



## **Address by IFA Deputy President Brian Rushe to the Joint Oireachtas Committee on Climate Action on Carbon Budgets Thursday, 13th January 2022**

Chairman and Committee Members, I would like to thank you for inviting IFA to address you today.

As you are aware, farming and the wider agri-food sector is the backbone of economic activity in rural Ireland. In 2019 Ireland's agri-food sector was valued at €14.5 billion. It is Ireland's largest indigenous sector, providing employment to over 300,000 people directly and indirectly.

Climate change is arguably the greatest challenges facing the world today with farmers very much on the frontline. Irish farmers understand that they have a unique role to play in meeting the climate change challenge and are committed to playing their part in reducing GHG emissions. However, this must be done in a fair and balanced way.

The Government commitment to reduce Ireland's Greenhouse Gas (GHG) emissions by 51% by 2030 has implications for all parts of the Irish economy. Achieving the reduction target set for agriculture, of 22% to 30% by 2030, which represents an emissions reduction of between 5 to 7 million tonnes CO<sub>2</sub> (Mt CO<sub>2</sub>), will be extremely challenging for the sector.

### **Farming's Environmental Credentials**

Irish farming is a world leader in grass-based food production and is a highly emissions-efficient, sustainable food production model. In dealing with the climate change challenge, it is imperative that Irish farmers' current sustainability credentials are fully acknowledged at the outset. These include the following:

- Irish dairy and beef output is extremely efficient from a carbon footprint perspective. Irish milk has the lowest carbon footprint in the EU while Irish beef has the fifth lowest. Despite what many would lead us to believe, the carbon-efficient expansion of milk production in Ireland has helped displace approx. 4 million tonnes of carbon which would have been emitted had the equivalent dairy product been produced outside of Ireland.<sup>1</sup>
- The majority of Irish farms are not intensively stocked, over 60% of Irish livestock farms in Ireland are stocked at less than the equivalent of 0.33 cows per acre.<sup>2</sup>
- Ireland's overall livestock numbers have remained relatively static over the last 30 years. Over the 20-year period from 1999-2019 the number of cattle in Ireland remained the same. During

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<sup>1</sup>Teagasc (2019) *Taking stock of sustainable growth*. Retrieved from: <https://www.teagasc.ie/media/website/publications/2019/Taking-stock-of-sustainable-growth.pdf>

<sup>2</sup>CSO (2018). *Farm Structure Survey 2016*. Retrieved from: <https://www.cso.ie/en/releasesandpublications/ep/p-fss/farmstructuresurvey2016/>.

the same period, Irish vehicle numbers rose by 75% (CSO) and the number of passengers through Dublin airport increased by 155% (Dublin Airport Authority).

- Irish farming is a predominantly grass-based system. As a result, the use of direct energy (e.g., electricity) on Irish farms, at 56% of EU average, is very low by European and international standards.<sup>3</sup>
- Irish farmers have a strong track record in participating in agri-environment schemes. Today, 33% of Ireland's land is farmed under agri-environment measures compared to a 13% average at EU-27 level. Over 50,000 farmers participated in the Green Low-Carbon Assurance Scheme (GLAS), the most recent agri-environment programme.
- Irish farmers, through the Origin Green programme, were the first internationally to complete annual sustainability audits. To date, over 212,000 carbon audits have been undertaken on Irish dairy and beef farms. These audits show dairy farmers and beef farmers have reduced their carbon footprint per unit of produce by 9% and 5% respectively since 2014.<sup>4</sup>
- While Ireland has a relatively low level of forest cover (approx. 11%), in its place it has the third largest total hedgerow area in the EU, with an estimated 450,000 hectares or 6.4% of the land area. Since 1994, 6,605 kilometres of new hedgerows and more than 3.7 million trees have been established on non-forest land. These hedgerows, which farmers continually upkeep, help both maintain biodiversity and sequester carbon.

## Agricultural Emissions

In 2020, agricultural emissions accounted for 37% of total Irish GHG emissions. This reflects the relative importance of agriculture to Ireland's economy, and the lack of heavy industry in comparison to other Member States.

Agricultural GHG emissions are predominantly methane (from enteric fermentation and manure management) and nitrous oxide (from fertiliser and animal excreta deposition on soils). Current scientific understanding indicates that reducing Irish agricultural GHG emissions through technical means is extremely challenging, particularly so for biogenic methane produced by pasture-based ruminants.

However, it is important to recognise that agricultural emissions, as a percentage of total emissions, have remained relatively static since 1990. While in the same period, emissions from transport have more than doubled from 9% to 19%.

Since 1990 Irish farms combined have increased their output by approximately 40%. In spite of the increase in production total agricultural emissions by the sector have remained static with 19.5 million tonnes CO<sub>2</sub>e from the sector in 1990 and 21.4 million tonnes CO<sub>2</sub>e in 2020.

The increased production was achieved by improving efficiency and reducing the emission intensity of Ireland's food production model. The emissions footprint per kg of Irish milk and meat are low by international standards, with one EU study showing Irish milk to have the joint lowest carbon footprint in the EU and the 5th lowest footprint for beef.

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<sup>3</sup> Department of Agriculture, Food and the Marine (2021). *Draft SWOT Analysis Preparations for Ireland's CAP Strategic Plan 2023-2027*.

<sup>4</sup> Bord Bia (2019). *Origin Green Progress Report Update*. Retrieved from: <https://www.origingreen.ie/globalassets/origin-green/og-publications/origin-green-progress-update-report-ir.pdf>.

Due to Ireland's existing emissions efficiencies in food production, the scale of the proposed reduction target of between 22% to 30% by 2030 for the sector, poses a significant challenge.

### **Agricultural targets in the Carbon Budget**

The proposed reduction target for agriculture is to reduce emissions by between 22% to 30% by 2030 from the 2018 baseline of 23 million tonne of CO<sub>2</sub> (Mt CO<sub>2</sub>) to between 16 – 18 Mt CO<sub>2</sub>.

This is an extremely challenging target for the sector. According to Teagasc there is no prospect in the current decade of scientific solutions alone being capable of delivering agricultural GHG emission reductions of the magnitude required to meet the higher target.

The Climate Action Plan 2021 has identified potential measures to deliver emission reductions including actions primarily based on the Teagasc Greenhouse Gas Marginal Abatement Cost Curve (MACC) which are set out in AgClimatise – A Roadmap Towards Climate Neutrality. These have the potential to reduce emissions by approximately 2 Mt CO<sub>2</sub>.

These actions focus on farmers adopting various mitigation measures to improve carbon footprint by changing farming management practices, particularly in relation to nutrient management such as reducing fertiliser use, increased use of protected urea and increased update of Low Emission Slurry Spreading (LESS).

A key barrier to the uptake of these mitigation measures will be around farmers concerns that changes to farming practices and/or investment in mitigation technologies will negatively impact production and income. With only 34% of farms deemed to be economically viable, many farmers will not be in a position to take the risk of changing management practices. To optimise adoption, it will be crucial that farmers are supported to transition towards more sustainable farming practices.

Other potential identified measures focus on improved animal feeding by reducing crude protein in feedstock and utilising newly developed feed additives during housing period, earlier finishing of cattle and increasing organic farming. These have the potential to mitigate emissions by 3 - 3.5 Mt CO<sub>2</sub>. However, these proposed measures, particularly around early slaughter, are less developed and how they will be implemented at farm level is unclear.

The difficulties in accurately measuring and accounting for the impact of changes in farm management practices and adoption of new innovative technologies in the National GHG Inventory must be considered when setting the carbon budgets for agriculture.

Major scientific research and technological innovation in agricultural mitigation is ongoing in Ireland and globally particularly around pasture-based additives and breeding, and is expected to yield positive results in the coming years. It is envisaged that these new technologies could potentially deliver reductions of between 1.5 - 3.5 Mt CO<sub>2</sub>. Therefore, a late-action trajectory to meet the emission reduction targets is required to provide time for these new practices and technologies to be adopted, measured and verified.

It is evident based on the proposed measures set out in the Climate Action Plan 2021 that the maximum potential emissions reduction, from currently available mitigation measures, is 5.5 Mt CO<sub>2</sub>. To achieve

this rate of reduction it would require full adoption of the various measures set out in the Climate Action Plan, which is highly challenging within the timeframe provided.

It is vital that the minimum reduction target of 22% is attributed to Agriculture, in recognition of the economic and social importance of the sector, the technical challenges to reduce emissions as well as the timeframe required for adoption.

### **Carbon sequestration and on-farm renewables potential**

A lower target for Agriculture will recognise the sectors' unique ability to remove carbon from the atmosphere by carbon sequestration through enhancing carbon sinks and reducing carbon losses as well as offset emissions in other sectors through on-farm renewables.

The Teagasc MACC estimates that the agricultural sector could sequester 26.8 Mt CO<sub>2</sub>e over the 2021-2030 period, through afforestation, management and enhancement of hedgerows, the management of peaty agricultural soils as well as optimal grassland and cropland management on mineral soils.

Irish grasslands are a significant carbon store, with mineral and peaty agricultural soils under grasslands containing between them over one billion tonnes carbon – 500 million tonnes stored in mineral grassland soils and between 500 -700 million tonnes in grassland on peat soils.

Teagasc, via funding from the Department of Agriculture, Food and the Marine has established the National Agricultural Soil Carbon Observatory (NASCO) which will address the challenges in terms of measurement and verification of soil carbon sequestration, particularly in grassland soils, in the coming years.

Progress on enhancing forest carbon sequestration has been thwarted by Government policy, which actively disincentivises afforestation and management of farm scale forestry, thus threatening to considerably reduce the forest carbon sink.

Ireland's adoption of renewable technologies at farm level is well below the European average. In 2018, Ireland ranked 23rd out the EU-27 countries for generation of renewable energy from Agriculture, producing just 2.6% compared with the EU-27 average of 12.1%.

Farmers want to be central players in Ireland's energy transition. They recognise the opportunities offered by renewable energy to produce energy for their own use but also to diversify their farm income by selling excess energy to the grid thereby enhancing the sustainability of their farm business.

The Teagasc MACC report has identified that almost two Mt CO<sub>2</sub> can be reduced by displacing fossil fuel use in the sector, in areas such as energy efficiency, bioenergy and biofuels. Bioenergy is a thriving industry across Europe. However despite our natural advantage in producing bioenergy due to our mild climate and fertile land, Ireland is ranked 27<sup>th</sup> out of 28 Member States in terms of its use of renewable heat (SEAI). Ireland currently derives 4% of its energy from bioenergy. This needs to rise to 15% by 2030 with further deployment beyond if 2050 targets are to be met.

Bioenergy, particularly biogas, can help the circular economy and reduce the environmental impact of the agricultural sector. The environmental and climate benefits of biogas are wide ranging, together with reduction in emissions and increased energy security, it allows for the exploitation of agriculture by-products. Furthermore, the by-product of anaerobic digestion (i.e. digestate) can be used as an organic

fertiliser. Finally, biogas is the only full dispatchable renewable energy that can assist in addressing our electricity, heat and transport renewable energy targets.

### **Growing demand for food production**

A lower reduction target will also ensure that Ireland can maintain and possibly increase food production, improving the emissions footprint and protecting the economic sustainability of the sector while meeting the food security and climate change challenge.

According to the United Nations the world's population is projected to grow from 7.7 billion in 2017 to 8.5 billion in 2030 (10% increase) and to 9.7 billion in 2050 (26% increase).<sup>5</sup> This growth will drive global food demand, which is expected to increase anywhere between 59% and 98% by 2050.<sup>6</sup> It is projected that 58% more milk and 73% more meat will be required by 2050 compared with 2010 consumption levels.<sup>7</sup>

In light of the increasing demand on food due to projected population growth, any contraction of food production in Ireland to meet the emissions ceiling may simply be replaced by production elsewhere, potentially to countries with a higher emissions footprint, resulting in carbon leakage and higher overall global emissions.

### **Achieving reduction targets**

Achieving emissions reductions will be extremely challenging for agriculture and is more complex than mitigation in other sectors. Agricultural mitigation involves the reduction of GHG emissions which are produced naturally as part of biological processes, thereby limiting the emission reduction options.

Agriculture is also less consolidated than other sectors and reducing emissions requires action by approximately 140,000 farm families operating at different levels of scale, fragmentation, age-structure and financial vulnerability.

The single biggest barrier to meeting the climate action targets is the financial vulnerability of many farms. Financial vulnerability has a large impact on the ability of farmers to adopt more sustainable practices as it limits their ability to test new practices and stifles innovation due to financial constraints. Pursuing a more sustainable production system requires farmers further embrace new practices, adopt new technologies with no guarantee of immediate success.

Studies have shown that farmers on average experience decreased yields during a transition process, as they gain the required experience to learn and perfect the implementation of more regenerative and sustainable practices. A decrease in production poses a difficult financial challenge to overcome – especially for Irish farmers where only 34% of farms are considered to be financially viable<sup>8</sup>.

The economic sustainability of farms must not be further undermined to meet the emission reduction targets.

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<sup>5</sup> United Nations, Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019: Highlights*. ST/ESA/SER.A/423. Retrieved from: [https://population.un.org/wpp/Publications/Files/WPP2019\\_Highlights.pdf](https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf)

<sup>6</sup> Valin et al. (2013). *The future of food demand: understanding differences in global economic models*. Retrieved from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/agec.12089>

<sup>7</sup> FAO (2011). *World Livestock 2011 – Livestock in Food Security*. Retrieved from: <http://www.fao.org/3/i2373e/i2373e.pdf>

<sup>8</sup> Teagasc (2020). *National Farm Survey 2019*. Retrieved from: <https://www.teagasc.ie/media/website/publications/2020/Teagasc-National-Farm-Survey-2019.pdf>

The KPMG report, Ireland's 2030 Carbon Emissions Targets - An Economic Impact Assessment for the Agriculture Sector, commissioned by the Farmers Journal shows that to reduce emissions by 21% adopting the measurable mitigation measures set out in the Teagasc MACC would reduce farm profits by 7% on dairy farms (€4,300) and 13% (€1,300) on suckler farms. If the reduction target is increased to 30% the reduction in farm profits is 24% on dairy farms (€17,500) and 31% (€2,800) on suckler farms.

The report shows that a 21% reduction in emissions would reduce economic output by €1.1 billion and employment by 10,000, while a 30% reduce would reduce economic output by €3.8 billion and employment by 56,400.

### **Closing remarks**

Farmers have a major role to play in reducing Ireland's emissions and contributing to addressing the climate change challenge. Farmers are committed to playing their part and have already made significant investments to improve efficiency and reduce emissions.

Farmers are engaging positively with new guidance on farming practices and environmental programmes such as the ASSAP, Smart Farming, Signpost Programme as well as European Innovation Partnership (EIP) projects and training programmes.

It is vital that the sector is set a reduction target that is achievable, that empowers and supports farmers to make the necessary changes to farm management practices and adopt new technologies to reduce emissions footprint. A reduction target of 22% for Agriculture is extremely challenging but based on potential mitigation measures outlined in the Climate Action Plan is achievable.

The lower target would also recognise the social and economic importance of the sector as well as the vulnerabilities and technical challenges faced by the sector.

Agriculture is a major part of the solution to climate change and with appropriate supports can continue to innovate and adapt in Ireland's transition to a climate neutral economy.

Ends.