
Expand Cycle training budget and number of Cycle Right trainers. Currently only one class (usually 5th) can apply but training needs to start earlier to build the cycling habit and reduce cars/emissions on the school run. A whole school approach to cycle training should be adopted. Transport emissions reduction cannot happen if only one child in a family receives training and siblings still have to be driven to the same school.

Public transport:

- The remaining 80% of the capital transport budget, after allocating 10% for both walking and cycling, to be spent 2:1 in favour of public transport over road building
- Conduct an expansive Urban Area Bus Survey and carry out more research into rural public transport needs

- Ensure all new urban buses are 100% electric
- Establish more Park and Ride facilities and Bike and Ride facilities to maximise connectivity between and within different modes of transport
- Implement the BusConnects projects, in conjunction with communities to optimise layout
- Expand rural bus links to improve public transport connections between (and within) rural towns and villages. Fewer than 10 of the 82 largest towns (over 5,000 inhabitants) have public bus services in their areas
- Focus on reducing train journey times and increasing frequency on all inter-city rail routes to better compete with car journeys
- Progress the full electrification of the rail network and upgrading/expanding the current network
- Progress the appraisal, planning and design of the Luas extension into other areas of the greater Dublin area (e.g. Bray, Lucan, etc)
- Support the development of a light rail system for Cork and Galway cities and devise new urban rail plans for Limerick and Waterford cities
- Ban all vehicles with diesel engines from every major urban city centre by 2025 and extend the ban to all petrol vehicles by 2030
- Immediately implement a daily congestion charge on all private vehicles entering Dublin city centre and other major urban centres.
- Ban taxis and hackney cabs from using bus lanes

<u>Recommendations from Climate Change Advisory Council Working Paper no. 8</u>

- Public transport can play a significant and important role in reducing carbon emissions, if a modal shift from car to public transport is achieved.
- Better infrastructure, free public transport and integrated systems can help to achieve a shift from car to public transport.
- For modal shift from car to public transport to be achieved, improvements in public transport infrastructure should be associated with disincentives for car use and car ownership.
- Indirect measures, such as carbon taxes and increased parking charges, can assist in shifting trips from car to public transport. Income from these indirect measures should be used to improve public transport offerings.
- Public transport is best placed to achieve reductions in carbon emissions as part of an overall strategy, including EVs, disincentives for car use and indirect policies, such as carbon tax, parking charges etc.

5. What specific policies might be required to reduce overall passenger kilometres driven within the private car fleet?

6. Is there scope to effect a change in the composition of the private car fleet to shift the vehicle mix away from higher emitting classes?

Put a tax on non-essential SUVs - by weight or engine size.

7. Is there scope to further increase biofuel blends rates beyond those already planned under the 2019 Climate Action Plan?

8. Are there any specific obstacles in the planning system preventing greater modal shift?

9. Are there specific further measures that should be undertaken to increase the availability of electric vehicle changing points, whether in public areas or on private property?

10. What could be done to make the public sector transport fleets more climate friendly?

11. What changes should be considered in relation to the management of Ireland's road network (e.g. reducing speed limits, additional road pricing, or restrictions for specific vehicles in urban areas) to promote emissions reductions?

12. What other opportunities exist to support the decarbonisation of the Transport sector?

There is great scope for further increasing the contribution of transport to climate action. At its simplest, transport emissions could be reduced by reducing the number of trips taken, or by increasing the percentage of trips taken by active travel (including e-bikes and scooters). The more complex challenges arise in addressing the problems and path dependencies in the planning system which lead to car dependency and sprawl, and the difficulties in changing lifestyles and behaviours.

Given that most short trips are under 5km in length, a key target should be to increase the percentage of active modes in short trips. In the Netherlands, 27% of all trips are taken by bike.

Making cycling more appealing means reallocating roadspace to cycling and walking, designing junctions for cyclist safety and setting a 30 km/hr default speed limit.

There are many successful examples across Europe of cities and countries where big shifts towards cycling and active modes have been achieved in relatively short periods of time.

E-Bikes and e-scooters are 'game changing' technologies as they extend the distance people might be willing to cycle especially in hillier terrains. The emergence of cycle superhighways to facilitate longer commutes could be introduced with incentives to scrap cars, or credit notes to purchase ebikes.

Longer trips require better integration between bikes and public transport. Bike parking at train stations is essential, as are facilities to take bikes on board trains. Bus stops, train stations all need excellent, secure bike parking infrastructure.

13. What specific measures could be undertaken in transport infrastructure to address existing and future locked-in climate change impacts?

Agriculture, Land Use, Forestry and Marine

Greenhouse gas emissions from the agriculture sector decreased by 3.9% in 2019, but emissions were still up by 8.7% in the preceeding 5 years to 2018. Irish agriculture has a positive international reputation in terms of producing high quality, sustainable produce. The long-term challenge for the sector is to meet the national policy objective of climate neutrality, while not compromising our capacity for sustainable food production. The Government is committed to finding the balance between environmental, climate and biodiversity needs, and supports for farmers.

The existing Climate Action Plan includes measures to meet our existing targets. This is underpinned by actions aimed at: reducing emissions on our farms by vigorously adopting the abatement opportunities identified by Teagasc; promoting diversification of land use as part of a gradual transition; harnessing opportunities in the bioeconomy; realising the potential of sustainable bioenergy supply opportunities; better management of our peatlands and soils; and developing clusters of exemplar practice.

Agriculture targets set in the 2019 Climate Action Plan

To meet the required level of emissions reduction, by 2030 the following targets were set for the Agriculture sector:

- *Deliver 16.5 to 18.5 $MtCO_2eq$. cumulative abatement*
- *Achieve 26.8 $MtCO_2eq$. abatement through LULUCF actions over the period 2021 to 2030, comprised of an average of 8,000 ha per annum of newly planted forest, and sustainable forest management of existing forests (21 $MtCO_2eq$. cumulative abatement), at least 40,000 ha per annum of reduced management intensity of grasslands on drained organic soils (4.4 MtCO2eq. cumulative abatement) and better management of grasslands, tillage land and non-agricultural wetlands (1.4 $MtCO_2eq$. cumulative abatement)*
- *Set a target for the level of energy to be supplied by indigenous biomethane injection in 2030, taking account of the domestic supplies of sustainable feedstock and consider how the supports necessary to reach such a target would be funded*

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

This question focuses on “measures”, typically efficiency measures but measures do not work if policies cancel them out (for example, dairy expansion). There is a further issue if efficiencies save money, they can be spent on more activity unless there is a regulated constraint on inputs, emissions or production. Policy since 2011 has been dairy expansion targeting the removal of the milk quota. The question therefore *wrongly* implies that the Ag Climatise (Teagasc) measures will reduce emissions. Recent experience shows the opposite. Ag Climatise and Agri-Food Strategy 2030 falls far short of what is required. Climate action requires more like 40–60% reduction in methane and nitrous oxide by 2030. The Climate Action Plan should set clear targets for action in the agricultural and land-use sector, by shifting support to low input farming (organic etc.) and by removing all environmentally damaging subsidies.

SCC recommends that the government publish a revised roadmap for agri-related greenhouse gas emissions reductions that sets out a time scale to achieve, as a minimum, compliance with EU and national law, including the forthcoming Climate Amendment Bill, by 2030, and an implementation and enforcement schedule that can be monitored on an annual basis.

To tackle CH4 and N20 emissions from agriculture there will need to be a a declining cap on total national reactive nitrogen (and phosphorus) usage based on an assessment of the total amount and rate of nitrogen inputs from fertiliser and animal feed that is appropriate and sustainable for climate action, air and water quality to bring usage down to 2011 nitrogen inputs levels (296 ktN) within three years, followed by a more gradual, steady reduction thereafter.

SCC recommends that the Departments of Agriculture and Climate Action together consult with stakeholders and devise regulatory, voluntary and combined measures based on international best practice to limit and reverse recent expansion in the dairy sector by rapidly bringing sectoral greenhouse gas emissions back to 2011 levels by 2025 or as soon as feasible thereafter. Such measures should include a requirement for dairy farmers to reduce their herds and stocking rates to the level consistent with local environmental, and national ammonia and climate constraints, with immediate priority given to farms in sensitive catchment areas.

Addressing the climate impacts of agriculture inevitably requires a reduction in the number of livestock in Ireland. We recommend compensatory measures to facilitate and incentivise herd reductions and diversification in the beef suckler and finishing sectors. Farmers relying on CAP payments for the bulk of their farm incomes should not be financially worse off by implementing herd reductions on a gradual basis.

2. 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?

- Develop, fund and implement a Just Transition action plan for the agricultural sector to identify and address the specific needs of farmers and communities in rural areas. In developing this plan, assess the emissions reductions and environmental benefit

of diversification options. Identify the grants, training and advisory supports required, and the potential economic viability and employment opportunities of diversification strategies. Involve those affected by policy changes to identify sustainable alternatives, with support and input from the wider community and civil society working collectively toward rapid and fair solutions.

- Base diversification strategies on the merits of delivering public goods that deliver landscape and catchment-scale environmental and socio-ecological benefits. These strategies should take into account the local agro- and socio-ecological context, including soil type and the socioeconomic needs of farmers.
- Low impact, low input grazing by cattle is important to support a range of threatened bird species like the Curlew, Lapwing but also pollinators and many butterfly species as it creates good conditions for wildflowers to grow. The type of farming that supports nature is called High Nature Value farming. We need it to help the biodiversity we have. We must reward farmers for the public goods that High Nature Value farmland provides and improve its viability by promoting recognition and demand for these goods and services.
- Scale up locally adapted results-based agri-environment payment schemes on all farm types to support farmland biodiversity. Scheme payments must be financially attractive and supported by improved monitoring and evaluation systems for biodiversity actions and outcomes. Schemes should support biodiversity, carbon sequestration and water quality including active rewetting and maintenance of bogs, riparian planting, agroforestry, continuous cover forestry and hedgerow conservation.
- Establish networks of agricultural innovation that provide an enabling environment for on-farm diversification. Facilitate peer-to-peer learning and knowledge transfer between farmers, government agencies, civil society, and research institutes.
- Expand small scale, local food production. In particular, scale up local and innovative initiatives that shorten, amplify and democratise local food supply chains linking producers to consumers (such as Community Supported Agriculture schemes, farmers markets etc.). Open up marketing and new business opportunities for a range of High Nature Value food produce (such as the development of farm shops, niche products, and ecotourism), and increase the value of HNV produce by linking food with environmental ethics.
- Increase the uptake in organic farming in line with the EU Biodiversity Strategy 2030 target of having *at least* 25% of agricultural land under organic farming management.
- As a national policy priority, substitute imported horticulture food items with cereals, fruit and vegetables grown in Ireland. This would improve rural economic resilience and national food security, help promote a healthier diet nationally, and reduce GHG emissions.
- Incentivise a shift in the tillage sector away from producing feed grains for the livestock sector, to producing outputs such as cereals and pulses directly for food consumption to reduce Ireland’s reliance on imported food. Strengthen supply chains and the domestic market opportunities for Irish tillage farmers by supporting the production of organic certified cereals and pulses that offer price premiums for the tillage sector.
- Promote nature-friendly farming methods in the tillage and horticultural sector, including the use of Integrated Pest Management, reduced or no-till farming, crop rotation and cover crops, as well as leaving fallow plots and allowing for arable reversion next to existing natural habitats.

- Review the curricula of all agricultural training colleges to ensure that the next generation of farmers have up-to-date skills and knowledge in ecology and climate change.

3. What can be done to maximise the use of manure and silage as feedstock for biomethane generation in closed digesters and inject into the gas grid to offset natural gas?

The question needs to be reframed as whether it is wise in the first instance to seek to maximise the use of manure and silage for biomethane production. The supply of animal manures will favour larger farms, and silage production would depend on additional nitrogen fertiliser. The potential contribution of biomethane in agriculture needs to be assessed alongside other land uses including afforestation, solar/wind or horticultural uses. Unintended consequences as a result of large-scale biogas production could include methane leakage from digesters, or increased ammonia emissions from digestate.

The extent to which one unit of renewable energy displaces one unit of fossil fuel energy is uncertain. On an average global basis, 1 unit of renewable energy displaces less than 0.25 units of fossil energy. Therefore renewable gas and natural gas should not be treated as equivalents: 1 unit of renewable gas does not 'offset' 1 unit of natural gas.

GNI is committed to long term gas supply due to its investments in the gas network and related infrastructure. It is little wonder that its strategy to 2050 envisages a high share of renewable gas injection into the grid in order to sustain a business model that is built on a high share of fossil gas in heating systems.

Neither hydrogen nor biomethane are sustainable solutions for gas heating. They are either too costly, too risky, or environmentally unsound. Biogas should be primarily developed for use on farms (e.g. to heat or supply energy to farm activities/enterprises), or for specific local energy/industrial purposes. Injection into the grid risks further gas lock-in.

4. What specific measures can be taken in agriculture, forestry and land use to adapt to climate change?

Climate change impacts for Ireland include:

- Increase in temperatures especially in the east of the country.
- Hot days get hotter, cold nights get warmers, fewer frosts
- Significant decreases in rainfall in spring/ summer leads to increased chances of drought.
- More heavy rainfall events in winter/autumn
- Fewer storms but stronger.
- Continued warming of waters and sea level rise

Suggested actions:

- Agriculture needs to diversify from being predominantly livestock based to become more resilient. *Don't put all eggs in one basket*
- Move to more extensive, low-input, low-intensity agriculture (fewer livestock numbers).
- Pay farmers to allow fields to flood during heavy rainfall events relieving pressure on urban centres.
- Restore upland peat habitats and ecosystems to support resilience. Healthy biodiversity = more resilient agriculture.
- Protect semi-natural grasslands important for birds, bees, butterflies & other insects
- On intensive farms, include multi-species swards and not just one grass type.
- Cut fertiliser use, pollution and run off from agriculture now (heavy rainfall cd make this worse), plant native tree buffers along water courses of intensive farms
- Move away from monoculture forestry that's prone to disease. Support native tree species in continuous cover, close to nature forestry.
- Rewet peatlands and stop drainage of soils

5. What can be done to increase sequestration through forestry (afforestation, extended rotations, and improved forest management)?

Recommendations by CELT, member of the Environmental Pillar

The Authentic Landscape of Ireland is Western Atlantic Temperate Rainforest dominated by oak climax canopy, and an abundance of mosses and lichens.

The Irish Forestry Model is based on Sustained Yield via managed tree plantations of even aged trees and same species/monocultures with the harvesting never exceeding the annual overall growth increment plus new planted areas to increase the overall yields.

In Ireland we are most likely in a Deforestation scenario because the harvesting is exceeding the overall growth of a diminishing forest estate due to the failure to maintain afforestation or new planting.

The Coford forest research body recommended minimum planting of 10,000 ha per annum to stand still is not being met and the ideal of 15,000 ha per annum has not been achieved for 20 years or more.

Coupled with the aforementioned is the main Clearfell and Replant methodology of this lowest common denominator forestry model and you have major soil disturbances at harvest time after Clearfelling, exacerbated by the practice of deep vertical forest drains in the uplands, which is going on all year round on extremely large areas, via Reforestation (Replant after Clear felling) all of which creates more carbon losses from the soil as well as contributing to flooding.

Carbon is also stored in Biodiversity of which there is very little in tree plantations as opposed to native woodlands which also create healthy soil via their leaf and branch litter, therefore increasing our native woodlands and managing them in a close to nature system of continuous cover will ensure that our forests will store much more carbon in wood, soil and biodiversity than at present.

A reference was made to Switzerland for comparison as we had a Swiss participant, outlining how there is 33% forest cover in a country half the size of Ireland, Clearfelling was abolished by law in the 1870's, they have mostly native species and use natural regeneration with continuous cover and selective felling of small coupes as their sustainable management, local communities can collect and purchase timber for firewood from local forest thinnings which are stacked in purposely created areas in communities, and approximately 90,000 people are employed in forest related activities. Ireland has 11% forest cover of mostly non-native forests with few community benefits by comparison.

Globally, it is scientifically accepted that the Earth needs at least 30% natural treecover to maintain extremely important ecological and climatic services, soil protection, biodiversity hosting and enhancement as well as providing homes to 60% of the world's Indigenous peoples, all of which is provided by natural forests. And in response to a question as to how much of Ireland should be forested, 30% is a good target for Ireland to aim for.

How to increase Sequestration from our forests.

We can not be more careful with what we already have, by way of the most valuable land based habitats, these are the ancient woodlands occupying less than 0.2% of land area, these need prioritised immediate protection and expansion with management plans to ensure their long term survival as well as to ensure we have the resilient and evolved seed banks for our future restored native forests. 2000 acres of this precious resource was burnt in Killarney National Park between April 22 and 26th 2021, with not enough personnel on the ground to ensure the threat was diminished.

Creating riparian and ecological corridors on farms etc of linear native woodlands, bulking up the hedgerows, corners of fields, after ecological surveying and protecting of existing niche habitats, etc, also finding/mapping public and private lands to plant to include increased city planting, Ireland's towns and cities have very few trees. Ensuring that we have healthy sustainably managed permanent long lived forests and woodlands providing their full suite of extremely valuable multiple functions while removing carbon from the atmosphere.

We can also improve the current plantation model by increasing species diversity focused on native trees such as birch, ensure longer rotations, stop clear felling and move to continuous cover (CCF) close to nature management systems, introduce ecological forest management training for CCF etc, improve the quality of our hardwoods and softwoods to aim for a higher quality markets such as craftwoods, furniture making, musical instrument making etc, encourage and train engineers to utilise more wood in construction, and reduce our current reliance on imported hardwoods and softwoods, which is unsustainable in terms of the carbon footprints of the travel distances etc. And to achieve the above introduce a Forestry Just Transition Plan for forestry contractors similar to the peat and bog workers etc.

The Environmental Pillar 10 Point Action Plan to Fix Forestry in Ireland.

1. Change the current timber production narrow focused forestry model and transition to a three strand forestry strategy, balancing the ecological, social, and economic benefits, based on the Rio Principles of Sustainable Forest Management.

2. Move to a close to nature, continuous cover management model with a focus on native and other useful valuable high end broadleaves including more use of our native conifer, scots pine to grow better quality softwoods, promote natural regeneration, ecological corridors for nature connectivity and traditional coppice management of suitable native and other species.

3. Phase out the damaging practices of clear felling and chemical dependency, as forest management tools. Include compensation for forestry contractors using the just transition model developed for closure of peat burning power stations.

4.Ensure that wildlife is protected from afforestation and forestry management in line with the requirements of Irish and EU law. Develop tools such as sensitivity mapping and implement species specific guidelines to support ecological assessment of applications for afforestation and felling.

5. Reform Coillte, the Irish Forestry Board, legislation via the1988 Forestry Act, which is not fit for purpose and repurpose Coillte to deliver the multiple known benefits of a new 21st century Irish forestry model, which creates higher quality timber, meaningful employment and contributes to our Climate and Biodiversity action/mitigation plans, while ensuring that Communities benefit.

6. Embrace a broad permanent agroforestry model that includes sustainable hedgerow management and conservation with less onerous rules for establishing small groves of native and useful broadleaves/ native conifer. Reward farmers for measured ecosystem, Water, Soil protection, and Carbon sequestration services.

7. Assist the development of local Combined Heat and Power (CHP) systems in Public and other buildings utilising locally produced tree thinnings and other sustainably produced biomass/firewood in tandem with the development of a national certified small scale Sustainable Forest Management standard.

8.Introduce Community Woodland legislation to allow public and community co-operatives access to funding and support to buy unproductive Coillte and other public lands to develop long term native community woodlands. (Ref: https://forestryandland.gov.scot/what-we-do/communities/community-asset-transfer-scheme)

9. Establish a broad multi stakeholder forestry-land-water-soil management use Forum, with cross departmental inputs to oversee all new afforestation and guide the implementation, to ensure joined up thinking and that new forestry it is sited in an ecologically sound way, with the right tree in the right place, utilising the framework of existing the River Basin management plans

10. Ensure that full lifecycle carbon accounting is an integral component of all schemes within the forestry programme.

6. What opportunities are there to rehabilitate our peatlands and wetlands, and what can be done to realise these opportunities?

Ireland has 11 million tonnes of CO2e coming from degraded peatlands annually that are not in the national accounts. Raised bog restoration plans are slowing being developed but will require sustained and increased funding commitments. Upland blanket bog restoration is very slow, much of it farmed, and there is still substantial illegal mining of peat taking place around the country, including on protected areas. It is imperative that agricultural and conservation policy steps up and immediately brings about a cessation of drainage of wetlands and wet grassland soils. For cutaway bogs or partially drained bogs, the water table should be raised on peatlands following best peatland expert advice.

SCC recommends that the government significantly tighten and enforce the EIA regulations on land restructuring, habitat removal and drainage of wetlands. Habitats and ecosystems around the country require restoration so that they are fully functioning and resilient to climate change. We recommend that climate action policies for land use consider rewilding at farm, catchment and landscape level, and a resourced blanket bog restoration plan.

7. What measures would support increased sustainable management of grasslands, including those areas on drained organic soils?

8. What opportunities exist for increased use of cover crops, incorporating straw into tillage and for the application of regenerative agriculture practices? How can farmers be supported to take up these practices?

9. What sort of role could Ireland's marine environment (lakes, seas) have in delivering climate mitigation? What are the building blocks that need to be put in place to support the role of the marine environment in climate mitigation (e.g. a regulatory framework, measurement and accounting rules)?

- Ireland must urgently implement its commitment to achieve 30% marine protected areas by 2030, by targeting the designation of 10% MPAs by 2025.
- We need to introduce wildlife support below the sea like we do with nature reserves to ensure carbon sinks and marine biodiversity are protected.
- The movement towards offshore wind energy to support more renewable energy production needs to ensure we have accurate information on what areas within the sea to protect. There is currently a lack of marine biologists and researchers with the expertise required to map the seafloor around Ireland.
- Need for specific subsidies for seaweed farmers and be clear on the marine protected areas. Need to deliver on the target of 20% on marine protected areas.
- UNEP has taken a lead with its Blue Carbon initiative. Scotland is an example of good practice in marine climate policy.

- Lack of education for the public on the climate crisis and the lack of research and personnel working on these issues - need for a replication of “Seaspiracy” to highlight the issues from an Irish context.

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

See https://environmentalpillar.ie/wp/wp-content/uploads/2021/04/EnvironmentalPillar_SWAN_SCC_Agricultural_Food_Policy.pdf

Waste and the Circular Economy

Climate Action Plan 2019 notes that an OECD study of four countries' greenhouse gas emissions found emissions arising from material management accounted for between 55% and 65% of national emissions. Ireland's material consumption is well above the EU average, and continues to rise. This indicates that there is scope for savings in greenhouse gas emissions through maximising the efficiency of our material usage.

Ireland's National Waste Policy 2020 – 2025 provides a roadmap to transition to a circular economy in the decade ahead. Under the policy, Ireland will introduce ambitious new targets to tackle waste and move towards a circular economy under the new plan, which includes halving our food waste by 2030, the introduction of a deposit and return scheme for plastic bottles and cans; a ban on certain single use plastics from July 2021; and a levy on disposable cups. Other measures include applying green criteria and circular economy principles in all public procurement, a waste recovery levy to encourage recycling, and ensuring all packaging is reusable or recyclable by 2030.

Waste and the Circular Economy targets introduced in the 2019 Climate Action Plan

The 2019 Climate Action Plan introduced a range of targets for waste and circular economy:

Landfill Reliance Targets:

- *Limit diversion of biodegradable municipal waste to landfill to maximum limit of 427k tonnes by 2020 and for every year after*
- *Reduce diversion of municipal waste to 10% by 2035*

Recycling Targets:

- *Recycle 65% of municipal waste by 2035*
- *Recycle 70% of packaging waste by 2030*
- *Recycle 55% of plastic packaging waste by 2030*
- *Separate collection obligations extended to include hazardous household waste (by end 2022), bio-waste (by end 2023), and textiles (by end 2025)*

Food Waste Targets:

- *Reduce food waste by 50% by 2030*

Plastic Single-Use Item Targets:

- *Ban specific single-use plastic convenience items including polystyrene food containers, cups and drinks containers in line with Single Use Plastics Directive*
- *Provide for 90% collection of plastic drinks containers by 2029*
- *Determine and introduce reduction targets and measures no later than 2022 to be achieved no later than 2026*
- *Ensure all plastic packaging is reusable or recyclable by 2030*

1. How can we ensure that measures support sustainable economic models (for example by supporting the use of recycled over virgin materials)?

Preferring the use of recycled over virgin materials is step in the right direction, but we must look beyond recycling as the only solution and move higher up the waste hierarchy and embrace waste prevention and reuse. As stated by Minister Ryan in the Government's Waste Action Plan for a Circular Economy , with direction from the EU's Green Deal, Ireland must transition to a more circular economy, we need 'to shift the focus away back up the product life cycle, to remove or design out harmful waste, to extend the life of the products and goods we use and prevent waste arising in the first place – consistent with the concept of a zero-waste future.' This waste management plan will put in place mechanisms and targets on how we will achieve this vision.

Firstly, Ireland as a country and its businesses, communities and individuals adopt practices and procedures to take waste out of the system. We cannot continue to regard recycling as the solution to our waste programmes. The last regional waste plans called for a reduction of household generated waste by 1% per annum and a recycling rate of municipal waste of 50%. Unfortunately, neither target was met as our household waste generation has remained largely unchanged over the past 10 years, according to EPA waste statistics. Additionally our recycling rate of municipal waste has hovered between a high of 41% and the most recent measurement of 38% . We are not meeting our targets and will fail to meet EU targets if we continue on the current trajectory. However, if you investigate the amount of material we are recycling, we are recycling more each year, increasing from 594,000 to 678,000 tonnes of household and commercial packaging waste from 2016-2019. This paints an optimistic picture. However, if you investigate the actual percentage of recycling, we are dropping each year from 70% in 2016 to 67.5% in 2019. We are producing too much waste and recycling will not get us out of this waste generating situation unless the government takes ambitious action to prevent the creation of the waste and move up the waste hierarchy.

Recommendations:

1) Per Capita Residual Targets -- Instead of focussing on increasing the recycling targets or recycling amounts, which does nothing to reduce the residual waste generated, Ireland should adopt a per capita residual waste target. This way, efforts could be best focussed on waste prevention, waste reduction and reuse/refill efforts rather than solely on recycling and composting, which are end of pipe solutions. While we still need to divert valuable recycling and organic material away from the residual bin, more ambition and focus must be aimed higher up the hierarchy. We support a phased in target from 325 kg/person in 2018 to 250 kg/person in 2022 to 150 kg/person in 2029 to 100 kg/person in 2031. Zero waste communities in Italy (Capannori in Tuscany) went from a 430 kg/person residual waste to 90kgs/person within 9 years. See Community Engagement Section below about Zero Waste Communities.

2) Reuse/Refill Targets – Binding reuse/refill targets should be set by sector, including food packaging, drinks containers, take-away packaging, cleaning products, retail packaging, ecommerce shipping, etc. Reuse targets send a strong signal to corporations that moving away from single use plastic to other single use material is not acceptable. This

mirrors the work the EU is doing on its revision of the Packaging and Packaging Waste Directive, which will have a bigger focus on reusable packaging. We need investment in a new way of doing business. We can no longer rely on the good will of business to reduce their packaging and develop reuse infrastructure as voluntary commitments only go so far. We need binding targets for reusable/refillable packaging, which other countries have adopted. For instance, France passed an anti-waste law February 2020 which set a national target of 5% refillables packaging units in 2023 and 10% refillables packaging units in 2027 on the total number of packaging units placed on the national market. The law also creates a national observatory for reuse which will collect data and monitor progress.

In Romania, as of 1 January 2020, market operators who place packaged products on the Romanian market are required to sell a minimum of 5 percent of their goods in reusable packaging, but not less than the average percentage achieved between 2018 and 2019, with an annual increase by 5 percent until 2025. Consequently, by 2025, at least 30 percent of consumer packaging on the Romanian market will be reusable. Retailers (with the exclusion of retailers with a small sales area) will be required to give consumers the opportunity to choose reusable packaging and return it to the point of sale.

Germany has a beverage container refill target of 70%. According to a German study, “For beverage packaging, setting ambitious European reuse targets of at least 70 percent by 2030 offers great potential for waste prevention, since it accounts for 10 percent of overall packaging waste. Many countries already have a small percentage of refillable beverage packaging on the market, with the necessary infrastructure in place. The mere need to expand these existing systems makes beverage packaging a truly low hanging fruit. Beyond beverage packaging, a reuse target of 25 percent by 2025 and 40 percent by 2030 should be set for sales packaging. For transport packaging, a reuse rate of 70 percent should apply from 2025. These targets should be attributed to all market participants along the entire value chain (producers and retailers) as it has been the case in Romania since 1 January 2017 and member states should be obligated to link them to effective sanctioning mechanisms in case of non-compliance.”

We need to create a consumer’s ‘Right to Reuse’ and remove any liability associated with reusable packaging, which will require engagement with the Food Safety Authority of Ireland.

3) Reduction Targets – Ireland’s packaging waste generation at circa 200 kg per person exceeds the EU average of 170 kg/person. As indicated in the 2nd EU Circular Economy Action Package and in Ireland’s Waste Action Plan for a Circular Economy, Ireland must reduce its packaging waste and to achieve this and get industry’s attention, binding targets must be set with set penalties should the target be exceeded. We call for a decrease in packaging waste of 25 percent by 2025 and 50 percent by 2030. Reduction targets should be legally binding and attributed to market participants (producers and retailers).

Ireland has committed to reducing its food waste by 50% by 2030, in alignment with the SDGs and EU Green Deal. However, the Irish government must develop a strategic approach to reduce food waste all along the supply chain, from farm to fork. There have been many programmes, poorly funded, that have been successful in small part, including the StopFoodWaste.ie programme, Food Waste Challenges, our own Food Rescue events, Foodcloud, and other initiatives. However, this has been a scatter shot approach with very

little impact and in many cases no follow through or long term supports. All stakeholders must be brought in, including farmers, producers, retailers, catering companies/restaurants, consumers, community and social groups, social enterprises and environmental groups to identify strategic actions and areas to take on. The City of Bruges, established a pilot area, focused in one location and ran many of the same programmes demonstrated in Ireland, but condensed into one area so that the messaging was immersive and impactful. They engaged and empowered their stakeholders to great effect, reducing food waste from one participating institution by 43%.

2. What other opportunities exist to support the decarbonisation of the waste sector and through the circular economy?

GHG emissions from waste management have reduced by 43% on 1990 levels, largely driven by a reduction in landfilling of waste, and in particular the diversion of organic materials . The current climate action plan offers an opportunity to arrest this trend through avoiding the creation of waste in the first instance and ensuring effective segregation and treatment of material after use.

Maximising the quality of material and eco modulation of packaging will support these trends by incentivising packaging which is easily treated. Currently only approximately 43% of households have access to an organic bin, expanding the accessibility of organic waste and the additional material for composting facilities represents a continuing opportunity on waste.

As mentioned previously we must move beyond treating waste and look at initiatives to prevent the creation of waste. Also, Government must lead the way by changing its purchasing decisions, moving towards more reusable options (packaging, cutlery, delft, glasses) instead of disposable items. Public purchasing power has a huge impact on the development of local circular initiatives.

Ireland must invest in new infrastructure to make it easy for individuals and businesses to choose reuse. We need to incentivise the take up of reusable options and target ‘on the go’ food and drink by standardising reusable containers/cups so that they can be used in any food/drink business and establish regional washing facilities to collect, wash/dry and distribute reusable packaging. We cannot continue to rely on the good intentions and actions of individuals to bring their own cups or containers and the businesses accepting them. The provision of reusable items must become mainstream. Instead of waste and recycling bins on our streets, we should reimagine reusable container collection bins where consumers deposit their reusable containers in the bins, which are then emptied at a regional washing facility, washed and redistributed.

According to a study done by Zero Waste Europe, “Reusable vs. Single Use Packaging, a Review of Environmental Impacts”, reusable packaging saves carbon emissions as long as the items stays in use long enough to exceed the break-even point, which is different for each product/material. As reusable containers/cups are made from more robust material to withstand multiple washes and uses, much of the carbon is embedded during the production phase and the transportation/washing phase. Disposable products have lower production emissions, but as they are only used once, their emissions budget cannot be spread over

the number of uses. For example, reusable cups must be used at least 10 times to break even in its environmental impact. However, Life Cycle Assessments on such items do not reflect the environmental impact of littered items in the marine and natural environment.

We must reduce our use of single use plastic as 99% of plastic is made from fossil fuels and it causes CO2 emissions at every stage of its lifecycle; from when the oil and gas used to make it is extracted through to when it finally decays. It has been predicted that plastic production could take up 13% of our global carbon budget by 2050. The SUP directive calls for the mandatory inclusion of 30% recycled content in packaging by 2030, we must ensure that plastic packaging on the market is of suitable quality to support the implementation of this target.

Public Sector Leading by Example

Engaged and empowered public bodies can achieve more than just reduce their own emissions, they can stimulate and inspire action across wider society. The leadership role public bodies can play in taking early action on climate change is fundamental to achieving our decarbonisation goals. To demonstrate leadership, inspire innovation, stimulate supply chains, and showcase practical applications, it is essential that the public sector leads by example in the transition to a climate neutral economy and society. This includes practical emissions reduction, by retrofitting public buildings and electrifying public sector fleets, as well as embedding climate considerations in all public sector decision-making, particularly in relation to investment.

Public Sector commitments in the 2019 Climate Action Plan

The 2019 Climate Action Plan committed to:

- *Reduce CO_2eq. from the sector by 30%*
- *Improve the energy efficiency of public sector buildings by 50%*
- *Set a target to demonstrate leadership in the adoption of low emission transport options*
- *Have a Climate Mandate adopted by every Public Body, making the sector a catalyst for climate action*
- *Agree a Climate Action Charter with Local Authorities*
- *All Public Buildings to reach BER 'B' Rating*

1. What opportunities exist for the public sector to step up its climate ambition?

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

3. How can the public sector support wider society to change? In the short-term, medium-term, long-term?

4. What are the biggest barriers for the public sector in reducing greenhouse gas emissions and how can they be overcome?

5. What other opportunities exist to support the decarbonisation of the public sector?

6. What practical steps should the public sector take to adapt to climate change?

Just Transition

The Programme for Government notes that the transition to a low-carbon future will unleash huge changes in society that, while presenting significant challenges, will also bring a range of opportunities, the impacts of which will be unevenly spread and will manifest themselves in different ways. The Programme for Government, therefore, affirms the necessity for a just transition pathway to be found, which delivers alternative job opportunities to sectors and regions most affected, and ensures that vulnerable groups are helped, as transformative policies are implemented. This will require the anticipation of challenges and planning for responses to them.

Ireland's pathway to net zero will not affect all groups equally at the same time. Actions to support individuals and communities in undertaking the necessary changes are, therefore, important considerations for policy design in all sectors of the economy. Our experience to date on just transition has been focused on the phasing out of peat as a fuel for power generation in the Midlands region, and the resulting impact on employees in the affected sectors and region.

The Government's approach to just transition will also evolve in the context of the EU Green Deal, which has identified the role of just transition in supporting the low carbon transition in a fair and inclusive way, and sets out the objective of managing the transition to address future significant structural changes in business models, skills requirements and relative prices, taking account of how citizens, depending on their social and geographic circumstances, will be affected in different ways.

1. Which regions, sectors, or industries do you believe will be most adversely affected by climate policy in Ireland and over what timeframe?

Agriculture, residential, transport and energy industries are the largest contributing sectors to Ireland's emissions. Major changes will be needed across all of these sectors in order to decarbonise Ireland.

Agriculture contributes the most to Ireland's emissions and due to current government policy is likely to increase its emissions over the coming years. A balance between maintaining the industry as a viable part of the Irish economy which supports jobs, producing good food and reducing emissions will need to be found.

The swift change in the production of peat in the midlands by BnM has resulted in major disruptions in the midlands. A Just Transition commissioner has been appointed to oversee the transition in the region and a Just Transition Fund has been established. Unfortunately to date little has materialised in terms of replacement jobs in the region or any diversification of the economy. It is imperative that the Just Transition for the midlands peat workers and communities is successful with positive changes observed within the coming months as the transition of the rest of Ireland hinges on this outcome.

Those living in poverty and specifically energy poverty will be negatively impacted. Based on the most recent CSO figures, well over 400000 people[5] went without heating at some stage

[5] 8.6% (421744) [SIA26: Poverty Status, Type of Deprivation and Year]

in the last year. When we broaden that to people who were at risk of fuel energy, more than one in four people were afflicted.[6] We see this already with carbon tax growing by almost 25% in the last budget. Energy poverty has significant impacts – far beyond the obvious challenges – including an observable increased risk of depression.[7]

The primary welfare intervention we have at present is the fuel allowance, which has seen a rise in response to the carbon tax – a 100 million more last year. There are clearly welfare possibilities in retrofitting – targeting social housing as the cutting edge of that project will have obvious benefits.

The introduction of higher rates of carbon tax pose questions about how the welfare system will adjust to cope with growing energy poverty *and* how we will address the subsidies for carbon intensive energy production and consumption that detrimentally impact the exchequer. It would be a mistake to interpret "welfare system" to just apply to those who engage the Department of Social Protection since Revenue offer a range of *corporate welfare* options in the form of preferential tax treatment. Social Justice Ireland estimate this cost us €2.4bn in 2018.[8]

2. What types of supporting interventions should be considered by the Government to address the specific areas identified?

New decent job guarantees should be designed for those sectors of the economy that will be most impacted by the transition to a post- carbon future.

Access to the Just Transition Fund should be streamlined to ensure projects which are eligible to draw down the funding are able to do so as quickly as possible.

Social dialogue and public participation is foundational to any just transition. An effective mechanism which allows local engagement with the Just Transition process will be vital. The state needs to take a leading role in this discussion.

- Climate disclosures should include employment risks and Just Transition Plans.
- Without unions or worker associations workers will not be able to actively participate in just transition plans.

3. What specific further measures should Government undertake in order to realise the benefits of the low carbon transition, including in relation to supporting the development of low carbon sectors of the economy, including employment in these sectors?

[6] 26.1% (1,279,944). [Ibid.]
[7] https://doi.org/10.1093/pubmed/fdaa260
[8] https://www.socialjustice.ie/content/policy-issues/eu24-billion-revenue-forgone-fossil-fuel-subsidies

4. What specific investments should be considered to support a just transition in Ireland?

5. How should the State finance just transition initiatives and investments?

1. Challenge growth as a goal
2. Taxation - commons-based taxation - tax the use of common pool resources, site value tax,
3. BAnking - community focused non-profit banks that don't depend on debt
4. Need for hard limits/ regulations on certain things especially fossil fuel imports, you have to go beyond carbon pricing (which can harm poor).

6. What changes should be considered in Ireland's social welfare system to support population cohorts that might be more adversely affected by the low carbon transition?

The primary welfare intervention we have at present for fuel poverty is the fuel allowance, which has seen a rise in response to the carbon tax – a 100 million more last year. There are clearly welfare possibilities in retrofitting – targeting social housing as the cutting edge of that project will have obvious benefits. Interventions will also be required for those in the private rental sector.

But if we are going to have a carbon tax we will want to ask serious questions about how the welfare system will adjust to cope with growing energy poverty and how we will address the subsidies for carbon intensive energy production and consumption that detrimentally impact the exchequer. It would be a mistake to interpret "welfare system" to just apply to those who engage the Department of Social Protection since Revenue offer a range of corporate welfare options in the form of preferential tax treatment. Social Justice Ireland estimate this cost us €2.4bn in 2018.[9]

Universal basic income could be considered as a possible welfare support. The PfG committed to examining this support in the Irish context with a pilot for those working in the arts being trialled. This welfare measure has been tested recently in small trials in situations as diverse as Finland, Namibia, and Iran.[10]. A universal basic income would effectively replace the myriad benefits and entitlements afforded to citizens – which are costly in themselves to administer – with a simple payment to everyone. The theory is that this will install a floor above poverty level, automatically transforming people's potential to actualise their capacities and vision.

7. Are there specific issues for consideration in Ireland's further education, training and skills system?

8. What other issues should be considered by the Government to inform just transition policy in the 2021 Climate Action Plan?

[9] https://www.socialjustice.ie/content/policy-issues/eu24-billion-revenue-forgone-fossil-fuel-subsidies
[10] See: https://www.vox.com/future-perfect/2020/2/19/21112570/universal-basic-income-ubi-map

Research looking at case studies of Just Transition have identified 11 lessons that should be taken into account in Just Transition policy:

1. Transitions are complex and take time
2. Context and past experiences of transition shapes a region's response to, and experience of, transition
3. Preparation is required for a just transition: Whether it be led by government, regional or local/community-based actors, and followed up with government support.
4. Personnel restructuring processes: Negotiated between companies and trade unions and/or brokered by government can lead to an orderly phase-out for workers.
5. Overall - balance must be struck between phase-outs and the community and environmental interest.
6. Social dialogue: An effective, if not fundamental, mechanism for fostering trust and adopting a problem-solving approach to transition.
7. New institutional structures for social dialogue established by government: With overarching targets and goals, can create momentum and maintain discipline – however flexibility is needed.
8. An inclusive, place-based approach is necessary: With an overall focus on regional development.
9. Uncovering, valuing and cultivating the existing skills and capacities of a region
10. Skills audits are useful in transitioning a region: Alongside a coordinating and economic planning role for the state.
11. State investment in supportive alternative infrastructure

9. What additional supports could be considered for regions that are most at risk from the physical impacts of climate change?

Changes in rainfall and coastal flooding are widely expected physical impacts of climate change in Ireland leading to drought and flooding events.

Social dialogue is key to adapt to impacts of climate change – return of new forms of social partnerships as in the 1980s-2000s is considered essential. Community engagement and education in local adaptation measures such as flooding control measures will be vital to ensure appropriate action is taken and to facilitate buyin to these measures.

Member State policies to support energy-poor households should generally be coupled with information/education on energy saving options through efficiency gains but also sufficiency, i.e. behavioural change.

Special attention should be given in policy-making to low-income households who do not receive welfare payments, e.g. precarious employees.

Investment in affordable, low and zero emissions transport, clean energy and circular economy are crucial as essential social goods.

<u>Flooding</u>

Reduced reliance on hard engineering for food control with increased concentration on catchment wide nature based solutions eg restoration of wetlands and riparian zones which can help naturally slow the flow of the river. Farmers located on floodplains could be compensated for allowing their land to store flood water during times of flood.

General comments about the Climate Action Plan consultation process

Our experience in SCC is that the consultation period designed for the Climate Action Plan review is too short. We understand that this process aims to dovetail with other Department initiatives including statutory processes, but we believe that for an adequate consultation on one of the most complex and challenging issues of our time that requires economy and society-wide action - even a pilot project needs to be longer than the planned 5 weeks.

- We have a particular concern that the design of the consultation and participation is insufficiently representative of a range of societal perspectives and voices.
- It is unclear how 'hard to reach groups' such as youth can be meaningfully engaged through such a short process. We have concern that it will not allow sufficient time to really listen to those groups in order to genuinely look at how climate action could address issues of immediate concern e.g. energy poverty, poor transport infrastructure, unemployment etc.
- PPNs are a good anchor structure for conversations to happen at a local level, however: They need to be better resourced to have this conversation with an expert advisory committee in the background, which can provide appropriate and scientifically up to date context following the model set by the Citizens' Assemblies
- The PPNs only include the community and voluntary sector organised into three separate pillars - other critical stakeholders are absent from the PPN process, including farmers, businesses, and students.
- Greater PPN involvement at a preliminary stage would have allowed for the incorporation of their experience and knowledge of the participation process. We are concerned that the overall process risks conflating meaningful consultation, social dialogue and public participation, on the one hand, with public relations and market research into public attitudes and behaviours on the other.
- From what we have been told, the questions to be asked in the public survey are insufficiently scientific or evidence-based to the extent that they frame what climate action entails.
- Focusing on individual behavioural changes, taken out of context, sidelines the more fundamental, Government-led, structural and systemic changes and policies needed to reduce emissions quickly and fairly.
- The Aarhus convention protects the public right to information and participation in decision making affecting their environment. There is a need for much greater information sharing ahead of the decision making so that participants are adequately informed for their decision making. This is especially true if the target audience is not the usual contributors. Reaching the general public is vital but the lack of information across the diversity of issues affected by climate change means they will not be in a position to make informed decisions.
- We have concerns that Government representatives may use some of the outcomes to justify previously agreed positions, or to promote a business-as-usual approach. The areas of transport and agriculture in particular need increased action far beyond the measures set out in the 2019 Climate Action Plan if the Government is going to reduce emissions in line with its national and international commitments.
- With regard to the 100 person forum:

- The proposed ad hoc method of selecting people for the 100 person consultation is a regrettable step backwards. Ireland has pioneered the Citizens' Assembly model that is now being replicated all over Europe, and it is a pity that lessons learned from these experiences are not being put to use at a local level.
- How much importance will be put on this input vs the wider, fully public call for evidence?
- A 90 minute online discussion following 45 minutes of online activities with people who may not have the basic scientific information on the climate crisis is not adequate, and ignores the support structure that made the Citizens Assembly such a success.

Overall we feel that this process does not give the public enough time to engage in a meaningful way and the resources needed by PPNs are not in place. We recognize that this is seen as a pilot by the Department but we hope there is still time to make some improvements before the process begins. Moreover, we would like to be included in the evaluation process for this pilot and we welcome the suggestion by Department officials that we engage at a much earlier stage of the planning for the next iteration of the process. As the Aarhus convention implementation guide states on page 120 "The Convention urges ….proponents to interact with the public at a preliminary stage".

As a coalition and as organisations, we will continue to engage with the Department through multiple channels around climate action. Finally, while we are making the case that good-practice public consultation and participation requires more inclusive planning and more sustained resources, there is nothing to stop the inter-departmental technical work and the work to develop policies and measures for inclusion in the Action Plan proceeding alongside a longer and better resourced public engagement process. With annual climate action plans due to be developed, we welcome the proposal that that consultation will be annual. It makes sense to develop a robust participatory permanent public participation process to ensure Aarhus compliance in climate action.

Extra Information

1. If you would like to submit some additional Information as part of your response, you can now attach a PDF.

Please note there is a file size limit of 25MB. If you experience any difficulties please contact us at CallforEvidence@decc.gov.ie