



Northern Ireland  
Assembly

Committee for Agriculture, Environment  
and Rural Affairs

# OFFICIAL REPORT (Hansard)

Climate Change Bill:  
Professor Peter Thorne, Maynooth University

1 July 2021

# NORTHERN IRELAND ASSEMBLY

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**Members present for all or part of the proceedings:**

Mr Declan McAleer (Chairperson)  
Mr Philip McGuigan (Deputy Chairperson)  
Ms Clare Bailey  
Mrs Rosemary Barton  
Mr John Blair  
Mr Harry Harvey  
Mr William Irwin  
Mr Patsy McGlone

**Witnesses:**

Professor Peter Thorne                      Maynooth University

**The Chairperson (Mr McAleer):** I welcome, by StarLeaf, Professor Peter Thorne. I apologise in advance: we are running a bit over time this morning. Thank you very much for your indulgence, Professor Thorne.

**Professor Peter Thorne (Maynooth University):** OK. Thank you. I have provided a written input, but, given that you are behind time, I will not spend a long time on it. By way of background, I am from England originally. I work in Maynooth University as director of the Irish Climate Analysis and Research Units (ICARUS) in the Republic.

The basic science is clear. We have warmed the climate, and that is indisputably down to us. We are currently about 1.2°C above the pre-industrial temperature. The part that is irretrievably due to us is greenhouse gases (GHGs). We have a problem, and we know we have that problem. I am a physical climate scientist, and that is the bit I can tell you. What I cannot tell you, however, is how to solve the problem. I have looked at the Bill, and I have been involved in the area through the Citizens' Assembly and other activities in the Republic, including the Oireachtas Joint Committee on Climate Action and, latterly, the Climate Change Advisory Council.

From looking at the Bill it is not clear to me that it covers all three pillars of what I consider to be necessary climate governance. Climate needs to be an all-of-government problem. It needs to be led from the centre. It needs to then have an independent committee, such as this one, that, on a sustained basis, fundamentally holds Departments and Ministers' feet, proverbially, to the fire. Then, it needs an independent advisory body, which I see a lot of in the legislation. It is those first two aspects that I do not see strongly in the proposed legislation. I do not see how the matter is dealt with at an all-of-government level, and I do not see how there is a role for an independent committee that can hold

people to account. Calling the situation a climate emergency is relevant, but doing so, in and of itself, is just using nice words. It sharpens minds, but it needs to be followed by action. Looking at the targets as they are given, they are appropriate and consistent with those of the UK Climate Change Committee (CCC) and the Intergovernmental Panel on Climate Change (IPCC). The one caveat I would offer is that a whole new suite of IPCC reports will be coming out over the next 18 months, and that might well change what happens and what the advice is.

I have a number of specific queries about the climate action plan. I find it deeply laudable that biodiversity and land management aspects are in it. We must recognise that climate change is not the only crisis we are facing. At a global level and on the island of Ireland, we are facing a fundamental biodiversity crisis. The legislation is very strong on mitigation, but it has much less to say on adaptation. We already live in a changed world. The flooding in Derry and Donegal three summers ago was indicative of the kind of change that we will have to look at. Sea levels will continue to rise, which is key.

A just transition is also key. The farming community, but not just that community, will need to be protected in taking that through. We cannot escape from the fact that, ultimately, every greenhouse gas molecule we emit, be it from fossil fuels or biogenic sources, is adding to the problem. We have seen just this week in Canada how severe that problem might be becoming, and we absolutely need to take action.

I will leave my opening remarks there in order to try to catch up some time for you.

**The Chairperson (Mr McAleer):** Thank you, Professor Thorne. Again, I apologise for running over, and I thank you for staying with us.

I was looking at your résumé, and I see that you have a strong background in environmental and climate science. If you could set legislation to tackle climate change in Ireland, North and South, what target would you set?

**Professor Thorne:** The target would have to be commensurate with the science. We have already seen the impact that a 1.2°C rise has had on the climate system and, fundamentally, on people. We absolutely should aspire to the Paris climate goal, which is to keep global warming temperatures below 2°C and to aspire to keep them below 1.5°C. Doing that, as noted by the IPCC's special report on global warming of 1.5°C, will require us, effectively, getting to net zero by 2050 globally. Where not only historical responsibility but capabilities are concerned, countries such as the UK and Ireland should be aiming to be not just net zero but net negative. We should be aiming to draw down greenhouse gases, particularly carbon dioxide, in the longer term. Net zero by 2050 is a reasonable goal and is commensurate with the science and with global ambitions to keep well below 2°C.

**The Chairperson (Mr McAleer):** In your briefing note, you mention that there are:

*"clear co-dependencies with the UK-wide legislation and the UK CCC. This ... complicates lines of governance".*

Will you elaborate further on that? How could those lines be made less complicated?

**Professor Thorne:** It is hard to see how they can be made less complicated. In the Republic of Ireland, we are in a very fortunate position in that we have absolute competence. Clearly, in Northern Ireland, that is far more complicated. You already have to observe UK-wide climate change legislation and are already under the auspices of the UK Climate Change Committee. It would be a retrograde step to remove those obligations. Whatever you do as an Assembly and as a devolved arm of the UK needs to be commensurate with the UK-wide legislation and the UK-wide bodies that have been set up, and that is where it is far more complicated for you than it would be for us in the Republic of Ireland, where there is no such co-dependency.

**The Chairperson (Mr McAleer):** Again, that flags up a challenge, because whatever about the constitutional and jurisdictional situation here, we are on the same island and the climate does not know any boundaries. Do you see the importance of aligning or harmonising with what is going on in the South?

**Professor Thorne:** I absolutely think that the climate is one area where we need to forget our differences. As you said, climate does not observe geopolitical boundaries. It does not care that there

is a border on the island of Ireland, so we need to work together at numerous levels, including at industry level and civil society level, on things as basic as research into the problems and solutions. We should be tackling the problem on an all-island basis. That is the only way it makes sense to try to tackle the problem and the linked problem of biodiversity.

**The Chairperson (Mr McAleer):** Thank you, professor.

**Mr Irwin:** Thank you for your presentation. The Climate Change Committee made recommendations for the four regions of the UK, and it made recommendations for Northern Ireland to reduce emissions by 82% by 2050. In doing that, it will ensure that the whole of the UK reaches net zero by 2050. What is your view on that? Do you agree with the Climate Change Committee?

**Professor Thorne:** Yes. I have no reason to disagree with the Climate Change Committee on its recommendation to reach net zero on a UK-wide basis. As I said, that is a great yardstick for 2045 or 2050. If we want to think about a liveable climate for future generations, the UK and Ireland probably need to aspire to be net negative in the longer term. Net zero is hard enough, and, yes, not everyone will pull equally. Not all sectors can act as quickly, so, yes, differentiated targets are a reasonable basis.

**Mr Irwin:** Thank you.

**The Chairperson (Mr McAleer):** Professor, your briefing note states that the proposed legislation is "largely silent" on adaptation and that it needs to be "strengthened" on a just transition. Could you elaborate on how you think the proposed legislation could be strengthened to address climate adaptation and a just transition?

**Professor Thorne:** The climate commissioner should have designated authority to advise on climate adaptation, but even if we are wildly successful, nationally, in the UK, in Ireland and even globally, in reducing emissions, we will see further warming, and that further warming will mean more extreme weather of the type we have seen in recent years. Our infrastructure is not set up for it on a fundamental level, and that is from the level of individual homeowners through to large-scale building infrastructure and the built environment more generally, including transport etc. We need to plan and be climate-smart and climate-resilient, and that means that we need to look again at our infrastructure and our investment in infrastructure. There is no point in building a hospital today for today's climate if we know that climate will change. It is a false saving to build it for today's climate if the building is intended to last until 2100, when we know it will be half a degree warmer in summer and we will need to retrofit expensively down the line. It is about embedding climate decision-making into all aspects of policy, not just chasing greenhouse gas reductions. Adaptation is perennially the poor cousin of climate change policy. We are chasing very hard greenhouse gas reductions, rightly so, but we are not recognising that we need to plan for the fact that the climate has already changed and, more importantly, that it will continue to change.

**Mrs Barton:** Thank you for your presentation. In your queries on the climate action plan, you ask this:

*"Does net-zero carbon mean net-zero carbon dioxide or net zero GHG emissions?"*,

and you say that the "distinction is important". Will you elaborate on that?

**Professor Thorne:** As, I think, you heard from the previous witnesses, not all greenhouse gases are equal. The greenhouse warming potential (GWP), which is measured by GWP100 for 100-year effective radiative forcing or GWP\* for more immediate forcing, differs. If we are talking about net carbon being just carbon dioxide and are not bothering about methane, N<sub>2</sub>O and the halogenated gases and synthetic gases and we allow methane, N<sub>2</sub>O, CFCs etc to continue to increase, reaching net zero carbon dioxide will not lead to a net zero climate impact.

The climate system cares about the radiative imbalance. It does not care whether that imbalance fundamentally arises from a carbon dioxide molecule, a methane molecule, a nitrous oxide molecule or anything else. If we are going to stabilise the climate system, we need to get to net greenhouse gas at zero. That buys us stabilisation. If we want to start to move climate back towards what it was, we need to start removing greenhouse gases. That is where you get into net negative.

**Mrs Barton:** OK. Thank you.

**The Chairperson (Mr McAleer):** Professor Thorne, thank you for attending. Your written briefing and oral contribution were very helpful and informative. Hopefully, we will hear from you again.

**Professor Thorne:** Thank you.