

Adoption of the first Irish Carbon Budget Programme, 2021-2035

Opening statement for the Oireachtas Joint Committee on Environment and Climate Action

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I thank the Joint Committee for the opportunity to provide evidence on the crucial subject of Ireland's first statutory carbon budget programme, under the [2021 Climate Act](#). I am a Professor in the Faculty of Engineering and Computing at [DCU](#), researching national energy system decarbonisation. My comments will focus primarily on the statutory requirement for the carbon budget programme to be consistent, in both design and execution, with the [Paris Agreement](#), and specifically the commitment to quantitative limits on global temperature rise, achieved on a basis of *equity* and informed by the *best available science*.

Under the Act, the [Climate Change Advisory Council](#) have proposed the [initial programme of three five-year carbon budgets](#) (with the third on a provisional basis). It is now up to the Oireachtas, informed by the views of this Committee, either to adopt these budgets as proposed or to revise them on some specified grounds. My view is that the candidate budgets proposed by the Council should be regarded as *absolute maxima*; and that the Committee should give serious consideration to revising them *downward significantly*. This is based on multiple lines of argument, which I will outline as briefly as possible.

The current [Programme for Government](#) committed explicitly to an "average" reduction in total emissions of 7% per year over the period 2021-2030. Using the baseline of 2018 emissions specified in the Act, this would allow a cumulative 10-year total of **468 MtCO₂eq**; whereas the Council's proposal is for **495 MtCO₂eq**, cumulatively equivalent to an annual reduction rate of just under 6% per year. While the Programme for Government properly fell outside the formal legal scope of the Council process, it is surely still relevant to the deliberations of this Committee and of the Oireachtas. Accordingly, I suggest that the Committee should consider revising down the first two proposed budgets by a combined amount of **at least 27 MtCO₂eq** to align them with the Programme for Government. Note that the Committee [should resist deflection into a narrow focus on the projected annual emissions level in 2030](#): this is simply not equivalent to the original Programme for Government commitment on any good faith basis of "best available science".

Separately, as explicitly required by the Act, the Council have assessed their proposed budget programme for consistency with the Paris Agreement. They have emphasised that this assessment depends not just on the budgets themselves, but on how they are allocated between sectors (which strongly affects the *relative* mitigation of different greenhouse gases), and on unavoidable value judgements required to interpret the obligations of the Agreement. While they concluded that their proposed budget programme is "broadly consistent" at least with the temperature goals of the Agreement, they were also clear that their assessment represented only a *minimal* test of Paris consistency; and took the position that the judgements involved ultimately go beyond the remit of the Council. It is therefore proper that this Committee should now make its own assessment and determination on all these issues.

A key aspect of this is *relative historical responsibility* for climate change, and the need to treat this on an equitable basis between countries: those with greater historical responsibility have a correspondingly greater obligation to act. This is a complex issue but directly affects the assessment of carbon budget consistency with the Paris Agreement through the choice of a *reference year* for temperature increase. In effect, differentiated historical responsibility is waived for all emissions before this reference year. In their assessment the Council adopted a reference year of 2020, but without offering any explicit rationale for this. In [previous work with colleagues at DCU and TCD](#) I have argued that 2015 should be regarded as the latest defensible reference year for this purpose, being the year when the Paris Agreement was adopted. Indeed, there is a good case for extending further back, even to

1992, when the [UN Framework Convention on Climate Change](#) was agreed. Since the Council published their budget proposals I have initiated, with DCU colleagues, independent analysis of the effect of varying the reference year. Preliminary results indicate that, using the Council's own methodology, but with a reference year of 2015, all but one of the scenarios considered by the Council would then *fail* the Council's own test for Paris Agreement consistency, strongly indicating a need for further reduction in the proposed budgets to adequately align with the intentions of the Act.

Next, regulations issued under the Act currently direct that certain emissions should be omitted from the carbon budget framework, namely those arising from international aviation and shipping. These are significant for Ireland, amounting annually to just under 4MtCO₂eq in 2018, primarily in aviation. However the fact that *accounting* for such emissions falls outside the budget framework does *not* mean they can be simply ignored in the setting of the budgets themselves. On the contrary: as already noted, the budget process is required to operate on a basis *consistent* with the Paris Agreement. Recent [independent legal analysis](#), commissioned by the Brussels-based [Transport and Environment NGO](#), is unequivocal that such emissions fall within the scope of the Paris Agreement. Accordingly, they must still be provided for *in some way* in the national budget process prescribed by the Act. The Council appear to have taken the view that this particular aspect of Paris consistency fell outside the scope of their assessment. On that basis, it therefore falls to this Committee to make such provision. Again, this indicates that the proposed budgets should be reduced, *at least* by the projected national share of such international aviation and shipping emissions. A *minimum* estimate of this would be **40MtCO₂eq** over the period 2021-2030.

A further critical consideration is *prudence*, as explicitly expressed in the Framework Convention through the precautionary principle. The Council's Paris test focused on the lower temperature goal of the Paris Agreement, namely limiting to no more than 1.5°C increase compared to pre-industrial conditions. This was very proper in the light of the [IPCC Special Report on Warming of 1.5°C](#) indicating rapidly escalating risks of severe global disruption as this threshold is exceeded. However, the relationship between that temperature limit and the permissible global GHG budget is still subject to very significant scientific uncertainty. It appears that, in effect, the Council adopted a budget based on just a 50% probability of meeting this temperature goal; i.e., no better than a coin toss. I urge the Committee to explicitly consider whether this represents an adequately prudential approach; if not, then the Irish budgets should be further reduced to reflect this.

It should be noted that the equity requirements of the Paris Agreement extend to at least the further dimensions of differentiated vulnerability and capacity to act; and arguably also to reparation for ongoing, severe, and highly unjust impacts of climate change. While the national claim on the global carbon budget is not the sole, or indeed the main, potential mechanism for responding to these issues, I would nonetheless urge the Committee to still bear them carefully in mind in assessing *overall* consistency with the Paris obligations.

Moving on from the immediate adoption of the carbon budgets, the next key step under the Act will be the division of these budgets across sectors, i.e., setting the sectoral emissions ceilings. As this is explicitly a Government responsibility, the Council properly refrained from prescribing any single sectoral breakdown, but did provide a set of five illustrative scenarios specifically exploring different potential divisions between the two largest emissions sectors, being agriculture and energy (including electricity, transport and heating). This was essential to inform their assessment of consistency with the Paris temperature goal: even though all these scenarios are designed to correspond to essentially the same aggregate carbon budget programme, as expressed in carbon dioxide equivalent emissions (CO₂eq), they differ

very significantly in their ultimate contribution to global warming. While the detailed interactions are complex, and will benefit from further scientific analysis, it is clear that the scenarios allocating relatively larger budget shares (or lesser emissions reduction) to the agriculture sector also correspond to greater absolute levels of warming, and therefore greater risk of failing the requirement of consistency with the Paris Agreement. I would urge the Committee to give early consideration to this issue, and offer relevant advice to the Government *in advance* of the setting of the sectoral emissions ceilings.

While adopting the national carbon budgets and corresponding sectoral ceilings are essential steps in Ireland's climate action their effectiveness will hinge on actual *delivery*. It is critical to recognise that, under the 2021 Act, carbon budgets are no longer mere "targets" to be "aspired to"; they are self-imposed *quantitative statutory constraints*, legally binding upon the state. This is a radically new and extremely challenging framework for our political and policy institutions. This is entirely justified by the scale and urgency of the climate emergency, but does now demand an urgent re-evaluation of our governance mechanisms to ensure that they are commensurate with this task. It is no longer a question of merely "doing our best": we must *do what is necessary*. In particular, there is a very strong case for the *early* establishment of mechanisms to dynamically regulate, as and when necessary, the upstream *inputs* to Irish societal activities, such as fossil fuels, that ultimately give rise to GHG emissions. This would effectively create a *backstop*, ensuring that carbon budget constraints would be reliably met, regardless of shortfalls in the effectiveness of other, less direct, measures. Given the overriding need for justice, equity, and national solidarity in these actions, this should be in the form of a system of *equitable rationing*. I have previously [advocated](#) for the deployment of one particular such system, known as [Tradeable Emissions Quotas or TEQs](#). But whether through that approach or some other, I urge the Committee to consider this need for much stronger, transparent, and societally inclusive, national carbon budget governance at the earliest possible opportunity.

My final comment is in relation to the international dimension of climate action. Through the 2021 Act, and the implementation of its voluntary, nationally determined, carbon budget process, explicitly bound by the Paris Agreement goals, Ireland has sought to take a leadership role in modelling how the Agreement can be effectively delivered on. However, the harsh reality remains that, unless those countries responsible for the great bulk of emissions adopt similarly ambitious measures, *the Agreement will still fail*, with devastating consequences for current and future generations in all countries across the globe — including Ireland of course. As we celebrate the centenary of the establishment of the state, we can take some justified pride in our record, as a small independent nation, in advancing progressive multilateral action through active diplomacy. This was most recently manifested through our rapid mobilisation of diplomatic support from other EU member states during the ongoing BRexit process, and through our success in being elected to the UN Security Council for the 2021-22 term. I suggest that this Committee now initiate an urgent collaborative activity with the Committees on EU Affairs and on Foreign Affairs and Defence to consider how we can significantly upscale and *prioritise* Ireland's diplomatic effort on climate action so that our newly ambitious local efforts can make the maximum possible contribution to catalysing the required *emergency* global response.