The Fertilizer Association of Ireland

"Submission on "Ag-Climatise"

07/01/2020

The Department of Agriculture's latest publication "Ag-Climatise" A National Climate and Air Roadmap for the Agriculture Sector to 2030 and Beyond is a though provoking document which is welcomed by the Fertilizer Association of Ireland (FAI). The FAI's mission statement is to promote the efficient use of fertilisers in an environmentally sustainable manner and in so doing play our part in reducing GHG emissions from agriculture

The FAI support the department's efforts to reduce environment emission and fully cognisant of our need to increase the sustainability of Irish agriculture.
However there a few key issues that the FAI wish to highlight as part of our submission on the "Ag-Climatise" document;

Part 1 – Implementing Changes Now

- Key Focus on soil fertility and nutrient management planning has to be highlighted and prioritised by all stakeholders
    - Optimise soil pH through soil testing and lime application where necessary
    - Increase nutrient use efficiency by maintaining soil Index levels at 3 for P and K.

- Protected Urea
    1. Health and Safety
        - Concerns raised about the safety of both the active ingredients and the carrier ingredients
        - Detecting of any inhibitor residues in the food chain
        - Persistency of residues from breakdown in the soil and effect on soil biodiversity and biochemistry
        - Safety and residue concerns at both manufacturing and farm level

    2. Spreadability and Handling
        - Difficulties in achieving uniform distribution of urea across wide bout widths and fertilizer spreader calibration
        - Limitations of Urea in co formulations with S and blends
        - Hydroscopic nature of product means product is unsuitable for bulk storage at merchant level and can limit its use in the main spreading season
        - Specific storage and handling requirements

    3. Knowledge Transfer
        - Urea is unfamiliar to many farmers (Market 100,000t ±20%) despite lower cost per unit of N compared to CAN
        - Physical properties of urea (ie. Density) will require specific machine settings to ensure correct spread pattern.

4. Research
    - Field and laboratories experiments need to continue and knowledge gaps need to be investigated
    - Specific advice is required on active product application rates, stability and breakdown rate

Current targets to replace urea and CAN with protected urea are ambitious within the current timeframe due to the points highlighted above.

Forest Industries Ireland Ibec

Forest Industries Ireland submission to Department of Agriculture, Food and the Marine's: 'Ag-Climatise' – A Draft National Climate & Air Roadmap for the Agriculture Sector to 2030 and Beyond

January 2020

FII has also completed the SurveyMonkey survey.

This submission from FII addresses the forestry-related questions:

2. Enhance the development of sustainable land management practices by delivering 26.8 Mt CO2eq abatement through LULUCF actions over the period 2021 to 2030.

Actions required to meet this ambition:

Action 5: Review the National Forestry programme with the aim of delivering 8,000 ha of newly planted forestry, including agroforestry per annum.

- *Planting of 18.6million trees a year.*

Question 3 Are there other actions that could be considered to maximise the contribution of sustainable land management? Is there more that farmers and the food industry itself can do?

Question 4 Have you any feedback on how uptake of these actions can be encouraged and facilitated?

Forest Industries Ireland supports the Government's ambition to plant 8,000 hectares of new forest each year. Currently, we are planting roughly half this amount.

- Ireland's forests currently sequester 312 million tonnes of carbon.
- Ireland's forests absorb an additional 3.8 million tonnes of CO2 each year.

1. Principal objectives in delivering 8,000 hectares of afforestation per annum:

- Develop a national forestry policy that supports increasing planting of forests and mobilisation of timber.
- Re-design The National Forestry Programme to incentivise greater land use change to forestry, in particular by our farmers.
- Free flowing timber mobilisation without regulatory or local impediments.
- Fast and efficient service from the Forest Service within DAFM.
- Forestry to be fully integrated with national agriculture policy and the next CAP
- Increase use of Irish timber at home, particularly in the construction market
- Forestry to be a major component of Ireland's climate change action plan
- Improved education, training and skills in the forest sector

2. The forest sector and climate change

The private afforestation scheme is currently running at less than 4,000 hectares per annum. This is a level far below that envisaged by government policy and leaves scope for expansion of this measure. There is an appetite among farmers and the forest sector to significantly increase the annual afforestation programme. To make this happen, it will be important to improve the efficiency of the current Forestry Programme and address some bottlenecks in the system. However, these difficulties are surmountable and the rate of annual afforestation can be significantly increased in order to make a greater contribution to Ireland's climate change goals and its rural economic development.

Large potential and low cost

Forestry has been clearly identified as one of the climate change mitigation tools that can deliver very high volumes of CO^2 sequestration at a lower cost than most of the other available options.

Forests planted in the thirty years from 1990 to 2020 will capture 4.5 million tonnes of CO2 from the air during the period 2021 to 2030 alone. This demonstrates the enormous climate change capacity of the afforestation programme. LULUCF rules give Ireland the possibility to mitigate 2.7 million tonnes of CO2 equivalent each year.

Numerous studies have found that Ireland as an adequate availability of land to meet the needs of a strong afforestation programme. Currently, forest cover consists 11% of Ireland's land. There is a policy ambition to grow this figure to 18% by 2050.

Ireland has an ideal climate for growing conifers. The yield and productivity of Irish softwood forests is very high. This is an obvious source of competitive advantage for Ireland which provides an ideal opportunity to combine an economic and environmental return to the country.

Forestry supports Ireland's farmers and rural communities

Forestry plays a vitally important role in the rural community. The Forestry Programme provides farmers with a valuable option to earn a steady and consistent income from their land. At the current time, there are an increasing number of options for farmers after their final forest premium is paid. There is an active market for the purchase of immature forests and Coillte has entered the market with an option for famers to bring forward some their earnings from the final harvest.

Ireland's sawmills and panel board plants provide valuable employment and economic activity in rural areas across the country. It is vitally important to protect the health of this industry. Projections show that there will be a sharp decline in the supply of Irish roundwood available to the sawmills after 2035. This is caused by the timing and pattern of afforestation in previous decades and the very significant decline in the number of trees being planted in more recent years. Timber processors continue to invest in their production facilities and they must have the confidence and ability to continue to do this on the basis of a strong, predictable, long-term supply of round wood.

Expenditure retained in Ireland

Expenditure on the forestry programme retains funds within Ireland, supports Irish farmers and creates rural jobs. A virtuous economic circle is created through the investment of public funds in Irish forestry and a number of key environmental and economic policy goals are realised.

Additional environmental benefits

Forestry provides a range of environmental benefits beyond carbon sequestration. Forestry is an important source of biomass for energy. Forestry co-products supply an estimated 25% of Ireland's bio fuel each year. Circa 1.4 million tonnes to forestry co-products are used as biofuel annually equating to 9 million Gj.

Forestry is also an important habitat, source of biodiversity and contributor to water quality.

Required policy actions

The Irish Forestry Programme is funded by the State. Principal considerations in this regard are the production of timber and wood products and the role that forests play in climate change mitigation through the sequestration of carbon.

The current projections being used by the Department for the role of afforestation in the sequestration of carbon are based on the assumption that the Forestry Programme will deliver 8,000 hectares of new afforestation each year. Currently, this assumed rate of afforestation is not being met, even though it is below the level of afforestation called for in long term government forestry policy.

The current Afforestation Scheme is running behind target. The critical element in realising the potential for forestry in Ireland's climate change mitigation strategy is ensuring that the level of annual afforestation is increased and the targets are hit.

The targets are within the reach of the Forest Service working in cooperation with the forest industry, however, at present there are a number of issues that are inhibiting the performance of the forestry programme.

A number of specific actions can increase the current afforestation programme and realise the potential of forestry as a climate change measure:

i. Finance an increased Afforestation Scheme
ii. Improve the performance of the Forestry Programme
iii. Make the Afforestation Scheme more attractive to farmers
iv. Support the wood processing industry
v. Support the Irish market for Irish timber

i. <u>Finance an increased afforestation programme</u>

The strengths of forestry as one of Ireland key climate mitigation tools are manifest. Forestry offers large abatement potential at a low cost point on the scale and offers a range of additional benefits to Ireland's economy and environment.

The challenge here is to steadily increase the annual afforestation programme by removing factors that are inhibiting its growth. As these factors are dealt with it will be necessary to increase funding for the forestry programme in line with the increase in demand.

ii. Improve the performance of the Forestry Programme

Currently, the Forestry Programme is underperforming. Improvements can be made to the Programme to ensure that it realises its potential. There is a need to improve the efficiency of the system that lies behind the Programme. There is also a need to address certain pinch points in the current Programme including environmental requirements, land classification, planning permissions and timber mobilisation. FII is in discussions with the Department of Agriculture regarding the implementation of the Forestry Programme and is calling for an urgent review of the Programme and its implementing structures to improve performance and enable a larger annual planting programme.

iii. Make the Afforestation Scheme more attractive to farmers

There is a need to address the demand side of the afforestation scheme. The majority of participants in the scheme are farmers who place a portion of their land into forestry. It is essential that the Afforestation Scheme is well promoted to farmers and its benefits are properly explained. Both Teagasc and the Forest Service have an important role to play in this regard.

The Afforestation Scheme in effect competes with other agricultural Schemes and options for farmers and must be made attractive. This is both a function of the financial reward available to framers and the technical requirements of participating in the scheme.

At the current time, there are a number of new developments that may make forestry a more attractive option for farmers. There is an active market for immature plantations, Coillte has entered the market with it 'Premium Partners' product and Dasos will soon begin operations in Ireland. Providing alternative pathways to farmers after they plant their land should help participation levels.

iv. Support the wood processing industry

Projections show a significant increase in the round wood supply from Irish forests up to the year 20135. However, after this time, supply will reduce significantly due to the smaller planting programme in the last two decades. It is essential that our national forestry policy ensures the sustainable supply of round wood post 2035.

Timber mobilization is a critical issue for maintaining the health of the forest products sector. Major investments have been made by sawmills and panel board plants and the installed capacity of our wood processing sector has grown considerably in recent years. For this sector to flourish, it is essential that the forest roads scheme is improved and issues with forest entrances and the use of the local road network are addressed. Currently, the forest roads programme is not delivering the harvesting infrastructure that is required.

v. Support the Irish market for Irish timber

There are social, environmental and economic benefits to using Irish grown timber to build houses in Ireland. The majority of output from Ireland's sawmills I exported. More of this timber should be used at home. The Government has a role to play here in residential construction and public procurement.

3. The National Forestry Programme

The National Forestry Programme will be reviewed this year and a new Programme established for the period 2021-2025. The Programme is not performing and is in need of root and branch reform.

It is fundamental that the farming community re-engage with the Forestry Programme in significant numbers. This is not the case at present. The Programme must be made more attractive to farmers.

Forestry must be seen as a positive contribution to the environment and a positive land use change. The forest owner must feel a connection to the environmental service they are delivering.

- Focus the Programme on commercial forestry. This is much more scalable than non-commercial.
- Create additional supports for Native Woodlands to grow this area hand-in-hand with commercial forestry.
- Commercial forestry can work hand in hand with 'close to nature' forestry.
- Increase Forestry Programme grants and premiums
- Increase promotion of The Forestry Programme to farmers nationwide.
- Land availability:
  - Remove restrictions on unenclosed land and the 20% rule
  - Use more unproductive land for forestry
  - Assist farmers in assessing land productivity and suitability for forestry
- Grow the Woodland Environment Fund
- Retain tax treatment of forestry
- Create a regionally balanced national planting programme
- Integrate forestry programme fully with agriculture policy and the CAP
- Reform the Forestry Appeals Committee

The key role of forestry in combatting climate change is well understood. Around the globe, forests are being protected and enhanced in a bid to address climate change. Here in Ireland, forestry is one of the linchpins of our national climate change strategy. Forestry has been identified as one of the lowest cost tools at our disposal and State investment in forestry is paying dividends in terms of our climate change obligations. Continued investment in afforestation is critical to delivering on the climate change mitigation potential of forestry in the longer term. Recent research confirms the continuing potential as plenty of suitable land is still available for forestry.

4. The triple carbon benefit of forest biomass

Forest biomass has a triple carbon benefit. Carbon is sequestered as forests grow. Forest biomass is used to make products that displace materials with high embedded carbon such as steel, aluminium and concrete. At the end of its useful life, sustainably sourced forest-based biomass products can be converted in carbon neutral thermal energy and used for heating and generating electricity.

Regarding carbon stock changes in a Sitka plantation in Ireland: up to age 47 years, the Sitka spruce Yield Class 22 forest sequesters carbon at a rate of c.4.4 tC ha-1 yr-1 / c.16 tCO2 ha-1 yr-1 but this doesn't include harvest.

Another way of presenting the data is as carbon stocks: This suggests that a mature forest contains about c.170 tC ha-1 / c.630 tCO2 ha-1 in the biomass and dead organic matter, however again this depends on age and management.

5. Forestry and the CAP

The forest sector asserts that CAP should be refocussed and deliver more for the broader rural economy and the environment. CAP must support integrated land use solutions and provide Ireland's farmers, land-owners and agri-businesses with the right mechanisms to meet their commercial and environmental ambitions.

The industry sees an important future for greater integration of forestry activity with the new CAP in order to achieve our FoodWise 2025 objectives, Ireland's National Mitigation Plan (2017), Project Ireland 2040 and other important national objectives. The current lag in the afforestation programme has brought into sharp focus the need to dramatically change the way in which Ireland's agriculture and forestry policies are implemented. The most important step in this process will be to integrate forestry with the new CAP and ensure that the CAP targets are brought to bear.

To date, CAP has driven a wedge between forestry and other land uses. Farmers have perceived forestry and other land uses as being in direct competition. There has been no effective integration of forestry and CAP, and as a result, both the farming community and forestry have suffered.

It is essential that the new CAP regulations provide an appropriate framework for the inclusion of strong forestry elements in Ireland's National Strategic Plan and the development of agricultural schemes under the CAP that contain attractive forestry options for farmers and land owners.

Ireland has a significant competitive advantage in commercial forestry and timber exports. Commercial forestry should be the focus as it provides an ideal complement to the ambitions of Ireland's farmers and rural communities.

The forest sector is ready and able to make a major contribution to the continued growth of Ireland's agri-business sector and proper integration with CAP measures is the best way to achieve this.

Current performance

There are significant demand-side impediments to the afforestation programme and these are reflected in the current level of applications to the Afforestation Scheme and the overall performance of the Forestry Programme. It is clear that competing agricultural schemes are impacting on the ability and willingness of farmers to plant forestry.

Principles and recommendations

The forest sector asserts that CAP should be refocussed and deliver more for the broader rural economy and the environment. CAP must support integrated land use solutions and provide Ireland's farmers, land-owners and agri-businesses with the tools to meet their commercial and environmental ambitions.

i. Forestry to enter into CAP

Forestry has suffered because it is not fully integrated with the CAP and the national agriculture schemes supported by it. It is clear from the current performance of the afforestation programme that the current approach needs to change.

The forest sector asserts that it is time for forestry to be fully integrated with CAP so that the various objectives and targets for the sector as included in FoodWise 2025 and our National Forest Policy form an integral part of Ireland's CAP Strategic Plan. It is also critical that forestry can access any potential funding available in order to develop and augment any eco and other schemes available under CAP.

The forestry and timber sectors make an enormous contribution to the rural economy and to Ireland's environment. Forestry provides the ideal partner to Ireland's strong dairy and beef industries and can work hand in hand with them to deliver benefits to both and facilitate the achievement of a range of national policy objectives. It is entirely possible to set up 'win-win' scenarios in our national agricultural schemes within the next CAP. Ireland's National Strategic Plan for the CAP should contain this as a core strategy when it is developed.

It is essential that the CAP Regulations provide the required structure and flexibility to allow for the future design of national schemes that support forestry in conjunction with the other elements of Ireland's agriculture and rural economy.

Concrete targets for forestry and environmental measures

The forest sector calls for concrete and ambitious targets for forestry, environment and climate actions within the CAP as articulated in Ireland's National Forest Policy, FoodWise 2025, Project Ireland 2040, the National Mitigation Plan (2017) and renewable energy targets.

Forestry should be fully integrated in the CAP and reflect specific national targets such as ".. increase the forest area in accordance with sustainable forest management principles, to support long term roundwood supply through an increase in the annual afforestation level to 15,000 ha from 2021.." (FoodWise 2025).

Landowners must be adequately incentivised to address their carbon emissions in farm emission reduction plans and forestry must play a central role in such initiatives. Forestry is recognised as our most significant potential carbon sink and should be prioritised to assist landowners in addressing this requirement of CAP. The sector will work with the Department in designing appropriate schemes to achieve such aims.

Forest biomass has a triple carbon benefit. Carbon is sequestered as forests grow. Forest biomass can be used to make products which displace materials with high embedded carbon such as steel, aluminium and concrete. At the end of its useful life, sustainably sourced forest-based biomass products can be converted into carbon neutral thermal energy and used for heating and/or electricity.

The CAP provides possibly the largest single vehicle to deliver Ireland's climate change commitments. Without a significant contribution from agriculture, Ireland has no chance of meeting its international treaty commitments on climate change. As noted in Ireland's National Mitigation Plan (2017), "Under the current CAP reform discussion just commenced it is recognised that climate action should form an important element of the future CAP." It is clear that forestry must play a central role in climate change mitigation for agriculture and LULUCF gives Ireland the possibility of substantial mitigation of agricultural emissions.

There are other mechanisms and technologies available, but as Ireland's own 2017 National Mitigation Plan has identified, forestry is the only option that will deliver large mitigation numbers. The Department currently estimates cumulative GHG emission reductions of 2,440 ktCO2e in the period 2017-2030 to be delivered by forestry.

With regard to the CAP, the Department notes that "…. the mandatory ex-post review of the RDP will inform policy decisions on mitigation measures and CAP negotiations for the next Programme period." The inclusion of climate change considerations in Ireland's approach to the next CAP is essential and will be the determining factor in Ireland's ability to mitigate the climate change impacts of our agriculture sector.

ii. Flexibility for the land owner

The new CAP regulations must provide for increased flexibility for the farmer and land owner. As noted above, the national afforestation programme has suffered because farmers and their land become trapped in rural development schemes that do not offer sufficient flexibility and allow the farmer to change land use. The GLAS scheme is a case in point - the forest sector has seen a huge amount of potential forestry land taken out of reach

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It is certain that the vast majority of Irish farmers will participate in rural development programmes under the new CAP. These must be compatible with forestry and the Regulations must allow for the design of schemes that offer forestry as an attractive option. There is no way that Ireland will meet its forestry policy ambitions or mitigate its agricultural emissions without forestry providing a strong element in the next rural development plan.

Mechanisms should be developed under the next CAP to enable and incentivise beef and dairy farmers to place parcels of land into forestry. To create the necessary efficiencies, it may be necessary to create structures, such as new farm partnership type schemes, that allow land owners in different parts of Ireland to work together in this regard.

iii. Commercially viable forestry

As described in the introduction, the forest sector creates 12,000 jobs and is valued at €2.3 billion. The current market for Ireland's timber exports is extremely strong and the potential for long-term, sustainable growth of our forest-based sector is enormous. Ireland enjoys a competitive advantage in the growing of trees and the production of wood products.

Bearing this in mind, it is essential that the CAP provides a central role for commercial forestry. It is in the development of economically sustainable forestry that the land owner and the broader economy can capture an economic reward from forestry and grow a sustainable industry for Ireland. Sitka spruce plantations are fast growing and are ideal for sequestering carbon whilst supplying Ireland's burgeoning timber processing industry with its raw material. Forestry income is direct market income and is a source of long-term sustainable revenue for farmers and landowners. Forestry income will be critical in bridging the gap between Irish farmers' incomes and incomes in the wider economy. Ireland currently has one of the widest differentials in the EU between farmers' incomes and gross wages/salaries in the wider economy (as highlighted in the "Challenges and Objectives of the CAP-post 2020" presentation made by the EU Commission on the future of CAP). Such direct market income from forestry will also ensure a better balance between the operating subsidies and market income per farm. This forestry market income will help ensure the longer-term economic sustainability of the wider agriculture sector through reduced reliance on subsidies and through the generation of a more diverse income source.

It is important that Ireland's CAP Strategic Plan is employed as the platform to achieve important national policy objectives including targets included in FoodWise 2025, Ireland's

National Forest Policy, Ireland's National Mitigation Plan (2017), Project Ireland 2040 and many others. In this regard, it would be counter-productive to allow the development of CAP Regulations that are excessively focussed on broadleaves/native woodlands which will reduce commercial forestry on marginal agricultural lands. There is a role for all elements and balanced forestry development will be much more successful when incorporated into Ireland's National CAP Strategic Plan.

[redacted]

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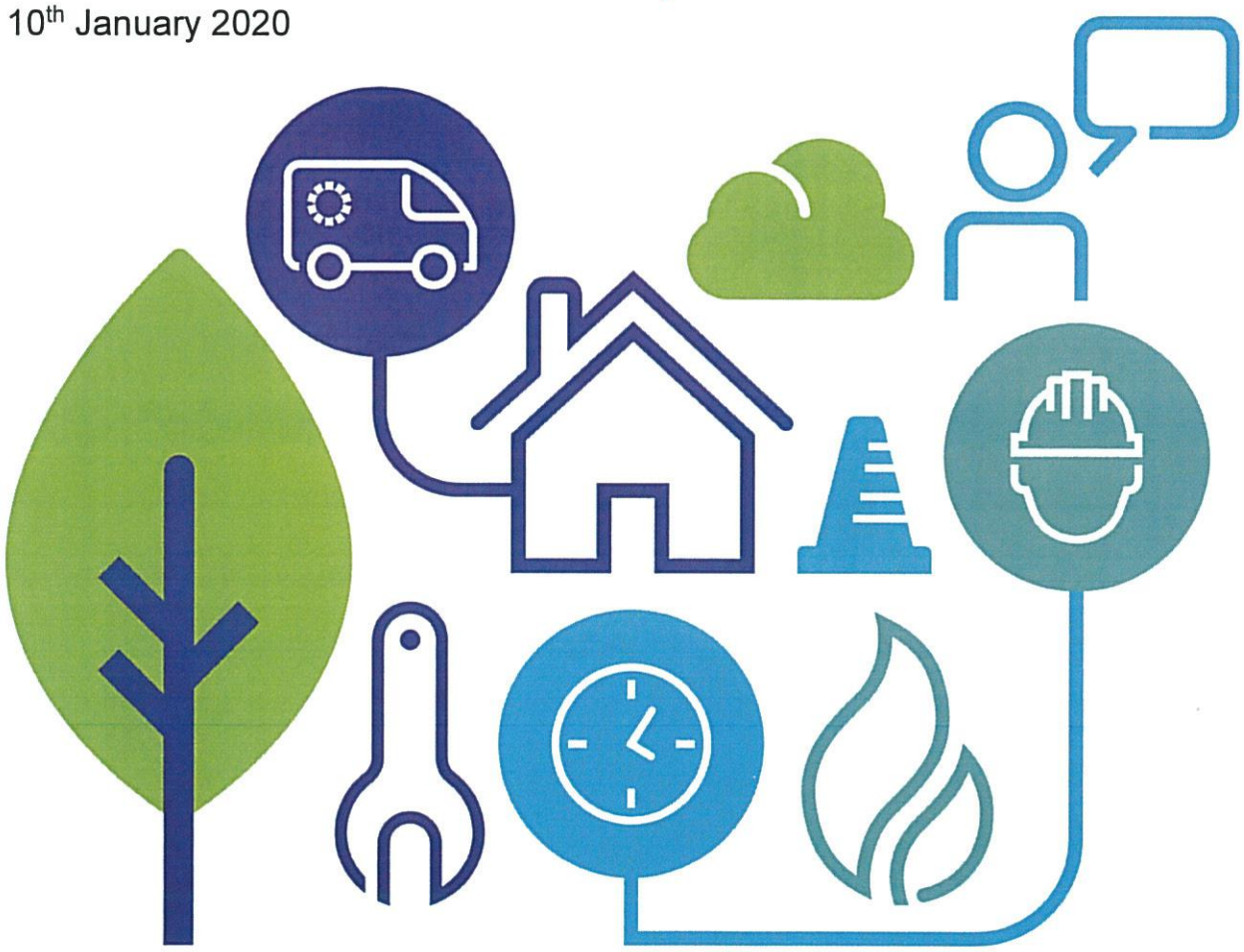
Gas Networks Ireland

Ag-Climatise – A Draft National Climate & Air Roadmap for the Agriculture Sector to 2030 and Beyond

Gas Networks Ireland Response

10th January 2020



Part of ervia group

Contents

1 Introduction

Gas Networks Ireland (GNI) welcomes the opportunity to respond to the Department of Agriculture, Food and the Marine (the Department) Ag-Climatise consultation.

Ireland has a real opportunity to reduce agricultural emissions through the development of agri anaerobic digestion (AD) to produce biomethane. GNI has set out a vision and pathway as to how Ireland's gas network can be net zero carbon by 2050 in a recently published document called "Vision 2050[1]". As part of this vision GNI estimates that the use of agricultural waste streams to produce biomethane would reduce agricultural emissions by at least 1.2Mt CO_2 per annum by 2030 and 2.4Mt CO_2 by 2050.

GNI owns, operates, builds and maintains the gas network in Ireland and ensures the safe and reliable delivery of gas to its customers. The company is responsible for transporting natural gas through 14,390km of pipeline networks. The gas network supplies energy to over 700,000 customers, including businesses, domestic users and power stations. GNI believes that gas and the gas network are integral to Ireland's energy system and future.

2 Consultation Questions

Part 1: Implementing Changes Now

2.1 Reduce agriculture emissions to at least 19 Mt CO_2eq by 2030

Question 1: Are there other actions that could be considered for inclusion to further enhance progress and credibility of agricultural actions? Is there more that farmers and the food industry itself can do?

An additional deliverable could be added to Action 1:

"Promote the use of digestate to replace chemical fertilisers."

There are carbon emissions associated with the production and transportation of chemical fertiliser products. Replacing chemical fertilisers with digestate (a naturally occurring by-product of the AD process) will result in avoided emissions for the agricultural sector. Additionally, as this digestate is of a high quality, its application to land can result in higher levels of carbon being sequestered into the soil, with the land becoming a carbon sink.

Question 2: Have you any feedback on how uptake of these actions can be encouraged and facilitated?

A support scheme to encourage production of biomethane is necessary to grow the industry in Ireland and consequently create a supply of digestate to support the proposed action above.

GNI has recently proposed to DCCAE that the Government commit to an interim target of 3TWh of biomethane grid injection by 2026 in the National Energy and Climate Plan (NECP) and implements a biomethane support scheme in response to Action 130 in the Climate Action Plan (CAP). GNI is proposing that ring-fenced carbon tax revenues from natural gas in the non-ETS sector are used to fund the biomethane support scheme.

[1] Vision 2050: https://www.gasnetworks.ie/vision-2050/future-of-gas/GNI_Vision_2050_Report_Final.pdf

2.2 Enhance the development of sustainable land management practices by delivering 26.8 Mt CO_2eq abatement through LULUCF actions over the period 2021 to 2030.

Question 3: Are there other actions that could be considered to maximise the contribution of sustainable land management? Is there more that farmers and the food industry itself can do?

The "Special Report on Climate Change and Land[2]" published by the Intergovernmental Panel on Climate Change (IPCC) in June 2019 is worth considering when setting actions to achieve this objective. The IPCC highlight that the potential for soil carbon sequestration in croplands and grasslands is considerable, as even increases of less than 1% could mitigate current emissions and there are many co-benefits, including better soil fertility, structure and water retention, which in turn collectively could lead to productivity gains.

There are a number of ways to enhance the uptake of carbon in soil such as using plant varieties that have deeper roots, agroforestry, adding organic materials e.g. digestate based bio-fertiliser, and changing crop rotations. The potential for this strategy is location-specific, depending on the soil type, prior and current land management practices, environmental conditions and other factors. Before any of these actions are implemented in Ireland an analysis of current farming practices would be required to determine whether actions can achieve the desired outcomes. For example to successfully implement one of these actions may mean a change in current farming practices or require an amendment to existing policies to align with the actions. The types of agricultural products demanded by consumers would also need to be taken into consideration along with food prices.

Question 4: Have you any feedback on how uptake of these actions can be encouraged and facilitated?

The introduction of any new actions for farmers (eg. using plant varieties with deeper roots, changing crop rotations) should be accompanied by financial incentives to encourage uptake along with training on how to effectively implement the actions.

2.3 Contribute to sustainable energy and decarbonisation of energy system

Question 5: Are these actions sufficient, or are there others you would suggest? Is there more that farmers and the food industry itself can do?

GNI welcomes the inclusion of AD and indigenous biomethane in Actions 9, 10 and 13. In addition to decarbonisation the growth of AD plants to produce biomethane would provide new income streams for rural communities, from the sale of feedstocks for the AD plants, bio-fertiliser and biomethane. The SEAI estimate that stimulating a renewable gas industry in Ireland could contribute directly to over 5,000 jobs during plant construction and over 3,000 jobs in plant operations[3].

With respect to Action 10, GNI suggests the government considers establishing a National Coordinating Body to support development of biomethane. This body could consist of a national research group (for example Teagasc), a semi-state such as GNI and a representative for industry.

Creating this body should accelerate the development of a sustainable biomethane industry in Ireland.

In respect of Action 13, GNI suggest that higher targets are set, with carbon savings of 1.2Mt per year by 2030 and 2.4Mt by 2050.

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[2] IPCC Special Report on Climate Change and Land: https://www.ipcc.ch/srccl/
[3] SEAI, 2017 Assessment of Costs and Benefits of Biogas and Biomethane: https://www.seai.ie/resources/publications/Assessment-of-Cost-and-Benefits-of-Biogas-and-Biomethane-in-Ireland.pdf:

Question 6: Have you any feedback on how uptake of these actions can be encouraged and facilitated? DAFM would also like to hear your views on the barriers and challenges to deployment of energy efficiency and renewable technology and also the types of supports and incentives that could increase deployment and wide spread adoption.

To achieve Action 10 the government should provide a mandate to the relevant organisations to establish the National Coordinating Body discussed in response to question five.

To meet the higher suggested targets in Action 13, GNI suggests supports are put in place to encourage the production of biomethane.

Part 2: Acting in Partnership

2.4 The State will play its part

Question 7: Are there other actions which the State could consider, particularly in partnering with Industry?

As discussed above, the State could facilitate collaboration by assisting in establishing a National Coordinating Body for biomethane development.

2.5 A greater role for producers, farm advisors and processors

Question 8: Are these actions sufficient, or are there others you think that Industry should pursue?

GNI suggests Action 17 is expanded to include reference to digestate:

"Action 17: We will develop an Inclusive advisory strategy maximising the use of latest available decision support tools and metrics on performance to underpin implementation of the GHG and ammonia MACC with a particular focus on building climate resilience in our production systems, improving soil fertility and reduced fertiliser use through more effective nutrient management optimising the use of livestock manure, digestate and biological N fixation."

The use of digestate has significant potential to reduce carbon emissions as discussed above in response to question 1.

Question 9: Given that the State and policies such as the CAP can't finance or deliver all of the actions required, which actions or measures could Industry fund?

No response.

Question 10: Do you have views on how the market could better incentivise and/or reward primary producers for adopting and implementing the necessary actions?

There are energy consumers in the market that are willing to pay a premium price for renewable gas. Energy suppliers could attempt to find these consumers and use the premium garnered to incentivise producers to supply the renewable gas. This would ensure an economically viable price to producers and support production.

Part 3: Preparing for the Future

Question 11: What are your views on these six guiding principles in preparing for the future? Are they sufficiently comprehensive or are there others you would add?

GNI is supportive of the six proposed guiding principles and believes they are comprehensive.

Question 12: Innovation is now widely recognised as a key driver of long-term growth and sustainable development and addressing of challenges such as Climate Change. What type of approaches and processes could assist the Irish agri-food innovation system to address economic and societal challenges and facilitate increased networking, collaboration and investment?

An environment which encourages innovation should be supported. This could be achieved through the provision of funding to innovative agri projects and funding of university agri research.

A Chara

Attached please find three documents by way of contributions to the call for submissions on the best Climate Change Actions around Ireland's GHG emission particularly in the Agri sector.

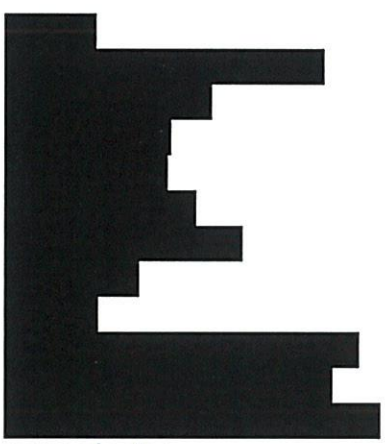
This includes an invitation for those in your and other Departments to a launch of "Climate Actions Now" a new not for profit, non political organisation, launching on the 28th Feb in the Button Factory, Temple Bar, at 10am.
We will be bringing together many experts total on the whole subject that will include speakers on Sustainable Farming, Industrial Hemp and it's many uses.

Hemp Crete, Medicinal Cannabis plus discussions from legal and other experts on the Legislation and standards the Hemp Industry needs around the licensing, growing and producing the many of the best Hemp based products that are viable in Ireland, the EU and world-wide.

I am happy to help and to meet with you the Agri Dept at any time to discuss this whole subject around sustainable faming, to help bring an end to end solution.

I look forward to hearing from you

Very best regards and thanks



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Do YOU want to positively and creatively engaged in Climate Actions Now?

Climate Actions Now (CAN) mission is to find and implement sustainable ways to make significant reductions in Green House Gas (GHG) Emissions and to set up effective Carbon offsets in Ireland, the EU, Africa and then Globally.

CAN will raise all the funding necessary for investment in the needed infrastructure, framework and science required to establish several Agri Hemp Centres of Excellence (CoE) to achieve the above goals on the Island of Ireland as well as one in Uganda, South Africa and Nepal.

Creating new jobs, wealth and opportunities from carbon offset and GHG reduction farming, providing integrated end-to-end solutions that prove the viability of an Industrial Hemp Industry with all the many desirable products Hemp and other carbon sequestering Agri products and services that can achieve.

By year five, CAN will be very well proven and highly profitable.

It's about positioning...

CAN is partnering with the best people from the State, Semi-State, University, Agrarian, Enterprise creation, Development, Investment, Grant aiding and Venture capital sectors, together with all relevant organisations in Ireland, the EU and Africa (as part of the Irish Africa Agri fund initiative run by the Irish Dept. for Foreign Affairs (DFA) https://www.agriculture.gov.ie/aadp/

Ireland can be a world leader in the Research & Development of Industrial Hemp and creating an effective and very profitable consumer and producer carbon offset market with appropriate Apps and Social Media Platforms.

CAN and its many partners will be instrumental in creating sustainable real and fully Blockchain traceable reductions in GHG Emissions worldwide.

CAN is positioning Ireland, Uganda, South Africa and Nepal as exemplars of the highest standards of economically viable and sustainable transitions to real carbon offset economies.

CAN in partnership with David Boles, Inventor of the revolutionary **Climate Action App** (**CAA**) and University College Dublin in developing CAA ready to launch as a world first by Sept 2020. CAA is a bottom up approach to CO^2 reduction that rewards rather than punishes users and will be a game changer in reducing an individuals GHG emissions and monetising Carbon Offsets. This App (CAA) shows people their personal carbon footprints, then rewards users for their emission reductions, including cash payments, social media approvals etc.

CAN will be creating positive shareable news and encouraging positive behaviours around the subject of Climate Change that has too often and for too long been focused on the negatives.

The positive CAN movement will be amplified and broadcast on a dynamic gamefied social media platform that is community created / moderated content rich destination for those passionate about the cause of positive Climate Action.

To be progressive, we should be ambitious, without being reckless …

We will be unique and distinct in our attitude, to embrace the 'ambitious' nature of our mission and the unique collaborative and economically positive role that distinguishes our solution from others.

Over the coming 5 years the European Union (EU) will be legislating for a Carbon Neutral European Union by 2050. The EU and Ireland are actively an urgently looking for economically positive, sustainable solutions to achieve carbon neutrality for the benefit of all stakeholders and future generations. So the environment for Funding from the EU and Ireland for CAN is very favourable, CAN should be a No Brainer for everyone concerned.

Ireland and the EU are looking to help develop Africa, its fast emerging economies and exploding population in Carbon neutral ways.

Africa has much to offer the EU and the world towards Food Security as well as Carbon Offset that CAN will highlight and then link both continents with this mission.

CAN will guide the necessary research, regulation, advocacy, business-case, infrastructural development that enables a positive, sustainable, robust, highly investable economic engine for Ireland, Europe and Africa.

This will span Agri Industries and their abilities to make GHG reductions in the Food, Textile, Plastics, Construction, Health/Pharma and many other industries. Thus ensuring positive carbon-neutral economic growth and a vibrant new Global Green economy.

Hemp sequesters .5 of a tonne of CO^2 per tonne of Hemp grown and processed. If Industrial Hemp is fully supported by the Irish Government allowing Ireland to reach all GHG emission targets within 5 years.

By using Industrial Hemp as a major rotational cash crop and simultaneously developing the infrastructure needed for this industry and its products to the maximum, the following is realistically achievable.

Immediate Benefits of CAN's Proposal;

- Make significant CO2 & other Green House Gas (GHG) reductions.

- Pay farmers in Ireland between €1.5k to €4k per acre for growing top quality Hemp and a very fair price in every country where we can grow and export good Hemp and its many in demand products.

- Create sustainable cost effective rural development, employment and wealth.

- Firmly establish Hemp Crete in the construction industry, as an affordable ecologically proven carbon neutral, fire, pest and mould resistant material, with very significant benefits in terms of insulation and user safety.

- Leverage Hemp's high food and oil values for innovative food supplements etc

- Develop viable biodegradable plastic (hemp plastic etc) as a replacement of single use plastics and eventually all petro chemical plastics.

- Research, regulate, produce and patent where possible the best new cannaboid based medicines, oils, cosmetics etc.

- Generate new incomes for farmers from Carbon Offsets that can be achieved using CAA etc.

Climate Actions Now - Brand Definitions

To move forward well we need to be visionary and effective.

Positioning Statement

"Climate Actions Now (CAN) is a solutions based human and ecological social enterprise development movement and advocacy, focused on the universal need to educate and incentivise all stakeholders towards our personal and industrial low-carbon pathways globally"

Re-Assurance Statement

A for-profit social enterprise working with Government Departments, Universities, Regulatory Agencies and Industry to educate, incentivise and commercialise sustainable solutions for a carbon neutral economy, with Industrial Hemp being a central, but not the only part, of this movement.

Partnering with key groups, Climate Actions Now will provide the needed coordination and insight to drive the legislative and infrastructural environment to ensure a carbon positive future.

Committed to partnering with Government, Regulators, Industry, Venture Capital, Business Leaders and Civil Society Groups internationally.

CAN will help drive Ireland, the EU, Africa, Nepal and India to become leaders in sustainable economically proven solutions and technologies.

Core Corporate Values

Dharma like, Trustworthy, Educational, Positive, Solutions focused, Sustainable, Cutting-edge, Global…

These brand values should guide all communication with regards to the brand name, sub-names, tone of voice, brand identities, on and offline communication and imagery.

Secondary Values

Ambitious, Authoritative, Contemporary, Casual, Cool, Dynamic, Ethical, Fun, Hopeful, Helpful, Innovative, Informed, Maternal, Pioneering, Reliable, Realistic, Transparent, Youthful.

Please see the links below to give you a lot of info on some of the many products and positive Climate Change benefits of Hemp that includes Hemp Crete plus many more links. By the time you go through even half of these, you will know more about the Industrial Hemp Industry than 99.999% of the people in Ireland!

The Power of Hemp and it's countless uses - https://youtu.be/vZvFE53JzDk
8 Ways Hemp Can Save the World - https://youtu.be/5DzcgP9kpCk
Kevin McCloud (Bringing It Home) on HempCrete - https://youtu.be/2R7JJHKnUFo
Building with Hemp, an Incredible sustainable Insulation
https://youtu.be/9d_wsoZS6j0

The two videos below are good viewing to get the facts and understand the issues we have in Ireland now. The laws are changing in the USA, Canada, Oz etc since these videos were done. These videos talk more now as to where we are in Ireland now. The potential for the Hemp in Ireland is huge as it will grow very well even in some marginal lands. The video discusses the stupidity of the laws as they are conflating low THC Industrial Hemp, with the high THC variety that is marijuana.

https://youtu.be/Bi10RfHffZM - Great Video on Australian ABC's Landline program in 2012 that covers the story about the development of the Industrial Hemp industry in Oz. It has many insights, lessons and synergies as to where Ireland is now. Australia's also changed its laws in the last few years, so the Hemp farming and Hemp business is booming there now they are exporting Hemp Food to over 50 countries now…
https://youtu.be/nJvVwXCu2g4 - Very good video from 2015 about the way Hemp is helping farmers in Kentucky move from now loss making Tobacco to Hemp cultivation.
There are parallels with Irish beef farmers, who need to move away from Livestock / to non methane producing tillage and better still, CO2 sequestering Hemp Crop...

This is an article about building with Hemp and why its good for the environment
https://www.ukhempcrete.com/why-building-with-hempcrete-is-good-for-the-environment/?fbclid=IwAR15zuX3Z3R6qoMdtgBD75nAi2BlFOCAcszf4WHAcvQck5YLfhODBizMZOQ

Here are a few videos about how Hemp was used in the motor industry and is again
Henry Ford's Hemp Plastic Car (1941) https://youtu.be/BLKDTfQMhfg
https://www.disclose.tv/henry-ford-invented-cars-made-of-hemp-plastic-that-ran-on-hemp-fuel-314640?fbclid=IwAR2bQJJzsyzbC8Uo5f9ehHwZYD-dlvsk5WG8ljNrgYFaZLIAx6zj_h3yFos

Finally here is a good article on People Who Beat Cancer Using Cannabis Oil Only by Eric Geisterfer https://link.medium.com/62WbIL2kgV

https://www.cannabistech.com/articles/the-amazing-world-of-hemp-solution-to-our-worlds-massive-plastic-problem/

https://www.cannabistech.com/articles/hemp-hempcrete-the-most-sustainable-building-material-on-Earth/

https://www.cannabistech.com/articles/the-amazing-world-of-hemp-big-fashion-eyes-hemp-textiles/

GlasTeo.com

GlasTeo.com created and organised the 1st Irish Industrial Hemp Summit on 20th June 2019 in cooperation with Teagasc and most of the Irish Hemp producers.

GlasTeo Ltd. is an Environmental and Hemp consulting business operating as a social enterprise with the goal of promoting and supporting the establishment of an indigenous Hemp industry here in Ireland.

The best research has shown that Industrial Hemp, in comparison to any other plants has the best potential for helping Ireland with many of the issues concerning climate change and the environment, including moving some of our farming focus from livestock to tillage.

The potential of a fully developed Irish Hemp Industry offers many viable and rapid solutions to several priority areas for legislators in Ireland and the EU which includes:

Our first major public action by GlasTeo was to stage the Premier Irish Hemp Industry Summit on the 20th June 2019, Ashtown Dublin 15

Bellow is some of the information we assemble for and from that Summit. We are also disseminating some of the great work and research that was done by Teagasc over the years.

Great respect is due to Dr. John Finnan (RIP), who lead much of the good farming and scientific research on growing, harvesting and more on Hemp for many years, he was ahead of his time, but now his great work will live on and be so useful to us all forever.

Great thanks and respect is also due to Barry Caslin (Teagasc) and all his colleagues in Ashtown, who made the first Irish Hemp Summit possible.

1) **Farming, Rural and Regional Development:**

   Hemp offers farmers struggling with low (beef) prices to diversify into production of higher valued Hemp crops and its many products.
   Organic Hemp is achieving high premium prices per ton from the CBD hemp oil producers (1,500 to 4,000 euro an acre).
   Hemp can also be grown in some marginal lands, like if the Ph is around 6.5, it's not too wet and has some good loaminess to the soil etc).

   The establishment of ancillary products and services can radically improve farming income, rural, regional and local community development, engagement and employment while enhancing social capital.
   The infrastructure needed to make this a very successful industry- and thus a very profitable rotational cash crop is lacking at present. But that is also changing quite rapidly. So at the end of 2019, our recommendations will be to proceed cautiously

but optimistically. We believe that 2020 could be a watershed year for the industrial and Industry in Ireland.

By that we suggest 2020 would be a good year to experiment with an acre or two of Hemp to become familiar with the actual growing and harvesting, to learn whatever lessons one can by actually having the direct experience.

We would also suggest it is best not to grow a lot of hemp in the first year without guidance and having a contract for sale the crop. This is the safest way forward without risking more than your labour and a small investment in seed etc. There are grants available that can effectively recover most of the costs of seed.

If there are enough farmers / growers in an area interested in participating in a Hemp growing experiment, GlasTeo can help with the planning, marketing, sales and distribution of your crop. Some form of informal cooperative could come together to see how this could work going forward and if all goes well, then we could all be very well set for 2011 and onwards.

With all of this collective research, development and experience, by getting to know and trust each other, we can all prepare to grow and sell in much larger quantities in 2021. By then there will be a better legislative and infrastructural foundation for success.

GlasTeo.com is actively working with many other good people and organisations to help bring about the necessary changes in legislation, licensing and quality standards. With luck and hard work, we hope to achieve this in 2020, at least we will do our best to make it so.

2) **Green House Gas Emissions:**

Industrial hemp has been scientifically proven to absorb more CO2 per hectare and grow faster than any forest or commercial crop and is an ideal carbon sink. In addition, the CO2 in Hemp stems can be permanently bonded within the fiber that is used for many and varied quality products. These includes food, textiles, paper, biodegradable plastic, bio fuels, medicines, health, beauty products and the stalks or 'Hurd' make an excellent building and insulation material "HempCrete" etc.

3) **Environmental Industry:**

Hemp benefits include lower carbon emissions levels, sustainable bio-fuel production, lower deforestation and soil erosion, reduced loss of biodiversity, lower impact on water resources and bioremediation of soil.

4) **Renewable Energy:**

Hemp has several applications in renewable energy: as a competitive Bio Fuel that can replace some of our Petrol Chemical fuels and can be mixed with Diesel etc to reduce the carbon footprint of such fuels. There are increased EU incentives coming in for Biofuels like Hemp.

But also Hemp-based carbon nanosheets now in development outperform standard super capacitors by nearly **200%**. Hemp is a likely candidate to assist in the production of capacitors for electric vehicles and other industrial applications.

5) **Food:**

Hemp seeds are a very rich source of omega-3 and omega-6 amino acids, proteins and essential for good health cannabinoids. These nutrients are essential for good human health, a good search on Google will show how Amino Acids are vital for our well being, they aid in insulin balance, cardiac function, mood stability, skin and joint health. In fact, amino acids are essential for cell growth and health, without sufficient Amino Acids, one will suffer ill health, it's as simple as that.

6) **Housing:**

Hemp Crete is a bio composite building material that provides enhanced thermal properties to walls, roofs and can cut heating of building substantially. Hemp Crete provides an excellent use of fiber for the sequestering of CO2 from the atmosphere, locking it in Hemp Crete. It is also fire and mold resistant. The low-tech attributes of Hemp Crete for building make it a solution for builders facing increasing carbon tax issues if they continue to use existing materials.

7) **Health:**

The healing attributes of the Hemp plant are well documented by a wealth of doctors, scientists and many peer-reviewed studies. This intense and increasing research is showing CBD oil benefits many things like chronic pain, sleep disorders, epilepsy, IBS, reducing inflammation, anxiety, PST, arthritis, many neural degenerative illnesses like Parkinson's, Alzheimer's disease etc. It is also being used against multi drug resistant bacteria, oxidative stress, skin conditions etc etc.

8) **Plastics:**

Rapid progress is being made with the production of fully bio degradable Hemp Plastics. They can replace virtually all the Petro' Chemical, non-bio degradable plastics we are currently producing to our great cost. The Bio Plastic industry alone shows huge potential for Ireland and for both local markets and exports.

9) **New Business Creation & Employment:**

The Hemp industry is globally showing the most growth in employment of any industry, including Tech in North America. This ranges from farmers and agricultural workers to extraction technicians to retailers, managers, chemists, and laboratory scientists etc. These are positions that directly support the cultivation, refinement and distribution of Hemp and its multitudinous related products. Many ancillary businesses are also created i.e. conferencing, consulting, quality controls, financial services, building, retailing etc

The Premier Irish Hemp Summit

The first Irish Hemp summit was held to demonstrate how Hemp cultivation is taking off around the world due to its unique environmental, climate change, health and rural development benefits. The summit underlined why Ireland needs to move now or be left even further behind in this rapidly developing global Hemp industry.

GlasTeo is working with Irish and international companies and organisations in the state sector and farming sectors. These include Elixinol, Teagasc, the IFA, Enterprise Ireland,, the DFA and the IDA.
This is towards the proper and sustainable development of the Industrial Hemp Industry.

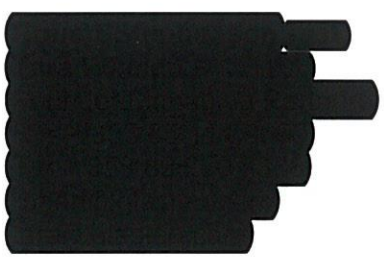
This next Irish Hemp conference on the 28th and 29th Feb, organised by GlasTeo in several top locations Dublin's Temple Bar. We will highlight how Ireland can develop a unique position in the EU and the global market. It will be shown how Ireland can maximize sustainable economic returns while providing significant solutions to carbon emissions from the agricultural and building sectors.

This summit will also focus on the potential for growing Hemp for food, fuel, fiber, building materials, bio-plastics, health and dietary supplements and providing a new sustainable source of incomes for rural diversification and job creation.

Coordinated action is needed from state agencies such as Food Safety Authority, Bord Bia, Enterprise Ireland, Teagasc, Health Products Regulatory Authority, Department of Agriculture Food & Marine, Department of Health, Department of Communications Climate Action and Environment who will all be attending this summit.

We will send an official invitation and the summit programme to anyone interested that requests same. That will inform and support the very important role Industrial Hemp has to play in our common Goals and good Climate Actions now, under wish banner we will promote this major First Irish Hemp Conference.
There are only a limited number of places for this Conference, so an early request for info is recommended.

Very best regards and thanks,



GlasTeo Ltd, Eco Events Creation,
Environment and Hemp Industry Consultants.
Barta Cove, Harbour Road, Dalkey, A96 R279, Ireland

The role of Kerry cattle and rare breeds in Climate Action Plans

[redacted]

As a young farmer I do realise the climate crisis and the need to reduce the carbon footprint from Irish agriculture. Taking my own actions on this, in early 2019 I invested in Kerry cattle and reduced my numbers of AA cattle on my farm in [redacted]. My long term intention is to enter the artisan food producers market with dairy products from the milk of the Kerry cow. Murphys Ice Cream is a shining example of a successful business born out of recognising the need to repurpose the Kerry cow. Whilst I am all in support of climate action plans proposed by the Department of Agriculture I would like to raise some concerns and propose measures to mitigate them for the Kerry cow.

There is currently a calf grant for Kerry cattle of €86.18 which is sustaining the breed to a degree amongst pedigree breeders. The payments for keeping Kerry cattle under GLAS contributed to increasing numbers however I do feel that once GLAS payments finish that these animals will be disposed of causing numbers to drop again.

I was recently featured in the Farming Independent (07/01/2020) in a piece speaking on my experiences with Kerry cattle and the responses I received were overwhelmingly positive in relation to people enquiring about purchasing Kerry cattle and wishing to visit the herd. There is interest in this breed but there are a number of obstacles to overcome in facilitating uptake of this breed.

There is currently very little data on the ICBF for Kerry cattle in terms of EBI and Eurostar indexes – the Kerry is a dual beef and dairy breed. Due to this, figures are of low reliability and, in my experience, are not representative of reality. I have taken the initiative to genotype all of my Kerry animals (which is only 10 at the moment) as I want to start the ball rolling on data recording for them.

As one of few Kerry cattle breeders my concern is that they will suffer at the expense of the HO/FR and JE cattle. Milk recording, EBI figures, genotyping and weighing are databases that have little to no data on Kerry cattle. I have been genotyping my Kerry stock. There needs to be encouragement of dairy farmers milking Kerry cattle. Their current milking performances are not reflective of how a Kerry can perform on good grassland and a typical dairy cow diet which in turn is not reflected in her EBI. The Kerry is a native breed with a small carbon footprint, they are a dual beef and dairy breed and are very efficient. My Kerry cattle can thrive on poor grassland and would not require over fertilised pastures for optimise milk or beef production. The Kerry is a native, endangered breed - the extinction of a breed is just as detrimental to agriculture as intensive farming practices. If a grant was provided for farmers to breed, milk and kill Kerry cattle this will assist with populating the databases, correctly establish EBI and milk recording figures, bring a native breed back in to the spotlight and is more carbon efficient as she is a small cow.

A very interesting study was conducted and published in 2018 on the genomic characterisation of Kerry cattle https://www.frontiersin.org/articles/10.3389/fgene.2018.00051/full To quote this work directly:

> In recent years, however, due to deteriorating economic circumstances in Ireland post-2008, the Kerry cattle population has substantially declined once again and is classified as endangered and under significant threat of extinction or absorption through crossbreeding with other breeds (McParland, 2013; Department of Agriculture Food and the Marine, 2014).

The small pool of breeding females has resulted in only a handful of bulls in AI or bloodlines that can be bought as a breeding bull – this is resulting in inbreeding coming in to play which further contributes to the declining numbers of the breed.

I am proposing a Kerry Cattle Grant which is of benefit to the farmer, beast and the DAFM. The grant will be a monetary payment to the farmer (e.g. €100 per KE animal per year up to a ceiling specified by the DAFM) but is subject to a number of conditions being met by the farmer:

- All KE or KEX animals must be genotyped and verified as the breed or crossbreed
- Farmers keeping Kerry cattle for beef purposes will participate in BEEP style scheme where cows and calves are weighed
- Farmers keeping Kerry cattle for dairy purposes will be milk recording

The increasing emphasis on EBI which is closely correlated to carbon footprint is showing to be reliable for the conventional dairy breeds as there has been years of data incorporated into the figures. Kerry cattle are not at this advantage and resources must be available to do so. The Kerry brings a lot of advanatges to farmers, however, she is judged based on her performance as a "poor mans cow" and has not been afforded the opportunity to showcase her abilities on the same diet as a conventionial dairy or beef animal. Kerry cattle milk has been found to be suitable for infants, sick and eldery as the milk contains small, easy to digest far globules. The Kerry cow is also known for butterfat and protein figures exceeding 4% in many cases. Average milk yield is between 2950 and 3650kg at 4% butterfat and there are quite a number of cows capable of yielding 4535kg at 4% and over. Globules of butter fat in their milk are much smaller than in any other breed and so the food value of the milk is enhanced [reference: British Kerry Cattle Society]

Kerry cattle are renowned for their abilities to thrive on rough ground and, as a native breed, they have an innate adaption to the Irish climate. As such, they do not require the high levels of concentrates feeding or necessitate intensive grassland management to be productive. She is a small cow that calves with ease (wide set hips. Kerry heifers have calves CH and LM calves with ease) and matures at a lower weight than conventional breeds. Their feral nature also sees them scavenage for weeds and plantlife that other cattle would pass over.

To summarise the beneficial traits of the Kerry:

- Easy calving
- A manageable size
- Long lived
- Hardy and thrify
- A good convertor of poor quality forage
- A producer of quality milk and beef

Below is a example of EBI for Kerry cows in my herd (purposed as beef animals not dairy when purchased). EBI figures are negative with low reliability – this is due to the fact that the sire and dam lines have not been genotyped nor has the pedigree been quantified in terms of milk recording or terminal traits. I fear that it is these numbers that will be interpreted as the Kerry cow having a very large carbon footprint when in fact the truth is that the data is not reliable or reinforced by years of data recording. This is why I am proposing that the accurate data recording for the Kerry breed is undertaken.

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Profit through Science
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Economic Breeding Index (EBI)
Animal Report (Cows)

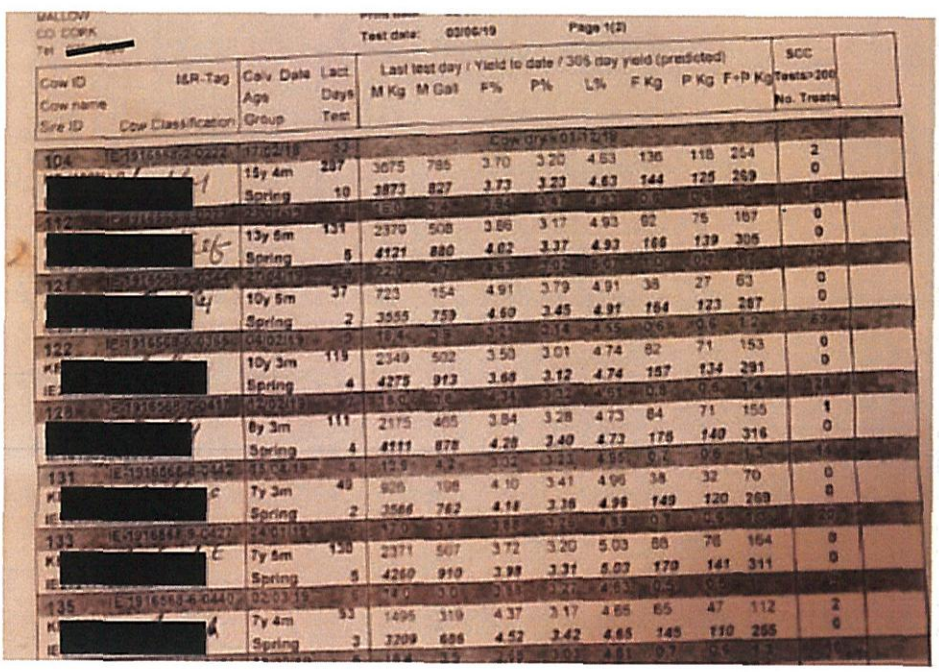
ICBF.com

Report Date: 26/11/2019 (Nov 2019 Evaluation)
Herd Owner: [redacted]
Herd No: [redacted]

* The Genetic evaluation data for this animal contains a Genomic component

FB Cow ID / Name / Breed	Sire ID / Dam FB / MG Sire ID	Sire EBI / Dam EBI / MGS EBI	C. Date / Age / Lact.	Milk Kg / Fat Kg % / Prot Kg %	Milk	Fertility	Calving Health	Beef Mainten Mgmt	EBI € Rel% Rank
50 [redacted] KE 96.9%	CXK -45 / 35 -100 / [redacted] -121	14/04/2019 -586 / 3y 7m -27.1 -0.09 / 1 -21.7 -0.04	€ -131	€ 60	€ 3 € -10	€ -81 € 84 € -2	€ -77 17 % 3
52 [redacted] KE 90.6% FR 6.3%	CXK -45 / 26 -83 / [redacted] -121	18/04/2019 -496 / 3y 7m -22.9 -0.07 / 1 -18.5 -0.03	€ -111	€ 67	€ -4 € -10	€ -79 € 72 € -2	€ -68 17 % 2
53 [redacted] KE 84.4% FR 12.5%	CXK -45 / [redacted] -1 / [redacted] 24	15/04/2019 -301 / 3y 7m -15.1 -0.06 / 1 -11.3 -0.02	€ -71	€ 54	€ 4 € -12	€ -81 € 83 € -3	€ -25 18 % 1
525 [redacted] KE 93.8%	[redacted] -143 / 149 -46 / [redacted] -187	03/04/2019 -620 / 4y 8m -32.1 -0.15 / 2 -26.3 -0.10	€ -166	€ 61	€ -5 € -3	€ -88 € 90 € -2	€ -113 25 % 4

On the next page I am also showing a milk recoring report from a herd whom I believe is one of the only Kerry herds in the country participating in milk recording (largely because there are next to no Kerry dairy herds in the country!). Please do note the ages of several animals highlighting the long lived trait of the Kerry. Fat and protein yields are very respectable and also note that mastitis and high somatic cell counts are not an issue with the breed.



MALLOW
CO. CORK
Tel [redacted]

Test date: 03/06/19 Page 1(2)

Cow ID / Cow name / Sire ID / Cow Classification / I&R-Tag	Calv. Date / Age / Group	Lact. Days Test	Last test day / Yield to date / 305 day yield (predicted) M Kg	M Gal	F%	P%	L%	F Kg	P Kg	F+P Kg	SCC Tests>200 No. Treats
104 [redacted]	17/02/19	237	3675	795	3.70	3.20	4.63	136	118	254	2 0
	15y 4m Spring	10	3873	827	3.73	3.23	4.63	144	125	269	
112 [redacted]		131	2370	508	3.86	3.17	4.93	92	75	167	0 0
	13y 6m Spring	5	4121	880	4.02	3.37	4.93	166	139	305	
121 [redacted]		37	723	154	4.91	3.79	4.91	36	27	63	0 0
	10y 5m Spring	2	3555	759	4.60	3.45	4.91	164	123	287	
122 [redacted]		119	2349	502	3.50	3.01	4.74	82	71	153	0 0
	10y 3m Spring	4	4275	913	3.68	3.12	4.74	157	134	291	
129 [redacted]		111	2175	465	3.84	3.28	4.73	84	71	155	1 0
	8y 3m Spring	4	4111	878	4.28	3.40	4.73	176	140	316	
131 [redacted]		49	926	198	4.10	3.41	4.96	38	32	70	0 0
	7y 3m Spring	2	3566	762	4.16	3.36	4.96	149	120	269	
133 [redacted]		130	2371	507	3.72	3.20	5.03	88	76	164	0 0
	7y 5m Spring	5	4260	910	3.98	3.31	5.03	170	141	311	
135 [redacted]		93	1496	319	4.37	3.17	4.65	65	47	112	2 0
	7y 4m Spring	3	3209	686	4.52	3.42	4.65	145	110	255	

SUBMISSION TO THE PUBLIC CONSULTATION ON 'AG-CLIMATISE'

A DRAFT NATIONAL CLIMATE & AIR ROADMAP FOR THE AGRICULTURAL SECTOR TO 2030 AND BEYOND

Green Party Ireland

January 2020

Summary & General Comments

The Green Party welcomes the opportunity to respond to the Department of Agriculture, Food and the Marines (DAFM) public consultation on A draft National Climate and Air Roadmap for the Agriculture Sector to 2030 and Beyond.

Our farmers and the land they own and manage, hold the key to dealing with the climate and biodiversity emergency our country finds itself in. They are the solution, and the Government needs to work with them, in conjunction with other environmental stakeholders to deliver on this challenge while still securing an economically viable and socially sustainable future for our farm families.

While the DAFM has supported 'environmental' measures via the CAP's Rural Development Programme, it is questionable if positive outcomes for our environment have been realised. A recent EU audit of the DAFM's Beef Data and Genomics Scheme (BDGP) questioned its environmental benefits[1].

With decreases in air and water quality, and increasing emissions from this sector, and biodiversity and our natural heritage still under significant pressure, a sizable transition is required in how these public monies are spent, and an assessment of the benefits of any such schemes or programmes must be considered.

What is needed is a profound and comprehensive reform of agriculture and food policy in Ireland. To make a concrete shift towards a sustainable agriculture that goes beyond rhetoric. Such a policy must be coherent, fair and truly sustainable. As such it will be more acceptable to citizens and consumers, at home and abroad who are increasingly aware of food system issues.

Reforming our agricultural sector without reforming the whole food system will be ineffective. Agriculture, food safety and public health, fair trade, environmental protection, climate and energy, economic and social cohesion, rural development, employment and education all jointly define our agri-food system. But their policies are developed largely in isolation from each other. From here on, this must change.

Farming and food system investment must be enabled and soil fertility rebuilt. Resources must be productively used. To regenerate the human resource base, agriculture and rural economies must be attractive to farmers, rural dwellers and businesses, across all areas. And such will include delivering numerous public goods like restoring biodiversity, enhancing animal welfare, managing water catchments and minimizing air and water pollution.

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1 https://www.independent.ie/business/farming/beef/eu-audit-questions-environmental-benefits-of-beef-data-scheme-38175863.html

PART 1: IMPLEMENTING CHANGES NOW

There are a variety of measures the DAFM can undertake to implement change now to reduce agricultural emissions, enhance the development of the sustainable land management practices, and contribute to sustainable energy. In addition to those measures suggested, here are some additional suggestion:

- Improve livestock management including through extended grazing of mixed species swards.

- Improve soil management and 'biological' fertility

- Greater utilisation of quicker maturing native breeds of animals, suited to our climate and landscapes.

- Better Management of existing peatlands, and rewetting of peatlands for carbon storage and paludiculture.

- Supporting diversification to lower carbon intensity farming, and the promotion of natural farming methods, such as regenerative farming, to reduce [often polluting] inputs.

    - Incentivise the provision of ecosystem services including HNV farming

    - Increase number of Natura 2000 sites

    - Enhance biodiversity and establish new habitats on more intensive farms

    - Use management practices which promote the concept of biodiversity-based farming

- The Green Party believes that the agricultural sector in Ireland is uniquely placed to become a world leader in the organic farming marketplace. Conversion to organic farming is possible, economically viable and environmentally beneficial if it is supported sufficiently through funding, research and knowledge transfer.

- Protection of existing hedgerows, trees and intact peatlands, and undrained peaty soils. It is welcome to see the DAFM acknowledging that peaty soils are significant CO_2 emitters, and that it will be necessary to adopt reduced management intensity of these peat rich soils to reduce CO_2 emissions while at the same time contributing to biodiversity and water protection goals. This proposal should also see such soils remain undrained, or if necessary rewetted.

- Use of min-till and zero-till to enhance soil quality, minimize soil carbon loss and reduce dependency on pesticides.

- Greater, more flexible afforestation schemes, implementation of the Green Party's "Close To Nature Forestry" Model.

- The Green Party believes that one of the key strategies in developing an agricultural sector that is ethical, financially secure and fair to farmers is to actively work towards a more diverse model of output streams. Ireland is hugely dependent on both livestock-based farming and the export market. We believe that local supply streams, serviced by various agricultural products, offering a comprehensive choice to food consumers would allow Ireland to evolve a self-sufficient and high-quality indigenous marketplace into the future. This should include:

    - Increased development for horticulture sector – to meet domestic market first.

    - Arable crop growing for high value human consumption, rather than for animal feedstuffs. The domestic production of grains for animal feed is already heavily challenged by cheaper imports.

    - Supporting diversification on farms for other income streams, e.g. hemp growing, agri-tourism, etc.

- The absence of feed-in tarrifs for energy produced on farms is significant weakness in promoting on-farm energy production.

PART 2: ACTING IN PARTNERSHIP

Reform of the CAP post 2020

A transformational reform of the Common Agricultural Policy will be crucial in the agricultural sector being able to deliver on its environmental and climate commitments. The following actions should be considered as part of the next CAP:

A shift in CAP funds from Pillar One to Pillar Two. As well as increasing support for environmental measures, CAP funding could also be used to support farmers to add value to their produce, perhaps in terms of supporting cooperative, local food production facilities, access to local markets, etc.

Fostering a greater understanding of environmental issues at farm level is an important aspect also – the benefit of environmentally friendly farming needs to be acknowledged by farmers.

Any new agri-environmental schemes, should be results based, as opposed to 'action based'. There needs to be an actual benefit to environment or biodiversity, as well as the farm itself.

CAP supports must induce a positive and beneficial change in behaviour and approach in our farmers and how they farm.

Collaboration across the food production system

Advisors
Upskill advisory service and engagement with stakeholders/industry.

Upskill educators in our network of Agricultural Colleges in environmentally efficient farming methods, soil biology, hedgerow management, etc.

Young Farmers
The education and enticement of young farmers into agriculture is crucial. The current education syllabi may not match future needs for low-carbon, nature-friendly farming practices.

Continue to increase rates of full and basic training for young farmers.

Develop career pathways in agriculture and land management.

Examine options for land access for those not coming from farming backgrounds.

Processors/Co-Operatives
Growing demand from discerning consumers for environmentally friendly, low carbon, high animal welfare food.

Consumer demand for local and regionally produce – both domestic and global.

Expansion of organic farming sector.

Development of relationships between farmers and consumers.

Rural Opportunities
Develop agri-tourism industry in rural areas in a sustainable way.

Increase employment rates, and expand employment options in rural areas.

Increase opportunities for rural female entrepreneurs.

Continued support on Research and Development
Technology is often offered as panacea for all difficulties, agricultural, economic or social. It is often to the detriment of farmers. The technological treadmill in agriculture is a well-known

concept. Its impact is greater on indebted farms. But such piecemeal fixes are misguiding. Over reliance on such technological solutions tends to ignore the fact that food is produced in living ecosystems subject to natural and man-made variability. Our increasing reliance on technology has not enhanced the resilience of our food systems or the environment in which they operate.

The development of a resilient and environmentally sound agriculture and food sector in Ireland will require an overhaul of the state agencies responsible with its delivery. For example, the roles played by Teagasc, Coillte, Born Na Mona and Bord Bia in dealing with our climate and biodiversity emergency must be considered. A strategic change will be required, and the remits of these agencies must be evaluated. The era of "greenwashing' must end.

PART 3: PREPARING FOR THE FUTURE

The way we farm has a direct impact on natural resources, including land, seeds, livestock, water, biodiversity, soil, and our collective knowledge.

The latter now tells us that we must focus on boosting biodiversity and natural ecological processes to produce our food. We need to make them work for farmers. And farmers must, again, learn to work with Nature, not against it. At the core must be biologically abundant, diverse agroecosystems. It is only they that will develop and maintain long-term fertility and ensure that we always have productive food systems. Such food [eco]systems must be resilient ecosystems to both adapt to and mitigate climate change.

Crucially, the food systems of the future must provide greater autonomy and independence to farmers, food chain participants and rural communities. They need to become less dependent on bought inputs, often non-renewable inputs, and debt. They must also be less exposed to volatile global commodity markets. Product and market diversity must ensure that they are not unduly exposed to market shocks such as Brexit or adverse trade agreements.

It will be necessary to engage the wider community in biodiversity related initiatives and our land use into the future.

There is also the need to meet changing consumer demands for "less but better" in relation to milk and beef production, and additional increases in demand for plant-based food and drink sources.

Brexit itself will decrease the available CAP budget, whilst increasing the challenges rural areas and farmers are facing. It is a crisis, but only one of many that Irish farming has faced in recent years. Brexit is only another illustration of why we cannot afford any further delay in making the transition to a socially and environmentally sustainable farming and food systems.

Business as usual is simply not an option. We need to use the funds currently earmarked for the CAP in a fundamentally different way, to move beyond the CAP as it is and to support farmers and consumers in the transition to a fully sustainable food production model.

HORTICULTURE INDUSTRY FORUM

'Ag-Climatise' - Public Consultation on "A Draft National Climate & Air Roadmap for the Agriculture Sector to 2030 and Beyond"

Public Consultation Submission posted by:

Full Name: [redacted]

Organisation where applicable: **Horticulture Industry Forum (HIF)**

or

Member of the public: ☐

Subsector:

Dairy	☐	Mixed	☐	Fisheries	☐
Beef	☐	Arable	☐	Industry	☐
Sheep	☐	Horticulture	✓	Prepared Consumer Foods	☐

Other:_____

Public Consultation Questions

Part 1: Implementing Changes Now

1. **Are there other actions that could be considered for inclusion to further enhance progress and credibility of agricultural actions? Is there more that farmers and the food industry itself can do?**

Suggested additional actions;

Research and identify how commercial fruit and vegetable producers can, using best practice:

- Incorporate Slurry / Farm Yard Manure and other bio agriculture waste in the soil to enhance and build soil fertility, and maximise soil carbon sequestration potential in the context of horticultural field crops taking account of microbiological risks on edible crops
- Reduce use of nitrogenous fertilizer while maintaining capacity to deliver similar yields

2. **Have you any feedback on how uptake of these actions can be encouraged and facilitated?**

Suggested additional actions;

Additional research should be conducted in the following areas:

- How best to incorporate Slurry / Farm Yard Manure and other bio agriculture waste in the soil to enhance and build soil fertility, and maximise soil carbon sequestration potential, in the context of horticultural field crops taking account of microbiological risks on edible crops
- Explore how to employ more green manures and composting to reduce N fertilizer use

3. **Are there other actions that could be considered to maximise the contribution of sustainable land management? Is there more that farmers and the food industry itself can do?**

Suggested additional actions;

A) Incorporate more agroforestry into horticulture enterprises to increase capacity to capture more CO_2. e.g. By planting Apple and other fruit trees to capture CO_2 with the additional benefit of improving national food security capacity

B) Given the potential for greater importation substitution through increased production of certain crops to meet growing demand for Irish fruit and vegetables (as cited on page 14 of the Ag Climatise roadmap public consultation document). The Horticulture Industry Forum (HIF) suggests:

- A DAFM Report be commissioned to identify:
    - Emerging national and international opportunities to increase and diversify existing and potential new plant crops that could be grown in Ireland
    - The strategy and resources that would be required to exploit the opportunities identified
- Advances in protected crop technology provide the potential for the development of the commercial growing of crops, including new crops in every region of the country. This potential should be encouraged through the provision of new supports to develop regional horticulture production hubs across the country
- HIF currently has representation from seven sectors of the Horticulture Industry; Amenity (Non-Food), Field Vegetables, Mushrooms, Soft Fruit, Top Fruit, Potatoes and Protected Crops. Over the past five years the sector has made significant investment in both infrastructure and equipment that supports more sustainable and environmental production systems. HIF will continue to work with producers and the food industry to promote the maximisation of sustainable land management.

4. **Have you any feedback on how uptake of these actions can be encouraged and facilitated?**

Feedback to encourage these actions;

HIF proposes that resources be assigned to identifying how all sectors and elements of the bioeconomy can interact and synergise activities in a circular fashion that deliver nutrients to primary production, capture and reuse waste generated and deliver environmental sustainability with due regard to food safety implications. Such systems should then be encouraged through government instruments such as grant support and tax incentives, to enable these systems to become commercially established.

For example, there is real potential for new regional "circular" horticulture production systems to be developed that would employ protected structures, such as greenhouses to produce crops to feed local populations. Organic nutrient could be sourced from local ruminant producers and waste/ by-products valorised and supplied for other possible products.

5. **Are these actions sufficient, or are there others you would suggest? Is there more that farmers and the food industry itself can do?**

Suggested additional actions;

The horticulture industry has and continues to make considerable investment towards the use of renewable energy sources such as biomass and photovoltaics in meeting its heating requirements with many producers and growers within the protected crop sector now using biomass. In addition, the tomato and soft fruit sectors growers are achieving significant decarbonisation through the capture of CO2 emissions from heating systems and re-use of this CO2 back into the production system to optimise plant growth. Also, producers within the protected crop sector are harnessing greater energy efficiency through the adoption of energy efficiency technologies such as thermal screens and environmental control systems. To build on this progress HIF suggests:

- Investment in potential for capture of CO_2 emissions from heating systems and re-use to optimise plant growth in protected crop enterprises e.g. Data hub and tomato unit
- Supports for the Protected Crop sector to harness more energy efficiency through adoption of efficiency technologies such as thermal screens and environmental control systems
- Development of more renewable energy crops, wind energy generation and use of photovoltaics to power horticulture production units, machines, equipment etc

6. **Have you any feedback on how uptake of these actions can be encouraged and facilitated?**

   DAFM would also like to hear your views on the barriers and challenges to deployment of energy efficiency and renewable technology and also the types of supports and incentives that could increase deployment and wide spread adoption.

HIF suggests that a holistic approach must be taken to the encouragement of sustainable energy adoption and production. A combination of incentives and supports to producers will increase adoption of sustainable energy technologies and sustainable use of energy but this must also be balanced with how carbon usage and carbon sequestration is measured.

For instance, tomato and soft fruit sectors growers are achieving significant decarbonisation through the capture of CO2 emissions from heating systems and are re-use of this CO2 back into the production system to optimise plant growth. It will be important that both sides of the spreadsheet of this type of producer carbon "budget is accounted for, particularly when it comes to the application of Carbon Tax.

Suggested additional actions;

Introduce incentives to:

- Adopt efficiency technologies such as thermal screens and environmental control systems
- Support development of more renewable energy crops, wind energy generation and use of photovoltaics to power horticulture production units, machines, equipment etc

7. **Are there other actions which the State could consider, particularly in partnering with Industry?**

Suggested additional actions;

To enable producers, adapt the initiatives required to make horticulture production sustainable, including enhancement of soil fertility, nature-based solutions for water protection and biodiversity enhancement, HIF proposes that:

- Significant research resources are assigned to the horticulture industry to deliver in these areas. For example, in the area of soil fertility Jess Davis, Lecturer in Sustainability, Lancaster University has published a paper "The Business Case For Soil" which cites a 3-step path on how to achieve commercially sustainable soils.

8. **Are these actions sufficient, or are there others you think that Industry should pursue?**

The recent IPCC report "Climate Change and Land" recommends a move towards increasingly plant based diets. This transition, which has already started in first world countries, will result in opportunity to grow crops for this market and develop food products to supply this demand. To develop national capacity to take advantage of the growing trend to plant-based diets, HIF proposes that R & D resources of a proportional scale are provided to Horticulture, through Teagasc and other appropriate channels, to guide, advise and inform national capacity to grow new crops and improve production of existing crops.
In addition, HIF proposes that resources be assigned to identifying how all sectors and elements of the bioeconomy can interact and synergise activities in a circular fashion that deliver nutrients to primary production, capture and reuse waste generated and deliver environmental sustainability.

For example, there is real potential for new regional "circular" horticulture production systems to be developed that would employ protected structures, such as greenhouses to produce crops to feed local populations. Organic nutrient could be sourced from local ruminant producers and waste / by-products valorised and supplied for other possible products. In addition, there is potential co locate new horticulture units beside data centres to harness energy and improve sustainability of such centres

With regard, in particular, to Actions 22 and 23, HIF suggests that coordination of engagement of all agriculture industry stakeholders is required to maximise potential inter sector commercial collaboration that could support attainment of climate resilience and exploitation of emerging commercial opportunities.

Significant state focus must be given to resourcing the horticulture industry to undertake the required level of R & D and investment in innovation to deliver its potential to build climate resilience and the emerging commercial opportunities that arise from the growing shift to plant-based diets.

9. **Given that the State and policies such as the CAP can't finance or deliver all of the actions required, which actions or measures could Industry fund?**

In recent years HIF has been coordinating efforts to promote, to growers, the potential and role of Producer Organisations (PO) in the development of the horticulture industry in Ireland. This work has begun to bear fruit with a new PO recently recognised and a number of new applications to form POs now in process. The increase in numbers of POs provides the potential for these POs to fund investment by their growers in technology and equipment that supports climate resilience in our production systems.

10. Do you have views on how the market could better incentivise and/or reward primary producers for adopting and implementing the necessary actions?

HIF believes that the key to delivering higher standards of production that renews our soils, protects biodiversity and that minimises GHG emissions is to build existing sustainability programmes such as Origin Green so that they can verify that the produce grown by the farmer has been grown using sustainable cultivation methods that meet these higher standards. Such a sustainability differentiator should be promoted by retailers and food service providers, who should in turn commit to paying prices that deliver the required margins for producers to attain these higher standards and be commercially profitable

11. What are your views on these six guiding principles in preparing for the future? Are they sufficiently comprehensive or are there others you would add?

HIF welcomes the broad thrust of the six guiding principles. However, HIF believes that although resilience is mentioned in principle number 5, the issue of national food security must be specifically cited as a guiding principle. As a nation that is dependent on significant food imports and as Climate Change will pose a growing challenge to world food production, it is imperative that our Climate Road Map recognises this threat, plans for it and supports policy to maximise efforts deliver national food security.

The IPCC, in its most recent report "Climate Change and Land" highlights the likelihood of a growing impact of Climate Shocks on world food production and resultant impact on food supplies. Although Ireland is a net exporter of Beef and Dairy, we are net imports of most other foodstuffs including fruit and vegetables. Storm Emma, 2018 Summer Drought and the recent Heatwave and Floods in the UK (as highlighted in this BBC article) provide examples of how these Climate Shocks are already impacting on the availability of food on our supermarket shelves. HIF proposes that a thorough review of National Food Security be conducted, areas of vulnerability be identified, and initiatives resourced to cover these gaps.

With reference to principle number 6, HIF proposes that to enable the horticulture industry fulfil its potential to contribute to the challenges and opportunities presented by our changing climate and an adequately funded and well-resourced R & D programme is prioritised for horticulture.

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12. Innovation is now widely recognised as a key driver of long-term growth and sustainable development and addressing of challenges such as Climate Change. What type of approaches and processes could assist the Irish agri-food innovation system to address economic and societal challenges and facilitate increased networking, collaboration and investment?

HIF fully embraces the importance of Innovation as a key driver of long-term sustainable development and to address the challenges of Climate Change.

The 2018 Farmgate Value of Horticulture was €437m with only Dairy, Beef and Pigs having a higher output. Greater resources to fund innovation that those currently available through DAFM and Teagasc are required to support the horticulture industry.

To compete optimally on national and international markets growers need to ensure that crop production is efficient, environmentally sustainable and cost effective. In addition, product should be supplied to the market in the most developed and innovative ways to attract the greatest number of potential buyers. To that end, an adequately funded and well-resourced R & D programme is central to a thriving national industry as demonstrated in the Netherlands. Teagasc currently has insufficient resources to supply the required R & D to the horticulture industry.

R & D, Technology Adoption, Strategic Development and New Product Development activities are essential to an industry that wants to develop, exploit its potential and take advantage of the growing shift to plant based diets. HIF proposes that investments in enhancing soils, robotics, technology, alternatives to single used plastics and advanced plant protection systems by producers are supported through the scheme of investment aid for the development of the commercial horticulture sector and PO capital support schemes and tax incentives.

HIF proposes the development of a Horticulture Technology Centre, similar to the Technology Centre for Meat (established on the Teagasc, Ashtown complex in 2017) should be a priority. Such a facility would support collaborative ventures, to be developed, across the horticulture industry and with other enterprises from other agriculture sectors, operating at secondary and tertiary levels

HIF proposes that investment incentives be made available to encourage adoption of Integrated Pest Management (IPM) practices through selective crop choices, plant breeding and husbandry practices. All such practices are becoming increasingly effective when used in controlled growing environments such as glasshouses. Delivery of more produce through such practices deliver significant benefits to human health and Climate Action.

About the Horticulture Industry Forum

The Horticulture Industry Forum (HIF) was formed as a stakeholder group to address the critical issues facing the industry. The HIF currently has representatives from seven sectors, Vegetables, Mushrooms, Soft Fruit, Top Fruit, Potatoes, Amenity Horticulture and Protected Crops. DAFM, Teagasc, Bord Bia and the IFA are associate members of the Forum

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