

# DÁIL ÉIREANN

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## AN COMHCHOISTE UM CHOMHSHAOL AGUS GHNÍOMHÚ AR SON NA HAERÁIDE

## JOINT COMMITTEE ON ENVIRONMENT AND CLIMATE ACTION

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*Dé Máirt, 28 Meitheamh 2022*

*Tuesday, 28 June 2022*

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Tháinig an Comhchoiste le chéile ag 11 a.m.

The Joint Committee met at 11 a.m.

Comhaltaí a bhí i láthair / Members present:

Teachtaí Dála / Deputies	Seanadóirí / Senators
Richard Bruton,	Lynn Boylan,
Réada Cronin,	Timmy Dooley,
Cormac Devlin,	Pauline O'Reilly.
Alan Farrell,	
Darren O'Rourke,	
Christopher O'Sullivan,	
Bríd Smith,	
Jennifer Whitmore.	

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

## Sectoral Emissions Ceilings: Discussion

**Chairman:** I have received apologies from Senator Higgins. The purpose of today's meeting is to discuss sectoral emissions ceilings, which are due to be announced in the coming weeks by the Minister for the Environment, Climate and Communications, Deputy Eamon Ryan. On behalf of the committee, I welcome the departmental officials from several Departments to the meeting. From the Department of the Environment, Climate and Communications, we are joined by Mr. Frank Maughan, principal officer; Ms Karen Egan, principal officer; Mr. Marc Kierans, assistant principal; and Mr. Neil Gannon, assistant principal. Mr. Kierans is joining us in person and Mr. Maughan, Ms Egan and Mr. Gannon are joining us online. They are very welcome. From the Department of Agriculture, Food and the Marine, we are joined by Mr. Bill Callanan, chief inspector; and Ms Edwina Love, principal officer, climate and biodiversity. We are also joined online by Mr. John Redmond and Mr. Fergus Moore. They are welcome. From the Department of Transport, we are joined by three officials, namely, Ms Andrea Lennon, principal officer; Dr. Aoife O'Grady, principal officer; and Mr. John Martin, principal officer.

As usual, before we begin I will read a note on privilege. Witnesses are reminded of the long-standing parliamentary practice that they should not criticise or make charges against any person or entity by name or in such a way as to make him, her or it identifiable, or otherwise engage in speech that might be regarded as damaging to the good name of the person or entity. Therefore, if their statements are potentially defamatory in regard to an identifiable person or entity, they will be directed to discontinue their remarks. It is imperative they comply with any such direction. For the witnesses attending remotely from outside the Leinster House campus, there are limitations to parliamentary privilege and, as such, they may not benefit from the same level of immunity from legal proceedings as does a witness who is physically present in the campus. 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 they may participate in this meeting only if they are physically located on the Leinster House complex. In this regard, I ask members joining us online to confirm, prior to making their contribution, that they are on the grounds of the Leinster House campus.

I invite Ms Egan to make her opening remarks.

**Ms Karen Egan:** I am the principal officer in the environment and climate action plan delivery division of the Department of the Environment, Climate and Communications. I am part of the team responsible for the preparation of the sectoral emissions ceilings. I am accompanied by two of my colleagues from the climate division, Mr. Frank Maughan, who works in just transition and sectoral policy; and Mr. Marc Kierans, who works in the land use and sectoral policy division. I will use my opening remarks to outline the process that the Department has undertaken for the preparation of sectoral emissions ceilings in accordance with the Climate Action and Low Carbon Development (Amendment) Act 2021. The Climate Action and Low Carbon Development (Amendment) Act 2021 commits Ireland to a legally binding target of a climate neutral economy not later than 2050 and a reduction in emissions of 51% by 2030 compared with 2018 levels.

Following the process set out in the Act, the carbon budget programme proposed by the Climate Change Advisory Council was approved by Government on 21 February 2022 and subsequently adopted by the Oireachtas on 6 April 2022. This carbon budget programme comprises three successive five-year carbon budgets as follows: for the period 2021 to 2025, 295 million metric tonnes of CO<sub>2</sub> equivalent, which equates to an average reduction of 4.8% per annum for the first budgetary period; for the period 2026 to 2030, 200 million metric tonnes of CO<sub>2</sub> equivalent, an average reduction of 8.3% per annum for the second budgetary period; and for the period 2031 to 2035, 151 million metric tonnes of CO<sub>2</sub> equivalent, an average reduction of 3.5% per annum for the third provisional budgetary period. The upper ends of the emission reduction ranges in the Climate Action Plan 2021, CAP21, are consistent with a 51% reduction in emissions by 2030 compared with 2018 levels, on the basis of the full implementation of core and further measures as well as allowing for unallocated savings. The plan leaves savings of circa 4 million tonnes of CO<sub>2</sub> equivalent unallocated in 2030 on an economy-wide basis, pending the identification of additional abatement measures. The 2021 climate Act provides that Government will approve an annual update to CAP21 that is consistent with the carbon budget programme, so once the carbon budget programme and associated sectoral emissions ceilings have been adopted, the climate action plan 2023 will be prepared and published before year end to ensure such consistency.

Under the Act, the Minister for the Environment, Climate and Communications must prepare, within the limits of the agreed carbon budget programme, the maximum amount of greenhouse gas emissions that are permitted in different sectors of the economy during a budget period, and different ceilings may apply to different sectors. These sectoral emissions ceilings shall be determined by the Government and are not subject to an Oireachtas process. The Act requires the Minister to submit sectoral emissions ceilings to Government for approval as soon as may be after a carbon budget takes effect. The Minister intends to take a proposal to Government on sectoral emissions ceilings shortly.

The Department has considered a number of scenarios to support the preparation of the sectoral emissions ceilings. It is being supported in this work principally by McKinsey and Company and MaREI at University College Cork. Key inputs have also been received from the Environmental Protection Agency, EPA, the Sustainable Energy Authority of Ireland, SEAI, Teagasc, EirGrid, the Economic and Social Research Institute, ESRI, University College Dublin and other contracted support. The Act provides that the Minister shall, when preparing a sectoral emissions ceiling, consult such Ministers of the Government as he or she considers appropriate. Over the past two months, extensive consultation with relevant stakeholders has taken place. In terms of the engagement to date, the Department of the Environment, Climate and Communications has been sharing analysis, including through bilateral meetings and workshops with key Departments. There has also been a series of meetings at Secretary General and ministerial level. As part of the proposal, the Minister will recommend to Government the sectors of the economy to which each sectoral emissions ceiling will apply, based on the EPA emissions inventory which breaks down emissions into a range of categories across the economy. A Minister must be assigned responsibility for each sector to meet the obligations under the Act. Section 6C of the Act gives a legislative underpinning to whole-of-government climate action by making responsibility for adherence to the carbon budgets and sectoral ceilings more diffuse across Government. Ministers will be required, in so far as practicable, in the performance their functions, to comply with the sectoral emissions ceiling that applies to the sector for which that Minister has responsibility.

I thank the committee for inviting me and my colleagues to come before it and I am happy

to answer any questions.

**Chairman:** I thank Ms Egan for her opening statement.

**Mr. John Martin:** I thank the Chair and committee members for the opportunity to outline the Department of Transport's ongoing engagement and inputs to the setting of sectoral emissions ceilings under the Climate and Low Carbon Development (Amendment) Act 2021. I am principal officer over a new climate engagement and governance division established recently in the Department. I am joined by my colleagues Ms Aoife O'Grady and Ms Andrea Lennon. Ms Lennon heads up our energy, air and adaptation division, which includes policy on renewable fuels and biofuels for transport, while Ms O'Grady leads our climate delivery team, which focuses on facilitating the transition to electric vehicles, our EV charging infrastructure strategy, and the establishment of the zero emissions vehicles Ireland office. I am responsible for co-ordination and reporting on our obligations under the climate Act and Climate Action Plan, supporting the implementation of our recently published sustainable mobility policy through the SMP leadership group, and improving our engagement on climate action with the public and our partners in the transport sector.

Members of the committee will be well aware that transport accounts for about 18% of our national greenhouse gas emissions. Our initial baseline emissions abatement target going into the sectoral emissions ceilings process was to deliver a 51% emissions reduction from a baseline of 12.2 million tonnes per year in 2018 to approximately 6 million tonnes per year by 2030. The indicative levels of abatement expected for each sector of the economy in CAP21 set a range of 42% to 50% to be delivered in the transport sector, and the Minister, Deputy Ryan, and the Department are committed to delivering to the upper end of this range, while acknowledging the scale of the challenge involved for the sector and society, but also the huge benefits to be derived in terms of quality of life as well as carbon abatement. There has been significant expansion recently in the Department's climate teams to ensure we have adequate resourcing and capacity in place to help us to achieve this ambition.

The Minister has commented repeatedly that transport, as a sector, faces an extraordinary challenge in terms of achieving the required emissions reductions in the timeframe envisaged. This difficulty arises from the scale and level of the personal and systems transformations required to shift from settlement patterns and travel behaviour that have been embedded over decades and are dominated by car use. Moreover, as highlighted by the recent EPA report on our greenhouse gas emissions projections, the current suite of CAP21 measures for transport are projected to deliver a 39.3% reduction in emissions, falling short of our 51% abatement ambition. To quote the recent Intergovernmental Panel on Climate Change, IPCC, report, further immediate and deep action is required. We acknowledge and accept this shortfall, which we have termed our "gap to target" and which was also noted in the modelling undertaken for the development of CAP21 as a 0.9 million tonne per year shortfall to be identified through additional measures.

In recent months, we have undertaken significant work with our National Transport Authority, NTA, modelling teams, other agencies, academia and transport stakeholders to calibrate our modelling and identify additional measures that could be implemented, recognising the need to ensure fairness and equity in the impacts of such measures. A few areas were selected for particular attention, including identifying measures to reduce the volume of fossil fuel vehicle kilometres travelled, a focus on rural transport and just transition, supporting the decarbonisation of the freight sector, and possible regulatory and financial or taxation measures that could support transport decarbonisation. A report on this engagement and updated modelling results

are expected to be delivered this summer, in advance of the annual update of the climate action plan 2023.

While negotiations on the sectoral emissions ceilings are ongoing, our engagement with the Department of the Environment, Climate and Communications has been constructive, with a clear focus on agreeing ceilings that recognise the delivery challenges and timing impacts of the measures involved while also aligning the base assumptions underpinning the analysis involved. In particular, the carbon budgets proposed recognise that a greater level of emissions abatement in the transport sector will be achieved in the second carbon budget period. This trajectory needs to align with the likely uptake of electric and other alternative technologies, the ramping up of transitional biofuels and renewable fuels, and the longer lead-in times for the roll-out of additional infrastructure and services. Critically, it needs to recognise the level of behavioural and systems change that will be required.

The ongoing war in Ukraine, the spike in energy costs tied to the increased cost of living and supply chain shocks that are particularly affecting the supply of electric vehicles have added to the level of challenge involved. Therefore, the introduction of sectoral ceilings and the level of transformation needed will require strong buy-in at political and citizen levels as we seek to accelerate delivery. It is our view that beyond the existing measures in CAP21, the best means of achieving our goals will be through enacting further policy measures that directly reduce transport demand and which prioritise, facilitate and support behavioural shift to more sustainable modes. Our role over the coming period will need to include presenting and communicating policy measures that will lead us to the sustainable future transport system we are trying to achieve to bring the public with us, a future system that is less congested and which prioritises well-being. We look forward to continuing our engagement with our colleagues in other Departments to support us in this vision. My transport colleagues and I are happy to take any questions the committee may have.

**Chairman:** I thank Mr. Martin for his opening statement. Next is the Department of Agriculture, Food and the Marine. I had it that Mr. Callanan was to deliver the opening statement. As he is not on the call, is one of his colleagues prepared to deliver the opening statement? Otherwise we can proceed with the meeting while we try to get Mr. Callanan back.

**Ms Edwina Love:** Please proceed. He should be on the call so I will try to track him down.

**Chairman:** We will proceed with the meeting while we are waiting for Mr. Callanan. We move to questions from members.

**Deputy Bríd Smith:** I thank the witnesses for their presentations this morning. I want to ask the Department of the Environment, Climate and Communications about the recent EPA report, which stated our emissions rose by 6%. In that context, we know each sector must reach the upper range to be compatible with the overall 51% reduction. Every shortfall in the first five-year budget makes the second one practically insurmountable. Will the witnesses comment on what chance there is of every sector hitting that target range on the current projections?

I have a question for the Department of Transport. It is clear from the witnesses' statement that the only real game on town, and from the pushing, so to speak, we have had from the Bill, is the electrification of the private car fleet. It seems to me that all the work and emphasis in the scale of our ambitions should be on public transport, on increasing railway and trams etc., and on focusing on rural Ireland. Certainly, the plans by the NTA for the bus fleet are not at the races. It is really all down to electric vehicles. I would like to draw a link between the solutions

in both agriculture and transport that seem to be hooked onto new technology as a solution. With EV cars there is a problem. If we plan to hinge our targets on a million EV cars, we are depending on mass manufacturing and distribution of these fleets, something in itself, regardless of them being electric, would have a massive cost to the carbon emissions to build and to manufacture them. The purpose of this technology is to keep things as they are and to keep the reliance on the private car in transport. Will the witnesses comment on the ambition for public transport in the areas of rail, bus and rural transport we need to achieve?

**Chairman:** The first question is for Ms Egan.

**Ms Karen Egan:** I thank the Deputy. The EPA reports definitely highlighted the challenges Ireland faces as we seek to meet our ambitious targets. To reverse the current trajectory of emissions and meet our 2030 and 2050 targets, a significant shift would be required in the speed at which all sectors roll out and ramp up the measures and actions that will decarbonise our economy. Following the sectoral ceilings in the carbon budgets being legally adopted, the design and the structure of the next climate action plan will be implementing the sectoral ceilings. In the process of our negotiations with the other Departments in fleshing out the next climate action plan, we will be doing a lot of analysis on the actions and measures to achieve the targets. It is to that process that we will be working out the pathways to hit the target ranges.

**Deputy Bríd Smith:** Will Ms Egan directly answer the question I asked about whether each of the sectors have to achieve the upper limit even to begin to try to reach the 51% target, which even then would be difficult?

**Ms Karen Egan:** Yes. CAP21 sets out that to reach the targets, it is the upper ranges that will need to be implemented.

**Chairman:** There were questions for Mr. Martin and his colleagues.

**Mr. John Martin:** I will take that question initially. I thank Deputy Smith for the question. I would not necessarily agree we are saying EVs are the only game in town. Of course, they have a strong role to play here, both in the context of private electric vehicles but also in terms of the electrification of the public transport fleet. Having said that, our statements and our commitments in CAP21 look across a whole range of other areas as well. While EVs have a role to play, this is definitely a multifaceted approach.

One of the key areas we are looking at is increasing the number of sustainable transport journeys taken daily, up to half a million per day. That would include public transport and active travel. There is substantial ongoing investment, as the Deputy is aware, at the moment in public transport. Some of it will take longer than others. We have projects such as DART+, BusConnects, Connecting Ireland and MetroLink all planned, and some of these will be online within the timeframes we are talking about - not all of them, obviously. We are also looking at fairly significant investment in improving the existing services and improving the reliability and attractiveness of the existing services to increase the use and modal shift from private cars to public transport.

We are also looking significantly in the area of active travel. Almost 60% of journeys less than 2 km are by car. We have a strong role to play as a Department. Our agencies also have a strong role to play to communicate to people the importance of modal shift away from the private car, be it a fossil fuel car or an EV, and moving into other, more sustainable forms of transport, such as public transport and active travel. In the context of rural Ireland, that is a very

important point, that we need to enhance the services offered in rural Ireland. That is what Connecting Ireland is all about. That will take a while to roll out, but there are improvements being made on an ongoing basis. The NTA annually reviews its services and the delivery of its rural services and looks to identify improvements that can be made not just to the routes and frequency but also to the attractiveness, such as in improved bus shelters, real-time travel timetables etc. This is very much a multifaceted approach and is not focused just on EVs.

In terms of EVs themselves, I might ask my colleague, Dr. Aoife O'Grady, to make some comments. Ms Andrea Lennon may also wish to comment in the context of biofuels, which also have a very important role to play in the eight years between now and 2030.

**Dr. Aoife O'Grady:** I thank Deputy for the question. To reiterate the comments my colleague Mr. Martin has just made, that while EVs are a significant part of the Department of Transport's action to reduce carbon emissions and they are probably the single biggest element of our carbon reduction plan, they still would equate to only 40% of our total emissions reduction. Therefore, the majority of emissions reduction will actually come not from the electrification of the fleet but from active travel, sustainable travel, demand management and the increase in the use of renewable and sustainable biofuels in our petrol and diesel mix. To reiterate again, part of the plan for electrification is not just the electrification of the private passenger car but of the taxi fleet, freight and the public transport fleet. All of those will not just bring carbon emissions benefits but also significant air quality benefits in urban areas.

In terms of rural areas, alongside the increased sustainable mobility, we know short journeys in rural areas can transition to active and more sustainable travel modes, but we also know many citizens in rural Ireland rely on the private car for use. Where it is not possible for them, we would look to avoid-shift-improve system. Where it is not possible for citizens who rely on the private car either not to make the journey or to shift to a sustainable form of transport, the next stage is to improve the technology. We would hope the electrification of the fleet in rural Ireland by the end of the decade would support decarbonisation of those trips.

**Deputy Bríd Smith:** Given that Dr. O'Grady has said that the ambition for EVs would be the least reduction in the emission targets, does the Department envisage prioritising public transport, which I hope will be free and frequent, particularly throughout rural Ireland as a priority rather than EVs?

**Dr. Aoife O'Grady:** It is not that EVs are the least reduction. They are the biggest individual share. The other three elements of sustainable renewable biofuels, sustainable transport and demand management equate the majority but EVs are the single biggest share. Mr. Martin will talk about the sustainable transport side because that is more his brief than mine.

**Deputy Bríd Smith:** If Dr. O'Grady could decide, would she choose electrification of the fleet or public transport delivery?

**Dr. Aoife O'Grady:** They are all priorities. We will not deliver the decarbonisation needed in the transport sector by focusing on one. The climate action plan has four pillars and we must deliver on all four of them or we will not meet our decarbonisation goals.

**Ms Andrea Lennon:** Between 16% and 18% or 1.1 megatonnes of carbon reduction will come from biofuels, and that would be to achieve a B20 E10 blend in petrol. We will do that by steps every year of about 3% or 4% in the biofuel blending rate so that we will hit that target in 2030.

On alternative fuels, there is CNG biomethane, hydrogen fuel cells and electrification. We are looking at refuelling infrastructure. Under EU Alternative Fuels Infrastructure Regulations, or AFIR, there will be requirements to have hydrogen refuelling stations. There is already a roll-out of CNG biomethane refuelling stations, by Gas Networks Ireland, which is heavily funded by the EU as well.

On fuel, more investment is needed in green hydrogen production and the route to market for green hydrogen. We hope that the hydrogen strategy by the Department of the Environment, Climate and Communications will help in that process or provide a regulatory framework for that.

On regulations, there is a need to look at regulations for green hydrogen. We are carrying out a study, in conjunction with Northern Ireland, under the shared island fund, on the safety and economic regulation on green hydrogen, particularly focusing on transport use.

On public transport, we had the hydrogen fuel cell bus trial on three buses. The outcome and report showed that electric still has stronger case in terms of public transport buses. The NTA has recently announced that it will focus on electric transport for urban centres. For regional routes, the NTA is still open to hydrogen fuel cell technology in a small quantity perhaps. There are still a lot of unknowns about the operation of those buses. Indeed, we will learn a lot in terms of the electric bus fleet. We have a bit of a way to go on that. The timeline for the NTA to consider hydrogen fuel cell will be post 2024 in terms of its current tender.

**Deputy Bríd Smith:** Mr. Martin, as part of the submission from the Department of Transport, mentioned that “possible regulatory and financial or taxation measures that could support transport decarbonisation”. Can you please elaborate on that?

**Mr. John Martin:** We have seen the beneficial effects of taxation measures in terms of car tax and higher emissions car taxation where we are considering the more significantly emitting vehicles being put into a much higher tax band.

On public transport, we are looking at fares. We have already reduced the fares for public transport by 20% and 50% with the young adult card. The carrot and stick approach has been applied and the solution is not all about taxation. Leading up to this year’s budget we are considering a range of tax measures be it tax reliefs on sustainable mobility options or taxation levers at our disposal in respect of the taxation of private cars.

**Dr. Aoife O’Grady:** We are working with colleagues in the Department of Finance as part of the tax strategy group to analyse ways within the taxation system to further incentivise not just electric vehicles but lower-emission vehicles and disincentivise the highest emitting vehicles. That is an ongoing process and the budget each year considers that.

On regulation, one can make a couple of small tweaks to the regulatory system. Last year, the Department of Housing, Local Government and Heritage introduced one tweak that requires all new housing builds to be enabled for EV charging. Consideration is being given to how infrastructure and new infrastructure both private and domestic or commercial sides, including workplaces and new shopping centres, can be designed to already work with a sustainable or decarbonised transport system. All of those are small tweaks that we can make and they will build in to an overall environment that encourages more sustainable and decarbonised trips.

**Chairman:** Mr. Callanan has joined us in the room. He is a chief inspector in the Department of Agriculture, Food and the Marine. He is very welcome as are his colleagues, accom-



panied by Mr. Dale Crammond and Mr. Philip Blackwell. I invite Mr. Callanan to make his opening statement.

**Mr. Bill Callanan:** I apologise as there was a communication error in my Department and that is what delayed our arrival. I thank the Chairman for the opportunity to address the committee to inform its discussions on the sectoral emission ceilings.

The 51% reduction in greenhouse gas emissions on an economy-wide basis by 2030 is extremely ambitious and will transform every aspect of Irish society. Notwithstanding, I re-emphasise the point that I made when I last appeared in front of this committee in January, which is that the agriculture and land use sectors will be required to play their part in meeting Ireland's climate ambition.

The policy approach is structured around three pillars. We must continue to reduce emissions using the best science and best agricultural practices; we must continue to sequester carbon and increase our avoidance of emissions through increased afforestation and better land management practices; and we must make a contribution to sustainable energy, and the displacement of fossil fuels and energy intensive materials.

On mitigation, the Climate Action Plan 2021 sets a reduction target of between 22% and 30% in agricultural greenhouse gas emissions by 2030. This means that agriculture emissions need to reduce to between 16 to 18 million tonnes of carbon dioxide equivalent in 2030, which is an absolute reduction of between 5 to 7 Mt CO<sub>2</sub> eq.

The 2021 plan identifies a series of core and further measures that can deliver a landing point at the upper end of the range assigned of the 16 to 18 Mt CO<sub>2</sub> eq while remaining within the context of a broadly stable herd, which is a herd of approximately 7 million animals. The set of core measures will introduce significant change to the approach to farming across our 140,000 family farms. It prioritises early action within the first 5-year carbon budget on reducing nitrous oxide emissions in agriculture, which are mainly associated with the use of chemical nitrogen fertiliser. A national fertiliser register of compliance, which requires primary legislation, will be developed and reductions in chemical nitrogen allowances under the nitrates regulations will help achieve our objectives as will supports such as training and advisory services to underpin this transition.

Progress on methane is more challenging but is expected to accelerate within the second five-year carbon budget as methane reducing feed additives become commercially available. Even a 3% reduction in methane emissions from the Irish livestock herd over the decade would ensure no additional global warming arises from farming activity. The Environmental Protection Agency has confirmed that methane emissions may need to reduce by up to 30% to reach the 18 Mt CO<sub>2</sub> eq. This is very much at the upper end of international ambition and will make Ireland a leader in this space. We are signatories to the global methane pledge through which the EU has committed to cut emissions from agriculture, which is biogenic methane, by 10% and cut methane emissions from non-agricultural sources such as landfills and some forms of energy production by 50%. Our national commitments now far exceed this.

In terms of exploring further measures through diversification, the Department continues to advance this agenda through research and stakeholder engagement. By way of example, a joint research mechanism with New Zealand was recently announced. In addition, the Minister for Agriculture, Food and the Marine, Deputy McConalogue, established the Food Vision Dairy 2030 group in February with the objective of stabilising and then reducing emissions from the

dairy sector. The group recently submitted its interim report. A similar group for beef and sheep met for the first time in recent weeks.

Nonetheless, these measures will only take the sector so far. They will never achieve zero emissions status because as long as we produce food, fuel or fibre then emissions will result. This complexity is reflected in the climate Act, which refers explicitly to the social and economic role that Irish agriculture plays in society.

I turn to land use, land use change and forestry, LULUCF. Our soils act as both sinks and sources of carbon and it is imperative that we reduce the amount of CO<sub>2</sub> emitted from our soils as we move towards climate neutrality by 2050. The climate action plan commits to reducing the management intensity of up to 80,000 ha of organic soils by 2030, better management of 450,000 ha of mineral grasslands, increasing our cover crops and straw incorporation as carbon-storage measures and increasing our afforestation rates to enhance our carbon sinks.

Notwithstanding the increases in the gaps to target as a result of the 2022 LULUCF inventory refinement, these actions are extremely challenging to implement. In terms of reduced management intensity of organic soils, this is an entirely new area of work with much uncertainty and complexity, which Ireland has no choice but to pioneer an approach to. Similarly, we need to address the downward trend in afforestation and grasp the opportunities that our existing forests provide in producing timber and wood products to contribute to a green economy and increase the use of wood in the built environment.

The Department has commenced a programme of work to fill the existing knowledge and data gaps, understand the potential contributions to our climate ambition from land use improvements and set in train the development of a land use plan, based on these findings. The Department is also developing a new forest strategy and programme, which will be grounded in the principles of the right tree in the right place for the right reasons, including the right management.

On sustainable energy, the sector provides a positive and important contribution to the decarbonisation of the energy system through applying the energy efficiency principle first and reducing energy use at farm level; deploying renewable energy technology at farm level for self-consumption but also a contribution to renewable energy generation through export of electricity to the grid; and providing forest biomass and agriculture feedstocks to the generation of renewable energy, such as biomass for heat, agriculture feedstocks for production of biogas and biomethane from anaerobic digestion. Through these actions, the agriculture and land use sector is in effect contributing a total of 3.4 million tonnes CO<sub>2</sub>-equivalent to decarbonisation of the energy system, which is often overlooked.

The targets as set out in the 2021 plan are ambitious for the agriculture and land use sector. Delivery will be extremely challenging. From a technical point of view, in a stable-herd scenario there is a limit to achievability, and higher ambition would require changes in animal numbers. In particular, there are significant challenges around the reduction of methane within our pasture-based livestock production system and we welcome the fact that the second five-year carbon budget is aligned with the current technological constraints in this regard. As identified in Food Vision 2030, there is a critical need to consider the three pillars of social, economic and environmental sustainability as we move forward. I am happy to answer any questions members may have.

**Deputy Christopher O’Sullivan:** I thank Mr. Callanan and the other speakers for the

opening statements. Through Ag Climatise and the marginal abatement cost curve, MACC , agriculture is one of the only sectors with a credible roadmap on paper. There is a roadmap to follow. There will be challenges in ensuring that what is in that roadmap achieves the reductions we need but at least it is there and that has to be acknowledged.

Through all these discussions about reductions in emissions, land use was the elephant in the room, in terms of what could be achieved by proper land use and reducing emissions. Even on the current trajectory, land use could still be an emitter, which is difficult to fathom.

We have a target in the climate action plan for afforestation rates of 8,000 ha. We are coming nowhere close to that. We are in the midst of a climate crisis and a biodiversity crisis. What will we do to tackle the fact afforestation rates are on a downward trajectory? They are going in the wrong direction. It is scandalous given the situation we find ourselves in. I would like to hear a concrete answer on that.

**Mr. Bill Callanan:** The Deputy is dead right on land use. Emissions are a huge issue in terms of how we address them and how we go forward. There is a degree of uncertainty, nationally and internationally. The IPCC report recognises there is much uncertainty about land-based emissions. The two elements of that are peat soils and afforestation. In terms of peat soils, to try to address the uncertainty, we have invested heavily through Teagasc to roll out a national agricultural soil observatory of carbon emissions, so that we get a better handle and improve the tier reporting. As you go up through the tiers, your reporting improves. That has already been rolled out at farm level and there is engagement in Northern Ireland to try to replicate there and get a better understanding of what is happening in terms of soil emissions, etc.

On afforestation, it is accepted that we have to increase our afforestation rates. My colleague, Colm Hayes, is working on developing a new national forestry strategy. That will look at existing issues regarding reluctance and any impediments to increasing the ambition for forestry. The Deputy is correct the climate action plan sets a substantial increase in that target from what is happening today. We are at about 2,500 ha to 3,000 ha and it has to get to 8,000 ha. Legislation has recently been brought in to facilitate small-area planting. For large-area planting, we have a regulatory framework we must comply with, in terms of environmental compliance. The general direction is to try to work with industry on how we-----

**Deputy Christopher O’Sullivan:** What has been done to increase the rate of approval of licences for plantation and forestry? That seems to be a huge issue. The felling seems to be smoothing itself out a small bit. There is an increased rate of applications or approvals but that is not happening with plantations. It completely flies in the face of everything we are trying to do through agriculture and climate action.

**Mr. Bill Callanan:** I will ask Mr. Moore, who is our expert on forestry and is more adept than am I on the finer detail of the changes, to comment.

**Mr. John Redmond:** I will take that question because Mr. Moore is having technical difficulty with his microphone. I thank the Deputy for the question. On what the Department is doing about afforestation, in 2021 Project Woodland was established by the Minister of State, Senator Hackett, to deal with reducing the licensing backlog and set up a shared national approach to developing a new forest strategy. As part of that, a new forestry programme is being developed and is aimed to be in place from 2023 onwards. That will provide new incentives for landowners to engage with afforestation. Importantly, there will be, as part of Project Woodland, a process review looking at the regulatory regime that is in place. That is being finalised

and should be published in the next two weeks to look at what we are doing and to make sure we are maintaining our commitments on environmental requirements and compliance.

**Chairman:** If Deputy O’Sullivan does not mind, Deputy Whitmore needs to go to another committee. I will go to her and revert back to Deputy O’Sullivan

**Deputy Christopher O’Sullivan:** Just one more question on transport and then I am-----

**Chairman:** If it is okay, I will bring you back in in a few minutes because Deputy Whitmore needs to chair another committee in ten minutes’ time.

**Deputy Jennifer Whitmore:** This question is for Mr. Callanan. In order to achieve our 51% reduction, each of the upper ends of the targets has to be met, and for agriculture that is 30%. At the moment, the range is 22% to 30% but there is an acknowledgement that if each of those sectors does not hit that, the 51% reduction will not be met. The EPA’s recent report stated that for agriculture, there is currently only a 20.3% reduction, so even with the additional measures that are outlined in the climate action plan, agriculture will not be meeting even the bottom of that range.

The Department of Agriculture, Food and the Marine says the targets are ambitious and that it will be challenging to meet the 22%. First, how does the Department intend to bring it up to the 22% if the current measures are only bringing it up to 20.3%? Second, has the Department done an analysis of how it would reach the higher level of 30%? It states in its submission that it will be impossible or very limited within a stable herd scenario. Has the Department mapped out how the agriculture sector will meet the 30% emissions target and what would that mean within the metrics of the herd?

**Mr. Bill Callanan:** The first thing I have to be conscious of is that there is still engagement happening at Government level in terms of what those targets are, and all I can do is articulate what are the various implications. The Deputy’s question clearly challenges us in terms of meeting that commitment on the existing range, and that is the challenge. The Climate Action Plan 2021 has identified those actions that we know we can quantify now in regard to the achievement of the commitment. It identified a range of 3.7 million tonnes CO<sub>2</sub>-equivalent to 4.2 million tonnes CO<sub>2</sub>-equivalent commensurate with the actions, which are quite significant, whether that is through changing fertiliser, reducing fertiliser or earlier slaughter, and so on, and they are all identified within that plan. We have identified the need for new technology, diversification and carbon farming to fill that gap.

Clearly, once there is a legal commitment, whatever that might be, we have a responsibility to then propose and put forward the necessary actions to deliver on that target. The EPA is identifying within that existing knowledge framework where we can get to. There is continued investment, whether it be in research or international collaboration around certain areas, and so on. For example, we know commercial feed additives are being made available internationally but they tend to suit indoor systems whereas that is not our system of production and not a direction we would like to go. However, one would hope that new technology creates the opportunity whereby some of those technologies could be applied to pastoral systems in due course, whether it is slow release-type feeding systems, boluses and so on. We have not quantified them at this stage because we do not have that scientific certainty in regard to them.

**Deputy Jennifer Whitmore:** Therefore, the Department is relying on new technologies. If it was required to meet the 30%, there would be a reliance on new technologies to hit that.

**Mr. Bill Callanan:** No, I am just talking in regard to the 22% and that gap. Within a broadly stable herd, there is a requirement for new technology to fill that gap. We have been very clear in that regard, including what is in the Climate Action Plan 2021 on new technology. It is developing fast. By way of example, we have invested in research and there is a project called GreenBreed at Tully, where we have animals that are basically identical and look identical, but have quite different emissions profiles in terms of methane. A lot of our emissions are associated with the animal. I am a scientist at heart. If one can find that difference, one can breed for it and select for it and, consequently, the ambition and expectation is that one can translate that into inventory. However, it takes time before we get that certainty that is needed because it is the inventory that will determine our success or failure. That inventory is driven by science and it is up to us to then provide the science and what is the reality, whether it is feeding or breeding. The European methane strategy identified three objectives, namely, feeding, breeding and anaerobic digestion. We would concur with that but it then has to go through a process of establishing, first, is it working, second, is it validatable, and, third, is it transferable into the inventory? It takes time for them to feed through.

**Deputy Jennifer Whitmore:** How long?

**Mr. Bill Callanan:** It would be a number of years, generally four to five years, before there is enough work on the ground. We have to get the research done and get it confirmed, validated and accepted as warranting or identifying the capacity to move up the inventory tier before the EPA will accept it, so it is quite a high bar.

**Deputy Christopher O’Sullivan:** I want to again stress the importance of the afforestation targets and how important this is for sequestration into the future. There is that old saying that the best time to plant a tree is 100 years ago and the next best time to plant a tree is today. We do not seem to be any closer to planting in the near future and we really need to get on top of that. I want to stress that point.

I have one question on transportation and I will come back in for a second round later. My question is for Ms Lennon and is in regard to haulage. This is going to be one of the most challenging sectors to decarbonise but, actually, the haulage sector is trying to come forward with innovative proposals as to how it can reduce emissions. One of those is hydrotreated vegetable oil, HVO. Ms Lennon referred to biofuels and hydrogen earlier but where does HVO come into this strategy? All the indications are that the use of HVO could lead to a reduction of 90% in emissions. It is perfectly suitable for haulage and even for public transport. The issue is that the cost differential is about 10 cent per litre when compared to diesel, and we know how high the cost of diesel is, so there is no incentive to use it and it is not being used widely. There is also an issue about how it is categorised when it comes to customs.

Decarbonising haulage and freight is going to be such an important way of achieving our emissions reductions in transport. There must be an urgency around HVO and how it can be implemented and used by the haulage sector. We have seen protests block up some of our big urban centres because of the challenges the haulage sector is facing. This could be a key win and a key way of reducing emissions, while also helping the haulage sector to come on board with this journey towards reducing emissions. I ask Ms Lennon to comment.

**Ms Andrea Lennon:** I thank the Deputy for the question. HVO is a drop-in fuel and it can be blended at rates higher than standard biodiesel, so it is very attractive in terms of road haulage or other vehicle users. It is more expensive than diesel - as a rule of thumb, is about three times the price of diesel - and there is a lot of global demand for it because it is part of the

biofuels strategy globally to decarbonise transport. As we increase the biofuel obligation rate, there is an understanding that HVO will be the heavy lifter within that.

We have had many discussions with the road haulage sector around this and other ideas. The Deputy is right that those in the sector are really looking at their area to see where they can reduce costs and decarbonise. On that, HVO does not attract carbon tax, so that is a positive, but what we have been looking at is the potential for a differentiated taxation treatment of biofuels, and that would include HVO for the purposes of excise, that is, the non-carbon tax part of the mineral oil tax. There is a bit of a way to go on that. We are getting a study done on it by Ernst & Young and the context for that is the EU taxation directive which looks at differentiating future taxation for biofuels based on their energy content. We are going to look at that area to see if there is something in it that could be beneficial to the hauliers - what they call a green rebate. It would be a replacement for the diesel rebate scheme, given it is acknowledged that in the future there will be fewer supports for fossil fuels, and that would include the diesel rebate scheme. We need to look at other options and it is certainly something that is on our agenda. As I said, however, there is a bit of work to be done on that yet.

**Deputy Christopher O’Sullivan:** It is good news that the Department is looking at a differential and, potentially, a taxation strategy to make it more affordable. As I said, it is just out of that affordability range at present but efficiency and reduction emissions could be key. It will bring a whole sector on board as well.

**Deputy Richard Bruton:** I have a couple of questions. I will start with one about climate. I understand the Department of the Environment, Climate and Communications is at the heart of negotiating with the other Departments and sectors regarding what should be in their targets. How is it doing that? What are the criteria? Is it cost per tonne abated, which is in the marginal abatement cost curves, MACCs, we see in a number of sectors? How does it look at protecting vulnerable people who might be exposed? Will the officials briefly describe what the process is in weighing up what sacrifice one sector should be asked to make versus another in the overall effort?

**Ms Karen Egan:** I thank the Deputy for that question. In determining the sectoral emission ceilings, the Minister and the Government must have regard to a number of matters that are set out in the climate Act. These include the social and economic imperative for early and cost-effective action on climate change, the special economic and social role of agriculture, including with regard to the distinct characteristics of biogenic methane, the need to deliver the best possible value for money consistent with the sustainable management of the public finances, and to maximise the net benefits to society, taking into account the impact of greenhouse gas emissions and the need to promote sustainable development and restore and protect diversity. As a general approach, it is clear there will have to be a ramping up of measures and actions in all sectors. This will require widespread effort across Government and society in order to deliver the targets.

**Deputy Richard Bruton:** Will Ms Egan be more specific? What is the upper end of the cost per tonne of abating in the sectors the Department is looking at? What are we talking about? Is it €1,000 per tonne in the period to 2030 or less? What sort of range are we in?

**Ms Karen Egan:** I do not have the specific details on that with me but I can certainly follow up. Some analysis was done for the 2021 climate action plan. I can send that to the Deputy separately, if he would like.

**Deputy Richard Bruton:** It is important we see the basis of choices that are being made. I will ask specifically about carbon farming. We will hear from Ms Egan later on this, but if it is case we are running to €1,000 per tonne in some of the other sectors where we need to abate carbon, is the Department of Agriculture, Food and the Marine looking at measures that would see some of that extraordinary high cost in other sectors deployed to deliver some, albeit very challenging, changes in agriculture? It does not seem to me that we are yet looking at rewarding for methane management. There is no price on methane that would give farmers an incentive. Most farmers want to see their bottom line being healthy and a prosperous family farm in ten years' time. They worry about herd restrictions among other things. If we had a new dimension that was properly funded, and would be justifiable in preventing other sectors having to undertake very difficult changes, we would have a different type of debate. How far down the road is the Department in being able to verify farm emissions and then reward management in whatever way farmers choose to deliver the improvements?

**Mr. Bill Callanan:** We have included the whole principle of carbon farming in the 2021 action plan. We have set up a group to look at how we do, and how we roll out, something like carbon farming. It is a clear intention. I always mention a couple of cautions. We have to set out baselines in the first instance and then it is about how we validate because we are talking about change at individual farm level or as regards land use etc. How do we certify that? How do we encourage it financially? That may be through supports via the Common Agricultural Policy, CAP, which are already there, such as incorporation of straw etc.

In the first instance, however, when it comes to where we are at, we have to be careful about a market like that. There is a group at European level looking at how a structure would be set up around that. We need to be in line with that. It is proposing to publish an overall framework on this later this year. We had a meeting with the group very recently regarding that. On the couple of points levelled by the Deputy, the group focused on land-based emissions and how to reduce them through carbon farming but it has certainly not been looking at that methane element. We are impressing on the group the need to look at methane reduction, which is just as valuable as carbon removal on the land-based side. That is something that we certainly have been highlighting. We see a value in both.

On the next step in that, to be clear, we have a significant challenge as regards land-based emissions, which the Deputy identified. We will need carbon farming initiatives to support the objective of reducing those in the main. That is the first priority. The second priority relates to the commitments we have already made in respect of the 22% to 30% range. We have identified carbon farming as an intrinsic element of that step forward in relation to it.

**Deputy Richard Bruton:** Are we not a little foolish to wait for Europe? Generally, agriculture may be 3% or 4% of Europe's emissions. For us, it is approximately 40% of the non-emissions trading system, ETS, which is the stuff we have to take responsibility for. We are in a completely different environment than most of Europe. The way Europe has treated the issue of methane has not been helpful to farming like ours. Can we push ahead of the European posse on this because it makes such a difference? Would carbon farming include, for example, a farmer deciding to be less intensive, to reduce the herd per hectare and get an immediate reward for the methane reduction that delivers? We need to have new tools in the armoury other than those the farming debate is centring on and that has become quite divisive at times.

**Mr. Bill Callanan:** We fully agree with the development of that. As I said, we have set up a group to look at the issue, but it is quite complex and we need to step carefully when it comes to making commitments. Many people are making claims that are unsubstantiated about what can

or cannot be done regarding it. On the forestry side, we have a woodland environment fund, where we are seeking private support to support national afforestation policy. That is where the corporate social responsibility of companies is bringing in additional finance to run this.

I will caution that there is quite a difference between a compliance market at EU level, which would be the cost of carbon. That is where, for example, the ETS is trading between sectors such as land use versus emissions associated with industry. That is not the direction of travel at EU level. It is very much around the voluntary carbon market and the encouragement of that. One can reasonably say it will be quite a different market. We will regulate the provision of that as opposed to simply rolling it out ourselves. I see a difference between a compliance carbon market, which would be used by industry to offset some of its emissions, versus the encouragement of carbon farming here to which we are committed.

I will ask my colleague, Mr. Crammond, to respond because the issue of cap and trade is something that came up on the dairy side. As the Deputy knows, the Minister is keen to work with industry on progressing this. We will certainly progress a call for evidence on carbon farming in the near future regarding how we will progress in developing carbon farming models. What the Deputy talked about as regards support for different dairy farms as to their level of intensity etc. has already been discussed in the context of that dairy group.

**Mr. Dale Crammond:** I will very briefly follow on from what Mr. Callanan said. The interim report of the food vision dairy group, which the Minister, Deputy McConalogue, set up earlier this year, has been submitted. There are two recommendations of interest within that which are operating in this space. One of them was a recommendation that we establish at farm level what the emissions of each farm are. We do not have that information at this point. That is a first step. We need to know what each farm's emissions are before we can put policies in place to reduce them. There was also a recommendation to explore a cap and trade model. Again, it is linked to that model. If a farmer was to destock, he would potentially be financially rewarded to do so. It is very early days in the development of these, but it is something we are looking at. Ultimately, the Government is going to make a decision that will lead to the establishment of a methane reduction target for the agriculture sector. We will have to deliver it at that point.

**Deputy Richard Bruton:** In answering other questions, the witnesses were clear, and I fully understand it, that new technologies and, in the context of transport, projected behavioural changes will be part of the pathway. I am wondering about our role in monitoring whether we are on track. If those milestones on the pathway are subject to technology performing or not performing or if it is disappointing or not disappointing, within this process, is each sector taking responsibility for the corrective action that would be necessary should the technology or the behavioural projection not be realised? It is important to know at the outset who has responsibility when we go miss a target that is entered into in good faith. Otherwise, everyone could be coming here and saying to us that they tried their best but did not deliver. I want to understand that process.

**Mr. Bill Callanan:** I refer to what was identified in our opening statement, namely, that the Department is keen to push forward with industry in order that there is clarity of understanding regarding where we need to go. That was the genesis of the Ag Climatise roadmap because farmers need to be told what the actions are and what they should do. We regulate towards certain objectives and we incentivise towards certain objectives, but we also need to capture industry in terms of engagement to ensure that the same messages are coming from industry on the achievement of the objectives. Our general approach has been engaging with industry in order that it is giving the right messages, sustainability bonuses for the right actions and so forth.



The Deputy's specific question on the sectoral responsibility drives that structure that is being put in place by the Minister where the dairy group is looking at the dairy sector with the objective of stabilising in the short term and then reducing. The beef and lamb group has just commenced its work. There is a recognition that everybody must play their part. Similarly, there is a recognition that every sector will have a certain responsibility in achieving the objectives overall. The key performance indicators are identified. Ultimately, the inventory will determine whether we are on track so we will monitor that carefully, whether it is the tonnes of fertiliser that are used or livestock numbers. All those indicators that drive the inventory would be very transparent and available to everybody to judge whether we are on track.

**Chairman:** Deputy Farrell is joining us from his office.

**Deputy Alan Farrell:** I welcome our guests from the Departments and thank them for appearing before the committee. I only have one question. That is because my other questions have been asked by previous speakers. The question relates to the Department of Transport's incentivisation that was referenced with regard to electric vehicles and dissuading people from acquiring high carbon emitting internal combustion engine, ICE, vehicles. Has the Department considered vehicle registration tax, VRT, as a mechanism for incentivising more purchases of electric vehicles? If it has, are there any study documents that it could share with the committee? Further, the taxation bands currently target the CO2 emissions of the vehicle. Is there scope for further mechanisms to dissuade people? Perhaps I should qualify that. Over the last few years there have been very small increases in the tax that is applied to vehicles. Is it time for us to consider stepping up those bands or has the Department looked at the effect that it might have on the availability of EVs, whether they be plug-ins or fully electric, given the global demand that exists and the slowness of the market to respond? Would there be a net negative effect on the market and would people therefore default to ICE vehicles?

The other question relates to public transport. I note Mr. Martin's comments regarding fares, which is very welcome. I am hopeful that we can make the right decision for 2023, and that hope is probably shared by the vast majority of members of the committee. I would like to see it as something we would do on an ongoing basis. However, regarding the modal shift that is required in terms of incentivising people to use alternative forms of transport rather than the private car, I get the impression that it is very difficult for local authorities to spend the money they have on delivering cycle lanes and cycle tracks. Some local authorities have been amazing and some not so much. Would the Department be able to provide the committee with an overview of how effective the budgetary outlay has been in the last year and-or project into next year? It would be helpful for us to try to formulate a picture of what we can do to incentivise local authorities to spend that money.

My final point relates to EV charging facilities infrastructure. My local authority, with Dublin councils, has published its strategy document, which is welcome. I cannot help but refer back to Deputy Bruton's recent comment that local authorities have been quite dismal at rolling out EV charging infrastructure, so I am pleased to see a strategy document in place. Will the Department comment on that with regard to other local authorities, particularly in cities and provincial towns around the country, and how we can get local authorities and the Department to ramp up the delivery of public charging infrastructure?

**Chairman:** Thank you, Deputy. Those questions are all for Mr. Martin and his colleagues.

**Mr. John Martin:** I will start with some commentary on public transport and active travel, which the Deputy referred to and is a very important issue. Then I will pass the EV taxation

issues and the charging infrastructure questions to my colleague, Ms O'Grady.

In terms of public transport, the fare reduction has been an important step forward. We have yet to see the full impact of that in additional take-up of public transport as a result, but that may come through in time. It certainly has not been immediate. Notwithstanding that, it is certainly something we would be keen to see continuing, and we are looking into continuing it on an ongoing basis. Anything we can do to get people out of their cars and into public transport, including fare reductions, is a good thing. However, it is not all about price. It is also about improving infrastructure, improving service, improving reliability and improving frequency. These are all things we are examining through a range of projects such as the DART+, Metro-Link, BusConnects and Connecting Ireland initiatives.

In respect of active travel, there are just over 1,000 active travel projects under way across the country which are funded by the Department through the NTA. As the Deputy said, some local authorities are pushing ahead to get those rolled out, while in other local authority jurisdictions the progress is slower. It has to be noted, however, that this is not a question of funding or, indeed, of a local authority's ambition to roll this out. As many people do not want this stuff to be implemented as do want the projects to be implemented. We see with increasing regularity that there are well-mobilised opposition groups, social media campaigns and so forth opposing the roll-out of these types of projects. We have to work hard to communicate the benefits of these not just in terms of carbon abatement but also in terms of the quality of life issues and the well-being of cities, towns and communities by implementing them. Unfortunately, however, there is an issue where some of these are challenged during the planning process. They are subject to judicial review. We have seen that on our own doorsteps. While I acknowledge that there is good ambition and funding - there is €360 million per annum for active travel projects and there is an ambition within the local authorities to implement them - there are also obstacles. We are hoping that, through better communication and better stakeholder engagement, as well as through a review of the existing planning framework being undertaken by the Attorney General this year, we may see more improved take-up or rolling out of active travel infrastructure over the coming years. It is definitely a key part of all of this.

On budgets, the NTA will administer just under €290 million this year. I do not have the figures on expenditure, but my understanding is that it is - subject to some of the difficulties that I highlighted - on track. On expenditure in previous years, I do not have the figures to hand. If we need to get those to the committee, we can certainly provide them.

Before I hand over to Dr. O'Grady to discuss EV incentivisation and EV charging infrastructure, I would certainly say that I support the Deputy's view that there is much to be gained by trying to put as much active travel and cycleway infrastructure out as possible, be it through the NTA's active travel programme or Transport Infrastructure Ireland's greenways programme. The Department is 100% committed to that.

**Dr. Aoife O'Grady:** I thank the Deputy for his question. I will deal the vehicle registration tax, VRT, incentivisation first and then move on to infrastructure. On VRT, just to start, we would note that there has actually been a significant change in the VRT rates over the past two budgets. Going back to budget 2021, we had a transformation in our VRT rates. We went up to a multiple of 20 bands, where there had been much fewer, and the differential between the lowest VRT rate of 7% and the highest VRT was 37%. That brought in a much bigger change between the lower emitting vehicles and the highest emitting ones. Last year, there was then a further incremental approach taken where there was a 0% increase on the first eight bands, a 1% increase in respect of bands 9 to 12, 2% in respect of bands from 12 to 16 and 4% in respect of

the highest emitting vehicles. That brought in a further change. We also have a relief for VRT on battery EVs up to a value of €50,000.

There is quite a lot available for someone purchasing an EV at the moment. I would always like to see greater incentivisation, and I work with my colleagues in the Department of Finance to try to push that agenda. We have a very generous suite of measures both in terms of capital grants and through the VRT system to incentivise the uptake of EVs. So much so that if one gets a full rebate for an EV and a capital grant, one can get €10,000 off the price of the on-the-road vehicle, which is pretty good. In the UK two weeks ago, they removed any grant for a passenger EV. In terms of what Ireland is offering compared with our nearest neighbours, we have a very good system.

We are in discussions with the Department of Finance on ways that we could use the taxation system to further incentivise the uptake of EVs. That will continue throughout the summer months. We will get the outcome in budget 2023.

On infrastructure and the need to accelerate the roll-out of publicly accessible EV charging infrastructure, that is a space where we probably have not, at central and local government level, been able to deliver as much as is needed. There are quite a few public charging points in place, but we always need to be ahead of demand. The Department published the draft EV infrastructure strategy earlier this year. It was open for consultation until the end of May. Within that draft strategy, there is an acknowledgement that the offering for local authorities either was not sufficient in the context of funding or when it came to support. In terms of helping and supporting local authorities to deliver greater EV charging infrastructure, the draft strategy proposes that we support local authorities in the development of an approach for a local EV charging network, which is exactly what the four Dublin local authorities have done. We have been engaging with them throughout the year and are delighted to see the publication of their strategy. It will help Dublin move forward. Now that the four authorities have set out what they want to do, we will be able to support them through capital funding in implementing the strategy. We would like to see other local authorities doing likewise. We proposed to offer them supports, financially and through the setting up a kind of a framework system whereby they could draw on expertise in order to help them to design and deliver a strategy for EV charging, maybe at a regional level, in the way that the four local authorities in Dublin have done in respect of the greater Dublin area or the Dublin metropolitan area. That might be something worth looking at.

Where we had a local authority public points scheme - which was run through the SEAI and which is still available - there is an acknowledgement from local authorities that this does not really provide sufficient cover on the upfront capital costs for delivery of EV charging infrastructure. As a result, we are proposing two schemes that local authorities will be able to avail of. One is specifically for local authorities. It is what we call the neighbourhood or residential charging scheme and it would see publicly accessible charging points designed for areas where residents do not have driveways. It is for people living towns or city centres who have either very small front gardens or who can just walk out their front doors and onto the street. Such people cannot put in home charging points. We would be funding local authorities to set up on-street charging or perhaps a local hub people can access. The idea would be that this would be accessible and local and would suit local needs. People would not have to walk or drive far to get to these points. That would be the first aspect of public point charging that we would support.

The second aspect would be a destination charging point scheme whereby local authorities would be able to avail of funding for local facilities, such as libraries, public authority car parks

and leisure centres.. This would also be open to the private sector as well.

We anticipate that local authorities would get support for the design of infrastructure strategies for their areas, public point charging schemes for residential use where people do not have access to home chargers and the destination charging scheme relating to trip generators at locations to which people would be travelling anyway and could park and top up while they are going about their business.

**Deputy Alan Farrell:** I wish to ask two quick supplementary questions. Is Dr. O’Grady referring to the €5,000 grant to local authorities?

**Dr. Aoife O’Grady:** That is the existing scheme, which, we understand from our engagement with local authorities, is just not sufficient to cover the charging point costs because there is not only the problem of purchasing the points, there is also a need for capital to be invested and for electric works to be done in order to get an EV charging point site ready. To refresh that scheme, rather than offer a capped rate of €5,000, we would approach it on a co-funding basis. In the draft infrastructure strategy, we propose co-funding of 75%. We are going through the responses we received in respect of the draft strategy. Local government would like further co-funding, but we will see what is in the pot. We would change the funding approach in order that central government would provide increased capital support for local authorities.

**Deputy Alan Farrell:** I certainly welcome that. I have heard about the costs involved from at least two local authorities. Any measures on that front would be welcome. Has the Department looked at the trials that are being run in respect of non-conventional charging locations, such as, for example, lamp posts? Dr. O’Grady might come back to me on that.

My other quick supplementary question relates to VRT. For a multitude of different reasons, Brexit and other matters, the second-hand car market has collapsed, as, no doubt, our guests are very much aware. This is because part of our market was sourced in the UK. That option is no longer viable. The primary reason that it is no longer a viable option is VRT. The number of EVs on the road in the UK is obviously increasing dramatically, as it is here. Over the next year or two a second-hand market in EVs will become available. I wonder if the Department of Transport, in conjunction with the Department of Finance, needs to start thinking about that in the context of how we can increase the number of EVs on our roads. It is not available, but it will become available soon. I wonder if there is any means, not specifically relating to VRT, of reducing the cost of EVs in Ireland. If you do a comparison across the European Union you can see that the most expensive vehicles in Europe right now are in Ireland. List prices on EVs in Ireland are higher than any of our European neighbours, by and large, although there are a few exceptions. By and large, our prices are the highest. That is because of the additions that we add on to the cost to our consumers. This is notwithstanding the generous incentive scheme, as Dr. O’Grady rightly pointed out. While this question may not be answered now, it is something that the Department needs to think about, particularly in the context of the second-hand market. It is also a matter of increasing the number of options for people. If they must buy a car, let it be an EV. Can we incentivise that in some way?

**Chairman:** If Dr. O’Grady wants to respond briefly she may do so, although I want to push it along.

**Dr. Aoife O’Grady:** I have a brief response. On lampposts, we are actively looking at it. There is a technical barrier in terms of the designated meter which is required from the ESB network side. If you have to put the meter in the lamppost, you then have an additional piece

of street infrastructure which takes away from the rationale for using a lamppost in first place. Dún Laoghaire-Rathdown and Fingal County Councils are trialling them but they are doing it on an unmetered supply. They are not charging users for it. If we do a significant roll-out and we begin to charge users, we have to work out how to get around the meter issue. That is the challenge, but we are actively working on it.

In terms of the second-hand market, I completely agree. In the Department, I chair a working group called the electric vehicle policy pathway, EVPP, implementation group. It follows on from the EVPP group's report, which was published last September. A subgroup was established within that to consider not just the second-hand market but also the issue of a just transition to the electrification of the transport fleet. Within that, we are considering ways to encourage and expand the second-hand EV market in Ireland. It is also looking at other low-cost ways of supporting people on lower incomes who are making that transition to EVs.

**Chairman:** I thank Dr. O'Grady. I call Senator Boylan.

**Senator Lynn Boylan:** I thank our speakers. I have questions for each of the Departments. The first question is on transport. I am glad to hear that the just transition has been factored in. As Deputy Alan Farrell said, there is no second-hand EV market as such. Many people who are driving diesel cars are doing so because they were previously incentivised to buy those cars.

My concern is around the lock-in of the SUV market, given that 55,000 SUVs were sold in 2021, and especially the number of SUVs that have been purchased in Dublin. I appreciate that many of those who have big vehicles live in rural Ireland and need them for work, but I am particularly concerned about the use of these vehicles in urban centres. What sort of policy measures is the Department looking at to stop the purchase of these SUVs? Not only are they more dangerous on the road and less aerodynamic, but there is also the issue of their weight. Even if they are electric, a large amount of power is required to charge them up. They also damage the road infrastructure, which then has a cost in terms of public funding. Will we look at taxation measures to disincentivise people from buying SUVs, whether they are electric or non-electric? There is also the issue of their marketing. Is there any scope for banning the advertising of SUVs?

The other question I have for the Department of Transport relates to the bike-to-work scheme. Everybody will agree that it is a great scheme. It has facilitated many people to get into cycling. However, it is designed regressively so that the higher your income, the more benefit you get from it. It also excludes children, students and anybody who is on social welfare payments. Is there scope to amend that scheme so that it is more inclusive of people who might want to take up cycling but, for whatever reason, are not in paid employment?

My next question is for the Department of Agriculture, Food and the Marine. It is my understanding that the second five-year carbon budget looks at the addition of feed additives to reduce methane emissions. However, it will not be until the third carbon budget that the Department predicts that we will have pasture additives. What are the implications for the message we send out that Ireland has grass-fed, pasture-based farming if we are going to be relying to bring down those emissions on food additives which would require indoor feeding? How do we square that circle for the second five-year budget?

My final question is for the Department of the Environment, Climate and Communications. The officials mentioned in their opening statement that the Minister must take regard of a number of different factors under section 6. One of those is the particular social nature of

agriculture, and another one is the need for climate justice and a just transition. How does the Department do that balancing act of ensuring all of those factors are taken into account when deciding the emissions cuts?

**Chairman:** I ask Mr. Martin of the Department of Transport to respond to the first few questions.

**Mr. John Martin:** I thank Senator Boylan for those questions. I will start with the concerns expressed around the bike-to-work scheme, which has been very successful. As the Senator rightly points out, it is focused on cycling to work. Therefore, there is a PAYE element to it. As a result, it excludes those who do not work, including children and students, etc. It is something we are looking at. We are also looking at other things in respect of e-bikes or e-cargo bikes, where the bike-to-work scheme does not cut it in terms of the amount of relief it offers. As we lead up to the next round of budget negotiations, essentially we are looking at whether VAT reductions could be applied for certain mobility sales, such as bikes, etc. That would not necessarily involve a deduction of pay at source or of tax at source. Rather, it would be a VAT relief on certain things. That is an area that could be considered in that regard. We would need to work closely with our colleagues in the Department of Finance on that. However, I reiterate that it is on our radar. We are aware of it and we are looking at it.

SUVs are a complex area. Our existing approach to taxation of motor vehicles is through VRT. It is already designed to encourage a shift to improved emissions performance. Therefore, we are looking at higher taxation on heavier vehicles by default or by proxy. While it is not specifically targeted at SUVs by name, the bigger the cars, the higher emissions they tend to emit and, therefore, the higher the level of tax you pay on them.

We continue to engage with the Department of Finance to look at a range of improvements on the taxation system to try to disincentivise heavier vehicles and higher-emitting vehicles. However, the current focus is on the actions that are in the climate action plan, the sustainable mobility policy and the road safety strategy. We need to be a little careful when we focus on weight alone, or on aerodynamics alone, because we could introduce an increased tax band on EVs as well. This could therefore reduce the attractiveness between an EV and an internal combustion engine. People will just decide to go for a fossil fuel car or, worse still, decide to stick to their existing car, which probably has higher emissions than a new fossil fuel car or an EV. We do not want to force people back into higher-emitting vehicles through a weight-based taxation system. I might hand over to Dr. O'Grady to pick up on the EV implications of that.

**Dr. Aoife O'Grady:** On the point about EVs and the VRT, we are considering different options that we can use within the existing taxation system to incentivise. As Mr. Martin has said, we already have a kind of proxy disincentivisation that does not target SUVs, but it does target the heaviest vehicles. As our EV market share increases, the Exchequer will need to have a look at the VRT system again because in the future, when we get to a very high proportion of vehicles coming in as battery electric all at 0% VRT, there will need to be a consideration of another means rather than just tailpipe emissions for managing VRT. We know that some discussions are at an early stage not just in Ireland but at a European level to look at overall energy efficiency, and weight and vehicle size would certainly come in there.

**Mr. Bill Callanan:** I apologise if I inadvertently suggested it would be into the third budgetary period before we will have the feed additives. That is not correct. We will need them, and we have already identified them as required within this decade in terms of our contribution but what we are saying is that we identify a level of caution in terms of the roll-out.

In terms of where we are at, we have invested in research to look at the various types of feed additives, because there are multiples of them. There is a product called 3-NOP, there are oils, and seaweed is another one that has been mentioned. That project is ongoing and is working away. Simultaneously, there is a process at European level to ensure food safety conditions. That is undeniably the most important element to address first of all. That is through the European Food Safety Authority, EFSA. The 3-NOP product is well advanced through the EFSA process, and it may even have been concluded. We are combining that with the practical reality that any of the existing interventions, the most successful of which is 3-NOP, requires continual feeding and that is why it is for indoor systems. We have included it within our early achievement elements, based on the expectation that the animals can be fed when they are indoors, as is the case for dairy production and during the winter. What we then identified is that in the medium term we need the evolution of scientific mechanisms to add feed additives to pasture-based systems, which are not as yet developed. That will be required within the period from now to 2030 to bridge the gap in terms of achievement, not in the third period. Mr. Crammond might want to comment further.

**Mr. Dale Crammond:** Mr. Callanan has covered everything. Teagasc is working hard. A lot of companies are working commercially, for example, Fonterra in New Zealand, is working with the company that produces 3-NOP, which is the most advanced feed additive. Teagasc is looking at it in the context of perhaps feeding it to cows when they are in the milking parlour in the morning to see what level of abatement we would get. We know we get 30% when we feed it in an indoor system of production and the question is what we can realistically achieve averaged out over the year when we include that period when animals are out on pasture. That is the key for us now.

**Senator Lynn Boylan:** If I could come back on the feed additive, is it separate to the soya feed or is it incorporated into it?

**Mr. Bill Callanan:** It is incorporated into the feed system. For example, if you have an indoor feeding system, the feed is made available, and the animal is continually taking in a certain level of feed and you can incorporate it through that system. If an animal comes in and out twice a day for milking, you can mix it through the feed ration that it gets at milking time, but it is clear that it does not create the same level of reduction as continual feed. That means we get spikes and reductions. There is an immediate reduction in methane production but that dwindles quite quickly and it does not create an evenness across the whole day.

There is no mechanism for applying that in a pastoral system where there are a lot of animals that do not even come in for milking. That is where that work is at. The question is how we develop that: whether it is by means of slow release, boluses or other such measures. Ultimately, there is a need for all the safety checks to have been done as part of the process to make sure that we can do it. That is why we are cautious in terms of it not coming on stream at the pace people might like. We will require it not in the third budgetary period but in the first and second.

**Senator Pauline O'Reilly:** I am conscious that we do not have officials from the Department of Housing, Local Government and Heritage but, notwithstanding that, it is important to raise the issue of local authorities again. I know from some of the previous contributions that some councils are performing better than others when it comes to active transport and public transport. I have a lot of sympathy for those who come to me all of the time saying we need more stick and less carrot when it comes to local authorities. I would like to see what the figures are. Reference was made to 1,000 projects. I would have thought that there have to be the same

problems in terms of public acceptance across local authorities. Why are some getting it right and others are not? There must be more than what is going on with local objections. I think there is an issue with some local authorities.

When it comes to transport, everybody is affected. That is why the whole issue of EVs and how prohibitive some people find them is an important point, but it is not the only point because it is all public funding. When I look at my city of Galway, about 25% of people commute by walking. I am looking at all of the percentages of households across Dublin who do not own a car. That is not just to do with access to transport, it is to do with poverty rates as well in those areas. Everybody pays tax. Do the witnesses feel they have got the balance right in terms of ensuring that the most vulnerable across every sector are catered for when it comes to the public purse paying for grants and for the infrastructure so that we are getting it right for people in rural areas? Even with the best will in the world, Connecting Ireland, which is an amazing project, will still only bring us from 53% to 70% of coverage for public transport across the country. There is still that segment who will not have access and who, let us be honest, are probably not going to hop on a bike either. There must be some realism there. How do we get it right for those people? Do the witnesses feel they have got it right for them, and for people who are impacted by funding going into electric vehicles, for example, when it is public services that they need for their areas?

**Mr. John Martin:** I will touch on the local authority question very quickly. The NTA is working with all the local authorities to try to roll out as much active travel infrastructure as possible. To be honest, Senator O'Reilly is correct to say that some are better than others. They all experience some degree of challenge and some degree of opposition and resistance, but some are better than others. I will outline what we are doing in that regard. The sustainable mobility policy was launched in April of this year and as part of it we set up a leadership group, which comprises membership from the Department, the NTA, TII and also the City and County Management Association, CCMA, and the regional assemblies, as well as the Department of Housing, Local Government and Heritage. What they are doing is overseeing the implementation of the action plan and of the policies that were set out in the sustainable mobility policy to try to encourage stakeholders - the regional assemblies and the individual local authorities - through the CCMA, to engage more in implementing and developing the infrastructure needed to support active travel. That is happening now. That group was established back in May and we are trying to push that message out to each and every one of the local authorities, through the SMP leadership group, as well as supporting the NTA's work in engaging with the local authorities on a case-by-case basis.

One of the things we are doing as well is that we have set up a delivery team, which is seeking to identify what we are calling pathfinder projects, which would be exemplar or spotlight projects around the country that we can roll out quickly at scale across the country. This covers everywhere, not just specific areas, not just Dublin, but across the whole country that can demonstrate what can be achieved and the benefits of that. The Department is really pushing that pathfinder programme throughout the whole country to put a greater impetus behind the installation and development of active travel infrastructure around the country, both in urban centres and rural areas.

In regard to rural issues as far as decarbonisation and transport are concerned, some areas are not as well served by public transport as others. We are trying to address that insofar as possible through the Connecting Ireland programme. That will have a big impact and will make a big difference. In addition, we need to communicate and advertise more clearly to people that



those resources and routes are available. Sometimes routes are not available to people but other times routes are available and people may just not know about them. It is about getting the message out as far as we can throughout the country that these rural transport services are available to people to use and that they are being invested in and improved. It is important we continue to work on our rural public transport infrastructure, network and services, and promote them to ensure people know they are available for use.

In regard to the issue of EVs in rural Ireland and generally, I will pass back to Dr. O'Grady to pick up on some of the specific points around that.

**Dr. Aoife O'Grady:** On EVs, we are supporting a transition. Inevitably the capital supports are going towards people purchasing new vehicles because that is where we are in the EV cycle at the moment. The people who purchase new vehicles in Ireland tend to be those on higher incomes. As I said in the previous response to Deputy Farrell, we have a subgroup examining how we can look at the just transition element of that and how in future years we can support a second-hand market when we have sufficient for it to function in Ireland. We have looked at other lower cost alternatives such as internal combustion engine, ICE, to EV conversion, which we do not believe are available at scale in Ireland at the moment, but in future years, if they become scaleable and deliverable, that would be a lower cost alternative.

There are very generous grants available for EVs and the Government is funding that, but in terms of scale the capital budget that is available for the electrification of transport this year is two-and-a-half times smaller than the capital budget available for the active travel supports. Although we are giving supports to EVs, we are giving much more significant supports to active travel. That does not include the public service obligation, PSO, supports we give on public transport fares. There is much more funding going into those than into supporting the transition to EVs.

In regard to urban areas and the concept of transport poverty and people who do not even have access to a car, this is one of the things we will be looking at in the coming years. We will shortly establish the office for zero emission vehicles in Ireland within the Department. An example of an initiative we have seen in other cities is in Hackney, London. Hackney is an area with pockets of very high deprivation. The council in Hackney has supported electric car clubs for local residents. They have been able to provide dedicated on-street electric charging points. The concept of these is that this is a neighbourhood where people do not have access to a car, so the council has engaged with local car club operators and provided a carbon-free car club option to enable people to have car access. That is something we would like to look at. We are not quite ready to do it at the moment. There are questions about Government procurement and how we engage with the private sector on that. However, we would certainly like to see this kind of initiative rolled out more widely.

**Senator Pauline O'Reilly:** Just to be clear, I am not suggesting everybody should have access to a car. What we want to see happen is that people in areas, for example, in some parts of Dublin where 80% of people might not own a car, would rightly have access to public transport and active transport and that it would be ensured that their taxes were used predominantly for that. That is my main point, not that we would give more people access to cars who actually do not need it.

Education was mentioned. I would like to see a stepping up of the message on climate and getting it out into the public that we are in an emergency. I am not feeling that from enough people beyond a bubble. Much more needs to be done on that. When it comes to education, we

need to talk about things that can be done. It is fairly clear that unless children grow up using buses, they are not going to be as likely to take a bus. For want a better word, we should park the idea that it is just about access to public transport. It is actually also about willingness to walk ten minutes to get on a bus or to get on a bike. What can be done between the Department in collaboration with the Department of Education around school transport? Currently, people have to live either 4.8 miles or 5.2 miles away from a school to get access to a school bus for instance. That access should be for those journeys of less than 2 km that were talked about if we want the 60% to get out their cars. What measures can be taken in that respect? What would the witnesses propose?

**Chairman:** I am going to push things along now because we have only an hour left and others want to come in. Does Dr. O’Grady or Mr. Martin wish to respond to those points?

**Mr. John Martin:** The point about children needing to be brought up using buses and active transport is critical. The NTA administers a programme called safe routes to schools which is an initiative for local authorities to improve the access to schools and improve the zone in front of schools to encourage children getting to school by active transport, cycling, walking and other active travel means. That is very welcome. We need to see more of that. My understanding is that 170 schools currently participate in that programme. Many more are keen to join. We encourage the safe routes to school programme and are trying to roll it out through the NTA. In regard to school transport, we are engaging with the Department of Education on this on an ongoing basis. That is certainly something we can look at.

The communications point is well made. The Department of the Taoiseach has just set up the climate communication co-ordination committee, which looks at co-ordinating the messaging and the narrative on climate across all sectors. It is a whole-of-government approach to ensure we are all saying the same thing and not conflicting and tripping over each other in our climate communications. That group has just been established and will be putting in place a whole-of-government communications strategy to ensure there is consistent messaging that does not get crowded out or cause fatigue for citizens and that is consistent on climate and what we all need to do across all sectors, both by Government and by citizens, to address the climate issue. That is a well-made point and something we need to take on board.

**Ms Andrea Lennon:** In regard to the comment on whether we are getting the balance right on transport, I wish to make members aware that, since the start of the year, we have undertaken a review of our modelling on transport. Part of that study is to look at the distributional and socioeconomic impacts leading to just transition. We hope to have the output of that study this summer. It should help us understand the impact of some of the measures we are putting in place and whether we are getting the balance right, looking at the user benefits and affordability, being able to break down the population by zone, by rural areas, by transport, by time of day, and that question of deprivation. It will help us to understand who has the choices and options in terms of non-car-based transport. On the point of the school transport, part of the modelling is throwing up some possible additional measures we could apply. One of those was looking at a reduction in escort to education private car use. There could be some benefits there for carbon reduction and it is an area in which we will do a little more work with possible measures.

**Chairman:** I will ask a couple of questions. Sticking with transport, and that Department is getting the bulk of the interrogation today, which I am sure the other Departments are probably happy about, does the remit of the zero emissions vehicles Ireland, ZEVI, office include bikes, such as cargo bikes, trikes and so on?

**Mr. John Martin:** That comes under Dr. O’Grady’s remit but I think the answer may well be “no”, so the question will land firmly back in my lap.

**Chairman:** It deals with zero emissions vehicles but it is really just electric vehicles or cars.

**Dr. Aoife O’Grady:** It deals with electric cars or motorbikes. Currently, our working assumption is that it deals with vehicles that need to be registered and licensed.

**Chairman:** Okay.

**Dr. Aoife O’Grady:** It may develop further but the charging infrastructure requirements for vehicles such as cars, vans and motorbikes - the Italian-type scooter as opposed to the electric scooter we might talk about - is very different from that required of electric bikes and scooters. Their infrastructure needs are much more aligned with sustainable mobility needs. The charging for them is not significant. The infrastructure being considered by the zero emissions vehicles Ireland, ZEV, office would be that kind of large-scale charging infrastructure. My feeling is that the infrastructure challenge for electric scooters and bikes is much more on the sustainable mobility side than the electric charging side.

**Chairman:** Against that it might be argued that electric vehicles are not quite zero emissions vehicles. There is still a residual carbon cost. If we got to 80% renewables use by 2030, which would be brilliant, there would still be 20% of the power for those vehicles coming from fossil fuels. It is not part of the accounting system but we should also consider the embodied emissions associated with electric vehicles. It is not correct for it to be called the zero emissions vehicles Ireland office because it is not and cannot be that.

I ask about the vehicle kilometre reduction target for fossil fuel-powered vehicles. It is 10%. It seems that is pretty meaningless in the context of the target of 850,000 electric vehicles by 2030. We should easily eclipse that 10% target for vehicle kilometre reductions in internal combustion engine vehicles. If that target is for vehicles powered by fossil fuels, it should be much higher. If it is not, are we saying we will not achieve the target in the first instance? Are we not being true to the avoid, shift and improve principle if we do not apply it to the total number of kilometres driven? If we are not applying it to the total number of kilometres driven, are we saying there will be an equal or greater number of kilometres driven by vehicles in 2030 when the avoid, shift and improve approach means we want to get people onto other modes, first and foremost, and reduce the need for driving?

**Mr. John Martin:** I will jump in on this and Dr. O’Grady may want to come in afterwards. We must remember this is measured against the baseline in 2018, so we are looking at a reduction of 10% in total kilometres driven by fossil fuel cars as compared with 2018, but that must also counter the level of growth we will see between now and 2030, which is not insignificant. There will be growth and we are trying to drive down the number of kilometres driven by those vehicles.

**Chairman:** We could have more of those vehicles on the road.

**Mr. John Martin:** It is important to note this relates to the total number of kilometres. We should bear in mind that some of the public transport or active transport journeys we are trying to promote would be typically over a shorter distance. We will still have people driving over much longer journeys in their private cars. In many cases that would be logical because there may not be an alternative to such a mode of transport. The total number of kilometres would still be impacted in the context of private car use.

The average length over which ICE cars or cars powered by fossil fuels are on the road is approximately 14 years. We are looking at getting a fairly significant number of electric vehicles on the road by 2030, with a total of 940,000 when we look at light vans as well, but there will still be many cars sold down the years up to that point powered by fossil fuels. They will remain on the road even after cars powered by fossil fuels cease being sold at all, and there will be a residual.

The 10% reduction in kilometres may at first glance appear to be quite small, but all the modelling and analysis we have done, and even looking at the modal shift from cars to active travel and public transport and the transition from internal combustion engines to electric vehicles, indicates it is quite an ambitious target. If we meet it, we will be well on our way to meeting the abatement targets set out in CAP21.

**Chairman:** If I understand that correctly, there could be more cars and kilometres driven on roads by 2030.

**Mr. Bill Callanan:** One of the bodies of work by the Department is around demand management and we are trying to reduce the overall reliance on private car use. That is clearly something to which we are committed and we are looking at a range of measures to try to achieve that.

**Chairman:** If you are committed to it-----

**Mr. Bill Callanan:** There are still a number of journeys that will have to be made by cars and we must also consider growth factors in population. This means there will be a continuous counterbalance between increased growth and reduction in the number of car journeys being achieved through measures and policies we are trying to put in place.

**Chairman:** I thank the witnesses for the replies. Is the Department is committed to demand management, reduction and the avoid, shift and improve principle? That is really about electric vehicles where there is no other way of providing the transport needs of the population. If the Department is committed to this, it would have a much larger target either for the vehicles powered by fossil fuels or a total target. It does not sound like the commitment is there, as far as I can hear.

**Dr. Aoife O’Grady:** The focus on the 10% reduction is not as a sustainable mobility target *per se* or a demand management target. It is a carbon counting mechanism. We modelled what we could do under biofuels, sustainable and renewable fuels and the reduction that would give us in carbon emissions. We considered what would remain to be achieved through carbon emissions reduction through greater uptake of electric vehicles and what would be delivered through our sustainable transport investment over the years between now and 2030. This is not even in order for us to get to 51%.

The modelling us shows us a 10% reduction in ICE car kilometres will reduce further carbon emissions. There is still a 0.9 megatonne gap to target, and the work Ms Lennon referenced earlier is identifying a way of delivering that 0.9 megatonne additional reduction in the least negative distributional impact. As a Department, we are trying to identify that final pathway that will do it in as beneficial a way as possible for society and the economy.

That 10% demand management in kilometres reduction is defined as an ICE kilometre reduction because the aim is carbon reduction. There may well be electric vehicle kilometre reduction in there also but that does not count towards our carbon reduction target, whereas on

sustainable mobility-----

**Chairman:** Are electric vehicles counted as having emissions?

**Dr. Aoife O’Grady:** -----we could absolutely go further on demand management. It is within the Climate Action Plan and it is in there as a carbon counting mechanism, as opposed to a broader sustainable mobility mechanism.

**Chairman:** Okay. To stick with carbon counting, the Department is counting electric vehicles as having zero emissions.

**Dr. Aoife O’Grady:** In terms of accounting in the transport sector, that is the way the country accounting works. The energy from them is accounted for in the energy emissions sector. They have zero tailpipe emissions and the transport sector’s emissions calculation comes from fuel sold in the country. That is petrol and diesel fuel. If they are using electricity and that electricity is 80% renewable, that is accounted for on the electricity and energy side rather than the transport side. I agree with the Chairman that they are not fully zero-emission, but they have zero tailpipe emissions and transport tends to count the tailpipe emissions in terms of carbon accounting.

**Chairman:** I have a question regarding the modelling and the gap of 0.9 megatonnes in transport. There was a study earlier this year or late last year by researchers in University College Cork, UCC, showing that nearly 40% of our transport emissions are caused by private car journeys in the 0 km to 8 km range. Many of these are commutes, school runs, trips to the shops, mass and so on. Within that 0 km to 8 km range is, certainly at the lower end, there is potential for cycling and there is good work being done in that regard. At the upper end of the range, there certainly is potential for e-bikes. Is the modelling appropriately accounting for the potential for e-bike uptake? I am concerned that the office is not looking at e-bikes. They are not fully zero-emission either because they require power but they certainly are much closer to being zero-emission vehicles than are the typical electric vehicles. Does the modelling account for the potential for e-bike uptake for the 3 km to 8 km range of journeys?

**Ms Andrea Lennon:** On the specifics of the modelling, I am not sure about the consideration regarding e-bikes. We will come back to the committee on that. In the exercise we undertook this year on the transport model, in collaboration with the NTA and SYSTRA, we looked at the question of reducing kilometres travelled. We had four workshops and that was one of them. One of the key things we looked at was around car ownership, including measures looking at multiple car ownership and how that might be reduced. We also looked at the trips themselves and the question of differentiating, as the Chairman outlined, between shorter trips and longer trips. There is a different demand response there. Those kinds of issues are being taken into account in the review of modelling. The results of that review will be available very soon, in the course of the summer, and will inform our thinking.

We also have another study that is being carried out on e-bikes. It is a co-funded project with the SEAI and the output from that will also inform our thinking in this area. Part of the review process we did in the workshops was involving academics, policymakers and modellers in looking afresh at the model and seeing where we can get gains. It is primarily about addressing the 0.9 megatonnes gap we have. We want to look again at the balance of measures and whether we are hitting all the various measures we can to achieve the overall goal.

**Chairman:** I thank Ms Lennon. It is about more than the 0.9 megatonnes gap. A lot of the

journeys we envisage being made by the 845,000 EVs could be made by even more sustainable modes. The potential in this regard is vast. I am not saying it is necessarily straightforward. We have to build the networks in all our villages, towns and cities in order that people can feel safe getting onto a bike, e-bike or e-cargo bike. If we accept that the potential here is huge, because anything in the 0 km to 8 km range is comfortably cyclable, then we probably would not need to be so ambitious in our EV target, which is, as everybody would agree, very ambitious and very costly to the State.

**Mr. John Martin:** I will pick up on that point regarding e-bikes. The modelling we have includes what is referred to as a cycling propensity factor, which is, in essence, a measure of how likely people are to cycle and over what distance. We can ramp that up and down. The uptake of e-bikes over the past couple of years has increased very quickly and, fortunately, we are seeing a significant number of them on the roads. This is particularly the case in the wake of the Covid period, when the supply chain issues around e-bikes began to loosen out and the prices came down. If we were having this conversation three years ago, there would have been a fraction of the number of e-bikes on the road compared with what we are seeing now. It is an evolving technology and we are getting much cheaper e-bikes into the market. I will not name brands but there are much cheaper models becoming available. One can buy an e-bike for less than €1,500 now, which one could not do two or three years ago. It is very much a developing area and it something to which we need to react.

I cannot answer directly as to whether the modelling that was done for CAP21 fully incorporated the potential for people to replace longer 5 km to 8 km journeys with journeys by e-bike. It is something that certainly can be looked at. These are the sorts of things we have recognised in the carbon budgets and the timing of those budgets. New technologies will be coming along and we will have to respond and adapt to them and try to harness the benefits they can give us as and when they come along. This is a perfect example of that.

**Chairman:** I thank Mr. Martin. I have a few more questions. Reference was made to EV uptake in a Dublin, with mention of a scheme in Hackney, London. I reiterate Senator Pauline O'Reilly's point that our city centres are where we do not want to see EVs being used, because there are other ways of getting around there. We should not be seeing it as a target or ambition that everybody living in the centre of Dublin, Limerick or our other cities should have an EV outside their front door. If we think like that, we are just going to clog our urban areas with cars. We need to be cautious about providing the infrastructure, including charging lamp posts. The streets in our villages and towns need to be prioritised not for on-street parking but for active and sustainable travel infrastructure. We need to be very careful about that.

We might say that the justifiable use for EVs is in rural areas where it is very difficult to provide public transport. There is huge potential to go beyond what is envisaged in Connecting Ireland. We have talked a number of times in this committee about the every village, every hour concept. In fact, provision needs to go beyond an every village, every hour target and also offer a service that is quick and reliable. I note that Deputy Christopher O'Sullivan was tweeting at the weekend about the Local Link service between Clonakilty and Kinsale. It was great to see him using it. We can roll out that kind of service in a cost-effective way right across the country and go way beyond the 70% coverage provided for under Connecting Ireland. In fact, what we should be trying to do is provide a service not just for people who cannot afford cars or electric vehicles but for everybody, in view of the emissions cost that is associated even with EVs.

I am glad to see support across the committee for really ramping up the ambition regarding taxation of larger, heavier and inefficient vehicles. Deputy Alan Farrell is very supportive of a

big jump in taxes on those vehicles and I certainly agree with that. Has any study been done on the revenue that would be accrued from a ramping up of taxation in this regard? It is obscene that 55,000 of the vehicles put on the road last year were these huge tanks that are absolutely unnecessary. Some people and families might need them but the number is nothing like 55,000. Is there any analysis being done on the revenues that would arise from an increased taxation on those heavier, inefficient vehicles to fund a more universal rural public transport service?

**Dr. Aoife O’Grady:** Two initial analyses are being done, one of which is examining how we can use the taxation system to incentivise lower emission vehicles while disincentivising higher emission heavy vehicles. In Ireland, we do not normally hypothecate taxation revenue. As such, ring-fencing a certain amount of VRT on higher emitting large vehicles to support public transport in rural areas is a matter about which colleagues in the Department of Finance would be wary. Two initiatives are being taken, though, in that VRT is increasing on higher emitting vehicles and more funding is being spent on promoting rural sustainable public transport. The ring-fencing of one or the other is probably more a matter for the Department of Finance, but hypothecation is a space into which it tends to be reluctant to step.

**Chairman:** We may invite officials from the Department of Finance to discuss that. I thank the witnesses for their answers and apologise to colleagues for taking more than my allocated time.

**Deputy Darren O’Rourke:** I thank our witnesses for attending. I will start with the Department of the Environment, Climate and Communications, although this is perhaps not a question for its officials. Is there a commitment, or is it being discussed, that the sectoral ceilings should add up to no more than the national carbon budget passed by the Dáil? There are concerns that we will exceed it. Will the sectoral ceilings align with Ireland’s 51% emissions reduction target? Is a final figure that is consistent with legislation and current commitments being ensured across the Departments?

How are we ensuring that there is a fair share of lifting across sectors? What does the concept of doing a fair share mean? What is the Department of the Environment, Climate and Communications and other Departments feeding into that? Agriculture is always the hot topic and the contentious space in these discussions. Farmers’ representative groups have stated publicly that they feel that they have not been consulted. We heard from the Department’s opening statements that there are significant challenges as well as plans. Is a model or direction of travel emerging as regards how emissions reduction targets will be achieved? What does the future of Irish farming look like? It is understandable that farmers are nervous about these ceilings. They have invested significantly and are working under what is in place now. I am not clear as to whether an alternative pathway has been laid out before them. Is one emerging? Where does that situation stand?

**Ms Karen Egan:** I thank the Deputy for his questions. The 2021 climate Act gives us parameters within which we have had to operate. The analysis that has been done is designed to allow us to reach the targets. The sectoral ceilings will have to add up to the carbon budget. They must not only allow us to reach our 2030 targets, but also put us on track to reaching our 2050 targets. Extensive analysis has been done with all of the other Departments in order to ensure that we can achieve those targets.

Regarding the fair share of lifting, the analysis and engagement that we have undertaken allow us to be realistic about what can be achieved across the various sectors. It has been a collaborative process. The analysis seeks to include a sense of potential distributional impacts, but

I must voice a caveat, in that this will all be dependent on the measures and policies that will be implemented to meet the ceilings and carbon budgets. Detailed policy design will need to happen to address all of the issues. Further assessment of the proposals is ongoing, as is further assessment of the impacts with relevant Departments.

**Deputy Darren O'Rourke:** Is the Department of the Environment, Climate and Communications anchoring the cross-departmental work on ensuring that the carbon budget will be met, the sectoral ceilings align with the 51% target and there is a fair share of lifting?

**Ms Karen Egan:** The legislation requires ministerial accountability for the sectoral ceilings, which are diffused across the Government. It envisages that the relevant Ministers will take responsibility and be accountable to the Oireachtas for the sectors relevant to their areas, while delivery of the sector ceilings will be monitored by the Climate Change Advisory Council, CCAC. This accountability structure underpins the achieving of the sectoral ceilings.

**Deputy Darren O'Rourke:** How does that work in practical terms? Does the Department of the Environment, Climate and Communications present a line Minister with a set of options and he or she then goes off and negotiates with Cabinet colleagues, who have similar options? For example, if the transport sector has a target of 52% and the energy sector has a target of 82%, what is the starting point for the relevant Ministers' negotiations? I understand that accountability lies with the Ministers.

**Ms Karen Egan:** There has been a great deal of engagement at three different levels. There has been consultation and engagement at official level and there have been meetings at Secretary General level, but there is also the ministerial level of engagement, which is ongoing at the moment. These matters are still being considered at a political level. I cannot share much of the detail in advance of a Government decision but a great deal of analysis has taken place while we have worked on the sectoral emissions targets and there will be considerable engagement over the summer on the development of the next climate action plan, wherein many of the measures and actions will be defined. Does that answer the Deputy's question?

**Deputy Darren O'Rourke:** Yes. I thank Ms Egan.

Will the officials from the Department of Agriculture, Food and the Marine touch on the notion of doing a fair share? Specific measures in the legislation recognise the important position of agriculture, but what does that mean in real terms? How is it measured or assessed? Is it built into the range that will apply to agriculture compared with other sectors or do other components factor into the variable that is agriculture's social and economic impact?

**Mr. Bill Callanan:** I will describe different levels to answer that. The Deputy is correct, in that agriculture's important position is implicit in the climate Act, which recognises the special role of agriculture in terms of food, fuel, fibre, production and so on, as well as its social importance to rural Ireland. Its recognition within the structure will influence the fair share of lifting it will do. What we are trying to communicate is that agriculture has to do its part. In my opening statement, I identified that the pathways towards doing that were reducing and removing emissions and making a contribution to sustainable energy. That is our general direction. The Department has been particularly open to that engagement at different levels, for example with farm bodies and the continuous understanding to look at the challenge that is before us. Deputy O'Sullivan drew attention to Ag Climatise. We were out of the blocks early in identifying the actions farmers needed to take in order to deliver on it. We deal with 140,000 farmers. At individual farm level we need to break it down and reduce it rather than giving high-level



messages. This is translated through the signpost farm programme. Teagasc has engaged with industry in developing approximately 100 signpost farms around the country, which will profile and push out those actions that farmers need to do. There are different levels of engagement at individual farm level. We have also engaged with industry around the messages they need to give to their farm suppliers to achieve sustainability so they are coherent and consistent across independent businesses. At the upper end there is engagement with farm bodies around the implications and expectations.

I must be clear that from all of the levels that I have seen, farmers are engaged and understand the need to deliver on the climate agenda. It is very much to the forefront because agriculture contributes to climate change, can contribute to the solutions and is also impacted by climate change. There are people working in that environment every day.

The Deputy's last question was about alternative pathways. We have identified within the Climate Action Plan 2021 the need to look at diversification options and to look at carbon farming as a model of support. They are identified as part of that process. We must be equally honest about methane. It needs to be on a reduction trajectory but it is not the same as CO<sub>2</sub>. Separately, there needs to be an open and honest debate on what is the quantum that can be delivered. Those are identified in the Climate Action and Low Carbon Development (Amendment) Act 2021. They have been recognised by the Government and are part of the programme for Government. They will necessarily feed into the overall agreed approach across Government and across all of the Government Ministers.

**Deputy Darren O'Rourke:** I have a follow-up question about those alternative pathways and those identified within the Climate Action Plan 2021. Are any of those at scale yet? The challenge for farmers is that they are operating in a system that operates for them and provides a return. An alternative is going to need to do the same and hopefully in a far lower carbon way, possibly by sequestering or by having a net positive impact. Are any of these at scale or are they more or less pilot studies, possible options or prospects at this stage? Perhaps Mr. Callanan will give us a sense of that

**Mr. Bill Callanan:** I divide it into diversification. I have always tried to explain it as diversification of income or diversification of land use. On the income piece, there are a lot of farmers who have diversified through adding value to their initial produce and moving it up, or through off-farm income. All of those are diversification around the income and it influences their decision process.

With regard to land use, farmers necessarily must look at opportunities. We have clearly committed to increasing deforestation rates. Farms must look at how they can have products that contribute towards decarbonisation such as alternative energies, anaerobic digestion, bio-mass and development of the overall bioeconomy. Those will all influence the level of economic return that is generated on the national farm. They will feed into the farmer's decisions. The reality is, however, that it is a demand-led system where farmers are very much encouraged by the marketplace in producing what the market requires for food production and so on. We are dealing with perishable products in the food production system. If the market signals in a particular way, farmers generally will respond to that. They have no choice.

**Deputy Darren O'Rourke:** I thank Mr. Callanan.

**Chairman:** We will go into the second round. Deputy Smith has indicated she will go ahead of Deputy O'Sullivan.

**Deputy Bríd Smith:** I thank Deputy O’Sullivan for allowing me to go ahead of him as I must go to the Dáil Chamber shortly. I have a question for the Department of the Environment, Climate and Communications. Perhaps Ms Egan will take this question. I am not asking the Department to comment on reports in the media at the weekend that tensions are mounting in the coalition over the scale of carbon emission cuts that will be required for farmers to deliver. It seems there is pressure from one sector to go for the lower range of emissions reductions, which is a 22% cut, whereas in principle a 30% cut is desired. Does the Department believe this is what will actually be needed? If this is what is needed, would we need a cut in the herd to achieve a 30% reduction? I must point out that the Irish Farmers Association, IFA, has written to the Taoiseach and the letter was circulated to us. The IFA quite rightly points out that there are special clauses in the Act for the place of agriculture and the characteristics of biogenic methane. Does the Department believe that this has made us a hostage to fortune by having it in the Act in the first place?

My second question is for Mr. Callanan. I am sorry if I am asking Mr. Callanan to repeat anything he may have said earlier because I had to leave. Feeding seaweed to cows seems to be the way the Department plans to reduce emissions, rather than any attempt to cut the herd. It reminds me of the idea that new technology is going to be the saviour for us in the future. This comes up repeatedly, whether we are talking about gas and oil exploration or data centres. We are told they will all have new technology and we should not be worrying about them. Now we have been told of a new form of technology that involves feeding seaweed to the herd. I am aware that the tests have shown it reduces methane in cows. Mr. Callanan has said that this should happen in the first and second carbon budgets. Do we know, and will we know in time, what will happen after months and years of feeding seaweed to the herd? Do we know the effects this would have on output of milk and meat? Do we know the environmental impacts of having to manufacture to scale that amount of seaweed and the additives that come from it? What risk might it have on other elements of our ecosystem in untested technologies?

I believe we are dodging the discussion on cutting the herd because it is not about the 140,000 farming families that have been represented; it is more about the farming model we have created in this country, which involves a vast amount of export of animals to the Middle East, Africa, China and so on, rather than facilitating family farms to produce the food we need in an ecological way and subsidising them properly to produce that sort of food for us. Mr. Callanan said that farmers are driven by the market but surely the consideration must be that the system itself is broken for most farmers and it is broken for the environment. It is a bit of a loaded question but perhaps the witnesses could try to answer it.

**Chairman:** I thank Deputy Smith. I believe the first part of her question was for Ms Egan.

**Ms Karen Egan:** I will pass the question on the agriculture issue to my colleague Mr. Marc Kierans.

**Chairman:** Okay. Mr. Kierans, you are in the hot seat.

**Mr. Marc Kierans:** I thank Deputy Smith. I do not want to comment on the media stuff but tensions are healthy. It is a challenge but there are honest conversations going on across all Departments. We have heard that already this afternoon. People are being honest and frank about it. It is good that it is out in the open and we are having those discussions.

The pathways in the climate action plan and in the sectoral ceilings are not absolute. They are pathways that we anticipate will deliver the savings that are required under the Act. They

will evolve over time. Some will deliver early and some will deliver late. Some might not realise what they have. There has to be flexibility built into that. We recognise this in the pathways. There is a risk that if some of those measures do not deliver they will have to look at alternative measures. That is the honest conversation about how different sectors will deal with that. All sectors are at risk of not delivering on certain aspects of it. We must have those conversations. I would defer to my colleagues from the Department of Agriculture, Food and the Marine in the context of those risks, which they articulated in their opening statement. We need to be cognisant of that.

**Mr. Bill Callanan:** To be clear to the Deputy, we are not holding out for a silver bullet. That would be a misrepresentation of what is needed at individual farm level in order to change practice, etc. If we look at our overall strategy, there are many actions we can take, including, for example, reducing the use of fertiliser and changing fertiliser types for the remainder, engaging in the earlier slaughter of animals and looking at how to deliver breeding strategies. Feeding is just one component.

It would be wrong to suggest that we are holding out, particularly with regard to seaweed. The Deputy is entirely correct to say that there are implications in terms of the level or suggested volumes of seaweed that would be necessary. Seaweed is only one component of those feed additives. Everybody is investigating a whole raft of them even from, believe it or not, olive residues as a surfactant that reduces mutagenesis within the rumen. Therefore, it is including commercial products like 3-NOP, which would be commercially produceable, rather than depending on the biological system of seaweed. There is research in terms of seaweed. There are also surfactants in oils, etc. A combination of elements is being looked at. It is not that seaweed is being relied upon as a silver bullet. I want to make sure that everybody understands that it is a series of individual actions. Cumulatively, these will add up to what the requirements are in terms of the commitments to meet our numbers.

**Deputy Bríd Smith:** Specifically on the targets of 22% or 30%, does Mr. Callanan think the higher target is what is desired and what is necessary? Will it be necessary to cut the herd to achieve that?

**Mr. Bill Callanan:** That is a matter for the Government. It will have to go through the pluses and minuses in that regard. What I must be clear about is that we have a pathway that we fully understand can achieve a certain level without reducing the national herd overall. That is infinitely more challenging as the numbers go up. We have to recognise that.

In terms of the international discussion on food production, other countries are looking at the difficulties relating to and contentiousness of agriculture. I will articulate some of those. By way of example, the proposals in terms of the EU Fit for 55 package, which are not agreed as yet, relate to an integrated agriculture and land use sector by 2035. That would require something like a 20% reduction in overall emissions at European level and an approximate 20% increase in removals. In its legislation, New Zealand has segregated methane out and imposed a 10% target in respect of its reductions. We know from looking at other plans, for example, those of Denmark and elsewhere, that countries are similarly challenged with regard to the appropriate level of ambition.

What we are seeing through the agricultural food process is that Ireland will have to be a leader, especially in terms of pasture-based systems, which are positive. If we look at that suggestion in terms of how we feed the world and if we go look back 100 years, we had a situation even then whereby we were exporting quite a number of foodstuffs out of the country. That is

the history of our production system. In defence of that system and in the context of international comparisons, rain-fed, grass-based systems hold up very well from any carbon counting point of view. They look particularly good in that regard.

I often describe the challenges relating to water in terms of them not being about water quality internationally. It is actually a case of the availability of water whereby more than 80% of all abstracted water is used for irrigation of crops for food production. We do not have that problem here. In the context of our agriculture system, we have issues in terms of improving water quality. I want to be very clear with the committee. By comparison, however, we are in the top one third in Europe in the context of water quality when it comes to that production system. We certainly have much in our production system that speaks very favourably to the way it is structured.

Our system is based on the family farm model. If we look at the dairy production system, we can see that dairy farmers generate a commercial income by going through processors that are predominantly owned by the producers that supply them, and then supply into the marketplace. That is a very positive system whereby we supply products through a processing system that is owned, in the main, especially in terms of dairy, by the farmers themselves. Those products are then sent to the marketplace, which, internationally, recognises ours as a very favourable production system. If it did not, we would not have access to some of the premium markets to which we currently have access.

**Deputy Bríd Smith:** The big concern is the rising levels of methane. These were reported on last year by the United Nations, which is very concerned about the matter. Methane is much more dangerous because it traps heat at a much more intense level. From what I have heard today, it does not seem that this matter is being treated with the urgency it deserves. I would be concerned not just about reducing our emissions but also about how we handle the levels of methane emissions being produced.

**Mr. Bill Callanan:** I will ask Mr. Crammond to talk a little about methane. The Deputy is dead right; it is important. Methane has a much higher impact, but it is internationally recognised that it does not need to get to zero with regard to reducing its climate impact. As a result, we must differentiate between methane that is biogenic, which comes from livestock, versus that which comes from fugitive fossil fuels and waste. In the context of its strategy on methane, the EU has identified a need to halve emissions in this regard. That is predominantly around fugitive gas emissions from natural gas, etc., and the waste sector. There is a commitment in its impact assessment document to reduce biogenic methane emissions. It is identified on page 112 of that document that a 10% reduction at European level is expected in the context of non-CO<sub>2</sub> agricultural emissions. That is what the EU is looking at. We must look at methane, but we also have to disaggregate the sources of methane. Their impact on the environment is no different; I want to be clear on that. Certainly, the focus of the significant reductions must be understood. In terms of the trajectory, the EPA recently identified that even to get to the lower end of the range, we are looking at a 30% reduction in methane emissions within agriculture in order to achieve that number. We all agree on the trajectory in terms of methane emissions reductions. The quantum is a different issue.

**Deputy Bríd Smith:** I have taken up enough time. Deputy Christopher O'Sullivan let me speak before him. I thank Mr. Callanan very much for his answers.

**Deputy Christopher O'Sullivan:** We will stay with agriculture while we are on that topic. Having researched the technologies a bit, I firmly believe that anaerobic digestion will be a key

technology and key tool in decarbonising agriculture, as was just discussed. Mr. Callanan mentioned acclimatising the mean annual temperature curve, and there were references to anaerobic digestion. It seems that we do not really have a policy or strategy when it comes to anaerobic digestion. There are very few anaerobic digesters in Ireland. Those that are operating took many years to get up and running because of the obstacles that are there. Then, when they are running, they are subject to very stringent rules and regulations in comparison to many of our European counterparts. In Germany, for example, there are approximately 10,000 anaerobic digesters. I am not for one second advocating that we would have that number here, but we have so few. It is a key co-operative approach to reducing emissions from agriculture. Mr. Callanan mentioned this earlier. Is there an estimate of the percentage of carbon emissions reductions we can achieve from a good anaerobic digestion strategy? This will impact all sectors but particularly in terms of agriculture.

**Mr. Bill Callanan:** To be clear, anaerobic digestion is an energy-driven policy. The Department does not have responsibility in respect of that matter. We have a group looking at how we can encourage development in that area. To be clear, we are very supportive of the development of an anaerobic digestion industry. The messages we are hearing from industries, particularly gas-based industries, is that they have an appetite for biomethane and displacement. Why? It is quite clear that if we look at our international offering in terms of food, we are at the upper end when it comes to sustainability, but there is a demand for us to go higher. It is very clear. It is expected that biomethane can play a role in respect of the likes of food processing, which relies a lot on heat etc.

In respect of an emission reduction factor for agriculture, it does help but it is not as significant as people might anticipate because if your feedstock such as slurry is going in, you are removing the emissions associated with that, which is not a bigger part. A substantial amount of that contribution comes from displacement of livestock where you are generating a feedstock to go into an anaerobic digester, rather than just the manures. The manures do contribute but the bigger portion involves that displacement.

**Mr. Dale Crammond:** Approximately 10% of methane in Ireland is in manure form so it is not like a confined system production. Half the methane in California is in the manure so the potential is much greater; it is limited in terms of what we can abate from the manure. Where it may have a role is if it was to displace livestock. If farmers no longer produce beef but grow grass for a feedstock, the big emissions abatement would occur from the displacement of that livestock.

**Deputy Christopher O'Sullivan:** On using gas generated from anaerobic digestion as renewable energy to create electricity, I recently visited an anaerobic digestion plant in Timoleague where it has been estimated that over the ten years it has been there, it has saved about 1 million tonnes of carbon. It also generates enough power for about 1,000 homes. Surely there are emission reduction benefits there.

**Mr. Bill Callanan:** There are but they fall on the energy side, not on the agriculture side.

**Chairman:** Does the Department accept that it is an energy-driven area? Is the Department of Agriculture, Food and the Marine looking at anaerobic digestion with regard to the displacement of livestock for feedstock as part of its push towards 22% or 30%?

**Mr. Bill Callanan:** To be clear, we included within our financial ask that there be a commitment in terms of developing a pilot anaerobic digestion measure. A figure of €24 million was

identified in terms of that ask and that was announced previously. We will look at what element of the marketplace we need to focus on in terms of that development because there are different scales of anaerobic digesters etc. out there. Ultimately, an anaerobic digester must live or die based on the economic return as well and that is an energy-driven policy because the market there focuses on energy displacement and energy replacement. One would have to broadly expect the change in energy value for gas to have a major impact in terms of that. It involves the cost of gas. We had looked at this before. This was a number of years ago in terms of the propositions I had seen. There was a huge differential between the cost of that natural gas and that of biomethane. It was roughly four times the cost. That gap has greatly narrowed because of the change in the overall energy costs system. It is massive. However, there is still that issue from an energy policy point of view. Is it sustainable from a cost point of view in terms of running anaerobic digestion? All I am saying is that this is an energy-driven policy.

**Chairman:** That is fair enough. I think Deputy Christopher O’Sullivan and I are on the same page. There are beef farmers in particular whose incomes are exceptionally low, who are struggling and who are very much dependent on subsidies. Is there an economic way forward for them so that instead of producing beef, they would produce the feedstock for anaerobic digestion? The benefit would obviously be to them but there would also be a benefit to the State in terms of reducing methane.

**Mr. Bill Callanan:** To be clear, the anaerobic digestion sector is an area of opportunity in terms of development overall. That would certainly be our position.

**Deputy Christopher O’Sullivan:** We could reduce costs to the farmers where gate fees are waived regardless of whether it is a pig farm, piggery or chicken farm or even distilleries. I know I am going into another industry sector. Digestate can be used as a much lower-emission and chemical-free fertiliser so there are benefits there. Any emissions reduction from any technology where we also get renewable energy must be encouraged.

**Mr. Bill Callanan:** We have always cautioned that while the Government can grease the wheel in terms of these measures, it is difficult to run the wheel. There has to be an underlying economic return. For example, we supported miscanthus previously but the market did not respond to it. In the calculation of the economic return of anaerobic digestion, it is important that there is a return to the farmers in terms of production of grass and at a price point that is viable. I have seen proposals where it makes sense but at an unrealistic price for the likes of the feedstock. We must be cautious about that.

**Deputy Christopher O’Sullivan:** I have a question for the witnesses from the Department of Transport but it also relates to climate action and environment. Regarding the urgency of changing our mode of transport, the Chairman was talking about Connecting Ireland and good public transport and mentioned the journey I took recently from Clonakilty to Kinsale for €8 return. There were students on that same bus who were getting the journey for €2, which is unbelievable value for money for an efficient service that is quite frequent. Unfortunately, that type of service is far too rare around Ireland. I know discussion and consultation about Connecting Ireland are ongoing but I firmly believe we need urgency here. We need to start rolling out these routes. Let it run concurrently with a discussion or public consultation process but we need to start rolling them out. We just discussed the carbon budgets. Even though the requirement in the first five-year period is not as large as the one in the second five-year period, we will still struggle to get there so I urge that we do that.

Similarly with car charging points, it was mentioned that a review is ongoing. It all seems

to be reviews. We need to get local authorities rolling out these car charging points, particularly in rural area, be it destinations or just giving people an option. Again, this should be in parallel with this public consultation process because everything seems to be happening at a snail's pace. If there was a comment on that, that would be great.

*Deputy Christopher O'Sullivan took the Chair.*

**Mr. John Martin:** I can take that question. I agree that we do need to roll this stuff out as quickly as possible. I think the committee is aware of where Connecting Ireland is. The NTA has finalised service specifications for the first tranche of projects, which are scheduled for implementation in 2022 so this is moving but, obviously, the consultation has been ongoing and the final business case is under review. We were in a position to accelerate the roll-out of services to support Ukrainian refugees in dispersed communities and they were community-led Local Link-type services. We can use this to build on what we have and look to fill in gaps quickly so it is there. There is an urgency and we certainly accept and appreciate the urgency of rolling out these services. What we have been talking about this morning covers a number of different prongs such as electric vehicles, additional public transport services, communication and active travel. We are progressing all these in parallel. A question was asked earlier about what the priority was and the answer is none of them. We are working on them all in parallel and they must all be rolled out with a degree of urgency. We are not sacrificing one for the other. We are doing our best to get this stuff rolled out as quickly as possible and I think good progress is being made. I will hand over to Ms O'Grady in the context of the EV charging infrastructure. I feel good progress is being made in the sector.

**Dr. Aoife O'Grady:** On the EV charge points, what we published this year was a draft infrastructure strategy. Consultation has closed on that. We will finalise it and we hope to publish a final strategy by year end. In the meantime, we are working in the background on those schemes I outlined earlier. We are hoping to get to a point where we can launch the schemes in the autumn of this year so we are not waiting for the final strategy to be approved and published before we do that. We are just working in the background on administration, terms and conditions, contractual arrangements and all of that good stuff that has to be done properly. Once that is in place, we hope to launch these schemes for application in the second half of this year.

**Vice Chairman:** That is very welcome news. That is the type of urgency we need. I am stepping in for the remainder of the meeting as the Chairman has had to pop out for a meeting of the Joint Committee on Agriculture, Food and the Marine. The only member we have left for a question is Deputy O'Rourke.

**Deputy Darren O'Rourke:** My question follows on a similar theme. I would appreciate a comment from the Department of Agriculture, Food and the Marine officials on policy around biofuels. It seems to me there is contradiction, permanent anxiety and a general sense of not being entirely sure of where the State is going. What is the officials' sense of where policy is in that space and where the opportunity is? What might need to happen?

On transport, along the same theme, one of the big areas we will have to decarbonise is haulage and heavy goods vehicles. What is the officials' sense of policy in that space and what the transition might look like? What will be the role of alternative fuels, biofuels and hydrogen and what are the prospective timelines? What is the potential role of agriculture in supporting that transition?

**Ms Andrea Lennon:** I will respond on the questions for the Department of Transport. On

alternative fuels, there was a good conversation there about anaerobic digestion. In terms of compressed natural gas, CNG, and biomethane, Gas Networks Ireland has been involved in the roll-out of refuellers and anaerobic digestion for transport. It is still a fairly niche area for road haulage. We have the alternative fuel vehicle grant and there has been some good take-up on that. However, on moving to hydrogen, which is the next step, there are quite a few considerations. Again it is around infrastructure. There is an EU regulation coming into play on alternative fuel infrastructure which will require us to have hydrogen refuellers. That is something that needs to be looked at. The actual production of hydrogen on the island is very important both for the road haulage sector and for other transport sectors such as aviation and maritime in the future. Quite a bit of work has to be done in the hydrogen space. On CNG and biomethane, the refuellers are being deployed and there is a grant for vehicles, but they are more expensive and it is harder to get those vehicles. In a sense we are waiting in the HGV sector for the vehicle technology to come on stream. We can also include electricity in that mix for certain distances for road haulage. We are looking at all those areas.

There is no confusion on the biofuel policy. Generally for fuels, in the Department of Transport we have a very firm plan in our renewable fuel for transport policy. We have a target in respect of B20 and E10 biofuels, in petrol and diesel, and we will be working in a stepped way towards those targets by increasing the biofuel obligation blending rate every year by about 3% or 4%. That is how we are going to get there. I hope that covers the question. The other part of it is maybe for the Department of Agriculture, Food and the Marine officials.

**Deputy Darren O'Rourke:** It is. I thank Ms Lennon. On that transition, one of the criticisms we hear from the sector, which is not well developed in Ireland, is that the transition should happen more quickly. I raised the matter of B20 and E10 with the Minister a couple of weeks ago. Is there any sense of a developing industry here or co-ordination of the development of an industry? We met people who are Irish but operating internationally because we do not have a developed industry here. They want to work here.

**Ms Andrea Lennon:** On the first question around the target and whether we can go higher and quicker, that is something we are looking at. There are risks involved around both the sustainability of the biofuels we would be ratcheting up and the affordability. We know biofuels are more expensive than their fossil fuel counterparts. We have to keep a watch on that and watch fuel prices generally. The cost-of-living crisis comes to mind. On the sustainability question, we are heavily dependent on used cooking oil imported as a base for our biofuels, particularly biodiesel. There is a risk that the cheaper palm oil is a substitute for that, which gives rise to high-risk land use change in other parts of the world. We are doing a study this year and hope to have an output on that fairly soon. That will inform our thinking as to how far we can go with this after 2025 to 2030, whether we can go further or need to moderate.

On developing these other industries for advanced biofuels and renewable fuels of non-biological origin, green hydrogen would fall into that category. There is a lot of activity and interest from the private sector and commercial entities in investing in this. There is obviously a big price differential at the moment between green hydrogen, because we do not have it produced at scale, and other forms. Eventually we will get to a point where it could in fact be cheaper as a fuel but we are certainly not there yet. We are working with a lot of industry-led groups. The Shannon Estuary task force is another group that is very interested in looking at biofuels and renewable fuels, green hydrogen in particular, for the development of sustainable aviation fuel, SAF. We are aware of that. We are trying to build towards that within the framework of the overall hydrogen strategy that is being developed by the Department of the Environment,



Climate and Communications. There will be a consultation on it imminently and it is hoped we will get some interest generated around that. We are also doing a study in conjunction with Northern Ireland under the shared island fund around the regulation of hydrogen. That is looking at how we would regulate that industry for safety or economic purposes. All those things will provide certainty to industry and investors in building up the supply of hydrogen.

**Mr. John Martin:** Deputy O'Rourke may be aware of this already but a public consultation was undertaken last year on a ten-year haulage strategy. We will be publishing the summary report of that consultation within the coming weeks with a view to publishing the draft strategy in September and finalising the strategy by the end of the year. Among other issues, that will capture the whole question of decarbonisation of that specific sector. As Ms Lennon says, there are lots of developments in that space, not least the alternative fuels infrastructure regulations which passed through general approach at the European Council a couple of weeks ago. In addition to that, it does appear that electric haulage is now starting to gather pace, no pun intended. It is a technology that appears to be coming on stream quicker than had been envisaged. I certainly think there are a number of areas coming on stream here. The haulage strategy will look to capture as much of that as possible.

**Deputy Darren O'Rourke:** I thank Mr. Martin. My first question was for the Department of Agriculture, Food and the Marine really, just in terms of the policy vacuum, the opportunity that exists and what might be needed to realise it. I am hearing that commercial viability is a challenge at the minute.

**Mr. Bill Callanan:** I am not competent to get into the biofuel aspect as it is not my area of expertise. Those in the transport sector have identified sources of bioethanol and where it comes from, including oils etc. One element of that is grain-based. Biofuel production from grain is a significant industry internationally, particularly in America and eastern Europe. Nationally, we are significant importers of grain. We do not have a surplus. We produce about 2.2 million tonnes of grain each year and we use between 5 and 6 million tonnes. We are not surplus producers of grain. I do not foresee the siphoning off of grain towards bioethanol production happening when we have that level of deficit.

**Vice Chairman:** I thank all the witnesses for attending and the members for their questions. It was a very interesting engagement. Some very difficult, tough and important decisions will have to be made over the coming weeks with regard to sectoral emission ceilings. This was very informative and I thank the witnesses for answering our questions.

The joint committee adjourned at 2.12 p.m. until 10 a.m. on Tuesday, 5 July 2022.