

DÁIL ÉIREANN

AN COMHCHOISTE UM GHNÍOMHÚ AR SON NA HAERÁIDE

JOINT COMMITTEE ON CLIMATE ACTION

Dé Céadaoin, 4 Samhain 2020

Wednesday, 4 November 2020

Tháinig an Comhchoiste le chéile ag 11.30 a.m.

The Joint Committee met at 11.30 a.m.

Comhaltaí a bhí i láthair/Members present:

Teachtaí Dála/Deputies	Seanadóirí/Senators
Richard Bruton,	Lynn Boylan,
Réada Cronin,	Timmy Dooley,
Cormac Devlin,	Alice-Mary Higgins,
Darren O'Rourke,	John McGahon,
Christopher O'Sullivan,	Pauline O'Reilly.
Bríd Smith,	
Jennifer Whitmore.	

Teachta/Deputy Brian Leddin sa Chathaoir/in the Chair.

General Scheme of the Climate Action and Low Carbon Development (Amendment) Bill 2020: Discussion (Resumed)

Chairman: Before we begin, I remind members that this meeting cannot go on for longer than the time scheduled, so may I have agreement that contributions will be limited to five minutes each, to include questions and answers? We will have second and third rounds if we have time. Is that agreed? Agreed.

I welcome Dr. Jeanne Moore, policy analyst with the National Economic and Social Council, NESC, and its director, Dr. Larry O'Connell. From the Department of the Taoiseach, I welcome Ms Sharon Finegan, head of the climate action unit, and Ms Ciara Kennedy. From the University of Manchester, I welcome Professor Kevin Anderson from the Tyndall Centre for Climate Change Research. Our witnesses are appearing remotely from outside the Leinster House complex. They will be formally invited to make brief opening statements and this will be followed by a questions-and-answer session.

Witnesses are directed that only evidence connected with the subject matter of these proceedings is to be given and they are asked to respect the long-standing parliamentary practice to the effect that they should not comment on, criticise or make charges against a person or body outside the Houses or an official either by name or in such a way as to make him, her or it identifiable. I also advise the witnesses who are giving evidence from locations outside the parliamentary precincts to note that the constitutional protections afforded to witnesses attending to give evidence before committees may not extend to them. No clear guidance can be given on whether, or the extent to which, the evidence to be given is covered by absolute privilege of a statutory nature. If the witnesses are directed by the committee to cease giving evidence regarding a particular matter, they must respect that direction. I also advise them that any submission or opening statement they make to the committee will be published on the committee's website after the meeting. Members are reminded of the long-standing parliamentary practice to the effect that they should not comment on, criticise or make charges against a person outside the Houses or an official either by name or in such a way as to make him or her identifiable.

I remind members and witnesses to turn off their mobile telephones or switch them to flight mode. Mobile phones interfere with the sound system and make it difficult for the parliamentary reporters to report the meeting. Television coverage and web streaming will also be adversely affected.

I invite Drs. Moore and O'Connell to make their opening statements.

Dr. Larry O'Connell: I thank the Chairman and members of the committee for the invitation to NESC to speak about the recent work we have done on just transition. NESC is a Government body that advises the Taoiseach on strategic policy issues. The members are appointed by the Taoiseach and represent businesses, employers, trade unions, agricultural and farming organisations, community and voluntary organisations and environmental organisations. As well as that, heads of Departments and independent experts sit on NESC. Its composition means it plays an important and unique role in bringing different perspectives from civil society together with Government. Dr. Jeanne Moore and I are secretariats to NESC and are attending today's meeting in that capacity.

The points we make today stem from a significant body of work that was produced by the council and the secretariat, primarily in 2019. The report we published at the start of this year,

No. 149, was called Addressing Employment Vulnerability as Part of a Just Transition in Ireland. This work was a response to a direct request in the Future Jobs Ireland 2019 report and the climate action plan for NESC to identify steps that could be taken to address the vulnerability arising from the transition to both a low-carbon and more digital and automated future. In that work, the council has recognised that the transitions to a low-carbon and more digital, automated Ireland are extremely complex and are interconnected. There is, therefore, a significant degree of uncertainty involved. According to our research, this includes uncertainty about where and how the greatest vulnerability will fall in terms of the impact on employment. There are risks to employment from the transitions in agriculture and food, transport, and parts of industry. Despite their inherent complexity and uncertainty, there are also economic and social benefits to adopting a proactive, managed approach. There will be job losses in vulnerable sectors and within roles, but these are coupled with opportunities for new jobs and enterprises, which need to be planned for and managed. That is central to the idea of the just transition approach.

That proactive, planned approach and response was also highlighted in earlier work we did on building community engagement and social support regarding wind energy. In that work, which was done a number of years ago, we identified the importance in a very practical sense of an intentional, participatory and problem-solving State-led process to underpin transition. I will hand over to my colleague Dr. Moore to walk the committee through some of the more detailed work we have done on just transition.

Dr. Jeanne Moore: In a background paper supporting the council report, we note that a just transition approach is increasingly recognised but still not fully understood in practice. While there are different perspectives, we have approached just transition as something that seeks to ensure transitions are equitable and participative in both the process and outcome at national, regional and local levels. A just transition approach explicitly names principles, goals and values and facilitates societal engagement, while also seeking to ensure that the costs and benefits of the transition are equitably shared. That paper outlines that there is a growing consensus that such an approach has to be built into climate action to achieve both equitable solutions and public support. Achieving a transformation of the scale necessary in a relatively short period is a considerable political challenge, requiring policies that share both the burden and the benefits and opportunities. However, it is not yet clear which particular policies, regulatory and legal measures are most effective. Nevertheless, without action on a just transition, it is important to reflect on the alternative. We would have economic and technological progress, coupled with environmental protection and possibly restoration, but without social equity or consideration of rights and protections. The social and political challenges that approach would create could make the transition unachievable or delay its progress.

While the debate on values and principles remains a live one, practical approaches to achieving a just transition are where policy debates are now shifting, as is the case currently in Ireland. Aligning just transition policies with decarbonisation measures is necessary to ensure emissions are radically reduced in a way that is fair, inclusive and equitable. However, there is no blueprint or fixed set of rules to achieve this. Our work included international case study research as well as a review of key approaches to transition that have been applied regionally and nationally. While many of these approaches are place-based and process-oriented and focus on skills development, social protection and the labour market by targeting and supporting jobs in key sectors, others focus on a purposeful, participative and multifaceted approach to transition governance.

There are five key areas for this. The first is preparation. For a just transition, purposive and proactive planning and governance is required at national, regional and local levels involving the Government and regional and local or community-based actors, combined with Government support. The second area is process. We need a participative, social dialogue based process as part of public governance that considers the sharing of costs and benefits and champions principles of fairness, justice, equality and social inclusion. This can be a mechanism for fostering trust and adopting a problem-solving approach to transition. The third area is people and focusing on decent and good jobs, pay and conditions, training and appropriate social protection for those at risk. The fourth is place. Place-based regeneration of local communities and infrastructure has the potential to enable transition, with bottom-up local action and networks of practice to complement any overarching national just transition framework. The fifth and final area is outcomes. We need fair, inclusive and equitable outcomes in which no-one is left behind.

Scotland provides a valuable case study in that it has taken a national focus rather than the more common regional one to examine just transition opportunities and challenges. The interim report of the Scottish Just Transition Commission echoes the above points and outlines the need for the following: to plan ahead and develop clear transition plans; proactive and ongoing dialogue to help understand society's expectations relating to the transition; and to bring equity to the heart of climate change policies, including addressing existing inequalities in work, housing, and transport. NESC's work points to the critical part a just transition plays in transition, but practices, policies and governance approaches are still unfolding and there are no off-the-shelf solutions. Combining a focus on both fair and inclusive processes and outcomes will be key to Ireland's effective decarbonisation and societal transition.

Chairman: I invite Ms Finegan to make her opening statement.

Ms Sharon Finegan: I thank the Chairman and members of the committee for the invitation to the Department of the Taoiseach to contribute to its pre-legislative scrutiny of this important Bill. I am head of the climate action unit, which was established in the Department last year. The unit was established to facilitate the strengthened governance and oversight structures set out in the climate action plan 2019 and in recognition of the need to ensure a whole-of-government response to climate change. I am joined today by my colleague, Ms Ciara Kennedy, who is assistant principal officer in the unit.

The climate action unit supports the Taoiseach and the Government in tackling climate change and ultimately the transition to a climate-neutral economy. The unit plays an important role in ensuring whole-of-government coordination, which is essential in making sure that every Department and sector plays its part. The work of the unit is broad and cross-cutting, supporting policy delivery and unlocking barriers in our transition to a low-carbon, climate-resilient, resource efficient and environmentally sustainable economy and society. Our functions include monitoring and driving the implementation of climate action plans and supporting the Cabinet committee on the environment and climate change, associated senior officials group and the Climate Action Delivery Board. The Cabinet committee on the environment and climate change is chaired by the Minister for Environment, Climate and Communications and the Department of the Taoiseach continues to provide secretariat support to this committee. The unit also supports the work of the board, which has been tasked with holding each Department and public body accountable for the delivery of actions set out in the climate action plan. As committee members will be aware, the programme for Government commits to maintaining this model. It is chaired by the Secretary General to the Government and the Secretary General

of the Department of Environment, Climate and Communications. The establishment of the Climate Action Delivery Board last year was part of a suite of measures set out in the plan that aimed to strengthen the climate action governance and oversight structures.

The monitoring of implementation and preparation of progress reports is a key aspect of that oversight. This oversight model replicates the very successful model used for the Action Plan for Jobs. As part of this process, the climate action unit monitors and reports on progress on a quarterly basis.

The climate action plan outlines 183 actions comprising over 600 individual measures. Under the plan, a Department or agency is assigned lead responsibility in respect of each measure and a timeline for completion is provided. As part of the monitoring process, the climate action unit engages with all Departments with responsibility for actions each quarter. Detailed progress reports are prepared, which document each of the measures completed, as well as those that have been delayed and the reasons they have been delayed. Crucially, any delayed measures are reported on in subsequent quarters to maintain focus and ensure measures are delivered. Where significant challenges to implementation are faced, these are pursued through the Cabinet committee and climate action delivery board.

In conjunction with other Departments, the Department of the Taoiseach seeks to identify cross-cutting barriers to implementation and ways to unblock these challenges. To date, four progress reports have been published covering periods quarters 2, 3 and 4 of 2019, and quarters 1 and 2 of 2020. The quarter 3 of 2020 report is being finalised and will be published in the coming weeks. At the end of quarter 2 of 2020, the overall implementation rate of measures due under the climate action plan stood at 77%. A completion rate of 72% was achieved in quarter 4 of 2019, 44% in quarter 1 of 2020, and 46% in quarter 2 of 2020.

While some of the delays in delivery were because of the impact of Covid-19, as well as the lengthy process of forming a new Government post election, the reducing completion rates highlight the need to ensure that a focus remains on implementation of our climate policies and overcoming any challenges experienced that impede delivery. The Climate Action and Low Carbon Development (Amendment) Bill 2020 commits to an annual update of climate action plan as one of its principal means of delivering necessary climate action on the ground. The Department of the Taoiseach will continue to monitor and report on this to maintain accountability and transparency.

This Bill provides a strong legislative basis for placing action on climate at the very core of policy making. The carbon budget process will set ceilings or limits on our total emissions and meaningful plans will be put in place to ensure these limits are not breached. Putting these requirements in legislation places a clear obligation on this and future Governments to sustained climate action. However, this legislation is only one part of the Government's comprehensive approach to climate action. Work is ongoing on a wide range of practical commitments included in the programme for Government, covering transport, agriculture, housing, enterprise, renewable energy and many other areas. This focus on implementation is critical. We must overcome the barriers to implementation that have prevented meaningful climate action in the past.

The recent annual review and report of the Climate Change Advisory Council noted that Ireland will only meet its existing emissions reduction targets with a full and successful implementation of all measures in the climate action plan. The need for action is urgent and governance measures like this Bill and the mechanisms put in place to drive implementation of the climate

action plan are important. This twin focus on implementation of the necessary policies, with a strengthened legislative framework to drive and deliver on increased ambition, will ensure that the State can break through the delivery barriers we have been unable to breach before.

I thank the committee for inviting me and I am happy to answer any questions.

Chairman: I thank Ms Finegan for her statement. I invite Professor Anderson to make his opening statement.

Professor Kevin Anderson: I thank the Chairman for the invitation to contribute to this committee. I apologise for making a late submission of some written evidence early this morning because I had varying scheduling issues so was unaware that I would speak at this particular hearing. Based on that I wish to emphasise that I am not an expert on Ireland. Nevertheless, I have worked on mitigation for 30 years and spent a decade working in the petrochemical industry as a design engineer.

My submission is based on a very recent paper where my colleagues and I downscaled the Paris Agreement to the developed and developing countries, and then down to the UK and Sweden. So this provided a framework for how to go from Paris down to national level. The analysis that we used in that paper and, indeed, I used in my submission today, took it at face value that Ireland is going to deliver on its temperature and equity commitments, as enshrined in the Paris Agreement. I based my analysis on the Intergovernmental Panel on Climate Change, IPCC, science. I also, very importantly, used the United Nations Framework Convention on Climate Change, UNFCCC, equity framing around common but differentiated responsibilities and respective capabilities, CBDR-RC, which is a key issue that most countries are simply ignoring.

As an academic, I am not interested in political and economic sensibilities. However, I recognise that politics and economics are important but the short-term sensibilities that we always skate around are one of the main obstacles to us delivering significant change. If one sets that as a framework I argue, which I will try to demonstrate, that that imposes a mitigation agenda that is far more challenging than any one of us have yet been prepared to countenance.

I shall set the scene and remind ourselves that even the Paris Agreement's framing of climate change, holding to an increase of 1.5°C to 2°C, is not just. Many people are already dying from climate change and with the 1.5°C to 2°C target, many more people will die. They will be poor. Typically, they will be people of colour, initially the burden will fall disproportionately on women and children, they will live in climate-vulnerable parts of the world and they will be low emitters. Let me be clear. We have, knowingly, in the wealthy parts of the world imposed that upon them by our choice to fail, thus far, to address climate change. I say this regularly to all countries but today my focus is on Ireland.

Since 1990, Ireland's emissions of CO₂ have increased by between 18% and 20%. It is probably 20% if one included aviation and shipping. Therefore, since the first IPCC report, Ireland has presided over a rise of 20% in its carbon dioxide emissions. Today, Ireland's emissions *per capita* are about 50% higher than that of an average Chinese person, twice the global mean and over eight times that of an average African person. Given such framing for Ireland and almost all wealthy countries, I believe that holding to 2°C is probably the best that we can achieve but, to be clear, that is not a safe threshold.

The analysis that underpins my submission and the paper itself is based on a carbon budget

framework. Long-term targets are deeply misleading. It does not matter what we do in 2050, 2045 or even 2030. What matters is the total amount of carbon dioxide that we emit into the atmosphere, which brings the policy agenda down to what we do this year, next year, in the next three to six years and out, perhaps, to 2030, because that is the most important time. I make no allowance for future generations to deploy speculative technologies to suck carbon dioxide out of the atmosphere. Similarly, I make no allowance for additional earth system feedbacks coming from the science at present that suggest carbon budgets may be smaller. I base this on a very conservative reading of the analysis done by the IPCC. It is on that basis we downscaled the Paris Agreement and the IPCC carbon budgets that align with the 1.5°C to 2°C targets down to the developed and the “developed country parties”, as they are called in the Paris Agreement. We also took seriously the whole equity framing of the common but differentiated responsibilities. We then further downscaled developed countries to the EU, and I have done that briefly for today in terms of what that means for Ireland. We use a range of apportionment regimes, which members can ask me about.

By taking that approach, I can outline the headline recommendations for the Climate Action and Low Carbon Development (Amendment) Bill 2020. First, the national climate objective urgently needs to be revised to reflect Ireland’s temperature and equity commitments that Ireland is obliged to deliver as a signatory of the Paris Agreement. Ireland also needs to make it absolutely transparent and have a clear cogent downscaling of the global carbon budget that is deemed appropriate for the Paris Agreement, and we have outlined in our paper what we think that should be. It is down to Ireland to explain the implications of that for the poorer parts of the world. Typically, one sees that when this work was done by the UK, Scotland and other countries, it was deeply colonial. When one plays it backwards, one will see the implications for poor parts of the world and the small amount of budget that they have left because the wealthy countries, as always, want more than they are obliged to.

I argue that there should be no offsetting or accountancy ruses to avoid wealthy countries meeting their obligations. There should be no reliance on negative emission technologies nor on carbon capture and storage. Primarily, that is because carbon capture and storage on energy still have very high life cycle emissions that typically range from 100 g to 300 g per kilowatt hour.

I do think it is important that Ireland and other wealthy countries fund a major research programme on negative emission technologies, carbon dioxide reduction techniques and so forth. However, to assume that they will work in the future is a moral hazard *par excellence*. On top of cuts in energy emissions, Ireland needs to deliver absolute cuts in its agricultural methane and nitrous oxide emissions.

In terms of headline conclusions, and to put some numbers on this, my provisional analysis for Ireland is that if Ireland is to make sure that its policies are Paris-compliant, then its total carbon budget from 2020 out to the end of the century and beyond, should not exceed something like 300 million tonnes of carbon dioxide, which is the upper end of the threshold. That is about seven years, maybe slightly less, of current carbon dioxide emissions depending on whether one does or does not include international aviation and shipping, which I would argue one should include. Seven years of current emissions should exceed the budget for a reasonable chance of 2°C. It needs to deliver annual reduction rates of more than 12% every single year, year on year, and it should have started at the beginning of this year. That is across the full energy sector. Given that it takes a while to deliver that, and it certainly has not so far, if that is played out and with some political inertia, it is about an 80% cut in CO₂ emissions by 2030,

compared with current emissions, or at least compared with the 2018 data I have. It needs to reach full decarbonisation or its entire energy system by 2035 to 2040 at the very outside. That will be about ten to 15 years later for the poorer parts of the world. This means zero carbon across the full energy system of aeroplanes, trains, cars, ships, industry, heating, everything. It also needs to cut its agriculture methane and nitrous oxide emissions by at least 3% every single year, starting now. That is an absolute cut and not just an intention to cut. It needs a programme of forestry management and reforestation. If it does not succeed on that then the agriculture emissions reductions would need to be higher still. This is hugely challenging and we should have started 30 years ago. Our choice to fail has led us to where we are in 2020, and we are still deluding ourselves about the scale of the challenge we really face because we are more interested in political sensibilities than in delivering real change, thus far. That is my experience outside of Ireland.

Our work also demonstrated that if there is a net zero framing that is not that similar to the Committee on Climate Change, and if the rest of the world failed at that sort of level then this is somewhere around 2.5°C to 3°C of warming, not 1.5°C to 2°C. One must bear in mind that when we choose to fail on climate change then we have to face the implications of very severe impacts and adaptations if we cannot succeed on that in the future, and particularly for future generations. That is a very depressing overview, I am sure, for many of the committee but unfortunately this is where we are in 2020. I thank the members for listening.

Chairman: I thank Professor Anderson. I will now take questions from members in the order they indicate. I remind members and witnesses that we just have two hours today. There are a number of witnesses and I ask everyone to be direct, clear and concise in questions and answers please.

Deputy Jennifer Whitmore: I thank all our speakers today. It was very interesting. On just transition, the Bill does not mention just transition at all. There is no reference to it at all. There is a reference to climate justice, however. The representative from NESC said he believed that climate justice also took in the issue of just transition within its framework and remit. Does the witness see the need for a specific reference to just transition within the Bill?

It seems there are a lot of questions over how we would meet a just transition. The Department said it is not clear yet which policy, regulatory and legal measures are most effective. I believe there is a need for parallel processes, once the Bill is enacted, to actually nut out and really look at what policies could be implemented effectively.

It was mentioned that there is a just transition commission in Scotland. Would NESC see that as something that could be part of the solution for us to ensure we do have a just transition as we move away from our high carbon economy?

On the climate action unit, the Department witnesses repeatedly mention barriers to implementation and the need to tackle these, but there is no indication of what those barriers are. Could they outline what those specific barriers are and how they can be overcome?

Dr. Larry O'Connell: I thank Deputy Whitmore. On the question of the just transition and climate justice, we see those as being obviously connected but separate terms. It is interesting that the Deputy pointed to the example in Scotland. In that case, both are specifically referenced. That is the experience we have drawn in that context.

The Deputy's observation that some parallel process is needed to really figure out what is

next on the institutional piece on just transition would resonate strongly with our own sense that we need to look at it in more detail. There had been a focus in NESC on creating a just transition review group and we did do quite a bit of work on that. We feel that lots of things have changed in terms of the work of the just transition commissioner and in the wider context of Covid now and how we think about just transition. NESC believes that it would be very helpful to do something like that and we would absolutely agree that the experience in Scotland is very valuable. We recently had a conference on just transition and people from the commission in Scotland spoke at it. They have made a lot of progress on the details of their work and the engagement they do with communities around just transition. It would be helpful to draw that experience in further.

Chairman: Does Ms Finegan wish to respond to Deputy Whitmore's second question?

Ms Sharon Finegan: Yes. I thank Deputy Whitmore for the question. There are a significant number of structural barriers to implementation that have been revealed through the centralised monitoring of the climate action plan. This is one of the benefits of centralised monitoring. In addition to a continued and sustained focus on driving implementation it also allows a perspective to be formed from the centre as to whether there are structural issues. We have been detailing these in the updates we produce with each of the quarterly reports. I will talk the committee through some of them if that is helpful.

The first is around issues of capacity, resourcing, expertise and ownership in Government Departments and agencies. This has manifested itself in a few different ways such as insufficient human resources assigned to the delivery of action; insufficient financial resources assigned to the delivery of action; insufficient attention to climate action at a senior level in Departments; failure in the early assignment of actions to personnel; and the limited action of appropriate expertise within Departments. This is probably to be expected given the scale of the challenge, but it is certainly has come to the fore.

The second piece would be the speed of the legislative process. There have been some delays in some of the more complex and comprehensive legislation that will underpin the transition. I include in this, for example, the offshore wind legislation that is in train. This is very complex legislation.

The third aspect is the complexity of the work on the consultations that are required. Undertaking climate action is rarely straightforward and often necessitates extensive consultation within and outside the policy system. Perhaps further deployment of financial and human resources, qualitatively and quantitatively, might help with increasing what needs to be done in this area. In some cases there has been a delay in undertaking the work as identified in the climate action plan because it has been deemed that further more comprehensive action would be more beneficial in order to drive the implementation of the action. In these instances, measures are marked as delayed while more comprehensive work is undertaken.

Finally, some of the delays experienced have been due to EU negotiations. They create problems for some discrete actions and particularly some of the ones around agriculture, the common agricultural policy and the work going on there. This is often beyond the control of the respective Departments but it does result in recurring delays each quarter.

These are some of the systemic issues that we have identified. None of the answers to those are easy solutions and will need to be thought through very carefully as we develop the next iteration of the climate action plan to try to overcome those barriers, and to see barriers

to delivery as things that need to be worked through as part of the suite of measures to drive implementation.

Chairman: I thank Ms Finegan.

Deputy Bríd Smith: I have a couple of questions. I thank the witnesses for their presentations. I want to ask either of the speakers from NESC about the question of a just transition. NESC's description is that a just transition must be equitable and participative in both the process and the outcome at national, regional and local levels. I have two questions. First, would NESC consider what just transition steps have been taken with Bord na Móna as fitting with that model NESC has outlined? Second, NESC looked at a case study in Scotland which took a national focus rather than a regional one. Has NESC looked at any case studies that do not focus on the national or regional level but on the industry-specific level? This is related to the case of Bord na Móna again. Has NESC looked, for example, at studies that examined the closure of the coal industry in Spain or in the Ruhr valley for a just transition model that might help us to apply it to the closure of the peat industry here?

I have a question for Professor Anderson as well. If he can, I ask Professor Anderson to expand on his work on why carbon sequestration and storage is not a good model to work on in order to achieve emissions targets? He has given us information on this in the previous committee on Communications, Climate Action and Environment. Could Professor Anderson go into that briefly? An important part of our Climate Action and Low Carbon Development (Amendment) Bill is the reliance on carbon sequestration and storage going into the future.

Dr. Jeanne Moore: I thank the Deputy for her question. There is no completed just transition anywhere but we have done international research which has looked at experiences in Germany, Scotland, Canada and Australia but mostly in Germany, which has a lengthy experience with this. Sinéad Mercier completed the research for us and it highlights the complexity of just transition, how long it takes and how many levels are involved. The participation processes all the way through are as significant as the outcomes that are achieved. The Scottish example is interesting because, as I said, it was a national example but also because just transition is embedded, not just in the work of the commission but also in the legislation and it is part of the articles of association for the new state investment bank. Scotland has embedded just transition on multiple levels.

In terms of looking at the midlands, as we were doing our work, the midlands was an ongoing project and Kieran Mulvey was established as the just transition commissioner. He has published a few reports and the implementation of those is continuing. It is important to know that it is the context of sensitive regions that dictates the kind of localised, place-based response in a just transition. It would be up to Kieran Mulvey to talk about the midlands, other than to say there are huge efforts to be consultative and to engage. There is an €11 million fund from the Government to be administered this year and there is a real response to trying to understand the community, enterprise and local government response there.

Professor Kevin Anderson: I thank the Deputy for her question. On carbon capture and storage, when it is applied to fossil fuel power stations, people typically talk about that nowadays more for gas than for coal. It is key that it is considered in the full life cycle emissions. That means from construction right through to things like getting the gas out of the ground and the leaks from the gas when that is done, through to the transport. When one looks at the full life cycle emissions, it is typically about 100 g to 300 g of CO₂ equivalent in the estimates for gas with carbon capture and storage. To give some flavour of that, a good gas-fired power sta-

tion without carbon capture and storage is probably about 400 g and a coal station is probably about 900 g. If one looked at offshore or onshore wind power generation, it is probably somewhere nearer 5 g to 25 g. When full life cycle carbon capture and storage is applied to fossil fuels in power generation, it is still far too high to bring emissions down in line with the Paris Agreement. It may have been appropriate 20 years ago but in 2020 it is too little too late. That is not to say that carbon capture and storage cannot be important for something like capturing the process emissions, that is the chemical emissions of CO₂, from cement production, which is a significant proportion of global emissions or possibly from steel production as well. It may have a role there but it is inappropriate to consider it for energy generation because we cannot get the life cycle emissions down low enough.

When we apply carbon capture and storage to the combustion of biomass, we often get bio-energy with carbon storage, BECS. There, in theory at least, we will be removing the CO₂ from the atmosphere because it is being absorbed through photosynthesis, the material is being burned and the CO₂ is being captured and buried underground. From an engineering point of view, this is incredibly inefficient but overall, the concern is that if this is scaled up there will be major ecological impacts because the various biomass crops have to be grown, harvested, chipped and burned before the CO₂ is sequestered. That process is incredibly inefficient and damaging from an ecological perspective, particularly if material is imported from other countries. In the UK, for example, we import timber from the US to burn in our Drax power station. That has a huge set of ecological implications. Playing to the global models, it looks incredibly damaging from the ecological perspective. That is not to say that some of these things may have a niche role here and there but we have to be careful about how they will be applied. We also have to be cautious about some of the other techniques such as reforestation and so forth. I am all for improved forestry management and some reforestation. Planting trees seems like an easy option but when trees are planted, the soil is changed and depending on what happens to the soil, more CO₂ might be mobilised from the soil than is captured in the trees themselves. Afforestation can be problematic but forestry management may have a role to play.

My concern with all of these matters is they are used as substitutes for ongoing fossil fuel use. In Sweden, for instance, they are expanding Stockholm Arlanda Airport with the claim they will plant some more trees in the north of Sweden. That is completely inappropriate. We will need some negative emission technologies or forms of sequestration to compensate for some of the ongoing emissions of methane and nitrous oxide from agriculture that we simply cannot remove from the system, even if we all went vegan and never ate rice, which does not sound like a wonderful diet. Even if we did that, we would still have a lot of residual emissions from agriculture and therefore, we require some forms of negative emissions or CO₂ removal to compensate for those emissions but we should not use it to compensate for emissions from energy, which need to be brought down to zero.

Deputy Christopher O’Sullivan: A lot of my questions have been covered by Deputy Whitmore, including her questions on the legislative approach and where it could be accommodated. I have a general question for Dr. O’Connell and Dr. Moore. I am speaking at a climate justice future generations seminar this evening so it is opportune that I have a chance to speak about this issue. The topic in the webinar is whether everyone can afford to be green. It is a great question, it is difficult to answer and I struggle with it myself. Can everyone afford to be green, particularly at this time?

Considering the urgency with which we need to introduce measures to reduce emissions and mitigate increased temperatures globally, we need to act incredibly soon. I have seen that

in their opening statements, Dr. O’Connell and Dr. Moore are saying the best policy or legislative approach is not yet clear. That means there are a lot of unanswered questions out there so I will throw that general question at Dr. O’Connell and Dr. Moore. When we think about the impacts of carbon tax, we talk about hypothecation but a lot of that involves measures that will happen in the future. Electric vehicles, EVs, have to reach a critical mass before we can get to a point where everyone can afford one. That is definitely not the case and the infrastructure is not there. There is also the question of job losses versus job opportunities. I firmly believe that the potential job and training opportunities brought about by proper action in dealing with climate change are significant. That is my question, I am sorry it is somewhat general but can everyone afford to go green? The question is for Dr. O’Connell and Dr. Moore.

Professor Anderson provided a shot of realism that those of us on the committee needed. We often think of ourselves as the green isle and we think surely we cannot be contributors to climate change. Professor Anderson has reiterated and underlined some of the stark facts about the role we have played in our consumption and our contribution to climate action. I have no question for him but I think he has outlined the position well.

Dr. Larry O’Connell: My thanks to Deputy O’Sullivan for what is a great question. I found myself asking whether the question should be reframed as whether we can afford not to be green, having listened to Professor Anderson. I suppose much of the work the National Economic and Social Council has done on climate in general has looked at how we can figure this out. The question is can we afford not to be green. Much of the work we have done in NESC has tried to focus on the question of what is economically viable for people. There is a sense that we have to grapple with that and figure out how exactly we can bring down costs and arrive at viable solutions that protect people’s livelihoods and find good futures for them. That is what we have looked at.

We have concerns about agriculture. The way we are going to figure this out is to engage with people in agriculture or engage with workers in Bord na Móna to figure out what types of other activities they can do that are viable for them. It comes down to trying to engage with the people. In general, our experience has been that people on the front line, including farmers, for example, are interested in trying to figure out viable opportunities. How do we ensure that they do not believe transition is imposed on them? How do we ensure they are seen to be involved in co-producing a viable way forward? Rather than a sense of asking people to do things that are uneconomic, the question is how to engage people to figure out opportunities that are viable for them. Our experience of the best source of that is to engage with the people who are working in these areas.

Dr. Moore might want to say something more. I know it is a general answer to the question from Deputy O’Sullivan. It is a really good question and we probably need more time to think about it but that is my general response.

Dr. Jeanne Moore: It is a really interesting question. It cuts to the heart of a just transition and why it is so important. As we emphasised in our statement, the process of a just transition is sometimes overlooked by thinking about outcomes, which are crucial as well. As Dr. O’Connell has outlined, the process of engagement is important in particular sectors, locations and regions around what the opportunities are, as well as the benefits from availing of some of the new low-carbon renewable energy projects. It is about ensuring that people get a share of those new opportunities. Our work on wind energy highlighted that.

We also need to try to think about those who are experiencing the greatest impact. We need

to discuss with them in a fair and inclusive way how that could be alleviated. In a sense, there will be winners and losers in a transition. A transition is a long-run thing that we have to undergo. We are facing multiple transitions at the moment. An emphasis on process and outcome is important.

The other overarching question is how we meet the net zero target in a way that contributes to delivering the sustainable development goals. That is a longer perspective. There are urgent questions about costs now but we need to have our eye on the multitude of transitions that we are facing and how we can bring those two factors into alignment. That is another way of thinking about it.

Professor Kevin Anderson: I am keen to comment on that. Some really interesting work has gone on over several years. It was done initially by Chancel and Piketty and later by Carter and Julia Steinberger. It looks at who the emitters are. We have to remind ourselves that many people in Ireland, perhaps even the majority of people in Ireland, are relatively low emitters. Most emissions come from a relatively small suite of our societies. At a global level, 50% of emissions come from 10% of the emitters and 70% of emissions come from 20% of emitters. In highly unequal societies like the UK, USA and, to some degree, Ireland the emissions will be greatly skewed to a small proportion of the population. For many people in Ireland it is not about having significant change imposed upon them. It is about having those changes imposed upon the high emitters. These are people like myself, the mobile elite, who like to think we are green and clean. However, when we need to look at our carbon footprint and ask where we live, how big our houses are, whether we have a second home, whether we drive and fly much and whether we eat more exotic foods and more packaged food. Do we have large fridges and freezers? We consume far more because our incomes are far higher. The science has made clear that this is the group where the majority of the emissions derive from. Seeing all Irish people in the same light misunderstands where or who we must tailor the policies towards.

That plays back into the just transition. If we are genuinely trying to deliver on Paris, then we are talking about a Franklin D. Roosevelt, FDR,-type scenario or something like the Marshall plan. It is a new deal or Marshall plan framework. That is the way we need to look at this. Such a future is awash with jobs, from retrofitting to changing the transport infrastructure and a significant roll-out of renewable energy. There are vast numbers of jobs in these areas. At the moment we are looking at piecemeal *ad hoc* bolt-ons to business as usual. That will not resolve the climate change challenge. It is an equity issue about the asymmetric distribution of emissions among the population. We need to recognise that what we are talking about is a new deal. It involves an FDR framing of the scale of the challenge.

Deputy Richard Bruton: First, I would like to ask Dr. Moore to go back to the issue of what should be in legislation with regard to the just transition and what should be left to institutional development. The Scottish Act has sought to set out some principles. Is that what Dr. Moore would advocate for us?

My next question is on the submission from Sharon Finegan. The question I would ask about the present Bill is whether the reliance on one Minister, namely, the Minister for the Environment, Climate and Communications, to develop the sectoral divide-up is suitable. Is that realistic? It contrasts with the portfolio approach or a whole-of-government approach that she seems to be indicating in her evaluation of the difficulty that has been there to date. Would a portfolio approach be more effective? In an allied question, what leverage does the Department of the Taoiseach ultimately have? One of the main concerns of the committee is that there will be backsliding. Should we institutionalise some degree of oversight from the centre?

My next question is to Professor Anderson. We are hearing two very different views, in a way. The issue of consultation and just transition participation involves a slow process. In contrast, Professor Anderson is saying we need sweep aside the short-term sensibilities of politics and get this done. This is a real dilemma for implementation. I am interested in hearing from Professor Anderson on what legal framework he believes is optimal and would be consistent with democratic politics. We are not going to turn into some despotic regime. What would the legal framework look like?

Dr. Jeanne Moore: I am interested in Scotland because of the way those responsible have embedded just transition across a range of legislative and regulatory tools in the governance handbook. I am not an expert on whether that should be enshrined in law. For me, the key issue is the Government setting the direction of travel. Obviously, if it was embedded in the legislation by the way of the principles, it would at least be a very clear direction of travel that it was decarbonisation with these principles in mind.

Second, as Dr. O’Connell mentioned, there is a gap between principles and action and one needs really to consider the kinds of institutional mechanisms to deliver just transition. The legislation in Scotland was not the only piece in their remit. They also developed this just transition commission, the job of which was to advise Scottish ministers on how to apply the just transition principles to Scotland. They recognised that the principles was the starting point, and how they are then framed in the context of that particular country is still being discussed. The legislation carries it so far. There is a piece of work here to flesh out, beyond the principles, what it means in terms of action.

Chairman: I thank Dr. Moore. Ms Finegan, on that second question.

Ms Sharon Finegan: I thank Deputy Bruton for the question. The first question was on reliance on one Minister to develop the sectoral divide-up. Head 6 of the proposed Bill outlines the roles of Ministers, Government and the Houses of the Oireachtas in developing and adopting carbon budgets, including requirements on the Minister for climate action to consult colleagues on the development of both the carbon budgets and the sectoral decarbonisation targets.

My reading of it is that there are specific instances in the proposed Bill which require the Minister at the time to engage with this Cabinet colleagues. I might just mention them as I see it. The first relates to the response to the council’s budget. Once the carbon and climate change advisory council has proposed the carbon budget, the Minister prepares a recommendation for Government, including justifying variances from the council proposal, if any, and consulting fellow Ministers and the Oireachtas. As the committee no doubt will be aware, the Oireachtas may submit the council’s proposal to a committee which may within four months provide the Oireachtas with a report. Therefore, that first engagement with Government is crucial.

The second is when the Government approves the carbon budgets or approves its subsequent modifications. Assuming that the budgets are accepted by the Oireachtas, they are then deemed to have effect. Those are two crucial moments when there is a full engagement of all the ministerial colleagues.

Where it becomes a more complex undertaking, perhaps, is down to the sectoral decarbonisation targets. That is the third real instance in the Bill where there is that wider engagement with the Cabinet colleagues around the table. What the Minister is required to do then is to prepare sectoral decarbonisation target ranges within that ceiling, which is approved by the Oireachtas, for Government approval following consultation with other Ministers. That level

of consultation with fellow Ministers is very much stitched into the Bill. Finally, the Minister, under certain conditions outlined in the legislation and considering the advice of the council, can recommend for Government of a revised carbon budget.

Taken together, this model provides a robust cross-government consultation and co-operation in respect of the carbon budgetary process. It is likely that the Cabinet committee on the environment will be involved in each of these stages and, as such, the Department of the Taoiseach will continue to play a role in ensuring that whole-of-government co-ordination while ensuring that every Department plays its part.

On Deputy Bruton's second question, which was what leverage the Department has and whether we should be institutionalising some level of oversight, I would make two points. The oversight, in terms of meeting the targets or meeting the carbon budgets, is very clearly drawn out in head 13, which amends the current annual transition statement. It provides that the Minister with responsibility for climate action be accountable annually to the Oireachtas for outlining how the State has pursued the national 2050 climate objective, and then other Ministers with primary responsibility for relevant sectors will be accountable to the committee annually for outlining their sectors' performance in pursuing the national 2050 climate objectives. This connection with the Oireachtas is a powerful part of the Bill. We have seen, through the work of the Citizens' Assembly when it first came to the predecessor to this committee, that that cross-party engagement on, and ultimately support for, the Citizens' Assembly recommendations was a powerful driver. I would see this provision in the proposed Bill as being something similar.

On oversight of the plan, I think the Deputy's question was whether that should be legislated for. Typically, what the Department of the Taoiseach does is focus on key issues of importance and provide resources to ensure that there is a driving of and focus on those issues. It has been clear since the establishment of the climate action unit, which is a well-resourced unit with excellent expertise at our disposal, that climate is taken very seriously at the centre and I would envisage that would continue to be the case. I suppose it is a policy question as to whether something like that would be legislated for. I would have thought conceptually what we are looking for is a situation where climate action would become something which is made mainstream across Departments and that focus on governance from the centre in an ideal world would be no longer required because it would be hoped we would get to a point where the system is so seized by climate as an overarching policy objective that that would no longer be required. I hope that answers the Deputy's questions.

Chairman: I thank Ms Finegan. Would Professor Anderson address the question of the dilemma we have between urgent action and consultative dialogue that Deputy Bruton posed?

Professor Kevin Anderson: That is a huge challenge but I will have a go at it. First, it is important to stand back and think that from the viewpoint of poorer communities in more vulnerable parts of the world or indeed, from our own children's future or that of future generations, given the overwhelming scientific evidence we have had for two to three decades now, they may look at our regime and say that we are despotic. We have to reflect on this from different stances than necessarily our own.

More parochially, the legal framework is that we need to have a carbon budget framing. Personally, we have to get at it at some point in the United Nations Framework Convention on Climate Change, UNFCCC, process. At a national level, we need to be setting these up, as I laid out previously. As to what that would look like for Ireland, Ireland could look at what its budget should be to make its contribution to the Paris Agreement. I would argue it is something

in the region of 300 million tonnes. Then the argument is how that is divided out within Ireland. I am familiar with this from within the UK because we have done some of this work already where we have said that the concept of subsidiarity here might be really important. We have looked at producing carbon budgets for regions. We have done the same in Sweden as well, for regional governments and for local governments, saying that this is what their carbon budget would look like and looking at what areas of powers they have to influence emissions. They are much more attuned to the local requirements of their societies than, for example, in the UK, Westminster would be. There is some merit in downscaling from a national carbon budget to a regional carbon budget, recognising there are big boundary issues when one tries to do that.

Another way to think about this is that a carbon budget, whatever language we might like to use to avoid this, is a rationing issue. We have to live within a certain carbon budget if we are to avoid certain temperatures and, therefore, we have to ration out that carbon budget. Once we are prepared to acknowledge that and not shy away from the concept of rationing, that helps us much more in thinking about what that legal framework might look like. Could there be fee and dividend, whereby there is a very high carbon tax but, in fact, the money from that carbon tax is distributed back to the society evenly? Therefore, the high emitters, such as me, would pay a huge amount of carbon tax, but that would be distributed evenly, for instance, across people in Ireland. Could there be personal carbon allowances for domestic use of energy and for transport energy, for instance? Should there be frequent flyer levies that really impact people who fly very regularly? In fact, it would simply stop people flying very regularly, but it would not stop people flying once a year on holiday perhaps. We have to tailor those policies on the understanding that this is a rationing issue.

I am involved in the Scottish citizens' assembly, which starts this weekend. I am one of the evidence leads for that. It is important to recognise that most of the people in our society are not the real high emitters. They are not the problem. Probably, many of their emissions can be dealt with structurally and through technologies, etc. It is the high emitters among us who will have to change our behaviours significantly and the legislation, ultimately, will have to impose changes on us. The problem is, of course, we are the legislators, the academics, the journalists and the barristers. We are the people who make the policy framework and we require the foxes to guard the chicken coop.

Chairman: I thank Professor Anderson.

Senator Lynn Boylan: I thank the Chair and the speakers. I will try to be brief to provide time for responses, particularly for Professor Anderson to tease out a little further the issue around biogenic methane. We had officials from the Department before the committee earlier in this process and they highlighted the specific nature of biogenic methane, that it has a shorter lifespan but that its warming effect is 28 times higher. Professor Anderson might wish to elaborate on that. That is over a 100-year horizon whereas our objective is 2050. In reality, within that timeframe, methane has an 86 times warming effect. Can he elaborate on that for the benefit of members of the committee and the public and on why a reduction is essential in methane, and an absolute reduction as opposed to a reliance on carbon sinks?

I have a second question. I wish to tease out the issue of sinks, nature-based solutions and other ways of removing carbon from the atmosphere. I welcome his view on the reliability of predictions on the value of sinks and nature-based solutions and also the trade-off that would be required between achieving the sustainable development goals and addressing the biodiversity crisis and having that wide scale roll-out of BECCS. He referred to the issues with biomass and the importation of timber. We have had that problem here where the ESB was refused planning

applications because of the importation of biomass from outside the country.

I have a brief question for Ms Finegan. She outlined to Deputy Bruton where she sees the accountability, but I believe it shows that there are many layering processes. Where is the accountability for making corrections and for the reporting of whether the targets are being met and to correct if they are not being met? The way she outlined it with the whole-of-government approach and accountability to the committee blurs the line. Where does the buck stop in terms of meeting emissions reductions?

I have a brief question on just transition. Sharan Burrow of the International Trade Union Confederation criticised the Bill for not including just transition. We know in the context of the Bord na Móna workers, and also if we are to have an absolute reduction in methane, the importance of just transition principles and that they should be fair and equitable. Perhaps any of the speakers who spoke on just transition will comment on how New Zealand has done this, given that it has separated biogenic methane and embarked on a process with the agricultural community.

Professor Kevin Anderson: Most of my focus is typically on the CO₂ side. The biogenic methane is a very important issue. Again, it is one of the issues that has been deliberately underplayed by some. Methane is a relatively short-lived gas but it has a huge warming impact, particularly in the nearer term. As the Senator said, if one integrates its impact over 100 years, it looks like 28 times more impact per molecule than CO₂, but if one integrates the impact over a shorter period, it looks much higher at 80, 90 or 100 depending on the timeframe. One of the things to bear in mind here is that if we are seeking to just try to stay below 1.5°C, that is going to occur very soon. We are at 1°C warming already. There will be very few years before we head towards 1.5°C. In the timeframe in which we have to deliver 1.5°C, the methane we emit today and in the next two to four years will have a big impact. We have to get the methane out of the system - the biogenic methane and the methane from use of fossil fuels. It is a massively important part of the near-term story, and that near-term story is key if we try to deliver the 1.5°C framing. As I say, it is very challenging, but we should try everything we can.

It is also worth bearing in mind that what we are seeing at global level in the atmosphere are rapid rises in methane emissions. We think there are three principal reasons for this. One is the increased use of natural gas, particularly shale gas. That is one contributing factor. Another is a reduction of the hydroxyl molecule in the atmosphere, which basically cleans up the methane. If there is less of that, the methane lasts a little longer and it appears that more is being emitted. The third one is biogenic activity at global level. As we have warmed up the planet, particularly in the Tropics, we are seeing far more activity, which means we are seeing more methane from those parts of the world. We cannot stop that. Once we have that warming, that is happening. We have to stop the biogenic methane we have control over, and that is principally through agriculture. Biogenic methane is a very important issue. If we are serious about our Paris commitments and if we recognise the atmospheric constraints on methane going up partly because of biogenic methane that we cannot control in some parts of the world because of the warming, then we have to ensure we reduce it from the areas on which we have some purchase - the fossil fuel industry and agriculture.

Regarding some of the negative emissions technologies, the biomass energy with carbon capture and storage, BECCS, is probably one of the worst. Virtually all the models assume biomass energy with carbon capture and storage. They are not looking at some of the more exotic techniques. They are primarily using this type of grunt technology. If one looks at most of the models, it is assumed one plants an area somewhere between the size and three times the size

of India, with huge sets of SDG sustainability issues across the board. They could range from water to land rights, indigenous people's rights and the effects on soil. On every level these are problematic at the scale that is assumed in the models. Who is relying on these? It is the wealthy parts of the world relying upon growing this stuff often in poor parts of the world to compensate for our ongoing high emissions from the relatively few people who are producing them in our countries. That is a really problematic approach. It is another sticking plaster for a problem that is much more systemic. While I favour us doing research on some of the negative emissions technologies, and particularly some of the other nature-based solutions, to use those to allow us to carry on our high-carbon lifestyles is utterly inappropriate. The reliance on BECCS is dangerous across an entire set of the SDG commitments.

Ms Sharon Finegan: I thank Senator Boylan for the question. In some ways her question gets to the heart of matters. It was about how we correct if we are not meeting our targets. The targets will be outlined through the carbon budgetary process. There is an overarching target out to 2050 in the Bill but the carbon budgetary process ensures that we have markers in the sand up to a 15-year time horizon as to how we are going to get there. Beneath that is the climate action plan process. The requirement in the Bill to make that happen annually places an almost relentless focus on implementation. Developing and devising climate action plans annually that focus on delivering the Government's objective of the 7% reduction is a significant undertaking. That coupled with the commitment in the programme for Government to have the monitoring and reporting of progress on a quarterly basis is where the accountability lies. Transparency on those measures which have been deemed to be the key and core measures to deliver the reduction as provided for in the carbon budgets is the crux of accountability as I see it under the Bill, in terms of delivering on the targets. Ultimately, head 13 of the Bill provides for that type of accountability through the Oireachtas, which is extremely important from a governance and structural point of view. I hope that answers the question.

Dr. Larry O'Connell: We have not examined New Zealand in the context of the just transition and the work on agriculture. We have looked at it more widely in terms of the work it is doing on using well-being and indicators.

I wish to make a point, and it connects back to Deputy Bruton's question. We are very sensitive about framing the challenge as being, on the one hand, a slow process of engagement with people and, on the other, sweeping urgent changes. If we refer back to agriculture, what one must grapple with is the complexity. Nobody disputes the overall scale and urgency of the challenge. Carbon budgets move us on and help to quantify the challenge, but we are still left with the complexity of exactly how we do it. That is where one needs to engage with the people on the urgency. I do not believe that engagement with people should be characterised as slow. It must be enthused with ambition. However, it is absolutely necessary. Otherwise, at some point the top-down idea of even a carbon budget does not deliver because it does not engage with the actual complexities of the problem.

It was interesting when Ms Finegan spoke about the Taoiseach's Department's point of view. The crux of the issue is often the fact that we must look at implementation, really grapple with these complexities and not assume they can be glossed over. This is where we really must make progress. That kind of framing needs to be front and centre. It is about the complexities and the ambition to deal with them rather than an either-or scenario. This is really important, particularly in agriculture.

Ms Sharon Finegan: Could I come back in on that point? It relates to a question raised earlier by Deputy Christopher O'Sullivan about the question of uncertainty and the level of

uncertainty around responses to climate. An excellent report on climate governance by NESC in 2019 contained some very useful and important insights into the complexity of these issues. If there are no objections, I will read a very useful extract from that concerning this response to uncertainty. It states:

The necessary response to this uncertainty cannot be inaction and speculative deliberation about the correct, ideal or even most cost-effective course of action. Instead, it must be practical action on many fronts, intensive monitoring and review, learning and ratcheting emissions reduction.

That captures succinctly captures the issue discussed by Dr. O'Connell and the problem more generally. That relentless focus on implementation and identifying individual measures that will be taken to address the problem is crucial.

Senator Pauline O'Reilly: I thank the witnesses for their attendance. There has been a lot of deep thinking and conversation. From what Professor Anderson said, it is really clear that we should have taken action many years ago and that we are in dangerous waters, are unlikely to hit the 1.5°C target, many people are already dying around the world and this country has imposed a lot of that on poorer countries. What is also clear from the opening statements is that there is no mention of intergenerational justice or justice for other parts of the world. This is not to say that I believe the witnesses do not think this is important. It does, however, outline why for us this question of just transition is so difficult to pin down. The witnesses spoke about the inherent complexity around the sharing of burdens and opportunities but we have had many of the opportunities and placed burdens on other countries under the current model, which has got us where we are. If we look at the current workforce in Ireland, we are not really taking the opportunities for future generations into account when it comes to the actions we are taking. From a legislative point of view, we do not want to be tied up in court cases about job losses - we want to ensure they do not happen - and, therefore, cannot take action. Neither future generations nor people in other countries can take those court cases on the basis of what is happening now. How from a very practical point of view can we ensure that we define just transition in a way that will not allow us to get out of some difficult decisions that must be taken? I take on board a lot of what Professor Anderson said about Thomas Piketty, the owners of capital and how there needs to a greater emphasis on them but how do we put this all into legislation that will not tie us up forever and get us out of meeting these very real challenges?

Chairman: What is the Senator's first question?

Senator Pauline O'Reilly: My question concerns that intergenerational piece. It has been outlined in the opening statement, that when it comes to just transition, people do not necessarily talk about intergenerational issues all of the time. They talk about current job losses. How do we frame that in a legislative way that will ensure there is not more emphasis on current job losses rather than on other obligations?

Chairman: I think that question is for the witnesses from NESC.

Senator Pauline O'Reilly: Yes.

Dr. Jeanne Moore: I am not aware of the intergenerational piece being dealt with in a legislative framework. As I said, I am not expert on this but Wales has the Well-being of Future Generations (Wales) Act, has considered this very strongly with regard to its policies and practices and has found that a very useful way of commenting on current developments. In terms of

just transition, it is rooted in the here and now in terms of fairness and process. Involving young people in the framing of just transition is really important and that is why the process piece is so critical. Regarding focusing on principles, again, I am not a legal expert but enshrining that in the direction of travel and the ambition is not restricting action on a policy front. The just transition perspective is inherently vague in many cases. Senator Pauline O'Reilly is right. It needs to be pinned down, which is why further work needs to be done to flesh out how it would apply to particular sectors and subgroups of society and generations. However, as Ms Finegan has pointed out, this does not shy away from getting on with it and acting first so long as the process of engaging with those key groups and sectors is clear.

Dr. Larry O'Connell: With regard to the Scottish example last week at the conference, Scotland holds meetings with various sectors. Literally the next day, they were convening a two or one-and-a-half day event with young people on this question. Dr. Moore is right. Beyond the legislation, one creates a process that is really committed to seeking those views. At our conference, there was a very interesting video compiled by some young people who live in the midlands. It was a very impassioned plea to the people running the conference and the policymakers not to forget about their futures and how they wanted to live in the midlands. It is really important that we create a process where we can hear those voices and engage with young people.

Ms Sharon Finegan: In response to Senator Pauline O'Reilly's point about geographic injustice, there is a chapter in the climate action plan about Ireland's international action on climate breakdown. Some fairly significant steps forward have been made. There are a relatively small number of actions on this in the climate action plan. There are things around seeking to double the percentage of overseas development aid spending on climate finance by 2030. We are well on track to do that. Other actions include placing climate action, particularly for least developed countries and small island developing states, at the heart of development co-operation and policy partnerships and engaging in multilateral processes. There are real opportunities in the next iteration of the plan to look more carefully at this and think carefully about it.

Regarding the intergenerational point, there is a commitment in the programme for Government to look at the climate dialogue process. Bringing in young people as part of that will be hugely important. My Department recently did some work to make our online presence a little more accessible. There is a new section on climate action on *gov.ie* where we have been trying to make information as accessible as possible. One of the things we have done is engage with Comhairle na nÓg to get its assistance in making some of our material more accessible and developing a jargon buster. A lot of the time, the information policymakers use to talk about climate is very inaccessible so we are trying to draw them into the conversation. We are at an advanced stage of that work. Comhairle na nÓg has been really engaged on that and we have been assisted on that by our colleagues in the Department of Children, Equality, Disability, Integration and Youth and the Environmental Protection Agency, EPA, so work is ongoing. Considerable further work is required. We feel confident that the new dialogue process will seek to address some of those challenges.

Deputy Darren O'Rourke: I thank the witnesses. There is considerable overlap in the contributions and questions. I can see weakness in the Bill reflected in many of the comments, including the lack of emphasis on just transition. We are left with the conundrum of how we should include it in the legislation. What is the appropriate way to do it? Are there international comparisons? Scotland was mentioned. I would like to hear the witnesses' perspectives on that. To what extent should we seek to include just transition? Should it be running through

the document or should a specific section capture it? For example, should it be referenced in the make-up of the climate council? Participation is a point that has come up repeatedly. What work needs to be done to include that participatory element with specific reference to just transition? Those are questions for the witnesses from NESC.

I ask Professor Anderson to speak about Ireland's global responsibility and his point about global carbon budgets. Obviously, just transition has a particular context for workers in the sector and people in fuel poverty, but we sit in a global context.

Dr. Jeanne Moore: I thank Deputy O'Rourke for his questions. I welcome the focus on the participatory element. I will get to that in a moment. I believe the Scottish example is the only one that has relevance for Ireland. I am not a legal expert, but I am very aware of how Scotland has tried to frame its recent legislation in just transition. Its climate change Act commits its government to consider matters relating to fairness when preparing new climate change plans. It also refers to principles, but then it draws into that level of commitment to use those principles in preparing plans.

In addition to principles we might want to consider how that is turned into action. Clearly the climate change unit and the measures developed by Government will counter some of the anxieties on just transition. There is a commitment to a just transition plan. The programme for Government has a just transition commission statutory office. Mechanisms are being considered to try to flesh out the policies for the delivery of just transition. It is worth looking at the Scottish legislation. Beyond stating its broad importance and its direction, for me the real focus is on how to bring that into effect. How can we ensure that plans developed at a local level and at a statutory level really consider just transition?

Bringing that on to process, the participatory element is very important. The Scottish Act refers to a commitment to public engagement through a citizens' assembly. While Ireland has had an excellent Citizens' Assembly, it is important this process of engagement should be ongoing and not just a one-off. Reflecting on a climate dialogue is really important. I welcome the science that will be developed further. There is a plethora of social dialogue mechanisms through NESC. Institutionalised processes can be developed through the dialogue. There are networks, for example the all-Ireland climate biodiversity research network. There are civil society participatory networks. All these could be supported and galvanised to engage on a just transition process.

The committee's recognition of the participatory element of just transition is welcome and is as important as the outcomes. I am happy to direct people to the Scottish cases. The just transition commission over there recognises in its two-year body of work the fundamental need to engage with different sectors, industries, bodies and regions in Scotland to try to flesh out how to bring about a just transition. I recognise that it is frustrating in that it takes this kind of time and depth. However, bringing everybody on board in that process is very important.

Chairman: I ask Professor Anderson to respond to Deputy O'Rourke's question about Ireland within the global context.

Professor Kevin Anderson: Ireland is a relatively small country with a population of approximately 6.5 million. People in some of the smaller countries I work with, such as Norway, Sweden and even Scotland often ask how they matter given that they are just a small part of the picture when compared with other parts. Nevertheless, it is interesting that these small countries can often punch well above their weight. What we require most importantly are examples

at home. If Ireland can put in place a carbon budget that is aligned with the Paris Agreement, has a very clear transparent framing of how it comes to the conclusions it has reached on its carbon budget and demonstrates that leadership at home, it becomes a very important international example of what we should be doing. It also needs to talk vociferously and honestly about the difficulties, benefits, challenges, successes and so forth.

Thankfully Ireland is still part of the EU; that is a separate issue. Ireland has scope to push hard within the EU which obviously has even greater international clout. The EU is considering carbon budget framing. Based on my discussions with President von der Leyen's adviser on this, I believe it will still be incredibly weak. We do not have time for more weak policies and delusion. We need carbon budgets that are in line with the science of 1.5°C to 2°C. If Ireland is doing that at home, it should be able to push that much harder in the EU. Some of the Swedish MEPs are also keen to do that. Ireland should find those comrade voices to come together on these issues.

We also need to consider things like foreign policy. I do not know Ireland's situation. I know more about the UK, whose foreign policy is littered with examples of doing things completely counter to the issues of climate change. For example, it is funding Mozambique in liquid natural gas, LNG, terminals and so forth. I do not know what that is like in Ireland, but its foreign policy needs to have climate change woven throughout it. If it does not meet the broad framing of climate change aligned with the Paris Agreement, it needs to rethink its foreign policy. Ireland should try to demonstrate leadership at home and find other smaller nations that it can come together with to try to increase the power of its voice as a relatively small nation.

Senator Alice-Mary Higgins: I thank all the witnesses. In particular, I thank Professor Anderson for focusing on the climate justice issue which I think is important. Two separate questions have come across all these hearings. There is the question of how the level of emissions that need to be cut is calculated - the targets and budgets. That needs to be based on science and not negotiated. Professor Anderson mentioned that we should not use external offsetting and that while we may invest in negative emissions technology or CCS, we should not base our targets or our budgets on speculation on carbon capture or negative emissions technology. That covers the science.

Linked to that and the targets is the principle in the Paris Agreement of the common but differentiated responsibility. I ask Professor Anderson to underscore the importance of naming that and ensuring it is reflected in this Bill. Besides that core issue, does he have wider comments on how we reflect climate justice? He mentioned how useful support for not acting counter to the sustainable development goals both nationally and internationally might be a useful tool for us in both climate justice and just transition.

Just transition is in the space of how things are achieved through policy or possibly sectoral plans. Will the NESC representatives comment on the importance of social dialogue? It has been used in Scotland and Spain quite successfully. Within that social dialogue, how important is it that the frame of the dialogue be wide enough to allow workers and communities to give opinions on corporate and state policy? Rather than responding to a crisis in a specific factory or business, how important is it that those just transition dialogues are wide enough to prepare for that kind of Green New Deal, FDR Marshall Plan thinking that we may need? Dovetailing with that, will they comment on the importance of accelerating just transition dialogue and consideration so they are part of our Covid-19 and Brexit recovery strategies?

I would also like Ms Finegan to comment on that. How does she see our climate response

and Covid-19 and Brexit responses working together? It is concerning that we have gone to a less than half compliance rate this year during the Covid response when many would say Covid-19 is a reminder that we need to accelerate achievement of climate targets? How can that be achieved? When there is a failure in achieving a budget or target, where does responsibility sit? Is it with the Taoiseach, the Minister for the Environment, Climate and Communications or another Minister who has failed to achieve a specific target? Where does the accountability land?

In terms of response, we know 1% of unfulfilled targets can be carried over to the next period. What about the other 99% of unfulfilled target or budget? When the budget has been exceeded, what sanctions would be appropriate for achieving that? Ms Finegan mentions that Ireland will only meet its existing emission reduction targets with full implementation of all measures in the climate action plan. Those targets are much lower than those we are discussing now, be it 50% 60% 70% or 80%, as suggested by Professor Anderson. In that context, where are the new measures to come from and might some of them be the kind of targeted measures towards high emitters suggested by him? I thank the speakers again. I have more questions but I do not have time.

Professor Kevin Anderson: The first question revolves around common but differentiated responsibility. I will pick up on the important statement that science does not negotiate. That is key. I always argue that physics trumps economics at the end of the day but it is worth bearing in mind that often the science is unhelpfully flavoured with lots of assumptions about things such as negative emission technology. That also needs to be unpicked and revealed. That is not science, but politics masquerading as science so we should be cautious of that.

Common but differentiated responsibility is a key concept that has been developed over several decades. Until this point, it has only been paid lip service by the wealthy parts of the world. Countries such as the UK and Scotland are using net-zero language. Many countries and some companies seem to be adopting that sort of approach. If one unpicks what is behind it, one finds that large negative emissions are assumed, as are ongoing CO₂ emissions from fossil fuel use after 2050. When you play that out, that is a deeply colonial approach. First, they are assuming a larger part of the carbon budget for the richer countries, which means a smaller part for the poorer countries. I always make the slightly flippant comment that we stole their slaves and their minerals and now we are stealing their carbon budget. These are good people like us. Nice liberal-minded people that are carrying on this sort of activity and not reflecting to ourselves about what we are doing. The other thing it is doing is stealing the opportunity for prosperity and a good quality of life from our own children and future generations and from people in poorer parts of the world today. We are relying on negative emissions technologies so we are buck-passing on two levels. We are buck-passing to poorer parts of the world and to future generations. The problem is that once that buck-passing is stopped, the implications for us high emitters are so significant that we are not prepared to countenance them. Until we are prepared to do that and have some internal integrity, we will fail on climate change.

The sustainable development goals, SDGs, are important and there will be conflict here. Climate change is one of the SDGs and there are some conflicts in some of those things. When we try to deal with climate change in the near term, it might have a temporarily negative impact on some of the other SDGs. We have to think about those things in advance. I have big issues with the one on economic growth. That is not an appropriate way to measure the prosperity of wealthy countries. That may still be appropriate for poorer countries but for wealthier countries we need to find different metrics for assessing quality of life and the Welsh have shown examples of that. The SDGs are a useful backdrop against which we must test our climate change

policies but recognise that sometimes there will be conflicts between them. Wherever we can, we should find synergy between the SDGs and their responses to climate change.

Dr. Larry O'Connell: On the framing, Dr. Moore mentioned earlier that we looked, as a case study, at Bord na Móna. One of the issues in Bord na Móna, at that stage, was that it had largely become an industrial relations issue. It was about trying to sort out job losses and so on. I will not comment on that process but, in general, if it is going to be a just transition, engagement has to be earlier. It has to be a proactive dialogue and the framing is about good, decent jobs and how to create those in a specific region.

On the engagement with workers, what we need to do in a just transition is look at early identification of the precise skills workers have in a particular sector or area, what opportunities they see which they might like to pursue, how they can be supported to do so, how we can create enterprises that are more viable in those areas or regions that are impacted and how we ensure finance is brought to bear to support that. The NESC work in this area for the past year was about trying to create social dialogue and to look at what processes would be needed but our key lesson was that it needs to be an early engagement and that will allow workers and enterprise in the area to have a constructive discussion and we can all agree that the objective is to create decent jobs that will secure people's future in the midlands. That is our framing and our thought about it. Going back to the points that Dr. Moore made, the question is how we create the institutions that are able to do that. Our work in the Midlands suggests that, while there are some interesting institutions already in place, we can do more to enable information to flow from local county development companies into regional structures and nationally where blockages can be unlocked. That is what we need to see to support dialogue at local level. I am not sure if that fully answered the Senator's question but we will be happy to come back to her on it.

Dr. Jeanne Moore: I will add one point, which is the question around Covid-19 and strategy. The council is producing a statement on the importance of grounding a recovery in sustainable development. It is an important reflection on some of the key issues that Senator Higgins has raised around the need to align the sustainable development with the recovery and climate is embedded in that. It is something to consider and that document will help inform some of that thinking.

Chairman: We have afforded witnesses the opportunity to send in written submissions and 6 November is our deadline, if the witnesses want to make further observations to elaborate on the answers they have given us.

Ms Sharon Finegan: I thank the Senator for those questions. The first question related to just transition as part of the response to Covid-19. One of the commitments in the programme for Government is around the development of a new national economic plan and work is ongoing on that with my colleagues in the Department of the Taoiseach. Future-proofing the economy and society is a key element of the work that needs to be done in considering how best to frame that. Just transition is crucial in that respect and my colleagues, in developing the plan, will be mindful of the commitments in the programme for Government around establishing the just transition commissioner as a statutory office, publishing the just transition plan and publishing a detailed all-of-Government implementation plan consistent with the recommendations of the just transition commissioner's first report.

There are a number of commitments in the programme for Government that are important in this space and will ensure that the response to Covid-19 will consider just transition an important part of where we go next. We saw signs of that in the July stimulus package and the outline

of budget 2021. These were key considerations in some of the expenditure that was committed to for budget 2021 in the area of climate. That is what I say about that.

In response to the question about failure and where responsibility lands, the important thing about identifying failures where targets have not been met is around transparency and making sure there is a clearer understanding when policies that we intend to deliver are not implemented. The climate action plan process and the publication of detailed implementation reports show, in a detailed way, what has been done, what has not been done, why it has not been done and what progress has been made. This is crucial. We have taken a very transparent approach to all of the work on the climate action plan. I encourage people to have a look at those reports because they are very detailed and provide real insights into what has happened to date.

When we talk about failure, we are talking about whether our greenhouse gas emissions will reduce. One of the key problems in terms of conceptually bringing people along, or allowing them to understand what is happening on climate action, is that people can feel a disconnect between knowing whether greenhouse gas emissions are reducing and how the fulfilment of Government policy delivers on their actions. Deputy Bruton was alive to that when he was the Minister for Communications, Climate Action and Environment. He was keen to develop a climate action dashboard so that we are not relying solely on the annual inventories from the Environmental Protection Agency, EPA, to show us if we are making progress. Those inventories come out annually and are a lagging indicator so one never quite knows whether one is making progress. As part of the work we have been doing, we have developed a climate action dashboard that is available at gov.ie/climateaction. It shows our progress against the key targets in the climate action plan. I envisage that we will continue to do that under the new climate action plan. That makes it more understandable for a lay reader. If there is a target of 500,000 retrofits over a particular period of time, the dashboard can show how well we are doing on that and how likely we are to succeed. That makes it more understandable for the public, increases transparency and makes it more obvious to people how policies make a difference, which is hugely important.

On the question of where the measures will come from, the Deputy is right in saying that the current climate action plan will, if fully implemented, deliver a 3.5% reduction in emissions whereas the commitment in the programme for Government is for a 7% reduction, which is a significant step up. Answering the question as to where those measures come from is going to be the subject of intense work by Government Departments over the coming period in order to be able to produce a plan that lays out policies to deliver that 7%. It is a challenging target, no doubt, but that ambition is crucial because that is where we need to go. Professor Anderson has clearly outlined the scientific evidence which supports the need for greater action more quickly. That work is under way or beginning in Departments for the next iteration of the climate action plan, which will seek to provide a whole suite of new measures to bring us to that 7%.

Chairman: I remind members and witnesses that we have only ten minutes left. I will bring in Deputy Devlin next. Does Deputy Cronin wish to come in? She is okay.

Deputy Cormac Devlin: My first question relates to NESC. We have had a large discussion about just transition. In his opening remarks, Dr. O'Connell made reference to a NESC report, Addressing Employment Vulnerability as Part of a Just Transition in Ireland. He went on to say that a request in the climate action plan asked NESC to identify steps that could be taken to address the vulnerability arising from the transition to low carbon and a more digital or automated future. Given that, is NESC willing or able to make a recommendation around just transition for this committee? Dr. O'Connell went on to refer to the interim report of the

just transition commission and he might send to the committee a link to that report because it would be helpful. In terms of his engagement and his advisory role, would it be possible to consider making a recommendation on that to this committee? I heard what he said about his belief about referencing just transition in the Bill and that will be considered by the committee in a short while.

It is wonderful to have Ms Finegan here and to hear from the climate action unit within the Department of the Taoiseach. My questions relate to climate action plans and the role of the climate action delivery board. I think there were 183 actions referenced in the climate plan. How are we progressing on those actions? That will give us an indication as to how we are going to proceed and achieve, going forward, with the new Bill. If and when the new Bill is passed, what role would Ms Finegan see for her unit? Would its role expand? All the various Government Departments need to be stitched together.

I welcome Ms Finegan's remarks about the involvement of Comhairle na nÓg, particularly in relation to the jargon on the climate change section of *gov.ie*. I have suggested that Comhairle na nÓg might be considered for the Climate Change Advisory Council because we need to have a future's voice on climate change.

There was a lot of food for thought in Professor Anderson's remarks, particularly around our commitments under the Paris Agreement. What oversight or monitoring system would he recommend, post the implementation and adoption of this Bill?

Chairman: Would one of the members of NESC like to come in on the Deputy's first question?

Dr. Larry O'Connell: I thank the Deputy for his questions. NESC has done work in this area and has clearly come out in support of just transition. If the Deputy's question is whether NESC will now make a recommendation, that is not in my gift. I am secretary to a council rather than being able to do that. We can be clear in saying that NESC, in arriving at a strong view about the importance of just transition, looked carefully at Scotland. As I said earlier, there is an explicit reference to just transition in the Scottish legislation.

The Deputy also asked for a link to the work to be sent on and we will certainly do that.

Ms Sharon Finegan: I thank the Deputy for his question about the role of the climate action delivery board in the climate action plan. The board was established in July 2019 at the time of the publication of the climate action plan. The board is jointly chaired by the Secretary General of my Department and the Secretary General of the Department of the Environment, Climate and Communications. The establishment remit of the board was focused on overseeing the implementation of the climate action plan and the submission of the of the quarterly reports to Cabinet for publication. It also encompassed a commitment to identifying barriers, challenges, and key lessons in the climate plan implementation. The issues that I outlined earlier in my response to Deputy Whitmore are among those that the board has been made aware of through those structures and has discussed.

In terms of the role of our own unit, as I mentioned previously, the establishment of a unit within the Department of the Taoiseach looking specifically at climate has been a significant new departure. There are five of us in total working, and there is a very keen and clear focus from the centre on the need to drive implementation in relation to climate action. I see that in this Bill, the commitment to continue having a climate action plan produced on an annual basis

will mean that so long as it remains Government policy, the Department of the Taoiseach will continue to have responsibility for driving implementation of the plan and that is how I see our role. I welcome the comments on Comhairle na nÓg. Certainly-----

Chairman: I am sorry to cut across Ms Finegan but we have to be out of the room very soon and I want to afford Deputy Cronin an opportunity to raise a question.

Deputy Réada Cronin: My question is for Ms Finegan. Is it true that the current format of the annual plans allow for backloading so, according to the current draft of the Bill, to reach the average 7% reduction, the plans could delay action and leave it to the next Government?

Ms Sharon Finegan: The overall objective of the Bill is to achieve carbon neutrality before 2050 and the way the Bill is structured means there will be three carbon budgets over a 15-year period - five years for each - and each of them will aim to reduce carbon emissions by 7% on average, per annum. It is extremely ambitious and as it is outlined, and as that staging and process works, I do not necessarily see that there will be an opportunity for the backloading of ambition. It is clear that the delivery of the carbon budgetary process is to be aligned with Government policy, which is a 7% reduction per annum, and that is a steep, challenging and highly ambitious target, and rightly so.

Chairman: I thank Ms Finegan. Unfortunately, we do not have time to bring in members of the committee for a second round of questioning. In spite of the time constraints, we have had a thorough session today and have learned a lot from all of the witnesses. I thank them for attending today, in some cases at very short notice, which is much appreciated. The information and the evidence they have given will assist the committee greatly in the next few weeks in considering the draft of the Bill.

The joint committee adjourned at 1.34 p.m. until 11.30 a.m. on Wednesday, 11 November 2020.