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Pavilion A, Grattan Business Centre
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28th August 2015 Our Ref: SCP150401.2

Re: Food Wise 2025 and associated Draft Environmental Analysis (incorporating and Appropriate Assessment and a Strategic Environmental Assessment)

Dear Ms Talbot,

We acknowledge your notification dated 10th July 015 in relation to "*Food Wise 2025 and associated Draft Environmental Analysis (incorporating and Appropriate Assessment and a Strategic Environmental Assessment*" and welcome the opportunity to provide further input at this stage of the Food Wise 2025 (Agri- Food Strategy 2025, referred to as the Strategy below.

Overall, while mindful of the potential environmental risks and challenges associated with the Strategy, the EPA welcomes the publication of Food Wise 2025 as a follow up to Food Harvest 2020. The Strategy sets out a very ambitious and challenging 10 year vision for the Irish agri-food industry. The on-going development of the agriculture sectors without damaging the environment upon which it depends is a significant challenge, given the ambitious nature of the targets set out in the strategy. Damage to Ireland's environment during implementation will have an adverse effect on the image and credibility on which Food Wise 2025 is built and the way in which the agricultural sector is perceived both within Ireland and in the wider international market.

It is also notable that in areas where the EPA has a regulatory role, there are concerns and challenges in relation to compliance with standards and authorisations issued by the EPA for specific sectors in the agri-food industry. For example the most recent EPA report on air emissions from licensed facilities in Ireland show that the Food & Drink sector now accounts for 40 per cent of all odour complaints and 64 per cent of all noise complaints to the EPA. It is therefore of crucial importance that the actions undertaken between now and 2025 bring about the necessary improvements needed to address current issues such as those mentioned above and that they do not impact negatively on the quality of Ireland's environment or conflict with international and national environmental obligations.

The Strategy also needs to recognise the fundamental role the good quality of Ireland's environment plays in the quality of Ireland's agricultural produce and subsequently its marketing. The quality of Ireland's environment is essential in promoting and enhancing the Origin Green Programme and any new programmes arising from the Food Wise 2025

Strategy. This should be reflected as a key strength in the SWOT analysis presented in both the Strategy and the SEA ER.

Key challenges and issues identified by the EPA in relation to the Strategy are outlined below. Additional specific observations and suggestions in relation to the Strategy and related recommendations and actions and the SEA Environmental Report are provided in Attachments 1A and 1B.

Furthermore, our submission to the initial consultation and scoping stages for the Strategy and our previous submission in relation to Food Harvest 2020 are also attached for your information. Previous EPA submissions on the Rural Development Programme, Forest Policy Review, Ireland's Forestry Programme, Seafood Development Programme are also attached. The relevant aspects of these submissions should be taken into account in finalising the Strategy and the SEA.

Key Challenges and Issues

As highlighted in our previous submission from the EPA's perspective the three main issues in the context of implementing Food Wise 2025 are:

- Risk to the environment
- The need for a strong evidence base in relation to environmental credentials
- Opportunities for innovation

A fourth issue highlighted in this submission is the need for robust and transparent governance structures to oversee and steer the implementation of the many actions contained within the plan. The absence of such structures will lead to a significant risk that the laudable objectives set out in the strategy will fail to materialise.

1. *Environment at significant risk:*

There are very significant risks to the environment associated with increasing animal numbers, the associated intensification and associated increases in food processing. These risks are to water quality, air quality, soil quality, biodiversity and climate. They are driven by:

- Increases in the quantities of slurry (from cattle, pigs and poultry),
- Increased greenhouse gas emissions,
- Increased air pollution including particulate matter,
- Increased nutrient inputs,
- Increased effluent volume from increased food processing.

The Strategy recognises the risks and the associated challenges Ireland faces in meeting "*some national and international environmental targets for air quality, biodiversity and*

water quality". The significant role the agriculture sector has in addressing these challenges is also acknowledged:

> "*Agriculture has a key role to play in contributing to meeting these targets. Meeting Greenhouse Gas (GHG) and ammonia emission reduction targets will be particularly challenging, but arresting biodiversity losses and continuing the improvement of water quality while increasing production will be equally demanding*".

Local and regional variation is also a significant issue in Ireland and a significant constraint for Food Wise 2025. Some areas are more suitable than others for intensification and more vulnerable areas need more careful protection, for example:

- Vulnerable groundwater and drinking water sources,
- Vulnerable rivers, lakes and estuaries including high status water bodies
- Vulnerable habitats and species.

The EPA will continue to assist in identifying vulnerable areas to inform targeting of both intensification and environmental protection measures.

2. <u>The need for a strong evidence base, related monitoring, reporting and review</u>

A strong, reliable and independent evidence base is needed to demonstrate and communicate the impact of Food Wise 2025 on the environment. This is essential to ensure the implementation of the strategy is not damaging to the environment. It is also necessary to assist in reporting on and tracking actual environmental impacts, both positive and negative.

A strong evidence base is needed in particular to underpin assertions that food production in Ireland is at the cutting edge of sustainability and more work is needed to build this evidence base. It is also important that a robust system is put in place by the Department of Agriculture, Food and the Marine (DAFM) to track and monitor the performance of the Strategy along with other key agriculture related Plans/Programmes such as the Rural Development Programme, including GLAS, the Forestry Programme, Forest Policy Review the Seafood Development Programme and the National Strategic Aquaculture Plan, to provide evidence that the programme is delivering real and quantifiable environmental benefits. This, in turn, will support Food Wise 2025.

The Strategy acknowledges the need for the sector to:

> *" achieve higher standards to underscore its sustainability credentials. The continued growth of the Agrifood sector must be based on sustainable intensification, a concept included in the conclusions of the October 2014 EU Council on the 2030 EU Climate and Energy Policy Framework.*

In this context the EPA welcomes that the Strategy provides a strong commitment to investments in monitoring systems and evidence based research.

From the EPA's perspective, we consider *Chapter 4 - Sustainability* to be a key aspect of the Strategy. This chapter alone, includes 59 actions plus a further 11 sub actions under 7

recommendations. Many of the recommendations and associated actions reflect the overall objective of Ireland's agricultural sector to embrace the concept of environmentally sustainable farming practices and food production processes. We recommend that the chapter title be changed to "*Environmental Sustainability*" which would more clearly reflect the focus of the proposed Actions and associated commitments.

The challenge will be to ensure the proposed actions are fully implemented on a priority basis in a structured, coordinated, integrated and evidence-based manner. These actions should also be aligned with specific obligations under relevant EU Directives including in particular Water Framework Directive; Birds and Habitats Directives; relevant commitments in relation to Greenhouse Gas Emissions; agriculture related air pollutants under the Clean Air for Europe (CAFE) Directive; and the national emissions ceiling Directive.

The full implementation of the sustainability related commitments and the evidence to support that implementation will contribute significantly to promoting credible and evidence-based environmentally sustainable agricultural practices and initiatives. It will also ensure Ireland's agri- food industry develops in an environmentally sustainable manner while not compromising the quality of the receiving environment.

In carrying out our on-going statutory assessment and reporting activities on Ireland's environment, the EPA will base its assessments and analysis on the most up to date scientific evidence available. A key indicator for the EPA will be Ireland's compliance with national and international commitments including water, air, climate and biodiversity.

3. *Innovation and technology can play a key role in the development of environmentally sustainable agriculture in Ireland.*

The Strategy provides real opportunities for innovation and technology to help with the development of cutting-edge environmentally sustainable agriculture practices in Ireland. This is acknowledged by the number and range of Actions (19) included under Innovation.

The implementation phase of the Rural Development Programme should also be used to support the overall aim and vision of FoodWise 2025 by targeting resources at those areas which will give greatest environmental protection return and by encouraging innovative and, preferably, low-cost solutions to common problems.

4. *Overall Governance and Implementation*

A review of the overall Strategy indicates that there are commitments to in order of 384 actions and 33 sub actions. This poses a significant challenge to DAFM and the sectors, both at producer and industry level. Strong governance structures providing for collaboration, coordination and clear responsibilities and accountability will need to be to be put in place to ensure their delivery. The EPA recommends a new chapter on *Governance and Implementation* be included and provide for robust and transparent mechanisms to oversee implementation of the Strategy actions and commitments.

The EPA also recommends that a specific action committing to the preparation of a *Food Wise 2025 Implementation Programme* should be included in the proposed *Governance and Implementation c*hapter. This would set out key responsibilities (including lead Department/ Authority), priorities and timescales for (commencement and duration) alongside each of the actions in the Strategy. DAFM should lead the implementation with support from representatives from the key sectors.

The inclusion of a specific commitment to establishing a steering group, with relevant sub groups as appropriate, to oversee and review the Strategy implementation should also be considered. In this context, the establishment of an *Environmental Working Sub Group* with an associated work programme should also be considered. This would include provisions for oversight of monitoring of the environmental performance of the Plan and a commitment to associated reporting. The model set up by Department of Communications, Energy and Natural Resources (DCENR) for the Implementation stage of the Offshore Renewable Energy Development Plan (OREDP) may be of interest in this regard.

5. Regional Plans/Assessments

The EPA also recommends the preparation, adoption and implementation of regional/catchment based sectoral implementation plans for the sectors with significant growth targets with the potential to impact on the environment. These plans .could integrate with Water Framework Directive programmes of measures, sectoral climate adaptation plans and low-carbon roadmaps for the agriculture sector. This would provide the evidence-base on the suitability of areas in relation to intensification and highlight the need for restrictions and relevant environment management requirements where needed.

6. Monitoring, Reporting and Review

The EPA recommends that a separate section on '*Monitoring and Reporting*' should be considered for inclusion in the Strategy. This should include the final version of *Table 7-1 SEA Monitoring Framework* from *Section 7- Monitoring* of the SEA Environmental Report, in the Strategy.

This should take into account relevant existing national environmental monitoring programmes including Water Framework Directive, biodiversity, air quality and greenhouse gas emissions related monitoring and predictions. Clear sector related objectives, targets and indicators should be linked with relevant environmental objectives, targets and indicators. These should be aligned with relevant international, EU and national environmental obligations, commitments and targets. Relevant Appropriate Assessment related monitoring should also be included. Provisions for environmental monitoring reporting should also be set out in the Strategy.

The EPA recommends the inclusion of a commitment to report on a biennial basis on the implementation of the Strategy and the associated environmental monitoring. This will provide a formal mechanism for feedback and review on implementation of specific aspects

of the Strategy. It will also make the Strategy more robust and provide for increased accountability and transparency during implementation. A commitment to review the Strategy every 5 years should also be considered with a mid-term interim review during year 2-3 implementation.

7. Integration of SEA and AA in the Strategy

A section should be included in the Strategy indicating how the SEA and AA processes have influenced and informed the preparation of the Strategy. A description and schematic should be included in the Executive Summary and the Strategy describing and showing the link between the SEA and AA processes and the Strategy preparation. These should indicate how and where the SEA has informed the Strategy. A summary of alternatives considered and the justification for selection of the preferred approach to the preferred Strategy scenario should also be provided. A description should also be included of existing environmental problems relevant to the Strategy. This should also be reflected in the SEA ER.

The link between the relevant Mitigation Measures in *Section 6 -Mitigation, Table 6-1 -6.10 - Mitigation Tables* and the Strategy should be highlighted and this should be described in the Strategy and the SEA ER. The integration of the Strategy and SEA processes should reflect the overall objective of the SEA Directive "to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes".

The EPA welcomes the opportunity to comment at this stage of the process. We look forward to working with the Department of Agriculture, Food and Marine during the implementation of Food Wise 2025 to help deliver an environmentally sustainable agriculture and food production system in Ireland.

Yours sincerely,

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ATTACHMENT 1A: FOOD WISE STRATEGY

Specific Comments and Observations on Recommendations and associated Actions

Vision - Executive Summary

Sustainability

There would be merit in clearly defining what the term "*Natural resources*" encompasses in the context of the Strategy.

It would be useful to refer to environmental quality in general and major challenges at local, regional and global levels including climate change, water quality and soil protection in this regard.

Food Wise and Food Waste

"Food Wise 2025 recognises that a significant increase in food production cannot be considered in isolation from its environmental impact, in particular regarding concerns associated with the depletion of natural resources and the potential impact on climate change. To address this, future food production systems must be as focused on managing and sustaining our natural resources as they are on increasing production."

The Strategy should acknowledge and include commitments for management of food waste and farm hazardous waste.

Delivering Growth

"productivity improvements that are driven by innovation and the adoption of the latest technologies;"

Any future increase in food production must be in a resource efficient manner. Decoupling economic growth from resource use makes good business sense as being resource efficient can also have significant cost savings. Waste prevention and resource efficiency reduce costs to businesses, improve competitiveness and encourage innovation and adoption of cleaner processes. This aspect should be captured in the overall Strategy.

Consider referring to " *advanced observation systems including remote sensing, systems models and smart management systems*" as part of the high technology tools available.

Chapter 2- International Context

UNFCCC envisages actions to address climate change which are expected to include major emissions reductions, though, these are not fully defined as yet.

Reference should also be made to relevant aspects of EU 7th Environmental Programme and EU climate change policy.

Other aspects that should be considered include the impacts of climate change, air quality implications, risk of loss of environmental quality and brand credibility.

Chapter 3 - National Context

Reference should be made to EPA's Ireland's Environment –An Assessment (EPA, 2012) in this section. In particular reference should be made to the key Environmental Challenges and Priorities in Chapter 10 of this report.

(See : http://www.epa.ie/media/00061_EPA_SoE12_Chp10.pdf)

These should be discussed in the context of the challenges facing and the potential environmental pressures associated with the agri-food sector.

In the SWOT Analysis under "*Strengths"*; Ireland's Good Quality Environment should be included as a significant strength. Ireland's Good Quality Environment could also be included under "*Opportunities*".

Under *Weakness* Vulnerability to Meteorological conditions and Climate Change should be include. The recent fodder crisis demonstrated systematic weaknesses in fodder supply and strong reliance on favourable meteorological conditions. The need to build resilience into the production systems may reduce the capacity for expansion and intensification in some regions.

Under *Threats*: should include Risk of Loss of Environmental Credentials. Much is made of the market value of Ireland's strong "green" environmental image, however there is little analysis in the Strategy to quantify this value, and the risk to the sector should the environmental impacts of intensification prove negative.

Biodiversity and water while inherently linked, merit being treated separately in the Strategy as both are significant natural resources and both have potential to be impacted negatively. The Strategy should incorporate separate biodiversity and water specific actions to address the potential significant effects identified.

In addition, antimicrobial resistance in the food chain should be included as a significant threat to the agri-food sector and to human health.

Note:
Countries such as Denmark, Netherlands have recognised this threat and the Danes have published "DANMAP 2013" - Use of antimicrobial agents and occurrence of antimicrobial

resistance in bacteria from food animals, food and humans in Denmark. Resistant bacteria from animals can be transmitted to humans either through direct contact with animals and their environment or through ingestion of contaminated food or other contaminated vehicles.

Mechanisms to ensure that Ireland's agricultural land is protected into the future in terms of food security and sustainable food production should be included in the Strategy. This is of particular relevance where high quality agricultural land in the immediate vicinity of large populations, is under ongoing development pressure. National, regional, and local land use policy, and as appropriate, zoning, should recognise agricultural land as a valuable resource and make provisions for affording high quality agricultural land protection from inappropriate development. An action should be included in the Strategy to explore the formulation of policy in this regard.

Chapter 4 - Sustainability

"The continued growth of Agri-Food sector must be based on sustainable intensification, a concept included in the conclusions of the October 2014 EU Council on the 2030 EU Climate and Energy Policy Framework."

While this commitment is very welcome, it needs, however to be based on the capacity of the environment to absorb increased intensification. It also needs to take into account the dynamic nature of the environment and regional variation which means that come areas are more suitable for intensifications than others. In the context of potential influence of climate change, the relevant monitoring and mitigation/adaptation measures need to be dynamic and capable of being adapted to respond accordingly, to maintain a sustainable environmental resource.

The term "*environmentally efficient"* used in in Page 24, Para 1, should be defined in the context of the agri-food sector.

Page 24 Para 4: The reference to "*Maximising production efficiency whilst minimising impacts"* is not the only pathway by which Ireland maintain a position of leadership in the sector and maximum production goals may not be sustainable in the long term. The emphasis could be refocused to- "*optimise production to ensure long term environmental integrity/ sustainability"*. EU policy objectives are to halt and/or reverse decline in biodiversity and progress towards GHG neutrality across Agriculture, Forestry, and Other Land Uses (AFLOU).

Page 24 Para 5: *Increases in production levels* may not be compatible with "*sustainability credentials*" irrespective of how these are defined. Linking the level of production and efficiency of production to maximising economic, social and environmental benefits poses significant challenges and may not be achievable. Optimisation of the environmental benefits should be the target, with long term sustainability goals assigned high priority.

Page 24 Para 6: If the guiding principle is to meet sustainability goals, it is important that the environmental objectives are clearly defined.

Food Waste and Farm Hazardous Waste

When considering the environmental impact of food production, the issue of food waste must also be considered. Over 1.1 million tonnes of food is wasted in Ireland every year -- excluding agriculture (no data), 40% production, 34% Commercial & 27% households.

The UN Food and Agriculture Organisation (FAO) calculates that 1.3 billion tonnes of food is wasted globally each year, directly contributing to food shortages, water stress, unnecessary biodiversity loss, and increased greenhouse gas emissions. After America and China, food waste is the 3rd largest contributor to global greenhouse gas emissions with 3.3 billion tonnes of CO_2 a year.

At European level the issue of food waste continues to be hugely important, and food waste has been identified as a priority action in the EU Roadmap for a Resource Efficient Europe:

Considering the different stages of the food supply chain, there is the environmental impact from managing the food that is wasted, and associated costs. The significant inputs and resources used for production, processing, transport and consumption steps have also been 'wasted'. In addition, there are the emissions produced unnecessarily and the associated impacts. Food Wise should include a commitment to sustainable and efficient supply chain.

> "*By 2020, incentives to healthier and more sustainable food production and consumption will be widespread and will have driven a 20% reduction in the food chain's resource inputs. Disposal of edible food waste should have been halved in the EU.*"

Source : EU Communication COM/2011/0571: *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions* - Roadmap to a Resource Efficient Europe
http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0571&from=EN

While currently no binding targets have been agreed, it is likely that targets will be introduced as part of the circular economy package being considered.

In addition to food waste, provision should also be included in the Strategy in relation to the management of farm hazardous waste. See information on the farm hazardous waste campaign coordinated by EPA in collaboration with DAFM and Teagasc at http://www.epa.ie/newsandevents/news/previous/2014/name,55400,en.html

DAHG (NPWS) Role

The Strategy should acknowledge the role of the Department of Arts, Heritage and the Gaeltacht (DAHG) in protection of our natural heritage which is a significant area to be considered in the context of intensification of agriculture related activities. The relevant proposed actions should proactively promote collaboration with DAHG (NPWS) on biodiversity related aspects including related monitoring and research.

Recommendation 1: ***Recognising Agriculture's role in on-going National, EU and International Climate Change and Energy Policy Development***

Consider including the following additional action:

DAFM and EPA will liaise with EU and International colleagues in support of the European Commission's Joint Programming initiatives in key societal challenges (Climate change and Water)

> *Background info : The agricultural and forestry sectors account for the majority of global freshwater withdrawals. Agriculture alone represents almost 30% of water abstraction in Europe and only about one third of this goes back into the environment. The pressure that both economic sectors exert on the availability of water resources is likely to grow in the future due to the important role that the bio-economy, and consequently the intensification of agricultural and forestry activities, is expected to achieve in the global economy. Such intensification will increase pressure on natural and artificial resources (water, land and agrochemicals). Natural climate extreme events – droughts and floods – are also likely to diminish the amount of water available for agriculture and will therefore increase the pressure and the possible water use conflicts.*

Recommendation 2: *Measurement of Ireland's environmental sustainability credentials*

The first action refers to GHG and ammonia inventories. These actions should also include other relevant air pollutants in particular PM $_{2.5.}$

Reference to GHG mitigation measures should also include mitigation measures for reduced emissions of agri –food sector related air pollutants.

Recommendation 3: *Further Development and Enhancement of Origin Green Programme*

Second action under "*At producer level*": The *IRD Duhallow LIFE+ project and the South Western Regional Authority INTERREG IV funded TRAP River Allow Integrated Catchment Management project* (http://www.swra.ie/index.cfm/page/newsarchive/id/41) is a very proactive and successful approach to raising awareness through the use of a bottom up approach. Similar projects could support the achievement of this Action by promoting sustainable practices informed by robust evidence based scientific advice.

At Industry Level:

The second action should also refer to leveraging *Origin Green* to drive efficiencies and improvements in reducing atmospheric emissions including odour and noise from agri –food industry activities.

There would be merit in adopting an integrated holistic approach to reducing emissions and improvements in efficiency in the agri-food industry. This should consider aspects such as water and energy use/consumption, transport etc.

Consider including an additional action under this Recommendation or other appropriate Recommendation (possibly under *Improvement of Environmental footprint of Sector)* promoting the adoption of a *Life Cycle Assessment* approach across the sectors. This would provide a systemic approach to the assessment of the various stages in production and processes across the sectors, in terms of resource use and environmental impacts.

In addition, an action which would promote a move to a circular economy which employs a closed loop approach would ensure a more sustainable future for the sectors. In July 2014, the Commission adopted a *Circular Economy Package*, including a "*chapeau*" Communication "Towards a circular economy: a zero waste programme for Europe. http://ec.europa.eu/environment/circular-economy/index_en.htm

Recommendation 4: ***Improvement of Environmental footprint of Sector***

This section should incorporate relevant climate and air quality elements of the environmental footprint of the sector. Relevant data from EPA emission inventories and monitoring and compliance date for EPA licensed agri –food sector activities.

It would be useful to link the Teagasc Agricultural Catchment Programme with WFD based Integrated Catchment Management and the work underway in the EPA..

The commitment in the third action under this Recommendation to work closely with DECLG and EPA on delivery of WFD is welcome. A similar commitment to work more closely with DAHG (NPWS) on biodiversity related aspects should also be included under this recommendation.

Given the reputational risk in relation to improvements in environmental sustainability being undermined by continuing food wastage, this section should also include an action on working with relevant agencies and stakeholders to address the issue of food waste along the supply chain.

Page 27 – (Action 3 Column 2) – consider inclusion of module on protection of environmentally sensitive areas.

Page 28 - (bullet point 3) consider the wording "~~*Take*~~ ***Implement*** *the actions under the SDP to improve the environmental sustainability of the inshore fisheries sector*"

Recommendation 5: ***Develop and support Agri-food processing sector in delivering sustainable processes and outputs***

The EPA Green Business programme which has been successfully applied to agri-food sector should be considered as a potential option to promote under this Recommendation. This also incorporates the Smart Farming initiative which is a voluntary on-farm resource efficiency initiative which focuses on ways to improve farm returns through better resource management. (See: www.smartfarming.ie)

Green Business is a free and confidential resource efficiency service for all types of SMEs in Ireland. The service is funded by the Environmental Protection Agency (EPA) under the National Waste Prevention Programme with the objective of delivering substantive resource efficiency improvements and cost savings, through waste prevention and reductions in water and energy consumption. (See http://greenbusiness.ie/case-study-cat/greenbusiness/)

Recommendations should be included in this or a related Recommendation promoting EPA Green Business and Smart Farming initiatives.

Recommendation 6*: Implementation of Environmental Elements of Ireland's National Programmes and the EU co-funded Rural Development Programme 2014-2027.*

In the first action under this recommendation a reference should also be made to GLAS+ . In addition the relevant *IRD Duhallow LIFE+* - River Allow Integrated Catchment Management approach could also be highlighted and promoted.

Page 29, action 2, consider amending this action also to highlight the need to implement the relevant actions in National Forestry Programme.

Recommendation 7: ***Prioritise Research Funding on Sustainability of Irish Food production***

The Strategy should promote the creation of a higher profile for Ireland as a leader in research on sustainable production and farm management systems, This could promote the use of advanced and smart technologies and systems for Measurement, Reporting and Verification (MRV) of emissions and removals. In addition, the Strategy should include a commitment to promote the development of advanced predictive systems for management of land, soils and water resources, and reducing emissions to the atmosphere.

A number of additional areas to consider for research funding include:

- Food waste - data management improvement/quantification, technological developments/smart ordering/cold chain improvements, etc.
- Exploration of opportunities for "*agri-food waste*" as a resource.
- Development of an integrated approach to management of chemical and microbiological pollutants (i.e. mineral fertilizers and manure, pesticides, antibiotics, and viruses and bacteria) linked to water reuse.

- Development of monitoring programmes, indicators, models and assessment methods as well as management tools to identify, quantify and minimize pollution sources, and to assess impacts caused by the agriculture sector related pollution.
- Development of methods for the reduction of diffuse and point source pollution caused by agrochemicals, mineral fertilizers and manure.
- Consideration of mitigation in agriculture and remediation in agricultural lands to reduce eutrophication.

Chapter 6 -Delivering Growth

Innovation

Recommendation: ***At producer level prioritise research and innovation investment in processes and technologies which improve productivity and sustainability of production***.

Under Innovations consideration should be given to including an action to develop a national research initiative/ programme on Antimicrobial resistance. This initiative could be developed with collaboration between DAFM, Department of Health supported by EPA, the Agri- food sector and other key stakeholders.

Chapter 7 - Sectoral Briefs

Under the SWOT Analysis for the individual sectors, under Strengths; *Ireland's Good Quality Environment* should be considered for inclusion as a significant strength. Ireland's Good Quality Environment could also be included under "*Opportunities*" for the relevant sectors. The potential for individual sector actions to impact adversely on the environment should also be captured as a potential threat for each of the relevant sectors.

For each of the Sector Briefs, the relevant actions should reflect the relevant *Mitigation / Monitoring Columns of Tables 6-1 and 6.21.1 -6.1.10 of the SEA ER* . There should also be cross -reference to the relevant Recommendations and Actions in *Chapter 4- Environmental Sustainability*.

Under Dairy – *Environment and Sustainability* is included as priority action for the sector. The proposed Actions include: "*The response to environmental challenges in areas such as emissions, water quality and biodiversity must be centrally coordinated and must highlight Ireland's key leadership role in balancing more intensive production with environmental concerns".*

This action needs more detail, in terms of the actions and commitments required to be put in place and how these will be implemented. Sector specific sub-actions should also be included. In addition, there would be merit in cross referencing to the relevance recommendations/ actions in *Chapter 4 - Sustainability*.

The action: "*Strategies should be developed to increase the fertility of Irish grassland soils in order to address deficiencies in P, K and lime"* has potential to result in negative impacts on water quality. This should be captured under specific sub actions for the sector.

Under the Beef sector, impact on the environment should be included as a potential threat in the SWOT Analysis. Appropriate Actions should also be included or cross referenced in relation to the Beef sector under *Environment and Sustainability*.

In the section on *Horticulture,* the extraction and use of peat as a growing medium should be highlighted. This is a weakness of the sector as its use is environmentally unsustainable. It may, however, provide opportunities to lead in research and development of alternative growing media, in this major international sector.

The section on *Cereal and Tillage* should also include priority actions in relation to *Environment and Sustainability.*

Actions in relation to the *Seafood Sector* should highlight potential impacts on water quality and include /cross reference relevant water quality related actions. A commitment should also be made to implementing the relevant recommendations and commitments in the Seafood Development Programme 2014-2020 and the associated SEA ER

For the *Forestry Sector* priority actions in relation to *Environment and Sustainability* should also be included. Potential impacts on the environment including water quality and biodiversity should be included under "*Threats*". The inclusion of an action cross referencing the Forestry Programme 2014-2020 and the associated SEA ER is welcomed. The commitment should be strengthened to "*implement the recommendations and commitments in the Forestry Programme 2014-2020*".

An action should also be considered for inclusion in relation to the preparation of catchment based forestry plans.

ATTACHMENT 1B FOOD WISE STRATEGY

Specific comments and observations on the SEA Environmental Report

WATER QUALITY

General Comments on the Water Quality related Aspects

The draft SEA contains insufficient detail to enable an assessment of the possible implications for water at a regional/catchment level. There is a risk therefore that the constraints that water quality issues may pose could hinder achievement of significant increased production.

A commitment should be included to regional /catchment level plans for the relevant sectors. This will provide for an estimate of the likely change in the loading of nutrients resulting from increased outputs from the relevant sectors.

The sector and environmental topic specific mitigation measures need to be outlined in detail. Consideration should also be given to the likelihood ad implications of the proposed mitigation measures not being implemented successfully.

Consideration should be given to the potential scenario where good quality and adequate quantity of water may become a limiting factor to good quality agriculture produce and agri-food production.

Specific Comments (SEA ER)

Non -Technical Summary

Comments in relation to the Non -Technical Summary should also be addressed in the context of the overall environmental assessment.

Page 10 - *The Context of Agri Food Strategy*: An important aspect is the water quality status in Ireland and the obligations to implement and comply with the WFD and other relevant environmental protection Directives. This should be reflected in the overall Strategy context with a view to providing a more balanced context description.

Page 21 -*Water (Surface, Groundwater and Drinking Water (Also Section 3.5 Page 67*

The reference to "*and improve polluted water bodies to good status by 2015*". This statement is incorrect. The deadline of 2015 can be extended (see Article 4.4 of the WFD). The 2017 deadline mentioned in the footnote on Page 21 is the date by which the second cycle River Basin Management Plan will be completed by Ireland.

Page 24 - Water Framework Directive and River Basin Management Plans

Second Para: *"In so far as the draft Agri-Food Strategy 2025 will contribute to changes in agricultural practice which have been identified to have a direct link to diffuse and point source pollution of surface water, groundwater, drinking water and estuarine water quality the probability of cumulative effects with the Water Framework Directive and RBMPs arises. Agri-Food Strategy 2025, focusing as it does on sustainability and calling for increased research and actions to limit nutrient enrichment of watercourses from agricultural practices, should help achieve the objectives of the Water Framework Directive. The further investment proposed in monitoring, particularly in relation to nitrates in high areas of dairy concentration, will act as an early warning system and will help to develop policies and measures aimed at reducing contamination of groundwaters by nitrates from agricultural sources."*

This statement is overly positive, in particular as there is uncertainty as to how existing agriculture related issues can be resolved in the absence of any expansion. In addition, phosphate and sediment pose a greater threat to water than nitrate.

Section 3- Description of Baseline Environment

Pages 67-69: *Section 3.5 Water (Surface Water, Groundwater and Drinking Water)*

The material in this section including the associated Surface Water and Ground Water Status maps is now out of date and should be updated to reflect the most recent EPA Water Quality in Ireland Report (EPA, 2015).

Figure 3-7 Groundwater Vulnerability should be updated with most recent information from Geological Survey of Ireland. See:

http://www.epa.ie/pubs/reports/water/waterqua/waterqualityinireland2010-2012report.html

Section 6 - Mitigation Measures

Page 95: Table 6-1 Mitigation Table –Sustainability

The "*Actions aimed at improving the environmental footprint of the agri-environmental sector will deliver significantly positive effects while other actions will deliver slightly positive effects. At a sectoral level uncertainties with regard to unspecified increases in growth and improvements in soil quality and grassland management have been deemed to present a slightly negative threa*t."

While this statement may reflect the overall objective of the Action "*Improvement of Environmental Footprint of Sector,* it needs to be set in the context of needing to bring a substantial number of our water bodies back to good status.

Page 99: *Table 6.1.1 Dairy Sector Mitigation:*

While it is acknowledged, the strategy must comply with the WFD and Nitrates Directive, how this will be achieved in practice in the ongoing implementation needs to be considered.

There would be merit in considering sector specific regional /catchment plans setting out a road map to achieving compliance. Phosphorus and sediment are also issues which need to be considered.

Page 101 Table 6.1.2 Beef Sector Mitigation Measures

Farm Management Practices
The mitigation measures proposed in relation to Farm Management Practices should address the issues highlighted.

"However, positive impacts in the form of reduced nutrient runoff to surface waters through the increasing reliance on low emission slurry spreading and selection of grass species to allow increased overall grass output and utilisation per hectare whilst reducing requirement for fertiliser inputs. Therefore, overall neutral score for water quality, soil quality, and agricultural waste. "

This conclusion in the above paragraph seems optimistic. While the statement may be correct in theory, the challenge will be implementing the practices which will secure achievement of the overall desired outcome.

AIR QUALITY

General Comments on the Air Quality-related Aspects

The Strategy should be assessed in the context of the relevant aspects of the EU Clean Air Policy Package (http://ec.europa.eu/environment/air/clean_air_policy.htm). In addition, DECLG is also considering the development of a national clean air strategy and this should be highlighted both in the environmental assessment and Strategy.

Overall both Food Wise and the associated SEA are lacking in detail and fail to take appropriate account of the proposed environmental effects of expansion in the agriculture sector. Whilst the strategy suggests that economic competiveness and environmental protection are equal and complementary (i.e. one cannot be achieved without the other), environmental targets are not set in a similar fashion to the economic targets and environmental pressures are rather loosely defined. Furthermore from an emissions to air point of view the major focus is on greenhouse gas emissions, without recognising to any great extent air pollution targets (NH_3 being the most important) which will be a significant challenge.

Throughout the Strategy and ER , where climate policy and greenhouse gas emissions are mentioned, reference should also be made to relevant air pollutant policy. The agriculture sector is not only a source of NH3, it is also a contributor to national total emissions of NMVOC's and PM2.5. Thus discussion in relation to NH3 should be replaced with a wider discussion on agriculture related air pollutants in general. The relative importance of each pollutant should be described under Baseline Assessment.

The $PM_{2.5}$ NERT (National Exposure Reduction Target) and the related requirement to reduce $PM_{2.5}$ emissions by 10% by 2020 should be highlighted in the Environmental Report. This aspect should be included in the consideration of the impacts of relevant aspects of the Strategy. Greater emphasis should also be given to the relevant requirements of the Clean Air For Europe (CAFE) Directive.

The potential impact of the various elements of the strategy on levels of particulate matter in the atmosphere should be considered and reflected in the ER. Given that agriculture contributes significantly to PM levels, and in particular to $PM_{2.5}$ levels (at a minimum 13% of emissions in 2011 projected to rise to 24% in 2035 – second highest source under current projections) this aspect should be included in the assessment.

Ongoing research has indicated the significant public health impact associated with particulate matter, and in particular $PM_{2.5}$. A number of references are provided below. Given the significant health impacts associated with particulate and the potential current and future agricultural contribution to $PM_{2.5}$, the ER should address particulate pollution in much greater detail and where appropriate, relevant commitments/ actions should be included in the Strategy.

Note 1: *The World Health Organisation*[1] *has stated in relation to particulate matter that 'there is little evidence to suggest a threshold below which no adverse health effects would be anticipated', thus any measure that is adopted to decrease concentrations of PM in ambient air should result in positive health effects for the general population. The OECD*[2] *has completed a study (Hunt, 2011) assessing policy interventions to address health impacts associated with air pollution (and pollutants in other media). This study concentrated on air policy measures in relation to particulate and ozone and, based on review of various cost-benefit analyses, concluded that the annual value of benefits to health from particulate reductions were consistently positive across all policy variants. EU funded research*[3] *on the effects of short term (i.e. daily average) increases in particulate matter levels on human health found increased mortality rates in sensitive receptors, including increased deaths related to diabetes, heart disease, lung disease, bronchitis and emphysema. Another EU study*[4] *of over 100,000 people has identified a strong link between long term exposure to particulate matter and heart attacks/angina.*

It is stated in a number of sections in the ER, that there will be *Positive effects on climate change mitigation and adaptation, with knock-on benefits for air quality*. This cannot be assumed to be the case in all circumstances and would need to be backed up by the necessary evidence. It is further stated that there will be *positive effects on GHG emissions and air quality from uptake of renewable energy technologies, energy efficiency actions and promotion of biomass.* The potential negative impacts of biomass combustion on ambient particulate matter concentrations should be factored into this aspect of the assessment.

It is noted in the ER, that there will be a slightly positive effect on air quality from implementation of the strategy. There is, however, little evidence given to substantiate this finding and the basis for the finding is not clear (e.g. which pollutants (including nuisance impacts) were considered, were the air quality impacts of all proposed impacts adequately assessed, etc.). Given the above and the generality of the assessment, the conclusion that there will be a slightly positive effect on air quality requires further review and a much stronger evidence base.

Greater emphasis needs to be given to the potential impacts of ammonia emissions on Natura 2000 sites as identified through previous and ongoing research projects in Ireland and elsewhere.

The ER should include reference to the current environmental performance of the food processing sector. Provisional figures from 2014 for EPA licensed industrial and waste activities indicate that 40 % (315) of all odour complaints received by the EPA relate to food and drink related processing facilities. In addition, 64 % (95) of noise nuisance complaints related to this sector. Any expansion within the agri -food sector, or other activities such as intensive poultry or pig meat production, must include appropriate investment in environmental infrastructure and related environmental management systems, monitoring and reporting to ensure that Best Available Techniques are applied.

[1] WHO (2005). *Air Quality Guideline. Global update 2005*. World Health Organisation Regional Office for Europe. http://whqlibdoc.who.int/hq/2006/WHO_SDE_PHE_OEH_06.02_eng.pdf.
[2] Hunt, A. (2011), "Policy Interventions to Address Health Impacts Associated with Air Pollution, Unsafe Water Supply and Sanitation, and Hazardous Chemicals", *OECD Environment Working Papers*, No. 35, OECD Publishing. http://dx.doi.org/10.1787/5kg9qx8dsx43-en
[3] European Commission, Science for Environmental Policy, 26 June 2014, Issue 378.
[4] European Commission, Science for Environment Policy, 1 May 2014, Issue 370.

This will prevent issues such as odour and noise nuisance, particulate emissions and other air quality related impacts.

Specific Comments (SEA ER)

Non -Technical Summary

Comments in relation to the Non -Technical Summary should also be addressed in the context of the overall environmental assessment.

Page 19 - It is difficult to understand from the information presented what the Base Case + and Sustainable Growth scenarios actually mean in terms of meeting the overall economic targets set out in the FoodWise strategy.

For example the Base Case + scenario described on page 19 suggests that dairy cow numbers will increase to 1.4 million. This is lower than the number of cows forecast in current FAPRI Ireland analysis for 2015 (1.5 million head) which is based on the implementation of Food Harvest 2020. Furthermore there is no indication in the document of what the likely increases will be for livestock any other sector such as beef, sheep, pigs, and poultry.

Page 21- *Air Quality and Climate Change* - in relation to Air Quality and Climate Impacts it is stated that '*The greatest challenge to Agri-Food Strategy 2025 will undoubtedly be the question of GHG emissions whether or not any substantial increase in the size of the national herd is proposed'*. While this is a significant challenge to climate related impacts of the Strategy, the relevant section of the ER also needs to highlight the specific other Strategy related air quality challenges (environmental and public health related), including ammonia, NO_X, particulate matter, odour and noise. Greater emphasis needs to be given to air quality related aspects of the strategy to reflect the obligations under EU legislation to maintain or improve air quality in Ireland.

Pages 23 - 26 *Cumulative Effects* provides a summary/overview of a limited number of relevant plans and programmes. While reference is made to GHG commitments and Transboundary Effects, consideration should also be given to including reference to related aspects such as the EU Clean Air Policy, the CAFE Directive and the National Exposure Reduction Target for $PM_{2.5}$.

The relevant aspects of the proposed post 2020 targets (out to 2030) under the *Effort Sharing Decision (406/2009/EC)* and the proposed air pollutant targets under the National Emissions Ceilings Directive for 2030 should also be considered and taken into account.

Page 25 - Under GHG commitments, Ireland has unofficially submitted preliminary GHG inventory estimates for the period 1990-2013 to the EU Commission in June 2015. This section should be updated to reflect this. The text should also reference EPA's publication - Ireland's Provisional Greenhouse Gas Emissions in 2013 (EPA, 2014) where appropriate (http://www.epa.ie/pubs/reports/air/airemissions/irelandsghgemissions2013.html).

Page 29 - *Table E -Monitoring* should identify potential negative impacts on air quality from a number of the proposed Strategy actions. There is a general reference to '*emissions*' in relation to

some actions, however, it should be clarified as to whether it relates to air, water, noise, odour, etc. For example, the potential impact of increased use of biomass in heating and energy generation on particulate levels should be considered, while issues in relation to odour and noise nuisance should be addressed in relation to PCF (Processed Consumer Foods).

The commitment in Table E that an annual report will be issued detailing the results of an analysis of GHG emissions. This report should take into account EPA's annual national GHG emission inventory. Consideration should be given to relevant national inventory estimates as potential appropriate indicator for air pollutants.

Environmental Report

Page 40 - Figure 1-2- Conceptual Diagram should include air quality related measures such as the EU Clean Air Policy and the National Exposure Reduction Target for $PM_{2.5}$.

Page 54 - *Table 2-1 - Strategic Environmental Objectives* includes a strategic objective to '*manage air pollution'*. This should be phrased in a similar way to the water quality impact related objectives, i.e. '*maintain and improve air quality*'. This strategic objective highlights ammonia emissions as a particular concern in relation to air quality. Strategic objectives around managing air quality should also reflect other relevant air pollutants such as $PM_{2.5}$ and NO_X due to the particular pressures to reduce emissions and ambient concentrations of these pollutants. This objective should also refer to other relevant air quality and noise issues, such as odour from agricultural activities and food processing/treatment and noise nuisance impact. Indicators in this subject area should also include data from relevant emission inventories and projections. Data from other relevant research projects and EPA licence compliance statistics on performance of relevant licensed industrial activities.

Section 2.3- Scoping should include air quality along with climatic factors as one of the environmental topics.

Page 65 - *Section - 3.4 Air Quality and Climate Change - Figure 3-4 Air - Quality zone*s should be updated to reflect the most up to date information. The Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002) were replaced in 2011. The following extract from the EPA Website may be of use in this regard:

> *The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) was published in May 2008. It replaced the Framework Directive and the first, second and third Daughter Directives. The fourth Daughter Directive (2004/107/EC) will be included in CAFE at a later stage. The CAFE Directive was transposed into Irish legislation by the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). It replaces the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004) and S.I. No. 33 of 1999. The fourth Daughter Directive was transposed into Irish legislation by the Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009).*

Page 66 - The sections on NH_3 and GHG should reflect the relevant legislation. The other agriculture related air pollutants (NMVOC's and $PM_{2.5}$) should also be discussed.

Under *Data Gaps and Study Limitations, Section 3.13.1 - Population and Human Health* it is stated that "*some information can be inferred from other data sources such as air or water quality, but there is a dearth of readily available quantitative and spatially-specific information in this area (e.g. epidemiological data linking environmental pollutants with health impacts in people). This raises issues for those concerned with, for example, the impacts of pesticides on human health in Ireland. These data limitations will affect the full assessment of human health effects at the local level"* . While local studies may not be available, the correlation between increased air pollution and human health impacts is widely known, researched and accepted. Several recent WHO documents report on the health impacts of air pollution in Europe.

In Section 3.13.3 -Air Quality and Climate Change it is stated that '*The overall contribution of agricultural intensification to national air pollutant levels and GHG emissions will have to be modelled in subsequent implementation plans'*. This is a critical element of the strategy and the EPA should be consulted on the proposed modelling. In particular the development of the baseline scenario will be a very important aspect of this modelling and assessment.

Section 4 -Assessment of Alternative Strategies: Table 4-2- Assessment of Alternatives is difficult to interpret as very similar green shading is used for a number of the significant positive and also the moderate negative effect. The colour coding should be reviewed.

In Section 4.3 it is stated that '*Both the Base Case and Base Case + scenarios would be expected to have significant negative effects on GHGs and air quality as a result of increased livestock numbers and fertiliser inputs in the absence of any increased emphasis on sustainability*. *The* ***Sustainable Growth Scenario*** *was therefore selected because it delivered the best available environmental outcomes'*.

It is unclear which air quality parameters and issues were considered in reaching this conclusion. As previously mentioned, the scope of the assessment in relation to air quality needs to be expanded to ensure that critical elements such as particulate matter, NO_X, odour and noise are considered when determining the environmental outcomes of the strategy.

Section 5 -Identification of Likely Significant Effects -Section 5.11 should also include reference to the EU Clean Air Policy Package (http://ec.europa.eu/environment/air/clean_air_policy.htm), the CAFE Directive and the National Exposure Reduction Target (NERT) for $PM_{2.5}$.