



Minister for Agriculture, Food and the Marine, Charlie McConalogue; Professor Frank O'Mara, Director of Teagasc; Dr Siobhan Jordan, Teagasc; Sean Coughlan, CEO, ICBF and Deirdre Ryan, Director of Origin Green, Bord Bia at the launch of the Teagasc Climate Action Strategy 2022-2030 – "Supporting Farmers for Climate Action" in December.

Climate action measures a win-win for Irish farmers

Teagasc Director of Research Professor Frank O'Mara answers questions about meeting climate targets for agriculture and the future of Irish farming

Q: The new Climate Action Policy was published just before Christmas. What are the key points from this in relation to agriculture?

A: We have been talking about climate change for many years and Governments have had policies to reduce emission of greenhouse gases for some time. So what's different now? The current situation with policy is

that we have a target to reduce emission by 51% by 2030, which is legally binding for the first time.

In July 2022, the Government decided on the reduction each sector would have to make towards that target, and the agriculture sector has a target to reduce emissions by 25% by 2030. The Climate Action Plan 2023, published just before Christmas, set out the key

measures for each sector so that it will achieve its target.

For agriculture, these include technical measures like reducing chemical nitrogen fertiliser, switching to protected urea, feed additives to reduce methane, efficiency measures like earlier age at slaughter for beef cattle and diversification options like organics, forestry and production of

feedstock for anaerobic digestion.

With the publication of the Climate Action Plan 2023, there is an urgency to see emissions reducing, as we are now starting the third year of the first carbon budget period, which covers the 2021-2025 period.

These targets are set out in legislation, but this is not just about compliance. It is the challenge of our time to reduce greenhouse gas emissions rapidly so we leave the planet in as good a state for the next generation as possible. Also, the consumers of Irish food want low emissions food.

The challenge is to achieve these reductions without negatively impacting food production and the economic sustainability of farmers.

What will Teagasc be doing to promote the diversification options highlighted?

We will support farmers who are considering diversification options such as organics, forestry, horticulture, or who are considering partly or fully switching from one mainstream enterprise to another.

In the Climate Action Plan 2023, there is a target to significantly increase the area under tillage crops, and our advisers are well positioned to support farmers seeking to in-

crease their tillage area.

We have also significantly increased our advisory team working on organics in the last year, and we have seen a large number of farmers apply to join the new Organics Scheme. We have a team of forestry advisers available to advise farmers about the options in the new Forestry Programme. Our horticulture team can advise farmers and growers about the options in this diverse sector.

We expect new options to emerge, like the production of feedstock for anaerobic digestion, and we have a research programme in this area, including a pilot scale anaerobic digestion plant, so that we can provide advice on this option.

You have previously outlined a roadmap for climate action, outlining a pathway for Irish agriculture to meet its climate targets. Can you summarise this?

I see the roadmap in three phases. First, there are things that farmers can do right now that will reduce emissions, which are outlined in the Teagasc MACC. These include reducing chemical nitrogen use (which can be enabled by using clover and better soil fertility and liming), switching fertiliser type to protected urea,

improving efficiency on farms so that cattle reach their target slaughter weight at a younger age.

Phase two is about completing the development of technologies that are currently well in the development process. These include other fertiliser products and soil fertility related measures, dietary amendments such as feed additives to reduce methane and technologies to reduce methane emissions from stored slurry.

Phase three is about bringing additional technologies to fruition that are currently in the early stages of development, which includes things like feed additives that can be used at pasture and breeding low emitting animals. There will also be opportunities for diversification and system change that farmers can avail of, such as forestry and organics.

How does Teagasc Dairy Roadmap to 2027 which shows an increase in milk output fit with the new Climate Action Plan?

Dairy cows numbers have risen in the last few years and are now close to the



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numbers we forecast in the Roadmap. Changes in other animal categories has meant that the overall number of cattle has not changed much in recent years, although it must be noted that emissions from a dairy cow are higher than other animal types. Individual farmers can't control the overall number of cows in the country, but they do control their own farm, and the important things for individual farmers to do are the actions they can implement in their own farm business to reduce emissions.

That means improving their cows' EBI, getting soil fertility right so they reduce nitrogen use, using protected urea, improving animal health and pasture management.

Some dairy farmers, albeit a relatively small number, are considering organics, and they might also consider planting small areas of forestry, as the new forestry programme is proposing a much more streamlined process without the need for a licence for areas up to 1ha.

All of these actions can significantly improve the carbon footprint milk farmers produce, as well as reducing the absolute quantity of emissions, which must reduce to meet the 25% target.

What will allow us to complete the journey to 2030? What research is Teagasc conducting to bring forward

additional mitigation technologies? When can we expect results to be available and additional mitigation technologies to be ready for use?

Teagasc has a lot of research ongoing at the moment. This includes research to more accurately quantify methane emissions of dairy cows and beef cattle, which we expect to start seeing included in the national inventory in the next year or two.

An important technology is feed additives that can reduce methane, and we expect the first generation of products to be available in the next few years, but the financial cost of these for farmers is an issue that has to be addressed.

Stored slurry produces a lot of methane and there are promising technologies to reduce this source. We also have a lot of research on carbon sequestration into mineral soils (and hedgerows) and emissions of carbon, which occur from drained peat soils used in agriculture.

We are looking at how the rates of sequestration could be increased and researching whether the emissions from the drained peat soils could be reduced by raising the water table in a way that would still allow for farming on these soils.

This is longer-term research and it will take a number of years for reliable results to be available.

There are other research lines as well, and it is important that we stay focused on efficiency, for instance, seeing how can we achieve earlier slaughter of beef cattle through improved genetics and management. We

want to accelerate all this research given the timeframe to reduce emissions by 25% by 2030.

How can Teagasc support individual farmers who are confused or anxious over the type of changes required?

Farmers can talk to their adviser about what these changes mean for their farm. There is a lot that farmers can do now that their adviser will outline, and we have a new Signpost Advisory Programme, where we will work with individual farmers to benchmark their current situation and develop a plan to suit their farm.

It's much better to get a handle on a challenge than to ignore it, so we would encourage farmers to engage with their adviser on this topic. Generally, it is not something farmers should fear. Many of the actions that reduce emissions are positive for productivity and/or profitability. Farmers might also want to talk to their adviser about the diversification options that are available to see if any of them would be beneficial on their farm.

How confident are you that Irish agriculture can meet the climate challenge?

There is a roadmap for Irish agriculture to reach the 25% target. It does require a lot of change at farm level. This will be different for each farmer – for some, it will involve improving efficiency and adopting technologies, such as those currently available in the MACC – for others, it will involve a switch to organics or putting some land into forestry.

The good thing is that we do see farmers making these changes – there has been a steady increase in use of protected urea; nitrogen fertiliser use fell in 2022, mainly due to price but there is also a big increase in interest in clover; low emission slurry spreading is now widely used; the average age at slaughter of cattle is falling.

We are supporting farmers in adopting these technologies through the Signpost Programme, which also involves many other partners. That is all grounds for optimism. We do, of course, also need to see new technologies emerging from research, but again, there are several promising technologies in the research pipeline.

No doubt, climate change presents a massive challenge for agriculture, but farmers are very adaptive and resilient and I believe they can meet this challenge.

Farmers will need support from the Government and industry, as well as research and advice, and Teagasc will strive to ensure that the research and advisory support pillar is not found wanting.