An Taisce
The National Trust for Ireland

Department of Agriculture and Marine
Agriculture House
Kildare Street
Dublin 2

Sent by email to: SOSConsult@agriculture.gov.ie

6th November 2020

**Submission to Department of Agriculture and Marine's Statement of Strategy 2021-2024**

## 1. Addressing the planetary climate and biodiversity loss emergency

Climate change and biodiversity loss have now been defined as planetary emergencies. The United Nations' Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) released a report in May 2019 on global biodiversity, which found that 75% of terrestrial environments and 66% of marine environments have been "severely altered" by human activities[1]. For instance, in addition to their climate impact, anthropogenic greenhouse house gases are causing ocean acidification through the diminution of the oceans' ability to absorb carbon, a process with multiple adverse impacts on the global marine ecosystem.

The World Economic Forum's 2019 Global Risk Report[2] (published before the Covid-19 outbreak) for the first time identified environmental impacts as the first five of the top ten risks for the decade ahead in terms of their likelihood:

1. Extreme weather
2. Climate action failure
3. Natural disasters
4. Biodiversity loss
5. Human made environmental disasters

Climate action failure, biodiversity loss and extreme weather also occupy three of the top five places with regard to impact. Water crises, although classed as a social risk in the report, is also included in the top five impact risks. While the Covid-19 situation is necessarily taking priority in current global action, these other risks are accelerating.

[1] IPBES (2019) Global Assessment Report on Biodiversity and Ecosystem Services: https://ipbes.net/global-assessment
[2] Global Risk Report for the World Economic Forum, 2019: https://www.oliverwyman.com/our-expertise/insights/2020/jan/globalrisks2020.html?utm_source=exacttarget&utm_medium=email&utm_campaign=risk-report

Individual risks and impacts cannot be separated – there are interactive and cumulative impacts, such as those on health as well as food production and supply. Future Earth[3], an international sustainability network, published a report in February 2020 analysing survey data from 222 scientists from 52 countries. The study found that a "perfect storm" of climate breakdown, extreme weather, species loss and a food production crisis is imminent, whereby the combination of the above threats amplifies the risk posed by each individually. Moreover, Future Earth concluded that governments, business, civil society, etc. do not adequately recognise the inextricably linked nature of these threats.

### 1.1 Policy developments and the need for an integrated strategy

In May 2020, in furtherance to the European Green Deal, the European Union adopted two overlapping Strategies:

- Farm to Fork Strategy – for a fair, healthy and environmentally-friendly food system;
- EU Biodiversity Strategy for 2030 – Bringing nature back into our lives

The Biodiversity Strategy sets out a 14-point EU Nature Restoration Plan, the majority of the provisions being either directly or generally applicable to agriculture.

It is submitted that the Department's strategy for 2021-2024 should integrate these two EU strategies with the following overarching principles:

- The health and wellbeing of both people and planet;
- Nature and reversing the biodiversity loss emergency;
- The climate emergency, the need to mitigate greenhouse gases, the 2020 Programme for Government commitment 7% annual reduction of greenhouse gases;
- Diversification to meet the threats and opportunities of a more complex future;
- A Just Transition to support the change needed**.**

We would submit that the Department's 2030 AgriFood Strategy is currently being rushed to completion, without taking sufficient account of the recent EU Farm to Fork and Biodiversity strategies. These EU-wide strategies signpost a new pathway to lower agri-chemical dependence, ensure better diets, increase food security and look to a better future for farmers and rural Ireland. These Farm to Fork goals must guide any future Irish agri-food strategy. We have urged the Government to stop the current agri-strategy process and start anew. To date, a narrow focus on intensification is increasing risks for farmers and the environment.

Both in regard to AgriFood 2030 and the Department's overall strategy for 2021 to 2024, a new vision with far wider societal support and greater acceptance of expert input from scientists and environmental organisations is needed to change the direction of Irish agricultural strategy to align with Farm to Fork and ecological recovery.

[3] Future Earth (2020) Our Future On Earth: https://futureearth.org/publications/our-future-on-earth/

## 2. Agriculture

### 2.1 Health

Human health and wellbeing, a healthy planet and ecosystem, healthily produced food, and healthy rural societies and economies are all integrated in the Farm to Fork strategy, which is importantly subtitled "for a fair, healthy and environmentally-friendly food system*".*

The School of Natural Sciences in Trinity College Dublin published two significant papers[4] in April 2020 under lead author Professor Mike Williams with the headline conclusion that: 'The Irish diet is unsustainable, nutritionally, financially and ethically'. It also stated that:

> "*The Irish diet is rich in unsustainable foods and is causing nutritional and financial problems – as well as seriously limiting our potential to limit the effects of global warming and nitrogen pollution*";

and:

> "*The new research that pinpoints these worries also finds that we could make major improvements if adopting the EAT-Lancet 'planetary healthy' reference diet*[5]*."*

The two papers are available online and titled: "The Environmental Assessment of Diets" [6] and "A Combined Environmental and Nutri-Economic Assessment of Diets"[7].

#### 2.1.1 Ammonia air pollution

In June 2020 the EPA reported that Ireland had exceeded the EU National Emission Ceiling Directive (NECD) (2016/2284/EU) threshold in 2018 for ammonia for the third successive year with 2% annual increases[8]. We note that 99% of ammonia air pollution in Ireland is caused by agriculture.

Ammonia is a major by-product of animal-based agriculture that combines with other pollutants to form dangerous air pollutant particles with a diameter less than 2.5 micrometres (PM2.5), one of the most deadly forms of air pollution.[9] This small particulate matter is well known to be harmful to health, penetrating deep into the lungs, and is linked to higher death rates, respiratory problems, cardiovascular diseases, cognitive decline and

[4] https://www.tcd.ie/news_events/articles/new-studies-show-irish-diet-is-unsustainable-nutritionally-financially-and-ethically/
[5] EAT Lancet: https://eatforum.org/eat-lancet-commission/eat-lancet-commission-summary-report/
[6] https://zenodo.org/record/3732026
[7] https://zenodo.org/record/3747542
[8] http://www.epa.ie/pubs/reports/air/airemissions/irelandsairpollutantemissions2018/EPA-Air-Pollutant-Emissions-website.pdf
[9] Lelieveld, et. al. (2015) "The contribution of outdoor air pollution sources to premature mortality on a global scale," Nature, 525: https://www.nature.com/articles/nature15371

low birth weights. A recent study found that at least 3000 premature deaths could be prevented annually in the UK by cutting ammonia emissions in half.[10]

However, research is required on health exposure of workers in agricultural facilities with high ammonia air pollution levels, and potentially greater exposure to respiratory diseases and viruses in view of the increasing exceedances of EU ammonia air pollution thresholds. Long-term chronic exposure may harm the respiratory system, and can inflame and irritate the airways[11]. The particular health impact of ammonia air pollution on the respiratory vulnerability of workers in agricultural facilities with high ammonia levels, in addition to impact on general population is not being property researched.

Ireland is failing to limit escalating levels of dangerous ammonia air pollution due to continuing dairy intensification and excessive use of nitrogen from fertiliser and feeds. Due to government inaction on this issue, An Taisce has lodged a legal infringement complaint in July 2020 to the European Commission on the continued and increasing breach of the NECD on ammonia air pollution.

Ireland has been in breach of the our legal ammonia limits since 2016, and in a report released in June 2020[12], the European Commission has assessed Ireland[13] as being at high risk of non-compliance with agreed air pollution reduction commitments before and after 2030[14]. Ireland's policies and measures to address ammonia pollution are deemed inadequate to meet the required limits. An Taisce has warned that immediate and effective action is needed to reduce ammonia emissions as other nations are now doing with due urgency[15].

Contrary to former agriculture minister Barry Cowen's assertion on 29 June 2020 on RTÉ[16], Ireland's agriculture's environmental credentials are in fact highly questionable[17], and this EU report confirms they are worsening. Ammonia emissions have increased by 14% in Ireland since 2011 and have exceeded our agreed national limit under the National Emissions Ceiling Directive since 2016, with no prospect in sight of meeting the lower limits from 2020 onward. Emissions of the potent greenhouse gases methane and nitrous oxide

[10] https://www.thebureauinvestigates.com/stories/2019-06-13/deadly-gas-ammonia-cutting-farm-emissions-could-save-3000-lives-a-year
[11] https://www.ccohs.ca/oshanswers/chemicals/chem_profiles/ammonia.html
[12] European Commission (2020) Reduction of national emissions of atmospheric pollutants – Review of the EU Air policy – Environment: https://ec.europa.eu/environment/air/reduction/index.htm
[13] Commission (2020) REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the progress made on the implementation of Directive (EU) 2016/2284 on European the reduction of national emissions of certain atmospheric pollutants: https://ec.europa.eu/environment/air/pdf/reduction_napcp/1_EN_ACT_part1_v7.pdf
[14] European Commission (2020) ANNEXES to the Report from the Commission to the European Parliament and the Council on the progress made on the implementation of Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants https://ec.europa.eu/environment/air/pdf/reduction_napcp/1_EN_annexe_autre_acte_part1_v5.pdf
[15] https://www.antaisce.org/ag-department-not-doing-enough-on-ammonia
[16] https://www.rte.ie/radio1/morning-ireland/programmes/2020/0629/1150293-morning-ireland-monday-29-june-2020/
[17] https://www.stopclimatechaos.ie/download/pdf/not_so_green.pdf

have also risen since 2011, by 15% and 18% respectively. Agricultural nitrate levels in rivers and estuaries are rising, leading to considerable water quality impacts.

The Dutch Parliament voted earlier in the year for action to reduce agricultural ammonia levels in the Netherlands. In Ireland at the same time, An Bord Pleanála granted permission to a Dutch Cheese company, Royal A Ware, to locate a new manufacturing plant in conjunction with Glanbia at Slieverue Co. Kilkenny. The Board's decision did not adequately address ammonia or other impacts of the proposed plant's milk supply source.

Agriculture is responsible for over 99% of ammonia emissions, primarily due to cattle urine and slurry. Currently there are over 1.5 million dairy cows in Ireland, an increase of 450,000 since 2011, and over 5.8 million other cattle[18]. Rather than the claimed efficiency gains, the key driver for production and the coupled pollution increases[19] is a 38% rise in nitrogen fertiliser. Wholly contrary to Ireland's climate, biodiversity and air and water pollution commitments, further increases in dairy cow numbers are planned[20]. Agri-industry organisations and Teagasc, the agriculture advisory body, have failed to make it clear to the public, the media and farmers, that any rise in dairy numbers pursued by policy must logically be balanced by reductions in beef cattle numbers to stay within overall ammonia emissions limits.

As a result of lobbying led by the agri-food industry, the EU milk quota was ended and official Irish agri-food strategies since 2010 have been dominated by industry lobbyists at the expense of public health[21]. Large food processors and landowners have profited most from this agricultural expansion, which has increased the pressure on small farmers and on ecosystems.

Teagasc has proposed multiple "measures" which they suggest will result in the required ammonia emissions reduction. However these lack credibility in science, implementation and outcomes, as An Taisce has repeatedly pointed out to Teagasc and the Department of Agriculture on climate[22,23] and on ammonia[24,25] without any substantive reply to date.

In 2008, Teagasc clearly understood that the pathway to decreasing emissions to meet ammonia ceiling limits is the "*result of declining ruminant livestock populations and declining fertiliser N use*"[26]. It is disappointing that Teagasc no longer appears to understand

[18] Duffy P, Black K, Fahey D, Hyde B, Kehoe A, Murphy J, et al. IRELAND NATIONAL INVENTORY REPORT 2020. 2020;487.
[19] https://www.antaisce.org/articles/an-taisce-has-called-on-minister-creed-to-retract-misleading-d%C3%A1il-statements-on-rising
[20] https://www.farmersjournal.ie/teagasc-macc-curve-puts-ceiling-on-stock-numbers-544134
[21] Kenny T, Cronin M, Sage C. A retrospective public health analysis of the Republic of Ireland's Food Harvest 2020 strategy: absence, avoidance and business as usual. Critical Public Health. 2018 Jan;28(1):94–105. https://www.tandfonline.com/doi/full/10.1080/09581596.2017.1293234
[22] https://www.antaisce.org/AT-Teagasc-correspondence-2017
[23] https://www.antaisce.org/TeagascClimateCredibility
[24] https://www.antaisce.org/sites/antaisce.org/files/at-ammonia-2019-submission.pdf
[25] https://www.antaisce.org/ammonia-air-pollution-health-hazard
[26] Humphreys J. Nutrient issues on Irish farms and solutions to lower losses. International Journal of Dairy Technology. 2008; 61(1):36–42. http://onlinelibrary.wiley.com/doi/abs/10.1111/j.1471-0307.2008.00372.x

something it grasped 12 years ago. The weak ammonia reduction measures proposed by Teagasc and its failure to acknowledge the need for herd number caps to meet pollution limits is a serious failure in its responsibility to deliver evidence-based guidance. The Department's code of practice is unenforceable, it will only deliver benefits if hard limits on agricultural chemical input usage are enforced. Meanwhile, damaging emissions from intensive agriculture continue to rise.

As this new EU report pointing to Ireland's failure on ammonia emissions shows, changing direction in Irish agriculture cannot happen soon enough.

### 2.1.2 Meat Factory Employment Conditions

The high level of COVID-19 infection in meat factories requires research. A report from the European Federation of Food, Agriculture and Tourism Trade Unions (EFFAT) stated that Ireland has the second highest incidence of COVID-19 infections in meat factories (reported in Sunday Business Post July 5 2020 below).



# Irish meat industry second in E

BY DANIEL MURRAY

Ireland's meat sector recorded the second highest number of Covid-19 infections in Europe, with difficult working and living conditions, fewer inspections and a slow response to outbreaks contributing to the high number of cases, a new trade union report has claimed.

The report from the European Federation of Food Agriculture and Tourism Trade Unions (EFFAT) catalogues the reasons for and responses to large outbreaks of Covid-19 in meat factories across Europe.

It said Ireland recorded 1,056 Covid-19 cases across 19 meat plants and this figure was the second highest in Europe, coming just behind Germany's meat industry.

In Ireland there are approximately 15,000 meat workers working in 49 meat plants. Twenty clusters of Covid-19 were identified in 19 plants, with some factories recording 25 per cent of its employees as being infected, according to the report.

"Because of Covid-19 the frequency of inspection is lower," EFFAT said in its report in comments referring to the industry across Europe and not specific to Ireland.

"Moreover, many of these plants were built in the 1960s, people work very close to each other, there is a bad ventilation system and the noise pollution also creates a problem as people have to shout to each other to communicate."

The report highlighted a lack of staff working in the sector because wages are low and conditions are difficult. As a result, it depends largely on migrant workers, particularly from Brazil and South Africa.

"As wages are too low, workers save costs in all possible manners. Carpooling is common. Moreover some workers have their accommodation linked to their employment contract. They get their salary and then they have to pay for their housing. Housing is normally extremely basic and rooms are shared," EFFAT said.

# urope for Covid-19 infections

In May, Siptu, the trade union, called for a task force to be set up to address the issue of Covid-19 outbreaks in Irish meat plants amid concerns that best practice guidelines had not been followed. The union, which represents thousands of workers in dozens of meat plants, said workers were sometimes afraid to raise work-related issues due to their status as migrant workers.

"The slow response of government and some statutory authorities to the concerns of unions in the sector contributed to the high number of cases. Temperature testing at the entrance of production facilities is now happening in many companies but still not everywhere," EFFAT said.

The report said the lack of any active system of dialogue between stakeholders in the meat processing sector was an "obvious weakness".

Responding to the report, a spokesman from the group Meat Industry Ireland said the industry had taken effective action.

"Since mid-March, the meat processing industry has implemented an extensive range of measures to address the threat posed by Covid-19. The position on Covid-19 cases in the meat processing sector has significantly improved, similar to the overall national position," the spokesman said.

"As of today, there are no active cases in our meat plants. Our absolute focus is to maintain this position. Very substantial Covid-19 measures have been put in place and we can confirm that, of the staff affected, over 97 per cent have now returned to work and the remainder are completing their isolation."

He added: "The stringent control and mitigation measures in place, which are also being verified by the HSE, HSA and the Department of Agriculture, will be maintained in the weeks and months ahead, with no room for complacency. Vigilance is the priority as general restrictions are lifted across the economy."

### 2.1.3 Dietary Health

Farm to Fork has advancing dietary health as an overarching consideration, including references to excessive red meat consumption:

> *"Overall, European diets are not in line with national dietary recommendations, and the 'food environment' does not ensure that the healthy option is always the easiest one. If European diets were in line with dietary recommendations, the environmental footprint of food systems would be significantly reduced"*

and the promotion of sustainable food consumption and facilitating the shift to healthy, sustainable diets:

> *"Current food consumption patterns are unsustainable from both health and environmental points of view. While in the EU, average intakes of energy, red meat, sugars, salt and fats continue to exceed recommendations, consumption of whole-grain cereals, fruit and vegetables, legumes and nuts is insufficient".*

### 2.1.4 Animal Health

Within the last year and a half there have been two Guardian reports on the treatment of Irish exported calves in France.

The first was in May 2019: https://www.theguardian.com/environment/2019/may/07/secret-footage-live-exports-calves-brutality

The second in April 2020: https://www.theguardian.com/environment/2020/apr/02/secret-footage-shows-calves-from-ireland-beaten-and-kicked-in-france

This needs to be addressed, and is becoming an increasingly important issue with the public.

## 2.2 Nature and the biodiversity emergency

The EU 'Biodiversity Strategy for 2030 - Bringing nature back into our lives' sets out a 14-point EU Nature Restoration Plan, with most of the objectives relating to agriculture:

1. Legally-binding EU nature restoration targets to be proposed in 2021, subject to an environmental impact assessment. By 2030, significant areas of degraded and carbon-rich ecosystems are restored; habitats and species show no deterioration in conservation trends and status; and at least 30% reach favourable conservation status or at least show a positive trend.
2. The decline in pollinators is reversed.

3. The risk and use of chemical pesticides is reduced by 50% and the use of more hazardous pesticides is reduced by 50%.
4. At least 10% of agricultural area is under high-diversity landscape features.
5. At least 25% of agricultural land is under organic farming management, and the uptake of agro-ecological practices is significantly increased.
6. Three billion new trees are planted in the EU, in full respect of ecological principles.
7. Significant progress has been made in the remediation of contaminated soil sites.
8. At least 25,000 km of free-flowing rivers are restored.
9. There is a 50% reduction in the number of Red List species threatened by invasive alien species.
10. The losses of nutrients from fertilisers are reduced by 50%, resulting in the reduction of the use of fertilisers by at least 20%.
11. Cities with at least 20,000 inhabitants have an ambitious Urban Greening Plan.
12. No chemical pesticides are used in sensitive areas such as EU urban green areas.
13. The negative impacts on sensitive species and habitats, including on the seabed through fishing and extraction activities, are substantially reduced to achieve good environmental status.
14. The by-catch of species is eliminated or reduced to a level that allows species recovery and conservation.

This is going to require a significant change in Irish agriculture and food production systems; proper resourcing of the National Parks and Wildlife Service; and extensive training of farm advisers, inspectors and those in all areas of activity. Measurable annual progress will need to be developed, and the failure of successive REPS and GLAS schemes must be recognised and addressed. There is also a particular issue in Ireland on the continued mechanised extraction of peat and in designated blanket bogs for domestic fuel.

In May 2020, the EU Court of Auditors published a report on the EU-wide failure of successive agri-environmental schemes under CAP to reverse biodiversity loss[27]

The report was effectively summarised in Agriland[28]:

> *"The Common Agricultural Policy (CAP) was not effective in reversing the decades-long decline in biodiversity – and intensive farming remains a main cause of biodiversity loss, according to a new report by the European Court of Auditors (ECA).*
>
> *The auditors found gaps in the EU 2020 biodiversity strategy and its coordination with the CAP. In addition, the auditors say the commission's tracking of CAP spending on biodiversity is "unreliable" and that most CAP funding has "little positive impact" on it. Some CAP schemes have greater potential to improve biodiversity, but the commission and member states favoured low-impact options, it was added.*

[27] https://www.eca.europa.eu/en/Pages/NewsItem.aspx?nid=13852
[28] https://www.agriland.ie/farming-news/cap-not-effective-in-reversing-biodiversity-decline-court-of-auditors/

*In Europe, the number and variety of species on farmland have declined over many years. Since 1990, populations of farmland birds and grassland butterflies – a good indicator of changes – have decreased by more than 30%. Intensive farming has led to a downturn in the abundance and diversity of natural vegetation and consequently animals, and remains a main cause of biodiversity loss, the court found.*

*In 2011, the commission agreed a strategy to halt biodiversity loss by 2020. It committed to increasing the contribution of agriculture and forestry to maintaining biodiversity and aimed to bring about a "measurable improvement" in the conservation status of species and habitats affected by agriculture.*

*The auditors assessed whether the CAP had helped better conserve farmland biodiversity and how the EU was achieving its targets, visiting Cyprus, Germany, Ireland, Poland and Romania. "The CAP has so far been insufficient to counteract declining biodiversity on farmland, a major threat for both farming and the environment", said Viorel Ștefan, the ECA member responsible for the report.*

*The auditors found the EU's biodiversity strategy to 2020 had not set measurable targets for agriculture, making it difficult to assess progress and the performance of EU-funded actions. In addition, there was poor coordination between EU policies and strategies dealing with biodiversity, which resulted, for example, in failure to address the decline in genetic diversity – a subset of biodiversity.*

*CAP direct farm payments account for around 70% of all EU agricultural spending, but the way the commission tracks CAP spending benefiting biodiversity is unreliable, as it overstates the contribution of some measures to biodiversity, the court said.*

*Moreover, their effect on farmland biodiversity is limited, or unknown. Although some direct payment requirements, notably "greening" and "cross-compliance", have the potential to improve biodiversity, the commission and member states favoured low-impact options such as catch or nitrogen-fixing crops. The auditors also found the cross-compliance sanction scheme had no clear impact on farmland biodiversity and the potential of greening was underdeveloped.*

*Rural development programmes have greater biodiversity potential than direct payments, specifically those that support environmentally-friendly farming practices that go beyond the relevant legal obligations. However, member states seldom use high-impact measures such as result-based schemes, as opposed to the less demanding and less beneficial ("light green") ones more popular among farmers, it was added.*

*The auditors recommend the commission to better coordinate the 2030 biodiversity strategy, enhance the contribution of direct payments and rural development to farmland biodiversity, track budget spending more accurately and develop reliable indicators to assess CAP impact."*

This damning indictment on the misspending of resources applies entirely to Ireland, and which the European taxpayer will not expect to see continue. The Department's strategy and the new CAP will have to place the 14 objectives of the 2030 Biodiversity Strategy at their cores and deliver measurable annual results. The concept of having a few environmental hill farming schemes as a token measure while current nitrate and animal feed import-dependent dairy intensification model continues and expands is not tenable.

A significant change in direction is required if this is to be achieved, as the current Irish FoodWise 2025-promoted dairy expansion and nitrate fertiliser levels are individually and cumulatively are causing significant environmental impacts, with increasing ammonia and GHG emissions, collapsing biodiversity and rapidly declining water quality, all well documented in EPA and NPWS reports.

### 2.3 Climate

The argument is made by the Irish beef and dairy sector that Ireland should continue to expand because of claimed "efficacy" or "green" credentials and that "someone else would produce if we did not".

The Farm to Fork strategy makes it clear that climate and sustainability must be global:

> *"It is also clear that we cannot make a change unless we take the rest of the world with us. The EU is the biggest importer and exporter of agri-food products and the largest seafood market in the world. The production of commodities can have negative environmental and social impacts in the countries where they are produced. Therefore, efforts to tighten sustainability requirements in the EU food system should be accompanied by policies that help raise standards globally, in order to avoid the externalisation and export of unsustainable practices."* (page 4)

Arguments are being put forward by the industry rather than independent science based sources that ruminant methane should be given a "different" accounting "offsetting" to justify continuing impact. Ireland, in adopting the UNFCC Paris Agreement in 2015, is required to follow the IPCC accounting system for all categories of emissions including ruminant methane. Lobbyists for animal nitration supplement companies are advancing unsubstantiated claims about the potential use of seaweed-based and other feed supplements to reduce ruminant methane.

Major claims are being made that current bovine production levels can continue and even increase with "carbon offsetting" through biomethane production and carbon offsetting through sequestration in grasslands, forestry and hedgerows. This offsetting does not address the continuing loss of carbon from agricultural and other activities in high organic soils as well as through horticultural peat compost extraction.

### 2.3.1 Biomethane

In 2019 the Gas Networks Ireland's GRAZE (Green Renewable Agricultural and Zero Emissions) gas project was launched with €8.5 million in grant funding support from the Department of Communications, Climate Action and Environment's Climate Action Fund. This was for a facility at Mitchelstown with the capacity to support up to 20 farm-based, agri-anaerobic digestion biomethane plants within a 50km radius.

This is part of the international rebranding of agriculturally-sourced biomethane as "green gas" or "renewable gas" for injection into the fossil pipeline network. Gas Networks Ireland has proposed a target of 20% of agricultural biomethane to dilute into the fossil gas grid by 2030.

In order for biomethane to be deemed renewable and to contribute to overall emissions reduction, the feedstock sources and the supply chain of these feedstocks must be assessed to be sustainable.

For example, while the burning of biogas generated from biomass, slurry, etc. might be deemed "carbon neutral", the emissions that contribute to the growth, harvesting and transport of the feedstock must also be accounted for. The fertiliser used to accelerate the growth of energy crops and feed cattle, which eventually produce slurry, not only produce emissions but also contribute to water quality deterioration. In the worst cases, the emissions mitigation potential of biogas may be negligible.

We would also highlight that anaerobic digesters suffer from significant fugitive emissions problems via methane leaks. The effect of the leakage of this potent greenhouse gas may greatly reduce or cancel out the claimed climate benefits of using biogas in place of fossil fuels. Digesters also do not remove ammonia from the digestate.

### 2.3.2 Carbon Sequestration in Grasslands

The Irish industrial bovine agricultural sector is advancing carbon sequestration in grasslands as a means of offsetting methane and nitrous oxide emissions. It is surprising that at the same time the carbon leakage from peat soils and bogs is not addressed by the sector, particularly land drainage, hill burning and peat extraction for horticulture. Irish bovine agricultural intensification has been based on the planting of nitrate-fertilised, shallow rooted perennial rye grass monoculture.

In September 2019 the Irish Creamery Milk Suppliers Association conference "Climate Change and Dairy Farming in Ireland" hosted Dr. Dario Fornara, Principal Scientific Officer for the Agri-Food and Biosciences Institute (AFBI). He outlined in a presentation on soil carbon sequestration under grassland intensification[29] that: "*Carbon sequestration is the*

[29] https://www.agriland.ie/farming-news/could-an-extra-terrestrial-manage-the-planet-better-than-we-can/; https://www.agriland.ie/farming-news/should-landowners-who-promote-carbon-sequestration-be-rewarded/

*accumulation of carbon in organic soil and the retention of the carbon over hundreds of thousands of years*";

and:

> "*It's more relevant to natural and semi-natural grasslands as opposed to agricultural grassland";*

and concluded:

> "*The long-term effects of grassland management – the combination of the different practices – on soil carbon stocks are unknown*."

An Taisce would made the following points.

Land-stored carbon built up through sequestration removals from atmosphere into trees and soils is highly vulnerable to re-release to the atmosphere, therefore it must be distinguished from, and can only be thought of as being of lesser mitigation value to, leaving geologically stored carbon (fossil fuels and limestone) unextracted. Therefore, climate action must prioritise cutting fossil fuel usages as fast as possible, as outlined by the Intergovernmental Panel on Climate Change (IPCC)[30], Page 546:

> "*In this assessment, we use "permanence" to refer to time scales larger than tens of thousands of years. CDR [Carbon Dioxide Removal] methods associated with either permanent or non-permanent carbon sequestration (see Table 6.14) have very different climate implications (Kirschbaum, 2003). Permanent sequestration methods have the potential to reduce the radiative forcing of $CO_2$ over time. By contrast, non-permanent sequestration methods will release back the temporarily sequestered carbon as $CO_2$ to the atmosphere, after some delayed time interval (Herzog et al., 2003). As a consequence, elevated levels of atmospheric $CO_2$ and climate warming will only be delayed and not avoided by the implementation of non-permanent CDR methods (Figure 6.39). Nevertheless, CDR methods that could create a temporary $CO_2$ removal (Table 6.14) may still have value (Dornburg and Marland, 2008) by reducing the cumulative impact of higher temperature*."

Land carbon is best characterised as "slow in, fast out", in other words sequestration of $CO_2$ from atmosphere into soils, wetlands and forests is slow but the carbon stocks thus accumulated are very easily lost by ploughing, harvest, extraction, fire, management change etc. This means that "*the mitigation value of the ecosystem resides in maintenance of the stored carbon stock*" (Mackey et al. 2013). Therefore, the overriding priority for land in climate mitigation is for the protection of existing land carbon stocks eg. no or low plough agriculture (including limiting pasture reseeding, limit forestry harvest and thinning, stop peat extraction, block drains on organic pasture soils. Years of carbon sequestration through increased verified soil sequestration can be quickly lost by ploughing disturbance or

[30] IPCC, 2013: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [https://www.ipcc.ch/report/ar5/wg1/].

agriculture which depletes soils over time. Therefore, in policy and climate action, land carbon sequestration is of lower, slower climate mitigation value than land carbon stock protection. However, land carbon stock protection can have significant costs, hence economically its value needs to be substantially discounted relative to fossil carbon.

Soils can store large amounts of carbon but relative changes in soil carbon are therefore very difficult to measure for any specific field or area. C-$CO_2$ fluxes are also enormously variable from year to year, depending on weather, nutrient availability, etc. This means there is very large uncertainty in land carbon measurement meaning, whereas fossil carbon flows are known with high certainty. Therefore, in addition to the permanence issue above, involving land carbon can undermine the certainty of carbon accounting for climate action.

Proving additionality (increased sequestration), discounting for impermanence and stopping carbon leakage create enormous problems for any claim of land carbon value in climate action particularly in soils that are harder to measure than standing timber. Thamo and Pannell 2015 put it simply:

> "*Designing effective policy for sequestration will be challenging politically, and will involve substantial transaction costs. Compromises in policy design intended to make sequestration attractive and reduce transaction costs can render it highly inefficient as a policy."*

Policymakers essentially have three options. Firstly, they can implement stringent systems to ensure the veracity of sequestration. The high transaction costs associated with this option will make sequestration less competitive, and sequestration's overall contribution to international action on climate change may be minor. Secondly, they can simplify the process, reducing its stringency, as appears to have been done in Alberta's offset scheme and Australia's revised CFI. This would no doubt be popular with farmer groups and polluters, both of whom would stand to benefit. Although it will boost participation, it will also be inefficient and the amount of genuinely additional mitigation from carbon sequestration in the long run may only be small. The third alternative is to exclude sequestration options that suffer from the challenges identified here. In considering these options, sequestration should be seen as a means to an environmental end and not an end in itself (Trexler, 2011). It should also be remembered that, once implemented, poor policy can be difficult to remove as it creates a group of beneficiaries with an incentive to lobby for its continuation.

Overall, the third option of excluding soil carbon sequestration activities from carbon abatement policy should be carefully considered. Although there undoubtedly are benefits to increasing the carbon content of soils, given the challenges, risks and potential for perverse outcomes and high transaction costs, soil carbon sequestration may not be an efficient approach to mitigating climate change, especially if the sequestration is used as a direct substitute for preventing or reducing emissions. Where sequestration practices are associated with significant leakage, or where they are anticipated to have the potential to become very widely adopted even without policy support, their inclusion in abatement policy seems particularly ill-advised.

Ireland is unusual in Europe in having net land use emissions (most nations have net removals). Although forestry and harvested wood products achieve removals of about 4.5 $MtCO_2$/yr, grassland pasture soils emit about 6 $MtCO_2$/yr (drained organic soil emissions greatly exceed mineral soil sequestration) and wetland peat extraction results in about 2 $MtCO_2$/yr losses. Cumulatively since 1990 Irish land use has lost about 150 $MtCO_2$. Initially any increase in net removals will only reduce overall land use emissions. An urgent climate mitigation effort could ensure that land carbon protection measures greatly reduce grassland and wetland carbon losses, and stop/reverse the projected reduction in forest sequestration. However, if net removals are achieved then these would only be refilling the land carbon stock over previous decades. The charts below are from EPA inventory data (figure 1).

As stated above, any "offsetting" due to increased land carbon sequestration (if verifiable at low enough cost) can only scientifically be meaningfully equated with cancelling prior land carbon losses by refilling land carbon stocks. As per point 1 the permanence issue means that land carbon cannot be equated with fossil carbon, nor with long-lived nitrous oxide (half-life in atmosphere of about 120 years). Most importantly in the Irish case, it makes no scientific sense to suggest land carbon can be set against ruminant methane emissions in terms of the standard $CO_2$-eq values used in UNFCCC reporting via the GWP100 metric. The most important point for methane in climate action is that methane emissions must trend downward continuously if Paris targets are to be met and a net zero by 2050 target also requires fast $CH_4$ reductions to 2030, with slower reductions afterward (unlike $CO_2$ emissions which need to go to zero and then go negative).

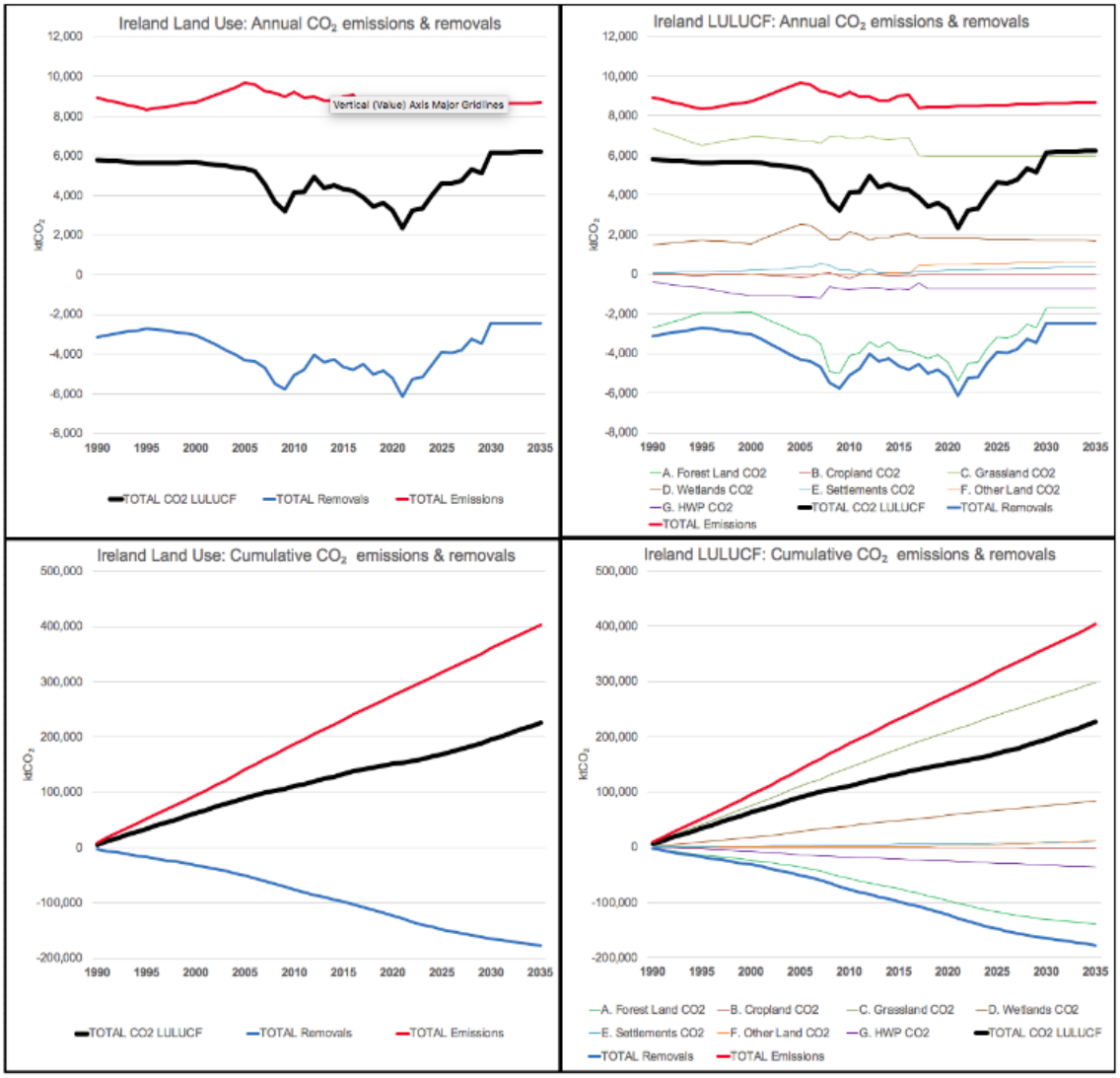



**Figure 1**: From EPA emissions inventory data

Pointing to "jam tomorrow" such as highly uncertain carbon sequestration or methane reduction (eg. seaweed feed additives) is no substitute for action now. Intensive dairy and beef has by far the highest per hectare nitrogen pollution ($N_2O$, $NH_3$ to air, and nitrates to water). From 1998 to 2011, EU policies of a national milk quota and subsidy reduction favouring extensification decreased N usage and cattle numbers, decreasing emissions on track to meet EU 2020 targets.

Since 2010, two agrifood industry designed beef and dairy industry driven growth strategies endorsed by the Government have reversed the prior achievements. Nitrogen usage rose 38% from 2011 to 2018 and methane emissions have risen steadily. Contrary to recent misinterpretations of climate science (and the GWP* metric approximating climate science) using any metric shows that the prior mitigation success has been intentionally undone by intensification policy especially targeting dairy expansion. In terms of IPCC illustrative

pathways, only rapid early cuts in methane emissions can limit overshoot of Ireland's Paris-aligned $CO_2$ budget and limit the need for negative emissions using bioenergy with carbon capture and storage, which would need very large investment starting now in highly speculative technology.

In summary, the critical climate near-term actions for Irish agriculture are reduction in total reactive nitrogen inputs (to limit soil $N_2O$ and $CH_4$ from ruminant digestion and manure of grass quantities boosted by these inputs), cutting $CH_4$ steadily and protecting organic soil carbon by urgent blocking of drains on such pasture. By comparison, carbon sequestration in soils is of extremely limited value and distracts from what is most important in Irish climate action: substantial and sustained reductions in GHG emissions from fossil fuel use, cement production, and ruminant agriculture.

Intensive tillage land can have higher carbon losses due to ploughing but if providing direct-to-human food crops then it is hugely more nutrient efficient and far less polluting than managed pasture. Intensively managed ryegrass requires high nitrogen inputs that may aid carbon uptake but the ryegrass roots are uniform shallow depth, and ryegrass pasture is often ploughed and reseeded every ten years losing the carbon gained in the previous years. By comparison traditional meadows are biodiverse with grasses that have different root depths for carbon storage and legumes such as clovers for natural nitrogen fixation. Ryegrass pasture is productive but leads to GHG, water and air pollution, and any carbon stored is often lost as part of the management plan in reseeding.

### 2.3.3 Carbon Loss in Peat High Organic Soils

In June 2020 Teagasc published a paper[31] on "*Enhancing soil carbon sequestration to contribute to carbon neutrality on Irish farms".*

In relation to organic soil the Teagasc study concluded:

> "*In contrast to mineral soil, grasslands on drained organic (peat) soils are a substantial source of $CO_2$ of* circa. *20 t $CO_2$ /ha/yr. This is due to the fact that they contain very large C stocks (approx. 4,000 tonnes $CO_2$ per ha) and upon draining, this carbon is rapidly decomposed and released as $CO_2$. These soils account for 5-6 Mt $CO_2$ emissions in addition to the ~20 Mt $CO_2$ from agriculture. Restoring small areas of peat soils can deliver large $CO_2$ savings.*"

Any consideration of carbon soil gain and loss requires an integrated approach, including the carbon loss of horticultural peat extraction.

[31] https://www.teagasc.ie/publications/2020/enhancing-soil-carbon-sequestration-to-contribute-to-carbon-neutrality-on-irish-farms.php

### 2.3.4 Horticultural and Animal Bedding Peat

There is a particular issue in Ireland with the continued mechanised extraction of peat for horticulture and animal bedding. It is part of the agricultural sector and has impacts on the loss of carbon in peat high organic soils including agricultural and land drainage. Peat extraction for horticulture is a land use change under LULUCF with significant carbon releases, which will need to be accounted for in the national inventory by 2026.

While the two River Shannon peat power stations have ceased operation and the use of the Edenderry Power plant for peat is to be phased out, large scale horticultural extraction by Bord na Mona and other companies needs to be addressed.

The sustainability of the Irish horticultural sector is undermined by the continuation of peat extraction and the inappropriateness of Bord Bia putting an "Origin Green" label on any product using peat. In particular, this applies to the Origin Green certification of mushrooms where there is use of peat substrate.

The 2018 drought saw a straw shortage and increased promotion of and use of peat for animal bedding by commercial peat extraction companies, an issue on which advocates for carbon offsetting in grasslands remained silent. While Teagasc has carried out research on peat alternatives[32], progress has been slow because of the action of the peat compost supply industry in continuing its damaging activity without regulation and not funding any serious research or resources in developing alternatives.

Legal action in 2019 has now resulted in peat extraction over 30 hectares being required to cease until planning, Environmental Impact Assessment and Habitats Directive assessment processes are resolved[33]. Sites below this threshold have not been subject to Appropriate Assessment screening under the Habitats Directive. The effect of this is that there is no current authorised horticultural peat supply source.

The advancing of sustainable compost alternatives is an overarching priority for Irish horticulture.

## 2.4 Diversification

The past history of Irish agriculture shows high levels of tillage and crop production, which changed with international production and trade. Ireland was a major grain exporter in the early 19th Century. The scaling up of wheat imports from North America left a legacy of redundant water mills and fine stone grain stores which still dot the countryside in various states of abandonment or ruin. Another pertinent Irish example was the collapse of the linen industry in the 19th Century with the import of cotton. More recent was the EU withdrawal of

[32] https://www.teagasc.ie/media/website/publications/2013/5173.pdf
[33] https://www.agriland.ie/farming-news/peat-extraction-ruling-leaves-horticulture-sector-on-cliff-edge/

support for sugar beet production and accommodation of cane produced sugar from South America.

The overarching principles for an alternative agricultural model need to be based on climate, ecological, habitat, water, nitrate and other constraints, to grow a range of crops most suited to Ireland. It is not suggested that Ireland should become a self-sufficient cocoon in the global food economy. The object should be to achieve significant import substitution through crops suitable for the Irish climate and which do not cause ecological or land use conflicts. Care needs to be taken since in many parts of the world it is industrial crop based rather than animal agriculture, which is causing water depletion, pesticides pollution and other impacts.

To meet the nutrition sources set out in the EAT Lancet reference diet, and in order to reduce imports and sustain Irish farming and rural economies, rapid diversification is required. This means large-scale crop and other plant based diversification. This research is not being done on the scale and with the level of integration required.

A new Irish food production strategy requires rapid and accelerated development of plant-based food production compatible with Irish climatic conditions, as well as the scaling up of the protein sources identified in the January 2019 EAT Lancet report.

Research is required on:

- Grains
- Fruit, leaf and root vegetables and others legumes, both field crop and tunnel grown
- Beans and pulses
- Cob Nuts
- High nutrient oils and seeds e.g. flax
- Animal feed substitute for import

### 2.5 Just Transition

As in the energy and transport sectors, we need an Irish 'Just Transition' to sustainable low-carbon food production as an overarching imperative.

In 2018 Spain set a lead example in the cessation of coal mining with an economic plan for employment in the regions affected. The overdue cessation of peat extraction for electricity generation in the Irish midlands is now to be provided with a similar plan.

Ireland as a developed country now needs to set international leadership in the transition to a low carbon food production system and reducing bovine agriculture, while at the same time advance new rural employment and land use plans/policies compatible with ecological constraints and maintaining an inhabited Irish countryside and rural economy.

Equally, the conversion of marginal agricultural land to conifer forestry plantations, which is now raising such serious community concern in County Leitrim, is not a model to be followed and requires an alternative in native woodlands and extensive high nature value grazing.

### 2.6 Sustainability of continuing dairy production and processing expansions

The Department of Agriculture and Marine needs to review the multiple issues arising from Irish dairy expansion.

The planning applications for extended milking parlours and reclaiming land for planting of fertilised grassland are approved on a weekly basis by local authorities notably in Co Cork. There is an increasing trend of partnerships and companies advancing dairy intensification applications.

Irish dairy expansion is now creating "carbon leakage" as European cheese companies migrate to establish plants in Ireland. With the Netherlands required to reduce cattle stocking because of nitrates excesses, a Dutch cheese company, Royal A Ware, has entered into a deal with Glanbia to build a new plant at Belview, County Kilkenny down river from Waterford City. With Norway curtailing subsidies for dairy exports, a long established cheese brand, TINE, has done a deal with Dairygold to build a new plant at Mogeely to the east of Cork City.

Irish agriculture receives a subsidy in the region of €1.5 billion annually as outlined in a CSO report "*Fossil Fuels and Similar Subsidies 2012-2016*"[34]. The report stated that: "*Agricultural subsidies can result in nutrient pollution and loss of biodiversity as well as increasing demands on freshwater."*

At the same time, Ireland is almost entirely import-dependent on international supply systems for grains, vegetables, fruit and other plant based proteins. Much of this comes from the Mediterranean and other countries which face increased climate risk in crop production. This consideration also applies to animal feed with 4 million tonnes import in 2019.

While Ireland likes to make a "*we are feeding the world*" argument, its beef and dairy export model is focused on the global marketing of the Western European and North American diet, and is not addressing the needs of the 820 million of the world's population who are in food calorie deficit.

In the EPA's submission to the Department of Agriculture on the development of the AgriFood 2030 strategy, Director Laura Burke delivered a strong critique of the agriculture

[34] https://www.cso.ie/en/media/csoie/releasespublications/documents/rp/fossilfuelandsimilarsubsidies/Fossil_Fuel_and_Similar_Subsidies.pdf

sector's various environmental impacts, particularly those of the dairy industry[35], and stated, "*Pending evidence and implementation of effective solutions to ongoing unsustainable air and water emissions, any plans for further intensification/expansion of the dairy herd would be difficult to sustain.*"

### 2.6.1 Averting stranded assets in meat & dairy production

Investing in the wrong computer system becomes a wasted or stranded asset if it does not meet current and future operational needs and has to be scrapped as junk for a new system. This applies to larger industrial or production systems also. A good 20th Century example is the redundancy of urban street and building gas lighting systems with the advent of electricity. A prime 21st Century international exemplar is the ill-advised building of the two high carbon emitting ESB/Bord Na Mona peat supplied power stations in County Offaly and County Longford in 2004 which are now redundant after 15 years of highly subsidised polluting use and have no new use capacity. This equally applies to coal, oil and gas extraction, processing, combustion and transmission infrastructure as much as high resource-consuming and greenhouse gas-generating ruminant animal meat and dairy production and processing.

## 2.7 Action required on the function and status of Bord Bia

Action is required by the Department of Agriculture and Marine on the role and functioning of Bord Bia, the State appointed Irish food marketing board.

Bord Bia has adopted the promotional label "Origin Green" in its marketing. Its particular focus is on new beef and dairy export markets in North America, Middle East, and Asia. In 2019 it joined with an industry-funded campaign "Meat and Dairy Facts".

The "Origin Green" label is not based on any internationally validated certification standard. It places major emphasis on carbon counting of the Irish beef and dairy industry while greenhouse gas emissions, ammonia air pollution, animal feed and nitrate fertiliser impacts, and biodiversity loss all increase.

At the same time, Irish horticulture and animal bedding is dependent on unregulated and damaging peat extraction, with Origin Green certification being granted to Monaghan Mushrooms which uses peat substrate in production and to meat and dairy processers which accept animals or milk supply from animals using peat bedding.

[35] https://www.independent.ie/business/farming/news/farming-news/irish-agricultures-green-reputation-not-supported-by-evidence-epa-chief-39591957.html; https://www.antaisce.org/news/origin-green-needs-to-be-put-out-to-grass

In April 2019, a Teagasc spokesperson warned about the danger of Ireland being exposed to claims of greenwashing[36]:

> "*In (Bord Bia's) Origin Green we are making very strong claims about sustainable performance and environmental performance that is creating a need for credible demonstration of sustainability - the industry needs credible evidence rather than glamour stories.*
>
> *"If we are to continue with the sustainability claims that we are a clean, green food producing nation, we need to prove it. Other organisations outside of Ireland will be very quick to pounce on claims that we make."*

In 2016 the coalition of Irish development, environment and faith-based NGOs forming "Stop Climate Chaos" and The Environmental Pillar, both of which include An Taisce, published a science-based report "Not So Green: Debunking the Myths around Irish Agriculture"[37].

This report challenged Government and industry claims regarding the sustainability of Irish agriculture and concludes that "*Overall, Irish agriculture in its current form is damaging to climate, water quality and biodiversity*" and is not contributing to global food security.

It also concludes that "*Agricultural intensification has caused significant negative impacts to Irish biodiversity*".

With the targets adopted for expansion under the ten year FoodWise 2025 in 2015, since 2016 all of the sustainability indicators for Irish agriculture have worsened with rising greenhouse gas emissions, agricultural ammonia air pollution breaching mandatory EU threshold levels, nitrate impact, and continuing deterioration of high status waters, biodiversity loss and high carbon soil loss including horticultural and animal bedding peat extraction.

We would highlight the statement[38] made by EPA Director Laura Burke in early October 2020 that Irish agriculture's "green" reputation is "*largely not supported by the evidence*". She pointed out that despite some instances of on-farm improvements, "*taking the sector as a whole, the economic growth in recent years is happening at the expense of the environment as witnessed by the trends in water quality, emissions and biodiversity all going in the wrong direction*."

[36] https://www.independent.ie/business/farming/agri-business/greenwashing-could-backfire-on-farming-37971831.html
[37] https://www.stopclimatechaos.ie/news/2018/05/31/not-so-green/
[38] See note 34.

### 2.8 Legal issues arising from the Strategic Environmental Assessment Directive for FoodWise 2025 and AgriFood 2030

The Department of Agriculture and Marine needs to address the legal implications of the breach of Article 10 of the SEA Directive in relation to FoodWise 2025.

The first Government-supported and industry-led strategy for Ireland, *FoodHarvest 2020,* was approved without Strategic Environmental Assessment (SEA) under the SEA Directive 2001/42/EC. Driven by an industry-based panel, its focus was on beef and dairy and other food and beverage export growth. In particular, it sought to capitalise on the lifting of milk quotas.

FoodHarvest 2020 was superseded by FoodWise 2025, which followed with the same objectives:

> *"FoodWise 2025 identifies significant growth opportunities across all subsectors of the Irish agri-food industry. Cumulatively, it projects exports have the potential to grow to €19bn per annum in value by 2025, a figure that would represent an 85% increase from the current three-year average. This export growth will be driven chiefly by expansion in dairy, beef, seafood and consumer food and drinks exports."*

The drafting and consultation process for a new ten-year strategy, AgriFood 2030, under Chair Tom Arnold, with the same industry based panel as the two previous strategies is progressing during 2020.

The Department of Agriculture and Marine needs to address the SEA Directive compliance of failing to ensure mitigation of the significant unanticipated adverse effects of the 2015 strategy as required by Article 10 of the SEA Directive.

Current quantity- and export-driven Irish agricultural targets, as set out in FoodWise 2025, are in direct conflict with water and air quality improvements, biodiversity maintenance and enhancement, and climate mitigation.

## 3. Aquaculture and Fisheries

### 3.1 Sustainable Development Goal 14 "Life Under Water"

The implementation of the UN Sustainable Development Goal (SDG) 14 "Life Under Water" should form the basis of action on the marine area. Ireland, as a country with over 90% of its territory in the marine area, now has the opportunity to take global leadership on SDG 14 to *"Conserve and sustainably use the oceans, seas and marine resources for sustainable development*". Achieving this goal will require rebuilding the marine life-support systems that deliver the many benefits that society receives from a healthy ocean.

SDG 14 calls for 10% of the marine and coastal territory be conserved as protected area by 2020; and to sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and taking action for their restoration in order to achieve healthy and productive oceans.

### 3.2 Integration of the Marine Strategy Framework Directive, National Marine Planning Framework, and Marine Planning and Development Bill

The future of commercial marine fisheries and aquaculture needs to be integrated with the overarching the core objective of the Marine Strategy Framework Directive (MSFD) to achieve Good Environmental Status (GES). The marine area is a commons where the overarching achievement of GES as provided in MSFD should prevail over individual sectoral interests.

The current process of adopting the National Marine Planning Framework (NMPF) requires a harmonised regulatory regime, whereby all activity in the marine area is subject to integrated governance, consent application and public participation processes.

All areas of marine activity must be guaranteed public participation under Aarhus Convention principles, and the ability of the public and environmental non-governmental organisations to obtain procedural and substantive reviews must be ensured. All marine activities must also be subject to the Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA) and Habitats Directive processes. The provisions of the current Marine Planning and Development Bill (MPDB) do not meet these requirements.

This lack of a harmonised regulatory regime is exemplified by current fishery and aquaculture policy. The MPDB does not cover fisheries and aquaculture, all categories of which affect the marine ecosystem and which remain under the current operating regime of the Department of Agriculture and the Marine. The determination of fish quotas under the EU Common Fisheries Policy needs to be subject to public consultation as well as to environmental and ecological assessment processes as much as any other activity. The December ritual by which Ireland's quota is determined in the Common Fisheries Policy negotiations lacks transparency and is no longer fit for purpose. Bottom trawling and clam and mussel seed dredging need to be subject to assessment, public participation and regulation as much as seaweed and kelp extraction, port navigation channel dredging and offshore energy proposals.

### 3.3 Aquaculture

Through An Taisce's experience as a statutory consultee for aquaculture licensing, the current situation is characterised by multiple problems with sustainability, public participation and environmental assessments.

### 3.3.1 Carrying capacity

We note that the Draft NMPF published earlier in 2020 (and on which An Taisce made an extensive submission) outlines that it intends to provide for sustainable growth of the aquaculture sector by means of:

> *"Adopting an ecosystem-based approach to the assessment of proposals and taking into account carrying capacity of bays to ensure that appropriate siting, scaling, phasing and design of farms minimises impacts on ecosystems, protected sites, and protected species;"*

The establishment of an ecological carrying capacity should be a strict policy measure, despite its delayed effectiveness on foot of recent aquaculture decisions. This assessment cannot be based on the MSFD GES assessment, as it does not provide the necessary information to determine ecological impact.

Of the hundreds of aquaculture licence applications which An Tasice has, to our knowledge a carrying capacity assessment has only been included for Carlingford Lough. While we would welcome an ecological carrying capacity approach, it is pertinent to highlight that the Minister has made in the region of 600 licensing decisions in the last two years. To our knowledge, aquaculture licences are generally valid for the period of 10 years. This means that the numerous bays and estuaries which have had aquaculture licences granted for them will not be subject to a carrying capacity assessment until towards the end of this decade. An Taisce considers that many of the licenced bays and estuaries are now supporting aquaculture activities far beyond their ecological carrying capacity, and the result of the recent multitude of decisions is that these licences will continue to operate.

### 3.3.2 Appropriate Assessment and EIA

An Taisce has highlighted failures in the Appropriate Assessment (AA) procedure in a multitude of submissions on aquaculture referrals. The main issue is that the Department are utilising a 15% disturbance threshold, which they attribute to advice from the NPWS. There is no apparent legal basis for allowing for a threshold of disturbance in a Natura site, and despite An Taisce highlighting this numerous times, the Department continues to licence applications based on this rationale.

In accordance with Article 6(3) of the Habitats Directive, a licence must be refused unless an adverse effect on the integrity of the site can be ruled out beyond reasonable scientific doubt. In Case C258/11 Sweetman, the loss of approximately 1% of the protected habitat was considered to be an adverse effect on the integrity of the site. As a result of the assumption in almost all of the AAs for aquaculture licences that An Taisce has reviewed, whereby a disturbance of up to 15% of the site is permissible, there is a lack of sufficient evidence to satisfy the test on absence of adverse effect. This is a major flaw in the aquaculture licensing process, and one that, in our opinion, is in contravention of the Habitats Directive. We would consider this lack of compliance with the Habitats Directive to

be a very serious legal issue, and one that undermines the sustainability of the whole aquaculture sector.

In addition to that, in regard to Environmental Impact Assessment (EIA) there is a general lack of EIA screening for shellfish aquaculture based on the rationale that it is extensive, as opposed to intensive. An Taisce believes that under Article 2 of the EIA Directive, and Annex ll Class 1 which refers to intensive fish farming, this distinction is not valid, and these licences should indeed be screened for EIA, particularly in light of their cumulative impact.

There should be explicit policies for compliance with the relevant EU Directives, and a review of the current legal compliance within the system, in particular with the Habitats and EIA Directives.

### 3.3.3 Public participation

An Taisce would observe that there are failings in the public participatory requirement of the aquaculture licensing process.

We have received reports from several of our members in regard to the advertisement of aquaculture licence applications occurring in the local newspaper with the lowest circulation, resulting in many communities being unaware of these applications. Should the licence or licences then be granted, the costs involved in taking an appeal to ALAB (the Aquaculture Licences Appeals Board) would quickly become prohibitive if it is necessary to appeal 20-30 licences in a single bay, which, in our experience, can frequently be the case. An Taisce submits that this is in contravention of the requirements of the Aarhus Convention. Articles 9(3) and (4) of the Aarhus Convention entitle individuals or organisations to access to both judicial and administrative review procedures on a basis that is fair and equitable and not prohibitively expensive. *Case C-203/15 Lesoochranarske* and the cases that follow on from it, including in an Irish context *Case C-476/16 NEPPC*, all emphasise that Aarhus is a fundamental part of European law and that national procedural rules must be interpreted in accordance with it. It is our opinion that the current system is not sufficiently allowing for effective public participation.

We would highlight that, given that 600 licensing decisions have been fast tracked through the system in the last two years, it is a full time job for a prescribed body, such as An Taisce, to review the licence applications, and assess the ramifications of licensing decisions on foot of those. While this fast tracking was seen to be of benefit to aquaculture operators who have applied for new licences, it was very much to the detriment of public participation, by means of overloading the system making it very challenging for both statutory consultees and the public to review the applications and decisions and as such to participate in a meaningful way.

Specific policies are required for effective public participation in the aquaculture licencing process, with a review of the current practices and requirements, and appeal procedures.

### 3.4 Fisheries

Ireland has a strong track record of undermining fisheries conservation at EU level. In a 2018 report by the New Economics Foundation, Ireland was placed as one of the worst EU member states for overfishing in the Atlantic, undermining international efforts to restore fish stocks to sustainable levels[39]. It cited Ireland's decision in late 2017 *"to once again push for fishing quotas which ignore scientific advice is undermining efforts to end overfishing by 2020*", and that "*In the negotiations last December for 2018, Ireland, represented by Minister for the Marine Michael Creed, "topped the league table of setting quota at 18 per cent [of their total TAC] above scientific advice"* (this was based on 124 TAC decisions). The continued practice of setting fishing quota above scientific advice:

> "*harms the environment, is short-sighted politics, and goes against the objectives of the CFP*", *"Ireland celebrated its achievement at 'winning' quota for its fishing fleet above scientific advice . . .Topping the overfishing league table should be criticised – not celebrated – as it comes at the cost of delaying the recovery of European fish stocks and more sustainable jobs".*

The current Draft NMPF is a good example of the inappropriate celebration of winning a large quota:

> *"The 2019 fishing opportunities or TACs (Total Allowable Catches) secured for Ireland at the December Agriculture and Fisheries Council amounts to 193,619 tonnes of quotas worth €260 million."*

An Taisce would highlight that this is not an achievement to be lauded. The overall number and percentage of EU North East Atlantic stocks that had their Total Allowable Catch (TAC) for 2020 set above scientific advice increased in 2020, with 47% (61/129) of TACs exceeding the scientific advice. According to Ireland's Marine Institute (MI)[40] the number of sustainably fished stocks in 2019 was just 47% (35 out of 74).

One of the most serious impacts of commercial fisheries is the impact on the seafloor, by dredging and trawling. This pressure is clearly recognised in the Draft NMPF, which outlines that:

> *"Some types of fishing activity can negatively affect both pelagic and seabed communities, particularly those that support species with slow growth rates, soft substrates or cold water coral reefs, and some areas have been heavily impacted by fishing activity. There are also concerns about the level of by-catch of birds, sharks and marine mammals in certain fisheries."*

[39] https://neweconomics.org/uploads/files/NEF_LTB_ATLANTIC_2017.pdf
[40] Marine Institute (2019) The Stock Book 2018: Annual Review of Fish Stocks in 2019 with Management Advice for 2020 https://bit.ly/35m83x3

The draft document then outlines the benefits of the CFP, apparently to counteract these negative impacts:

> *"Fish populations are generally improving since reform of the Common Fisheries Policy and more sustainable management of fish populations with the setting of Maximum Sustainable Yield (MSY) for commercial species"*

and:

> *"The Marine Strategy Framework Directive requires European Member States, including Ireland, to reach good environmental status (GES) in the marine environment by 2020. For commercial fish stocks this requires that populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock."*

However, we would highlight that Descriptor 3 (D3) in the MSFD does not assess sea floor integrity, and that Descriptor 6 (Seafloor Integrity) shows the actual spatial impact of bottom trawling on Ireland's seafloor habitats. To fully enumerate the impact of fishing, it is therefore essential that benthic disturbance maps, and results from the latest D6 assessment are included.

Sustainability is mentioned in the Draft NMPF fisheries objectives, but it must be recognised that the current unsustainable approach cannot be addressed by managing commercial fish populations with CFP/MSY alone. Single fish stock management and protection of the marine environment are not the same thing. A single stock could be harvested completely under MSY but the fishery could still cause significant damage to the seafloor.

Further to that, current fisheries policies (the Draft NMPF) do not address the wider ecological impacts of overfishing on birds and marine mammals. Seabird population collapse is becoming increasingly common in the North Atlantic, due to the bird's inability to find enough fish to feed their young. A 2018 report from the RSPB[41] on the Shetland Islands revealed catastrophic seabird population collapse, attributable to declining marine feed sources. Overfishing also severely impacts on marine animals, for example the NPWS highlighted in 2016 that six species of cartilaginous fish are Critically Endangered and a further five species are Endangered[42]. The reasons outlined are "*over-exploitation by commercial fisheries and habitat destruction and disturbance*". It further outlines that while these species are no longer targeted for commercial fisheries, instead they are taken as by-catch in several fisheries, involving both Irish and non-Irish vessels.

All fisheries policy should contain unequivocal language requiring that all fishing be carried out in a truly sustainable way, that is taking a holistic ecosystem approach, and moving beyond the scope of D3 of the MSFD and the ability of the CFP to provide this protection. These policies have repeatedly been found to be failing, and further reliance on them will

[41] https://www.theguardian.com/environment/2018/jun/03/shetland-seabirds-climate-change-catastrophe-terns-kittiwakes-puffins
[42] https://www.npws.ie/sites/default/files/publications/pdf/Red%20List%2011%20Sharks%20et%20al.pdf

undermine the future of the fisheries sector, leading to further fisheries and ecosystem collapse. Ultimately this approach will undermine and decimate the resource upon which the industry is predicated, with serious environmental, social and economic ramifications.

Fisheries policy needs to be truly compatible with ecosystem health, including marine species, seabirds and seafloor integrity and health. The designation and careful management of no-take Marine Protected Areas will further facilitate sustainable fishing.

### 3.5 Marine Protected Areas

While it is a requirement under Article 13.4 of the MSFD that a coherent and representative network of MPAs be designated, the current Draft NMPF refers only to legislation 'being prepared'. No time commitment is given for legislation or designation of MPAs, and it is not clear when this coherent network of sites is likely to be in place. Ireland's MPA network is many years away from being considered ecologically coherent.

The likelihood is that the designation of Marine Protected Areas (MPAs) will not be complete prior to the finalisation of the NMPF. As such, there is a very real risk that planning applications may be granted in some of the most diverse and ecologically important areas in Ireland's marine waters, which would likely be designated as MPAs in the future. This would put these areas at immediate exposure to development that may reduce their ecological value. It could also lead to the designation of MPAs occurring in the remnant areas after all of the other marine sectors have been allocated their geographical area. This runs completely counter to the ecosystems based approach required by the MSP Directive and MSFD.

There are numerous ecologically sensitive areas which have already been identified, and these should be mapped and made available to planners as a GIS layer, in addition to any further sensitivity mapping which is readily available. These layers could be used to identify important ecological areas, so that environmental concerns could be factored in to any planning decision. Sensitivity mapping of ecosystems and future maritime activities is important in determining the scale of future pressures on the marine environment. In carrying out this exercise, planners should seek to direct activities away from highly sensitive/protected areas by identifying areas of least and highest environmental constraint. Sensitivity mapping could also be carried out to identify areas suitable for habitat and species recovery and enhancement.

An Taisce considers that legislation requiring the designation of MPAs should be expedited as a matter of urgency and that the Department of Agriculture and the Marine should make advocating for this a key part of its strategy for 2021-2024. In the absence of a coherent MPA network, GIS layers should be made available to planners which identify the location of ecologically sensitive and important habitats and species. This data should be used to preserve key areas from further degradation until adequate MPA legislation is enacted.

## 4. Hedgerows and Forestry

### 4.1 Hedgerows

Ireland's extensive hedgerow network, with its wide mix of trees and other species, is of major biodiversity significance both as a habitat and in providing wildlife corridors.

Much is made by the agricultural sector of the role of hedgerows in sequestering carbon. Expanded hedgerow systems are, for a finite period and with appropriate management, capable of locking in increased carbon storage. However, there is an over-optimistic expectation of the capacity to offset Irish agricultural emissions and the levels achievable. Meanwhile the loss and overly-heavy cutting of hedgerows continues with agricultural intensification, which is primarily driven by bovine agriculture.

We note the European Court judgment Case C/66-06 against Ireland on the incremental removal of field boundaries and hedgerows. Environmental Impact Assessment (Agriculture) Regulations (SI 456 of 2011) are administered by the Department of Agriculture and the Marine. An Taisce is a consultation body under Article 2 of the Regulations and has not been notified by the Department on any of the over 500 screening applications processed since the Regulations were introduced in September 2011.

### 4.2 Forestry

Ireland has a low level of surviving native woodland or other woodland areas of ecological value since afforestation over the last century has been dominated by non-native, short rotation and clear fell conifer plantations of poor biodiversity value and creating soil carbon loss in clear felling. This cannot be the model for any new forestry aiming to provide carbon sequestration. The EU Biodiversity Strategy 2030 sets out overarching policies for sustainable and ecologically appropriate afforestation.

An Taisce , BirdWatch Ireland, and CELT (the Centre for Environmental Living and Training) published a joint report in 2019[43] propose positive solutions to how we can transition Irish forestry to a more sustainable pathway for the benefit of wildlife, the environment and the Irish people.

It is regrettable that the Department of Agriculture and the Marine has implemented new Forestry regulations in June 2020 that limit and penalise public participation, and which has been subject to extensive critique[44].

[43] https://environmentalpillar.ie/wp/wp-content/uploads/2020/06/Greening-Irish-Forestry-2019-Environmental-Pillar-Final-Report-.pdf

[44] https://www.antaisce.org/news/forestry-bill-will-shut-out-the-voice-of-the-community

It is submitted that the Department of Agriculture and the Marine assess the recommendations set out below in the 2019 for development of an Irish forestry sector, which has high environmental credentials and can deliver sustainable employment.

*THE FOLLOWING ARE THE SUMMARY RECOMMENDATIONS FOR THE REPORT:*

Forestry must enhance the viability of rural communities and contribute positively to Ireland's rich natural and cultural heritage, while also enhancing the quality of life within communities.

## How can we achieve this?

To enhance Ireland's environment our forestry sector must adopt best practice in sustainable forest management. Forestry practices must protect biodiversity, soil and water quality. We need a new model of forestry that simply put delivers:

- ✓ the right trees
- ✓ in the right places
- ✓ under the right management.

## Forestry must enhance biodiversity at a community and regional level by delivering:

- New native woodland establishment while also enhancing and connecting existing woodlands.
- Ambitious targets and incentives for the planting of broadleaves.
- Setting ambitious targets to diversify the species mix within Irish forestry by capping the percentage of non-native tree species that can be planted regionally through afforestation and reforestation schemes.
- Forestry that is compatible with the delivery of ecosystem services such as carbon sequestration, flood attenuation, pollination and water quality protection.

## Forestry must ensure the protection of our environment through:

- The full implementation of Irish and European environmental law.
- Working with partners such as environmental NGO's and government bodies to develop tools to ensure the conservation of habitats and species at a landscape level.
- Ensuring that the expansion of forestry in Ireland is not in conflict with the conservation of High Nature Value farmland and threatened habitats and species.
- The adoption of continuous cover forestry within environmentally sensitive sites
- Banning Sitka Spruce in acid sensitive catchments with peat soil.
- Ending the use of damaging pesticides.
- Ensuring that native woodland buffers are used where appropriate to protect water quality.
- Ensuring the proper training and safeguards are in place to protect biodiversity.

**Forestry must contribute to the viability and quality of life within rural communities by:**

- Funding forestry and agroforestry schemes that are complementary to farming.
- Ensuring forestry creates local employment and spin off industries.
- Ensuring that the financial incentives that are in place for forestry are not perversely conflicting with agri-environmental schemes.
- Establishing regional thresholds for forest cover where environmental and social conflicts are evident.
- Ensuring that the afforestation approvals process is transparent, unbiased and open to the public.