An Taisce 75 YEARS 1948-2023
The National Trust for Ireland

Call for Expert Evidence 2023
Climate Action Planning and Public Sector Division
Department of the Environment, Climate and Communications
29-31 Adelaide Road
Dublin 2

Sent via email to: CallforEvidence@decc.gov.ie

13th July 2023

Re. Call for Expert Evidence - Climate Action Plan 2024

An Taisce welcomes the opportunity to contribute to the consultation on the Climate Action Plan 2024. We wish to make the following submission.

Preliminary Comments on Adequacy of the Consultation

We note that the consultation document provides little to no information on progress to date against the 2023 Climate Action Plan - it provides lists of selected policies in the 2023 Plan but no assessment of their implementation or efficacy. We recognise that there is a lag time in emissions reporting (see section 11 of this submission for recommendations in this regard), however, when no analysis of the current plan is provided it is very challenging to make specific recommendations for the 2024 Plan, particularly with regard to areas where substantial course corrections may be needed.

We further note that this consultation closes just prior to the release of the 2022 emissions figures by the EPA. We believe this detracts significantly from the efficacy of the consultation, as much more detailed analyses of compliance with sectoral ceilings and carbon budgets, and therefore better recommendations for the next Climate Action Plan, would be possible had the consultation remained open until after the emissions data are released.

1. Sectoral Emissions Ceilings

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

The Climate Action Plan 2024 is required to take corrective action to ensure the 1st Carbon Budget period 2021-2025 limits are complied with. It is not legally permissible to imply that 2030 is the relevant target year. The concept of target years is now replaced by the carbon budget procedures explicitly expressed in the Climate Action and Low Carbon Development (Amendment) Act 2021. Radical corrective action in the short term is required to avoid draconian reductions in the 2026-2030 carbon budget and the Climate Action Plan 2024 must

implement these if it is to have any credibility. It must be clearly quantified and demonstrated in the new Plan that emissions reductions will ultimately add up correctly to comply with the five year budget to 2025.

We would highlight that Ireland's carbon budgeting situation is far more pressing than the EPA 2023 Greenhouse Gas Emission Projections report, released 2nd June 2023, has indicated. The report states that Ireland's first two carbon budgets (2021-2030) are projected to be exceeded by a significant margin of between 24% and 34%.

However, An Taisce's analysis shows that Ireland's carbon budgeting situation is further off track than the EPA report indicates (see Appendix). The 2021 Climate Act is very clear in its requirement that any overshoot of the first five-year budget (to the end of 2025) must be carried forward to reduce the following five-year budget for 2026–2030 (per s.6(D)(5) of the Climate Act[1]). This critical analysis, which is essential for decision-makers and in the formulation of the new Climate Action Plan, is missing from the EPA Projections report.

The reality of the current emissions trajectory toward the end of 2025 means the carbon budget overshoot to be removed from the 2026-2030 budget is so significant that it will be much more difficult for the next Government to stay within the legal requirement. This means that highly effective emergency course-correction measures must be immediately enacted to limit the overshoot.

The EPA report provides two emissions projection scenarios, called WEM and WAM, respectively, based on data for existing and projected additional government policies. These projected emission pathways over time are then compared with the legally binding carbon budgets approved by the Oireachtas. In the EPA report, Budget 2 is exceeded by 125 MtCO2eq for WEM and 80 MtCO2eq for WAM. By contrast, in An Taisce's analysis correcting Budget 2 for prior overshoot, the exceedance is substantially greater: 170 MtCO2eq or 110% for WEM; and 117 MtCO2eq or 72%, for WAM. An Taisce's revised analysis (see Appendix) shows that there is a basic budget maths issue in that the EPA report (Sections 4.1 and 4.2) omits the carry-forward of the prior period's overshoot that, under the Act, must result in a corresponding reduction in the subsequent carbon budget.

Separately, all references to a target of "51% reduction by 2030 compared to 2018" and the related indicative Sectoral Emission Ceilings comparisons (Table 1 and 2), are out of date[2].

[1] Climate Act as amended 2021 s.6(D)(5): "Where the total greenhouse gas emissions for a preceding budget period exceed the carbon budget for that period, the Minister shall carry forward the excess greenhouse gas emissions from the preceding budget period to the current budget period and the current carbon budget shall be decreased by the amount of greenhouse gas emissions that are carried forward."

[2] As per this Written Parliamentary Answer from Minister Ryan in March 2023, the obligations under the Climate Act, as amended 2021, Section 6A(5), relating to a reduction in annual GHG emissions of 51% by 2030 (relative to 2018), applied solely to the deliberations of the Climate Change Advisory Council in proposing the initial budget programme, *and those obligations are already "fully met"*. Under the Act, the *enduring* statutory obligation on individual Ministers and the Government as a whole is to *ensure compliance with the carbon budgets*, as adopted by the Oireachtas, rather than to achieve any particular level of reduction in annual emissions in any single year. To the extent that annual emissions track above what would be required for budget compliance in any given period (as they have done to date), the statutorily required emissions reduction in

The percentage reductions required by 2030 will be much greater than 51% even if the most optimistic (WAM) trajectory is followed to 2025, and the Sectoral Emission Ceilings for period 2 will require correction proportionate to the reduced 2026-2030 carbon budget.

This clearly demonstrates a need for dramatically increased climate action urgency in the 2024 Climate Action Plan. The new Plan must incorporate very substantial new measures, in addition to much more robust and accelerated delivery of all of the measures presented in the current 2023 Plan, across every sector to meet the proportionately reduced Sectoral Emission Ceilings projected for the period 2026-2030. Nothing less can plausibly be regarded as good faith engagement by all relevant Ministers with the requirement imposed by the Climate Act in s.6(B)(13) that they shall each "*... in so far as practicable, perform his or her functions in a manner consistent with*" the carbon budgets applying to any given budget period.

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

As it stands, the sectoral emissions ceilings set by Government do not meet the legal obligations of the Climate Action and Low Carbon Development (Amendment) Act 2021 (hereafter referred to as the Act). Consideration of a major sector (LULUCF) is thus far omitted from the sectoral emission ceilings. This must be urgently addressed as a preliminary matter.

S.6C(1) of the Act states that:

> "*The Minister shall prepare, within the limits of the carbon budget, the maximum amount of greenhouse gas emissions that are permitted in different sectors of the economy* ***during a budget period*** *(in this Act referred to as a "sectoral emissions ceiling") and different ceilings may apply to different sectors".* [emphasis added]

Furthermore, the Government has allowed for large "unallocated emissions reductions". This is not provided for under the Act and could allow for the overall budgets to be exceeded.

The indicative sectoral emission limits provided for the first carbon budget period with the omission of the LULUCF sector does not meet the requirements of the Climate Act. LULUCF figures have been provided by the Climate Change Advisory Council and while these may be over optimistic, they must at least be incorporated into the 2021-25 sectoral emission limits, or provision made for greater emissions than anticipated via the precautionary principle.

The findings of the LULUCF Review will not materially affect the achievement or otherwise of the 295Mt requirement of the 2021-25 budget period. Neither will any change in policy such as increased tree planting initiated in 2026 significantly contribute to sequestration during the

following years necessarily increases. Specifically, the level of annual emissions reduction required in 2030 is now determined by the carbon budgets, rather than vice versa. The EPA projections analysis and communication entirely fails to present this new statutory reality.

2026-2030 carbon budget period. The Review amounts to procrastination on achieving the required emission reductions during these two critical carbon budget periods.

These issues have been discussed in detail in a letter from four eminent climate science and law experts to the three Coalition leaders[3] and in a corresponding *Irish Times* article[4], and we would direct the Department to those documents.

2. Carbon Pricing and Cross-Cutting Issues

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

The rights of the public to compel decision makers at local and national level to comply with climate-related legislation are essential parts of the democratic planning process. Proposed limitations on access to justice in the planning system, especially those included in the Draft Planning and Development Bill 2022, would therefore constitute an unacceptable barrier to this and severely thwart the expressed wishes of the electorate regarding the delivery of climate ambitions. We would direct the Department to pages 20-26 of An Taisce's submission[5] to the pre-legislative scrutiny of the Draft Planning and Development Bill 2022 which detail our extensive concerns about the Bill's proposed restrictions on legal standing, cost protection, judicial processes and timelines, etc. If implemented, all of these will seriously hamper the ability of the public and eNGOs to hold decision makers and public authorities to account on the delivery of our emissions reduction obligations.

There is also an ongoing systemic failure to meet the obligations of the Environmental Impact Assessment Directive and Habitats Directive with regard to the identification, assessment and mitigation of the cumulative impacts of individual projects. There is a tendency for planning and licensing proposals to be treated as standalone installations assessed solely based on potential impacts within, or in the immediate vicinity of, the red line-delineated site. This is despite the fact that many impacts, notably climate impacts, are not spatially bound to the development site itself and its immediate surrounds and are therefore not being adequately assessed in-combination with other projects and plans.

[3] McMullin, B., Jackson, A., Price, P.R., Sweeney, J. (2022) Letter re: Sectoral Emission Ceilings under the first carbon budget programme: https://docs.google.com/a/dcu.ie/viewer?a=v&pid=sites&srcid=ZGN1LmllfGRjdWVjcm58Z3g6NmQyMTIyMTg3%20YTAyNjUyMQ

[4] McMullin, B., Jackson, A., Sweeney, J.. Price, P.R. (14 Sept 2022) *Irish Times*, "The Government is already in breach of its own Climate Act": https://www.irishtimes.com/opinion/2022/09/14/the-government-is-already-in-breach-of-its-own-climate-act/

[5] https://www.antaisce.org/Handlers/Download.ashx?IDMF=76b8c42b-d3e2-43bf-8bcb-e11edeee6b1e

2.2 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?

Taxation of polluting vehicles currently does not comply with the 'polluter pays' principle. A revision of motor taxation for SUVs to reflect their impact both in terms of polluting emissions and road surface damaging weight is required to eliminate the ongoing increase in vehicular emissions, despite improvements in emissions technology.

Congestion charging in city centres is required to encourage a modal shift in transport. Similarly, an end to private parking in city centre locations currently enjoyed by private sector firms should be engineered through stricter benefit-in-kind regulations.

Artificial fertiliser must be subjected to VAT, as applies in all other EU countries.

The policy of taxing methane emissions, currently being pursued by the New Zealand government is an appropriate action for Ireland to emulate. Such taxation should be progressive and based on the number of dairy cows per farm parcel. This measure should be introduced as an action complying with the commitment made by the then Taoiseach when, together with the EU, he signed the global pledge to reduce methane emissions by 30% on 2020 levels by 2030 at COP26.

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

Development planning, both in terms of individual applications and local authority development plans, must provide an estimate of the greenhouse gas commitment during both construction and operational phases. For commercial developments above a certain threshold, this declaration should incorporate Scope 3 emissions in addition to Scopes 1 and 2.

2.4. What additional opportunities exist to further promote the digital transformation of our economy and society to support Ireland in its transition to a carbon neutral society?

Digital carbon calculators provide a useful instrument for gauging community preferences at local level in terms of mitigation choices. These should be further developed as public consultation and decision making tools.

2.5. What regulatory and administrative supports can be provided to organisations to help them carry out their business in a manner that aligns with the National Climate Objective?

Local authorities must be provided with the necessary data and expertise to enable them to successfully implement Low Carbon Zones in their jurisdictions. This requirement must be overseen by DECC to ensure that a meaningful model is developed in each local authority that can be replicated throughout its area as part of its compliance with the required Local Authority Climate Action Plans.

3. Electricity

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

A pan-European grid fed by both wind and solar will help provide this capability. Increased interconnections must be pursued as a matter of urgency.

3.2 What can be done to accelerate/facilitate the delivery/deployment of offshore wind and solar PV in particular, in the context of Climate Action Plan 2023 and the REPowerEU ambition?

It must be ensured that applications for offshore renewable energy developments and the supporting infrastructure are made in accordance with EU and national law from the start, particularly with regard to environmental impacts. Lack of compliance will increase the time proposals spend in the planning process and increase the likelihood of legal challenges.

Planning authorities need to be sufficiently resourced to handle the influx of applications. They also need to employ and retain enough staff with the relevant expertise in, for example, ecology, environmental law, etc.

Broad and meaningful public participation from strategic plan stages, through the earliest stages of project development and through the application process is essential.

While offshore renewables hold great potential from an energy perspective, they must avoid exacerbating the biodiversity loss crisis.

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

See section 7.3 of this submission on biogas.

3.4 What role could carbon capture and storage have in decarbonising our power sector?

None by 2025 and probably none by 2030. The development of carbon capture and storage at significant scale and in any immediate timeframe is very uncertain. The 2024 Climate Action Plan should focus on rapid and deep emissions reductions in the electricity sector via transitioning away from fossil fuel use rather than relying on uncertain technology such as carbon capture and storage.

3.5 What financial incentives are needed to increase renewable generation capacity? a. To incentivise commercial scale production. b. To incentivise microgeneration.

The use of electric car batteries to upload energy to the grid with appropriate permission when connected to charge points should be considered.

3.6 Data centres

As of 2022, data centres accounted for 18% of the country's total metered electricity use.[6] Their power consumption has increased 400% between 2015 and 2022 and by 31% between 2021 and 2022 alone.[7]

Despite the climate impacts of such significant power use, data centres are being considered on a case-by-case basis by planning authorities with wholly insufficient consideration of cumulative impacts to the climate and energy demand (see section 2.1 of this submission). The only national level policy on data centre development supports the continued growth of the sector and does not address the climate impact of data centre energy demand. Furthermore, to An Taisce's knowledge, this policy did not undergo public consultation.

We submit that a national review of data centre energy demand is needed and that this should inform a new national policy on the level of future data centre development that can be accommodated in compliance with our national, European and international emissions reduction obligations. A moratorium on all further data centre development should be put in place until such a policy is enacted.

No further permissions should be granted for data centres to establish fossil fuel powered generating systems in support of their activities.

[6] https://www.cso.ie/en/releasesandpublications/ep/p-dcmec/datacentresmeteredelectricityconsumption2022/

[7] https://www.cso.ie/en/releasesandpublications/ep/p-dcmec/datacentresmeteredelectricityconsumption2022/keyfindings/

3.7. What are the regulatory challenges for reaching the renewable energy share targets?

Progress toward the 80% renewables target has been significantly diluted by the ongoing proliferation of high energy demand developments, in particular data centres. The higher the total electricity demand, the more renewable capacity needed to reach the 80% target. Therefore, the more energy intensive developments, like data centres, that come onstream, the more difficult it will be to reach that target. Indeed, SEAI figures show that the share of renewables has not increased since 2020, largely due to the impact of data centres.[8] We therefore submit that a moratorium on data centre development is required (see section 3.6 above).

3.8 What are the planning and permitting barriers to infrastructure development to support 80% renewables; such as new generation capacity, grid reinforcements and system services? How best can these barriers be removed or mitigated against?

It must be ensured that applications for renewable energy developments and the supporting infrastructure are made in accordance with EU and national law from the start, particularly with regard to environmental impacts. Lack of compliance will increase the time proposals spend in the planning process and increase the likelihood of legal challenges.

Planning authorities need to be sufficiently resourced to handle the influx of applications. They also need to employ and retain enough staff with the relevant expertise in, for example, ecology, environmental law, etc.

Broad and meaningful public participation from strategic plan stages, through the earliest stages of project development and through the application process is essential.

4. Industry

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

See section 3.4 above on carbon capture and storage.

[8] https://www.businesspost.ie/politics/irelands-renewable-energy-still-at-2020-levels-says-seai/

5. Built Environment

5.1 How can we further support local authorities to deliver on social housing retrofit targets?

Rapidly and substantially increase funding for local authority retrofitting programmes. Plans must also be put in place to support residents during retrofits, particularly if they are required to move out for a period.

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

The current retrofit grants system is very red tape heavy, and geared towards those with more IT skills and the ability to navigate the multiple levels of paperwork and forms to be filled in. Processes should therefore be streamlined and simplified. Significant cost outlay is needed up front, even with the grant schemes, which presents substantial barriers and needs to be addressed. Some households may need to carry out retrofits over a number of years, and this incurs additional costs, such as the need to pay for multiple BER assessments (which are 200-300 euro each) which are needed to secure the grants.

Direct outreach to vulnerable households is needed, as is hands-on support for them before, during and after retrofitting. Plans and supports are needed with regard to alternative housing when homes are being retrofitted. Clarification is needed on how the costs of temporary housing will be covered as well as refitting/redecorating costs. Particular attention should be given to the specific supports needed for older people undergoing home retrofits.

Plans are also needed to protect renters' rights if their home has to undergo retrofitting. Rent prices should not be raised post-retrofit, and plans need to be put in place for housing tenants while their accommodation is being upgraded.

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

Means testing and sliding scales should be provided for in retrofitting grants.

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

The removal of the battery grant for solar installations was a retrograde step and should be reversed.

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

The end date for new purchases and maintenance should be clarified as a preliminary matter.

6. Transport

6.1 Sustainable Mobility and Demand Management

Planning System

All County and City Development Plans (as well as the National Planning Framework) now address the need to integrate land use and transport planning as well as the need to shift away from dispersed, car-orientated development to walkable, cycleable, transit-orientated and consolidated settlement forms. However, significant implementation gaps remain between these policies and their realisation on the ground.

Planning permissions for new large residential schemes in and around the main urban catchment areas, particularly Dublin, continue to be granted without assessing and mitigating the impact of increased traffic generation. While some applicants have set out provisions for Mobility Management Plans, these are left to be implemented after construction and are not integrated with permission conditions.

There is a systemic failure to ensure that new housing developments are linked to safe cycling routes to schools, local services, recreation areas, and enhanced public transport in the satellite commuter housing areas. This makes these areas unsafe for walking and cycling to schools, local services and amenities. These residential schemes often include strong walking and cycling permeability within the boundary of the site itself, they are frequently located on the fringes of cities and towns at a significant remove from existing transport links or services (grocery stores, health facilities, etc.). They are also often sited in areas with very limited existing pedestrian and cycling infrastructure. Therefore, although a new development may provide high quality foot and cycle paths around the dwellings, these often terminate immediately outside the site boundary, thereby discouraging residents from using active travel modes outside of the development itself. Furthermore, despite the abundance of national, regional and local policies stipulating that all new development should promote compact settlement and have easy access to transport links as well as safe walking and cycling routes, large residential applications are rarely, if ever, refused on the basis of not having these elements.

Investment

Currently, transport investment in Ireland is heavily weighted toward carbon-intensive travel, particularly private vehicle use and motorway expansion. To achieve any demonstrable progress towards sustainable mobility objectives, this balance must fundamentally shift to prioritise investment in active travel and public transport. Further road investment nationally

should be restricted to necessary maintenance and the construction of small-scale town bypasses to relieve urban congestion.

Recommendations for Active Travel

- Increase subsidies for e-bikes. SEAI grants for e-bikes, especially e-cargo bikes, need to be part of the grants package.
- Institute mileage/km allowances for cycling, to encourage greater use of commuting by bike, similar to Belgium.[9]
- Deploy fleets of bikes for state and semi-state employees to use instead of cars for some work journeys.
- Further expand the bike to work scheme to be more inclusive with focus on low earners, students, and the unwaged.
- Fund the retrofitting of train carriages for increased carriage of bicycles, and the future purchase of appropriate carriages.
- Reallocate road space on a widespread basis to accommodate segregated cycle lanes and safe, accessible footpaths.
- Prioritise the creation of safe cycling and walking routes to schools.
- Provide ample covered, secure bike parking for all major transport hubs/interchanges, shopping and service centres, and in particular in schools and colleges.
- Create and resource appropriately within the Department of Transport, a National Cycling Coordination Office headed at senior level to be primarily focused on ensuring coordination on policy, standards, and expenditure across government departments.
- Require the appointment of Cycling Officers at Director of Services level in all Local Authorities, with a remit:
    - to produce and oversee the implementation of the above high quality cycling policy;
    - to set targets and effect modal change at local level;
    - to ensure adequate staffing resources for active travel development and to oversee any required re-allocation of staff internally;
    - to set up a Local Authority Active Travel Forum (this could be sub-committee of the Transport Strategic Policy Committee) where stakeholder views are adequately represented.
- Prioritise as a matter of urgency a review of design standards
    - to ensure design and construction of safe high quality routes in line with best international practice;
    - to ensure design consistency across agencies, institutions, and local authorities.
- Introduce legislation so that 30km/h becomes the default speed limit in all built-up areas, and Councils can then introduce exceptions to these limits where it is deemed safe and appropriate.
- Further expand cycle training, via the Cycle Right program, with adequate funding to ensure that local authorities can offer cycle training for all levels and ages including on-street training.

[9] https://cycling.today/more-than-400000-belgians-get-paid-to-cycle-to-work

Recommendations for Public Transport

- Substantially increase connectivity between public transport systems around the country. This should include an integrated ticketing system.
- Expand rural bus routes both between villages and to urban centres with the goal of hourly services in every village/town.
- Continue and expand public transport fare reductions.
- Ensure free school bus access for all children living over 1km from their school.
- Progress the electrification of bus and rail fleets.

Other Recommendations

- Introduce congestion charging in city centres, first and foremost in Dublin.
- Revise motor taxation for SUVs to reflect their impact both in terms of polluting emissions and road surface damaging weight is required to eliminate the ongoing increase in vehicular emissions, despite improvements in emissions technology.
- Introduce higher parking charges for SUVs. This is currently being implemented in Paris and other French cities.[10]
- End private parking in city centre locations currently enjoyed by private sector firms. This should be engineered through stricter benefit-in-kind regulations.
- Increase effective monitoring and emission control action in areas with NOx exceedance to limit more highly polluting vehicles.

6.2 Electrification

Although the rapid electrification of the vehicle fleet is imperative in achieving climate targets and enhancing the overall sustainability of transport, a modal shift away from any type of car use should be prioritised. Electric vehicles still have a major resource consumption impact and continue to emit particle pollutants through brake fluid, tyre wear, etc.

Sales of new internal combustion engine cars should be ended within the current carbon budget period. A special focus is required for accelerating purchase of electric vans for the building, delivery and service sectors. The electrification of the taxi fleet is also needed, along with the supporting infrastructure.

[10] https://www.theguardian.com/world/2023/jul/11/paris-charge-suv-drivers-higher-parking-fees-tackle-auto-besity

6.3 Freight / Commercial Sector

Brussels based eNGO Transport & Environment (of which An Taisce is a member), carries out ongoing research on HGV fuel efficiency and shifting away from fossil fuel trucks to zero-emission vehicles. We would direct the Department to their recommendations.[11]

The capacity to transport freight via rail should be greatly increased. For example, the Limerick-Foynes rail line is existent; it is a regional and national asset, and there is a clear capacity to restore the rail freight line to use within an immediate time frame.

Consideration of freight in the Climate Action Plan 2024 should also include issues of shipping and ports. Current models of continued increases in tonnages passing through Irish ports and the resultant demand for land transport need to be revised to address sustainability constraints. The continued accommodation of increased berthages and the building of motorways and dual carriageways for land haulage is being justified on the basis of rising demand on the Trans-European Network TEN-T ports and connection routes in Ireland. Future policies and investment with regard to shipping should focus on building up the heavy rail network for freight haulage. Waterford Port is underutilised and has the best designed rail-to-berthage interchange in the country, it accordingly has major potential for rail.

As a maritime nation Ireland should be party to international research and prototype development of low emissions shipping. In particular, the development of low emissions sail-rail connections from Dublin to Holyhead and the British railway system should be advanced as a cross-Irish Sea cooperative action.

6.4 Rural Transport

Many of the aforementioned recommendations apply to rural areas, however, we would also make the following specific recommendations:

- Expand rural bus routes both between villages and to urban centres with the goal of hourly services in every village.
- Develop a clear policy for Cycling in Rural Ireland. Cycling needs to be a countrywide issue, not just an issue for major urban centres. The opportunities are there and these can also support local economic and social development.
- Increase supports for rural dwellers to purchase electric vehicles and home chargers. Rapidly deploy public charging points in rural areas.

6.5 Just Transition & Communication

Sustainable transport measures must be targeted appropriately to be fully affordable for people on lower incomes. As it stands, electric vehicles (and the associated charging

[11] https://www.transportenvironment.org/what-we-do/cleaner-safer-trucks

capability) and electric bikes (and indeed conventional bikes) are unaffordable for a substantial portion of the population, even with the existing support schemes. Further reducing public transport fares will also be essential in this regard.

The specific challenges facing rural households must also be fully accounted for in just transition as those living in rural areas currently have far fewer public transport and safe active travel options when compared to urban dwellers.

6.6 Other Comments

- Reduce aviation dependence by enhancing international cooperative action for low-emission sail and rail connectivity with Britain and the continent.
    - Subsidies for ferries are needed to make prices even somewhat more competitive with airfares.
- Current restrictions on foot passenger numbers (including cyclists) on some Irish Sea and continental ferry routes should be removed as having no practical or operational justification.
- Tourism and transport:
    - Longer area-based stays rather than drive-through tourism should be promoted. Development of enhanced public transport tourism options along the Wild Atlantic Way is needed.
    - Enhanced promotion and development of greenway routes is also needed.
    - Given the high emission impact of aviation, the promotion of foot or cycling passenger ferry journeys for longer stay visits is desirable.
    - The leisure and corporate sectors should redirect their tourism promotion focus to longer stays rather than more frequent short trips during the year.

7. Agriculture

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

AgClimatise was roundly criticised by environmental NGOs and climate scientists at the time of its drafting as being insufficient and aspirational. An Taisce worked with Stop Climate Chaos and the Environmental Pillar to outline the flaws in the plan.[12] This Climate Action Plan should not rely on uptake of the measures in the flawed AgClimatise if it is to realise the necessary ambition.

Limited opportunities for compliance with the 2021-2025 budget period exist, and this should be recognised at the outset. Low Emission Slurry Spreading is used on 45% of farms, falling short of the targets in AgClimatise, which called for a 60% uptake by 2022 and 80% by 2025.

[12] https://environmentalpillar.ie/2020/12/10/ag-climatise-is-a-roadmap-for-business-as-usual-damage-to-climate/

Other MACC aspirations are similarly limited in application after several years. Accordingly short term measures, such as significant herd reduction must be undertaken.

Artificial fertilisers must be subjected to VAT as applied in all other EU countries.

In Ireland, significant increases in synthetic fertiliser use, alongside rapid increases in dairy production levels, over the last decade (notwithstanding the recent decrease in fertiliser sales) have resulted in year-on-year increases in methane and nitrous oxide emissions from the agricultural sector. Nitrogen fertiliser use in agriculture is also a direct driver of national ammonia emissions and water quality decline. Increases in nitrogen fertiliser application, combined with increases in dairy cow numbers were observed to be the main drivers of the agricultural sector emissions, bringing them to 15% above 1990 levels in 2021.[13] Therefore, significant scaling back of nitrogen inputs to the land is crucial to reversing increasing trends in domestic agricultural emissions. A revised roadmap for agri-related emissions reductions and a declining cap on total national reactive nitrogen usage is required. To rapidly bring down sectoral methane and nitrous oxide emissions, we recommend that regulatory, voluntary and combined measures be implemented to limit and reverse recent dairy expansion. Compensatory measures for farmers should be put in place to incentivise herd reductions.

It is our view that lower-intensity farming practices, requiring fewer external inputs (such as feed, chemical fertilisers and pesticides), have a key role to play in achieving significant emission reductions within the sector. An increased role for organic agriculture is one potential solution. Elimination of the use of chemical fertilisers and pesticides, along with lower stocking rates associated with organic livestock farming systems, can result in a significant reduction in GHG emissions compared to conventionally-managed systems, as well as providing benefits for improved biodiversity, water quality and soil health. Organic farming and low-intensity practices should be considered as an essential component of climate action within plans for the agricultural sector.

The implementation of organic farming at a large scale must be more thoroughly considered as part of the broader approach to agricultural climate action and food security. Targets for organic farming should ultimately reflect the EU target of 25% (by 2030) under the Farm to Fork Strategy and the European Green Deal. Increased ambition is therefore needed in the forthcoming Climate Action Plan.

We would further encourage a target for a percentage from organic production (rather than land area) as a more appropriate measure of progress. Furthermore, stronger emphasis on the role for organic farming in climate mitigation and resilient food production within the upcoming plan is needed. Improved support for organic farmers, such as those included under the new Organic Farming Scheme, are a welcome development and have proven successful in encouraging more farmers to make the transition to organic production. The new Climate Action Plan should reflect such developments, and provide complimentary actions to further improve progress in this area.

[13] https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/agriculture/

7.2 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.?

We refer the Department to the recommendations published in *Towards a New Agricultural and Food Policy for Ireland,* the 2021 joint report by the Environmental Pillar, Stop Climate Chaos and the Sustainable Water Action Network [14].

7.3 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?

It is highly premature to assume that biogas can be effectively used to reduce emissions and that the use of manure and silage as feedstocks should be maximised.

The feedstock sources and the supply chains of these feedstocks must be assessed as part of an evaluation of bioenergy's emissions reduction potential. The emissions that contribute to the production of feedstocks must be considered as they can significantly negatively impact bioenergy's overall contribution to climate mitigation.

Anaerobic digestion predicated on increased grass or energy crop production has the potential for significant adverse impacts to climate and water quality as a result of the increased levels of fertiliser input needed to grow the silage. The use of existing waste streams for energy provision are often a more sustainable option as they do not promote an increase in production of energy crops, which can increase NO_2 soil emissions and water quality impacts through higher fertiliser requirements. With regard to the use of slurry, intensive cattle farming is also a major emitter of greenhouse gases. Any use of slurry for bioenergy production should not be reliant upon or drive further bovine agriculture intensification.

We would refer the Department to research by Beausang et. al. (2021) on the sustainability of grass silage and cattle slurry for biogas production.[15]

We would also highlight that anaerobic digesters suffer from significant fugitive emissions problems via methane leaks. The effect of the leakage of this potent greenhouse gas may

[14] Environmental Pillar, Stop Climate Chaos and the Sustainable Water Action Network (2021) *Towards a New Agricultural and Food Policy for Ireland*: https://drive.google.com/file/d/1JthUEpgJ8N_CzoJBi8VGR1IBDossY3Fk/view?usp=sharing

[15] Beausang, C., Mcdonnell, K., Murphy, F. (2021). Assessing the Environmental Sustainability of Grass Silage and Cattle Slurry for Biogas Production. Journal of Cleaner Production. 298. Available from: https://www.researchgate.net/publication/350380683_Assessing_the_Environmental_Sustainability_of_Grass_Silage_and_Cattle_Slurry_for_Biogas_Production

greatly reduce or even negate the potential climate benefits of using biogas in place of fossil fuels.[16]

The end use of biogas (assuming its production has been assessed to actually reduce emissions, per the comments above) must also be assessed. The mixing of biogas with fossil gas for injection into the grid will exacerbate infrastructural lock-in to fossil fuel use in the medium to long term. It is therefore submitted that supplying biogas to local offgrid industrial users would be a preferable option, provided it is used for electricity generation and is not mixed with fossil gas. Biogas can also be used to power buses and delivery vehicles, having the parallel benefit of reducing air pollution.

7.4 What specific measures can be taken in agriculture to adapt to climate change

Invest in large scale nature restoration, with a nature restoration fund independent of CAP funding, and results based over long time periods. The current short timeframe for agricultural environmental measures is not conducive to the type of long terms landuse changes, such as land rewetting, which are necessary to benefit nature restoration and by proxy climate adaptation and mitigation.

8. Land Use and Forestry

8.1 What can be done to increase sequestration through forestry (afforestation, extended rotations, and improved forest management)? How can landowners/land managers be supported to take up these practices?

This must be recognised as unrealistic in terms of compliance with the 2021-25 budget period and of only limited utility for compliance with the 2026-2030 period. The precautionary principle must be applied in the short term and sequestration limitations recognised by alternative radical emission reductions in agriculture.

Any accounting of sequestration must be done on strictly scientific terms utilising the IPCC methodology. Any attempts to quantify removals must be accompanied by equally rigorous emission calculations to quantify the net balance.

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[16] Paolini, V., Petracchini, F., Segreto, M., Tomassetti, L., Naja, N., Cecinato, A., 2018. Environmental impact of biogas: A short review of current knowledge. Journal of Environmental Science and Health, Part A 53, 899–906. https://doi.org/10.1080/10934529.2018.1459076; Grubert, E., 2020. At scale, renewable natural gas systems could be climate intensive: The influence of methane feedstock and leakage rates. Environ. Res. Lett. https://doi.org/10.1088/1748-9326/ab9335; Liebetrau, J., Reinelt, T., Agostini, A., Linke, B., 2017. Methane emissions from biogas plants. IEA Bioenergy; Ebner, J.H., Labatut, R.A., Rankin, M.J., Pronto, J.L., Gooch, C.A., Williamson, A.A., Trabold, T.A., 2015. Lifecycle Greenhouse Gas Analysis of an Anaerobic Codigestion Facility Processing Dairy Manure and Industrial Food Waste. Environ. Sci. Technol. 49, 11199–11208. https://doi.org/10.1021/acs.est.5b01331; Baldé, H., VanderZaag, A.C., Burtt, S.D., Wagner-Riddle, C., Crolla, A., Desjardins, R.L., MacDonald, D.J., 2016. Methane emissions from digestate at an agricultural biogas plant. Bioresource Technology 216, 914–922. https://doi.org/10.1016/j.biortech.2016.06.031

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Additionally, the regulatory system for forestry licensing has been systemically non compliant with EU environmental law for years, requiring a fundamental overhaul of the licensing and regulatory process. While Project Woodland endeavoured to address stakeholder concerns, and reestablish public confidence in the forestry licensing process, the necessary changes have not yet been implemented. We have previously highlighted that any promotion of further afforestation should prioritise the development of a new sustainable forestry model that is in line with EU law, and increases the area of woodland and continuous tree cover. However, the new Forestry Programme 2023-2027 has been criticised by eNGOS and the European Commission on foot of a failure by Ireland to fully address the environmental issues within the Strategic Environmental Assessment, maintaining a strong continuing emphasis on conifer plantations and clear felling. The Forestry Programme has yet to be signed off by the Commission, and further assurances of environmental protection are required by the Commision from the Irish Government, with a State Aid Decision pending the outcome of that.

8.2 What opportunities are there to rehabilitate our peatlands and wetlands, and what can be done to realise these opportunities? How can landowners/land managers be supported to take up these practices?

Vigilance and enforcement of existing legislation as regards illegal peat removal is required first and foremost. The current enforcement regime (both via the planning and EPA licensing systems) is failing to stop unauthorised peat cutting and drainage schemes. It relies heavily on members of the public to report instances of illegal turf cutting, and enforcement action is often slow, if it occurs at all.

A bog rehabilitation scheme should be put in place for privately held drained wetlands, ensuring that all proposed projects are assessed on a bog-by-bog basis to ensure improvements optimise climate change mitigation, environmental ecological and hydrogeological benefits.

The incorporation of ponds as a measure for climate action within Local Authority Action Plans can act as a fundamental tool for carbon sequestration, as ponds have the potential to sequester 20-30 times the amount of carbon compared with woodlands, grasslands and other habitats.

The establishment of pond networks across Ireland also create ecological and landscape benefits, acting as wildlife refuges for biodiversity as well as measures for water provisioning, flood control, groundwater recharge, and pollution amelioration, therefore playing a key role as a nature-based solution in national climate adaptation. They constitute easily established low-cost actions that can be applied at national and local levels to tackle both the biodiversity and climate emergencies. In addition, they provide a host of community benefits, including opportunities for recreation, education, improved health and wellbeing, and community participation.

An Taisce's Legacy4LIFE project aims to promote the development of ponds as a measure for climate action, biodiversity restoration and conservation in a number of County and Town Development Plans and urges the forthcoming 2024 Climate Action Plan to incorporate this as one of its Actions.

8.3 What measures would support increased sustainable management of grasslands, including those areas on drained organic soils? How can landowners/land managers be supported to take up these practices?

The land use review initiated this year should be used for evidenced based policy making. A thorough land use plan is necessary to identify areas which should be set aside for specific uses, for example areas of drained peat soil which should be rewetted, and areas of orchid rich grasslands or High Nature Value farmland which should not be afforested or managed intensively. This land use review should be overlaid with environmental sensitivity mapping to target particular land uses to the most appropriate places. To protect biodiversity and water quality, while addressing climate sequestration and mitigation, it is vital that these types of mapping tools are available, and populated with the necessary environmental information. Further research will be necessary to create these risk layers, for example Birdwatch Ireland initiated some forestry sensitivity mapping for birds, but this needs to be rolled out at a national level.

Additionally, soil health should be brought more to the fore, with a much greater focus on holistic soil health including structure and function, as opposed to just standard agronomic measures of fertility. Soil health is fundamental for truly sustainable land management which could maximise carbon sequestration.

8.4 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?

- Support and education must be provided on good soil management and balanced renewable fertiliser application, including incorporating straw on farms that cannot 'home compost' onsite.
- Promote increased varieties and diversification in cover crops, to support plant growth and minimise disease, diversity will also result in better soil and plant health whilst providing a food source for wider biodiversity within soil and those species depending upon cover crops for feed. Green cover should only be used where it will not impact on seed-eating farmland bird species.
- Supports for regenerative agricultural practises would include:
    - Continuity of transitional supports for a period of 2-4 years.
    - Regenerative agricultural practises such as low and no till methods aim to make use of the soils natural ability to build and retain organic material including fungi, soil moisture and nutrients with positive effect for emissions, support for farmers to encourage low and min till is required, as the learning curve is steep

and fields often take several years to adjust resulting in drop off and slow uptake.
- Crop rotation improves soil health, reduces erosion and reduces fertiliser use, advice on best fit at farm level is essential to success, a one size fits all approach does not work and support for farmers to test best delivery by alternating nitrogen extractors and fixers, supplementing fields with seasonal cover crops and local organic fertilisers.
- Promote regenerative farming practice through education at all 3rd level institutions, within agricultural courses.
- Provide financial assistance to producers to process and market products from regenerative sources.
- Educate the public on food production and the difference between regeneratively produced food and conventionally produced food.

8.5. What specific measures can be taken in forestry and land use to adapt to climate change? How can landowners/land managers be supported to take up these practices?

Diversification in the type of tree that is grown is essential. A dominance of monocultures gives rise to significant disease risk. Additionally, conifers like Sitka Spruce are known to have a far shallower rooting mass than native deciduous species. This makes them more vulnerable to wind throw, which is a significant factor in increasing storm occurrence as a result of climate breakdown. Similarly, continuous cover forestry will provide greater diversity and resilience to pests and windthrow, while better supporting soil health and preventing silt run off.

Funding mechanisms should be used to make slower growing native broadleaves a more economically viable option than non native conifers. Stronger regulations should be put in place in regard to the management of those forests, with clear felling used only in very limited circumstances.

9. The Marine Environment

9.1 What sort of role could Ireland's marine environment 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)?

The regulatory framework that protects marine areas from undue disturbance associated with offshore wind developments requires strengthening. Crucially, a statutory process for the designation and ongoing protection and management of Marine Protected Areas (MPAs) is urgently required given that the new marine spatial planning and consent regime is now in place. In absence of such a process, there is a substantial risk that planning consents may be granted in some of the most diverse and ecologically important areas in Ireland's marine waters, which would likely be designated as MPAs in the future. This would put these areas at immediate exposure to development that may reduce their ecological value. The rapid

development of renewable energy capacity must be done without exacerbating the biodiversity loss crisis.

10. The Circular Economy and Other Emissions

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

The 2024 Climate Action Plan should include the action for Local Authorities and the EPA to make publicly available the waste stream tonnages at Local Authority level.

Information and guidance are required for Local Authorities, and other organisations, as to how to access the waste category tonnages collected at County and Local Authority Level (and at more local granularity). Further information is required on how to access current emission factors for waste disposal, which are available from the EPA NIR emission factors within the download of the "Common Reporting Format (CRF) Tables".

Advice on how to access this data, and how to derive waste emission baselines, along with intervention emission forecasts at local level, will be required by local authorities in order to calculate their Baseline Emissions Inventory for the Decarbonisation Zone component of their Climate Action Plans:

> "*additional data collection can further inform the breakdown of emissions within this sector and help with the development of suitable actions.*" (Local Authority Climate Action Plan Guidelines, Technical Annex C- Climate Mitigation Assessment, 2.6.7 Waste, p30)

Visibility of local waste emissions will be necessary to incentivise and prioritise the diversion of this waste material from disposal toward recycling and reuse. This will be a key driver for the move away from a linear economy which will in turn reduce commercial and household waste emissions.

11. Public Sector Leading By Example

11.1 What sort of climate reporting would you like to see from the public sector in the future?

Public bodies should be required to demonstrate and regularly report on their compliance with Section 15 of the Climate Action and Low Carbon Development (Amendment) Act 2021:

> *15(1). A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—*
>
> *(a) the most recent approved climate action plan,*
>
> *(b) the most recent approved national long term climate action strategy,*

(c) the most recent approved national adaptation framework and approved sectoral adaptation plans,
(d) the furtherance of the national climate objective, and
(e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.

We also recommend that the EPA implement a system of quarterly emissions reporting. Reporting is done on an annual basis at present, resulting in a lag between planning, action and review. Currently, finalised emissions are reported once a year for the previous year ('Year 0'), just in time to prepare a Climate Action Plan for the following year ('Year 2'). Emissions data for that year will only be available almost 24 months later (the middle of Year 3), to know how well that CAP (prepared in Year 1) has delivered. In the meantime, another CAP has been produced in the intervening period (during Year 2) without input from current year trends to inform necessary actions. Quarterly reporting would allow for improved and more precise course corrections to reach compliance with the relevant carbon budget.

12. Just Transition

Implementing a Just Transition must underpin the entirety of the 2024 Climate Action Plan, covering *all* sectors and *all* regions of the country.

12.1 What additional supporting interventions should be considered by the Government to address the four principles of our Just Transition Framework within individual sectors?

Addressing energy poverty

An Taisce is one of 42 civil society organisations that signed a Joint Letter on Energy Poverty[17] as part of the Government consultation on the Energy Poverty Strategy Review in September 2022. Most of the recommendations included in that letter remain very relevant and should be included in the forthcoming Climate Action Plan where appropriate.

Green Communities Low Carbon Community Plan

The 2024 Climate Action Plan should include an action to continue delivering on the "Programme for Government Our Shared Future (June 2020)" commitment: "*Support a new Green Flag programme for communities, building on the successful programme in schools*." (p35).

The An Taisce Legacy4LIFE project is currently developing the Green Communities Low Carbon Community Plan within the Maynooth Electoral Division. This pilot project to formulate a new National Low Carbon Green Flag programme for communities has been supported with

[17] https://www.friendsoftheearth.ie/assets/files/pdf/joint_letter_on_energy_poverty_and_energy_pollution.pdf

funding from the Department of Housing, Local Government and Heritage, and the Department of the Environment, Climate and Communication throughout 2022 and 2023.

The Legacy4LIFE project is also working on a rural low carbon plan with Ballyvaughan, which incorporates the electoral division of Drumcreehy in County Clare.

The 2024 Climate Action Plan should include the Initiation of a National Green Communities Low Carbon Community Plan accreditation programme. This would be made available to both rural and urban communities as a core action under Citizen Engagement, and/or the Just Transition sections of the 2024 Climate Action Plan.

This is to be administered by An Taisce – the National Trust for Ireland, with the support and resourcing of a suitable national agency such as; the Department of Housing, Local Government and Heritage, or the Department of the Environment, Climate and Communication.

This Low Carbon Community Plan accreditation programme will be based upon the Legacy4LIFE Green Communities Low Carbon Plan currently being trialled within the Maynooth and Drumcreehy Electoral Divisions by An Taisce, and which has been formulated in close partnership with Kildare County Council Climate Action Office, and Maynooth University.

Green Communities Low Carbon Plans shall seek to evaluate and monitor low carbon improvements, in line with a prescribed methodology, across the following Climate Action Plan sectoral themes:

- Energy
- Transport
- Buildings
- Industry (including Waste & Circular Economy)
- Agriculture
- Land Use
- Just Transition

To assist communities in reducing greenhouse gas emissions at local community level, their choices shall be informed through a defined methodology including that for the calculation of baseline greenhouse gas emissions across these emission sectors.

Community participation with low carbon planning will be a vital part of the process for emissions reduction. It is also the case that greater community engagement with a low carbon community plan can be anticipated where the community has had a role in defining its preferred direction of travel.

Community participation, or citizen engagement as it is referred to within climate action plans, is recognised as being vital for reaching Ireland's 2030 and 2050 emission targets. This is because it will require a strong effort at community engagement to carry the message of energy and climate awareness into people's lives and to affect our collective behaviour. We

must include all stakeholders in the planning of our low carbon towns and communities, and adjust to society's terms when necessary.

EPA research, Climate Change in the Irish Mind, identifies scientists as the third most trusted figures when it comes to climate messaging. Friends, family and educators are ahead of scientists. An Taisce's role in working with and accrediting communities builds upon the Green Schools Programme thereby bringing trusted intermediaries and scientists into the process of low carbon planning at community level.

The creation of a Green Communities Low Carbon community template and methodology, based on the research being conducted with stakeholders in Maynooth and Ballyvaughan, will also deliver significant progress across all three of the National Dialogue on Climate Change objectives.

12.2 How should Local Authorities seek to integrate just transition considerations into the preparation of their statutory Climate Action Plans?

The 2024 Climate Action Plan should include the action for Local Authorities to participate in a National Green Communities Low Carbon Community Plan accreditation programme under the section Public Sector Leading by Example.

This would involve Local Authority support for their Decarbonisation Zone communities to participate within the Green Communities Low Carbon Community Plan accreditation programme.

Green Communities Low Carbon Planning has been developed to complement Local Authority Climate Action Plans, Decarbonisation Zones, and the Irish Environmental Protection Agency's National Inventory Reports, so as to work with these national assets.

Local Authorities should engage with the National Green Communities Low Carbon Community Plan accreditation programme. This should be approached with consultation and supports for community stakeholders in order to actualise the Local Authority Climate Action Plan, and specifically the Decarbonisation Zones.

When a Local Authority actively promotes a Green Communities Low Carbon Community Plan for its Decarbonisation Zone this will also assist in building the required local authority engagement and support for that communities' plan.

The Green Communities Low Carbon Plan also includes a Low Carbon Calculator online tool. This will assist the public by interpreting and visualising Local Authority Climate Action Plans for a low carbon future at their own local level. This will allow communities to explore their low carbon options and preferences within a framework that fits in with the local authority and national planning initiatives for climate action. It will provide a visual forecast of what local emissions currently look like, and what they could look like.

The Green Communities Low Carbon Community Plan accreditation programme, and its Carbon Calculator, will allow for a much more dynamic process of community engagement with decarbonisation. It allows individuals to look into the future at realistic estimates of what can be delivered by their own community. It also allows the public from any given community to vote for their preferred decarbonisation activity, and for these preferences to then guide and inform the future direction of local authority climate action planning.

13. Research and Innovation

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

There is a need for improved indigenous policy research and design for agricultural policy, particularly for organic farming policy. The one-size-fits-all approach to policy often required at the European level does not always translate to effective on-the-ground action. While consideration of approaches from our European neighbours may provide insights and ideas, we would urge improved indigenous research to facilitate policy design better tailored to reflect the unique challenges and opportunities associated with the Irish agricultural sector, to facilitate best-fit solutions and measures which improve uptake, actionability and therefore results.

Ireland has limited research capability in the area of nuclear energy and requires this to respond to developments aimed at climate mitigation in neighbouring jurisdictions.

13.2 Is the research and innovation system developing and retaining the skills needed to deliver on our climate ambitions?

The science is clear and the skills are developing. What we need now is the political will and leadership to implement the scale of change needed.

Appendix:
Comparison of EPA projections with the agreed carbon budgets

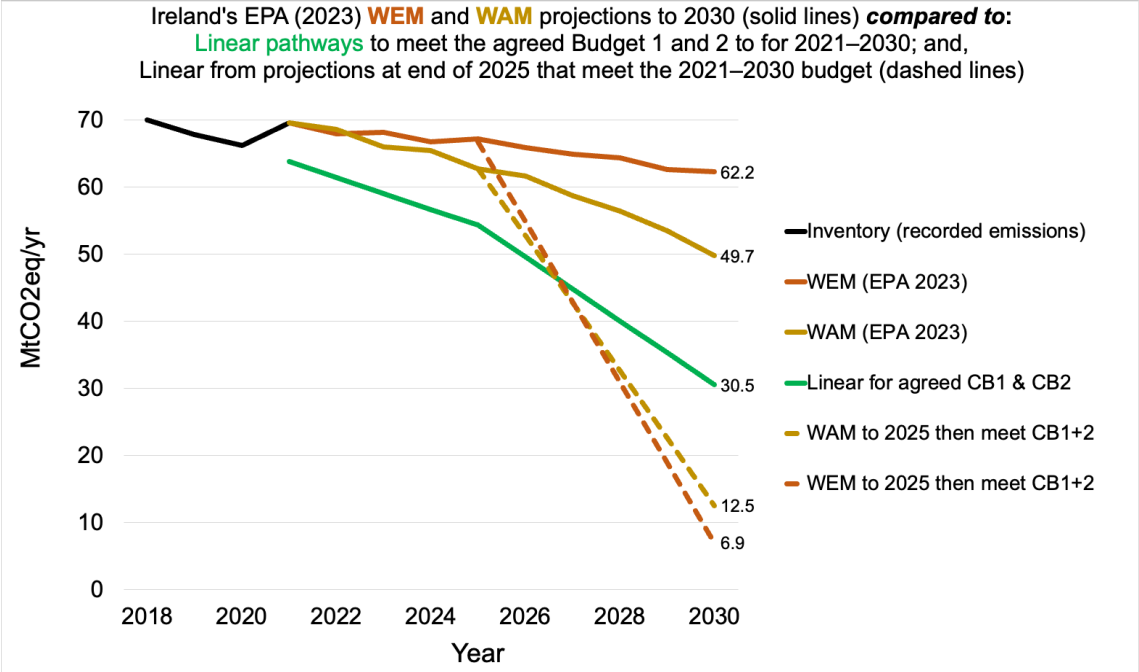
The two tables below, for WEM and WAM projections, set out the agreed carbon budgets, the EPA 2023 projection, and the resulting exceedance (to be carried forward), with a comparison to the exceedance stated by the EPA.

Carbon budgeting based on WEM (With Existing Measures) Projection	**(legally binding) Budget 1**	**(legally binding) Budget 2**	**(provisional) Budget 3**	**Not yet defined Budget 4**	**CB1+CB2**
	2021–2025	**2026–2030**	**2031–2035**	**2036–2040**	**2021–2030**
5-year Carbon budget	**295**	**200**	151	Not yet defined	**495**
Carry forward prior overshoot	–	-45	-170	-325	
Corrected carbon budget	**295**	**155**	**-19**	**?**	
WEM Projected emissions	340	325	306	294	665
Overshoot	**45**	**170**	**325**	**–**	**170**
EPA exceedence value (Projections p.11)	45	125	160	–	170
Percent exceedence of corrected budget	*15%*	*110%*	*1809%*	–	*34%*

Carbon budgeting based on WAM (With Additional Measures) Projections	**(legally binding) Budget 1**	**(legally binding) Budget 2**	**(provisional) Budget 3**	**Not yet defined Budget 4**	**CB1+CB2**
	2021–2025	**2026–2030**	**2031–2035**	**2036–2040**	**2021–2030**
5-year Carbon budget	**295**	**200**	**151**	**Not yet defined**	**495**
Carry forward prior overshoot	–	-37	-117	-214	
Corrected carbon budget	**295**	**163**	**34**	**?**	
WAM Projected emissions	332	280	248	244	612
Overshoot	**37**	**117**	**214**	**–**	**117**
EPA exceedence value (Projections p.11)	37	80	93	–	117
Percent exceedence of corrected budget	*13%*	*72%*	*625%*	–	*24%*

The tables show why early course corrective action is essential. The apparently small percentage overshoot of Budget 1 results in a very serious reduction in the smaller Budget 2 and an increased overshoot. This effect becomes ever greater in following budgets unless deep emission reductions are made early to get back to the trajectory defined by the agreed budgets.

The chart below shows: EPA 2023 Projections WEM and WAM (solid lines); a two-part linear pathway (green) with the parts meeting the CB1 and CB2 budgets respectively; and also WEM and WAM to 2025, followed by a linear path to meet the combined CB1+2 budget by 2030. The agreed budgets of 295 MtCO2eq (Budget 1 = CB1) and 200 MtCO2eq (Budget 2 = CB2) result in the green linear pathway seen in the chart.



The table below shows emissions in 2025 and 2030 for the different scenarios and the respective percentage reduction in annual emissions compared to 2018. As shown, the 2030 value in this pathway is 56% below the 2018 inventory value. This shows how all ongoing references to a target of 51% reduction by 2030, as commonly seen in the EPA reporting and in government documents are no longer meaningful. The 51% by 2030 target ceased to be relevant to climate action once the five-year carbon budgets were set by the Oireachtas, and the required percent reductions by 2030 depend on the emissions trajectory actually projected or taken.

Pathway	2025 emissions incl. LULUCF	*Percent below 2018 value*	2030 emissions incl. LULUCF	*Percent below 2018 value*
WEM from 2023 EPA Projections	66.7	*5%*	62.6	*11%*
WAM from 2023 EPA Projections	62.7	*10%*	49.7	*29%*
Linear pathways meeting the set 10-year budget to 2030	54.2	*22%*	30.5	*56%*
WAM to end of 2025, then linear to meet 10-year set budget	62.7	*10%*	12.5	*82%*
WEM to end of 2025, then linear to meet 10-year set budget	66.7	*5%*	6.9	*90%*

Under the Climate Act it is meeting the carbon budget tonnages that matters, not a 2030 percent reduction. Failure to meet a five-year budget means that any excess results in a corresponding correction to the subsequent budget, as a result the percentage reduction by 2030 relative to 2018 becomes correspondingly larger.