An Taisce Submission

Re: An Taisce review of Origin Green 2016
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Dear Mr Cotter,

An Taisce would like to make the following comments on the strengths and weaknesses of Bord Bia’s Origin Green programme to date. The comments provided in this document are based on years of experience working in Ireland’s environmental NGO sector. Our appraisal of the Origin Green programme is based on our personal experiences engaging with Bord Bia, Origin Green’s PR and a number of documents published by Bord Bia including the Origin Green Sustainability Charter (2014), the Origin Green Sustainability Report (2015) and the Sustainable Dairy Assurance Scheme, Bord Bia (2013).

Yours sincerely,

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An Taisce review of Origin Green 2016

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An Taisce, the National Trust for Ireland, is a membership-based charitable organisation committed to enhancing our quality of life, heritage and environment.

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Our organisation

Founded in 1948, An Taisce is one of Ireland’s oldest and largest environmental organisations. An Taisce is a charity that works to preserve and protect Ireland’s natural and built heritage. We are an independent charitable voice for the environment and for heritage issues. We are not a government body, semi-state or agency. The work of our staff is focused in three areas: Advocacy, Properties and Education.
Introduction

The submission
An Taisce would like to make the following comments on the strengths and weaknesses of Bord Bia’s Origin Green programme to date. The comments provided in this document are based on years of experience working in Ireland’s environmental NGO sector. Our appraisal of the Origin Green programme is based on our personal experiences engaging with Bord Bia, Origin Green’s PR and a number of documents published by Bord Bia including the Origin Green Sustainability Charter (2014), the Origin Green Sustainability Report (2015) and the Sustainable Dairy Assurance Scheme, Bord Bia (2013).

Introduction to this submission

In Europe around 47% of land area is under agricultural use. In Ireland the figure is much higher with 67% of land being under agricultural use (DAFM, 2014). Agriculture is the dominant land use in Ireland and in many ways farming has shaped our environment, our landscape and our national identity. Farming forms a fundamental pillar of our national economy and in particular is a vital source of employment for rural communities. The agri-food sector presents the opportunity for job creation which is welcome following years of austerity. However, the nature of this growth and the impact it will have on our environment will be one the most important issues for current and future generations. Decades of intensification in the agricultural sector have resulted in many negative impacts on the Irish environment. Irish agriculture is currently a major source of greenhouse gases, water and air pollution and soil degradation as well as the main driver of biodiversity loss.

When talking about sustainability we often talk about tree pillars on which sustainability is founded, namely the social, the environmental and the economic. In reality the environment is not a pillar of sustainability but rather it is the bedrock upon which the foundation of sustainable development is set. A society and its economic wellbeing are completely dependent on the life giving services provided by nature. Looking forward to 2050 and beyond it is clear that the environmental challenges such as climate change and biodiversity loss are among the greatest threats humanity has ever faced. It is in this context that An Taisce strongly support Bord Bia’s objective of sustainable development of the Irish agri-food sector. We strongly agree with many of the aspirations of Origin Green’s vision for a sustainable agri-food sector as espoused in the Origin Green Sustainability Reports (2015) vision for 2050. We have and will continue to engage constructively with Origin Green on the understanding that the Irish agri-food sector is on a pathway towards sustainability. According to Bord Bia sustainable agriculture is defined as “the productive, competitive and efficient production of safe agricultural products, while protecting and improving the natural environment and the socio-economic conditions of farmers and local communities (Bord Bia, 2013).” Essentially that sustainability is about ensuring that not only do we farm efficiently but that we pass the land, climate and wellbeing on to the next generation in as good or indeed better condition than when we inherited it.
Fig. 1 The Three Pillars of Sustainability: Economy, Society, Environment.

“We did not inherit this world from our parents we borrowed it from our children. One day we will return it to them and when we do it should be every bit as bountiful as it was when we found it.” Origin Green, June, 2012.

We see Origin Green as a potential starting point on a long journey towards true sustainability and in this sense a more accurate name for the programme might be ‘Destination Green.’ We believe that there must be an acceptance that Irish agriculture is not currently sustainable. Beginning with claims of sustainability, at a time when Irish agriculture is across the board one of our biggest environmental pressure/threat, only undermines the credibility of Origin Green and damages the brand image of Irish produce.

Are our “seas teeming with fish”? Is Ireland an “unspoilt land” as claimed by Origin Green PR? The evidence does not support such assertions.

We must be cognisant of the fact that we live on a finite planet with limited resources. A planet which has increasingly limited capacity to absorb the pressures exerted by industrialised agriculture. We must recognise that we are currently living through a global environmental crisis and that agriculture is one of the leading drivers of this environmental crisis. True sustainability and the success or failure of Origin Green will be based on its ability to clearly demonstrate improvements in key environmental parameters and deliver environmental, social and economic sustainability. Achieving sustainability in our food production systems is an absolute necessity and should be pursued as a goal in its own right. In both developed and emerging economies, we must reduce the carbon and material footprint of current patterns of production and consumption. In parallel, we must recognise that successful human development is underpinned by functional ecosystems, and by biodiversity. Policies which focus on improving resource, space and the climate footprint of food production systems must not undermine environmental integrity and ecosystem functioning.

Any disingenuous attempt to represent the Irish food and drink sector as sustainable in an attempt to position Irish produce in the global marketplace will ultimately be exposed by the impartiality of scientific data. Total environmental impacts will always overshadow efficiency. Long term sustainability must triumph over short term profiteering, otherwise Origin Green will be seen only as a greenwash.
**Positives within Origin Green**

Bord Bia’s Origin Green Programme is the first example of a sustainability programme aimed at an entire national food industry. As of November 2015 over 470 food and drink manufacturers or 95% of Ireland’s food and drink exports, had registered to take part in the Origin Green programme. This is a first and An Taisce fully recognise the achievement involved in getting so many stakeholders to buy into Origin Green and commit to playing their part in making Ireland a world leader in sustainable food production. It is important that the programme has sought to involve all Irish food producers. Allowing some producers to operate outside of the programme would lead to internal friction as it would be perceived that while all Irish food and drink was benefiting from the positive image that Origin Green is fostering, not everyone would be contributing to it. This would could potentially undermine the programme in the long run.

The Origin Green has managed to mobilise support from the grassroots level right up to the support of the Irish Minister for Agriculture, Food and the Marine Simon Coveney and the EU Commissioner for Agriculture Phil Hogan. There is an obvious ambition to have Ireland recognised as one of the most sustainable producers of food in the world. This ambition to have Ireland placed at the forefront of sustainable food production has been clear in our past engagements with Aidan Cotter, Chief Executive of Bord Bia. Whether this recognition will be based on effective “green” marketing or on verifiable improvements in the industries environmental credentials remains to be seen but the fact that we are engaging in a conversation about sustainability is in itself something that cannot be taken for granted.

An Taisce have zoned in on some aspects of the Sustainable Dairy Assurance Scheme (2013) which highlight some of the strengths of Origin Green. The auditing and maintenance of records are positive aspects of the programme. The lack of baseline data on the environment and data in general is something that has been and continues to be a challenge when it comes to protecting the environment. The auditing system seems clear and fair, as is the process for dealing with non-compliance. While much of the on farm auditing is linked to legal compliance rather than best practice we recognise that achieving full compliance with basic standards will have a positive environmental impact. An example of this the focus that is placed on producers to comply with the Nitrates Directive (S.I. No. 378 of 2006, European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006 on nitrate fertilisation of the soil.

An Taisce would be interested to know in far more detail how Bord Bia check for compliance “with the regulatory requirements / restrictions relating to areas of special conservation under their control.” Ensuring full compliance with designations under the Habitats and Birds Directives would be an extremely positive step. Highlighting the need for compliance with legal requirements relating to animal welfare and pollution control are a welcome first step although it is questionable how much added value or credit a producer should be able to take from achieving basic compliance.

Some of the biosecurity measures within the dairy assurance scheme are positive and will help to prevent non-target species being poisoned. Some issues still need to be teased out however. For example the definition of vermin used is ambiguous simply stating that “producers will also be aware of the need to control vermin and rodents, birds and other pests in the farmyard to prevent disease spread particularly by contamination of feedstuffs
(including forage) and feeding surfaces (e.g. troughs)." Greater clarity around the definition of vermin would be welcome so that certain species are not unnecessarily persecuted.

The use of technology to improve communication and support for members are positive hallmarks of Origin Green. Within Origin Green in general the use of aggregated data allows producers to share and compare performance. This competitive aspect of the programme may motivate participants and drive standards. The Origin Green Platform, a confidential online network which enables participating companies interact and receive support is a positive example of how technology can facilitate communication, interaction and support. The online platform provides participating companies with support to develop and implement their sustainability plans. Anything that improves communication and knowledge sharing will help to improve standards. The Origin Green Online Course is a tool directed primarily towards small to medium size enterprises in an effort to simplify the sustainability plan development process. Again this is a good example of how technology can be used to support knowledge transfer and support enterprises to develop sustainability plans. The use of the Origin Green Plan Data base and the Feedback Reports system are good tools to streamline the development of sustainability plans. The use of cutting edge technology in Origin Green is something that An Taisce strongly support.

The commitment to public reporting of defined performance indicators is a positive aspect of the Origin green programme. The use of independent third party auditors to verify the outputs of the carbon accounting approach taken by Origin Green is in principle positive. Self-regulation of environmental standards is an issue in Ireland and the fact that Origin Green has sought third party oversight is positive. An Taisce have serious issues with the one-sided efficiency approach that diverts attention from total and cumulative impacts, but this does not detract from the positive use of independent auditors. Aside from the Carbon Navigator tool it is important that independent assessors are integrated into other aspects of Origin Green. It is positive that on the ground farm assessments are being carried out under the Sustainable Dairy Assurance Scheme however it is unclear how independent they are or if they are qualified to access all of the areas of sustainability which Origin Green needs to address. Ecological assessments in particular are highly specialised and it is important that independent auditors with the necessary qualifications are integrated into the programme.

**Weaknesses within Origin Green**

As we stated previously we see Origin Green as a potential starting point on a long journey towards true sustainability and in this sense a more accurate name for the programme might be ‘Destination Green.’ There are mixed messages coming from Origin Green about where exactly the Irish food and drink industry currently are on this journey towards sustainability. Much of the messaging seems to suggest that Irish produce has a green origin and that Irish produce is innately sustainable due to our grass based grazing systems among other things. Judging the sustainability of Irish agriculture under the three key environmental headings targeted by Origin Green, namely Climate, Water and Biodiversity reveals that, far from being sustainable, Irish agriculture is actually a major environmental pressure and threat. Unless there is a radical change in approach it is likely that this negative impacts will only intensify.
The genesis of Origin Green has also come about at a time when Irish agriculture is undergoing expansion and intensification. This intensification of Irish agriculture under Food Harvest 2020 and Food Wise 2025 is one of the greatest threats to the Irish environment under the headings of Climate, Water and Biodiversity. There must be a clear recognition from Origin Green that the Irish food and drink industry is not currently sustainable. Given the inevitable negative impact of the industry’s current trajectory there must be an urgent revaluation of Food Harvest 2020 and Food Wise 2025. The ongoing intensification of Irish agriculture and the associated intensification of the forestry sector are completely incompatible with the purported objectives of Origin Green. The industry cannot be simultaneously sustainable and also the greatest driver of environmental degradation.

So far, Origin Green is in the main a marketing tool which has cleverly identified a global perception of Ireland as a green and verdant land. There is a growing demand globally for sustainable and safe produce and Bord Bia have identified a market which Irish produce can exploit. To reinforce Ireland’s green image specific elements of Irish agriculture have been cherry picked and window dressed, while negative aspects have been ignored. There seems a fundamental reluctance to address some of the more uncomfortable impacts of Irish agriculture. This lack of ambition to tackle key environmental issues is seen right throughout Origin Green. The fact that companies choose the sustainability measures they wish to implement is an example of this. It is our impression that companies tend to focus on resource efficiency measures as these have the double dividend of also reducing overhead costs. The fact that sustainability as a concept encompasses so many different issues means that there is enough ambiguity for elements of sustainability within a production system to be cherry-picked and used to portray an entire production system as sustainable. In the case of Origin Green isolated elements of Irish agriculture are being used to portray Ireland’s food production systems in their totality as being sustainable. In reality the picture is of course more nuanced with different nations having aspects of their food production systems which sit somewhere on a scale of sustainability. It is on their total environmental impact that produce and production systems must be judged.

An Taisce would agree in part with Origin Greens decision to focus on improving the environmental footprint of the worst producers. This is being done on the basis that incremental improvements amongst the most environmentally damaging producers will improve the average performance of the whole industry. Bringing the whole industry together means that no one is left behind. Eliminating examples of worst practice across the country will have a positive environmental impact. However, the mitigation potential of this approach is limited and will fail to address the main environmental issues. Any improvements in efficiency will be overtaken by the negative consequences of aggregated impacts due to intensification. Focusing on the worst performers also runs the risk that the industry will only move forward at the pace of the worst performers. A one-speed system will lack the incentive needed to drive ambition among the more sustainable producers.

This system is also based on the assumption that the worst performers have a disproportionate impact on the environment. The situation is far more complex in reality. In the global South the environmental impact of the worst producers which for example drive deforestation through the conversion of rainforests to palm oil plantations or ranches outweighs the environmental impact of changes in environmental sustainability which may occur in the middle and higher ends of the scale. In Ireland however the situation is
different as the landscape has been shaped by farming practices over millennia and as a result much of our nationally and internationally important habitats and species are linked to High Nature Value (HNV) farming systems which support semi-natural habitats and species of high conservation value. These traditional extensive farming systems are also correlated with High Status Water Bodies under the Water Framework Directive (WFD). In this context at least what happens among the top performers can have a big influence on the status of biodiversity at a national level. Indeed given that Ireland is one of the last remaining stronghold for biodiversity associated with HNV farming and High Status Water Bodies in Western Europe and it could be argued that the performance of the top performers is internationally important (EEA, 2005).

Improving the biodiversity value of intensive farmers which have low levels of biodiversity will most likely result in an increase in common farmland species. While this would be welcome it will not result in an improvement in the status of Irish biodiversity if the decline in HNV farming systems and designated habitats and species continues unabated. In a one speed system the risk remains that poor-performers can free ride on the efforts of the most sustainable producers. Much of the marketing of Origin Green relates to biodiversity and the image of HNV farmers in places like the Burren and in our many upland areas yet the Origin Green itself does nothing to provide additional financial support to these exemplar farmers.

Focusing on the worst performers has been Ireland’s approach to the implementation of the Water Framework Directive. This has achieved a decrease in poor status water bodies and an increase in good status water bodies, but there has also been a decline in high status water bodies. A similar crowding of the middle ground is likely to result from Origin Green’s approach. Mechanisms are needed to incentivise improvements among producers at the higher end of the performance curve. The best producers must be sufficiently incentivised to maintain or improve their standards and the good producers should be incentivised to improve their status and so on.

Ireland’s current agricultural strategy is based around increasing the volume of raw produce being exported to emerging middle class consumers in places such as the Far-East. This focus on quantity over quality has driven the intensification of agriculture with well-established negative impacts on climate, biodiversity and water. This increase in supply of some commodities such as milk within the EU 28 following the removal of the milk quota has been mirrored by increases in production in the United States, New Zealand and Australia. This excess supply has resulted in a collapse in milk prices undermining the viability of small and marginal farms. These marginal farmers are being outcompeted by farmers who have the scale and assets to absorb market instability. As marginal farmers are associated with high biodiversity and water quality the very basis of Irelands brand image is being undermined by its own agricultural policies. If Origin Green wishes to reward the best performers then there must be a market mechanism to reward the most sustainable producers. One option would be the introduction of a tiered certification system which would allow the best producers to demand a premium for their produce. Another obvious move would be altering Ireland’s Rural Development Programme (RDP) so that subsidies are targeted at supporting farmers based on the good and services they supply to society rather than being based on the amount of land they own.
There is no road map indicating how Origin Green will achieve its 2050 vision. The focus on resource efficiency rather than on reducing total and cumulative impacts is deeply flawed and there are no measures within Origin Green which will address issues such as biodiversity loss. It is clear that Origin Green must go beyond recording basic compliance with environmental standards.

As detailed in the following three sections, An Taisce have serious concerns about the credibility of Origin Green under the headings of Climate, Water and Biodiversity.

**CLIMATE CHANGE**

The most commonly used definition of sustainability comes from the Brundtland report which defines sustainable development in terms of meeting the needs of the present without compromising the ability of future generations to meet their own needs (Our Common Future, 1987). Along with other signatories of the Paris Agreement, Ireland recognised that the risks and impacts of climate change may significantly compromise the ability of current and future generations to meet their needs and limit the global temperature increase to 1.5 °C above pre-industrial levels by reducing absolute emissions. Like all nations with high GDP and high emissions per person, Ireland has agreed that it has the capacity and responsibility to act to cut emissions more quickly than poorer nations. Today, nations, sectors or entities can only reasonably be called sustainable if they make substantial and sustained efforts to work within a long-term carbon budget and to reduce absolute (total) emissions year by year.

Bord Bia’s Origin Green ‘Sustainability Report 2015’ states:

*To simultaneously mitigate the onset of climate change through the reduction of greenhouse gas emissions, while meeting the ever-increasing demand for food, remains one of the great challenges of the modern era and one in which everyone must play their part.*

An Taisce identifies this as a defining, yet deeply misleading, Origin Green statement that is being used to obscure a seriously unsustainable model of agriculture in Ireland. It is misdirecting readers on both climate change mitigation and global food security. Origin Green documents assume that improving production efficiency, by lowering the carbon intensity of production, equates to mitigation. It does not. *Total* emissions from agriculture must fall steadily over time to count as mitigation. Also, global food security is inherently a calorie and protein distribution problem, affected by poverty and the diversion of calories and protein away from the poorest. For Origin Green to help improve food security it needs to show that it is increasing the efficiency of GHG and land use in maximising the total net production of calories and protein. Irish agriculture is failing on mitigation (emissions are not projected to decrease at all) and food security (Ireland is a net calorie importer and ruminant agriculture is inherently GHG, land and calorie inefficient). Unless this core failure is acknowledged and a different future pathway is undertaken then Origin Green is simply sustaining an unsustainable business model.

Bord Bia does not carry out monitoring or measurement of actual total emissions into the environment. Information on inputs and processes is gathered from various sources and
used in models to calculate relevant emissions, for example, Bord Bia’s carbon footprint calculation model, which has been accredited to PAS 2050 by the Carbon Trust. The success of Origin Green is dependent on the voluntary and active participation of its members and their willingness to provide information on a confidential basis for the purpose of carrying out assessments and audits.

In terms of climate change then, Origin Green is a glossy PR campaign supporting Irish agriculture’s sustainability illusion. This illusion is based on falsely equating emissions intensity (emissions per unit output) with carbon footprint (total emissions). At first sight, reducing emissions intensity seems like a move towards sustainability but on closer inspection one realises that this is not necessarily true. To use an analogy: with a more efficient car you can use fewer litres of fuel, and also thereby produce fewer emissions per 100 km driven. But if the cost savings are used to drive further each time or spent on other emissions causing activities, then some or all of the fuel and emission savings will be cancelled out. It is perfectly possible to become more efficient by lowering emissions per unit produced and yet increase total emissions by producing more units.

In the same way, an agricultural sector whose beef and dairy production may be highly efficient (producing low emissions per kilo of beef and litre of milk relative to other nations) is only sustainable if the cost savings are not used to increase production in that greenhouse gas-intense industry - resulting in the carbon budget still being exceeded. In other words, efforts in reducing emissions intensity are immediately negated by increasing production. Essentially there is no use reducing your footprint if you continue to increase the number of feet or hooves as the case may be. Reducing emissions intensity is a welcome step, but alone it is not enough. By not reducing Irish agriculture’s carbon footprint we are compromising the needs of current and future generations. Unfortunately, this is the plan under Food Wise 2025, it may be ‘profit smart’ but it is not ‘climate smart’.

As a signatory of the Paris Agreement, Ireland recognised that "Developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets”. The Irish agriculture sector has the highest emissions of any sector of the Irish economy at 33% of the total economy GHGs. Yet in policy the only significant measure to cut total sectoral emissions was to have been a reduction in beef suckler numbers (Food Harvest 2020) and this measure was removed as part of Food Wise 2025. An Taisce’s response to the Department’s questionnaire consultation on the deeply flawed draft SEA for Food Wise 2025 is available on our website, along with our detailed supplementary critique. The final SEA document is little better than the draft, unacceptably failing to identify the need for cuts in total emissions, entirely misunderstanding the nature of climate action and food security. The fact that DAFM and Bord Bia would accept such an analysis does not inspire confidence in their commitment to Origin Green’s aspirations. The DAFM draft mitigation plan does not specify any cuts whatsoever in total emissions from agriculture and the government industry research group Teagasc has confirmed that no mitigation of total agricultural emissions is projected at all in modelling of up to 2050. It could be said that the DAFM have a No-Mitigation plan.

Furthermore, under Food Wise 2025 the EPA (2016) report, “The dairy cow herd is projected to increase by 16% on current levels while the beef herd is projected to remain relatively static to 2020. Nitrogen fertiliser use is projected to increase by 21% by 2020.”
Even if efficiency were to improve, increasing cattle numbers and fertiliser use will only increase the carbon footprint of total annual emissions. This means that not only are there no total-emissions reductions planned in Irish agricultural policy but emissions are projected to increase by 7% or 6% in the period 2014 to 2020 under the *With Measures* or *With Additional Measures* scenarios respectively (EPA 2016). Given that Agricultural emissions are projected to make up 47% of our non-ETS sector by 2020, they are a key determinant in meeting Ireland's non-ETS reduction targets for 2020 and 2030. The latest projections from the EPA suggest that by 2020 non-ETS emissions may only be 6% below 2005 levels compared to the 20% reduction target, meaning that Ireland will have failed to produce a ‘climate smart’ response, particularly in our agriculture and transport sectors.

The definitions of sustainability used by Bord Bia are internationally recognised and the commitment to deliver a sustainable future for farmers, producer’s, local communities and the environment is something An Taisce would naturally support. However in practice the approach to sustainability in Origin Green focuses mainly on resource efficiency rather than reducing overall environmental footprint. Resource efficiency of course is any easy sell for producers as it comes with the added carrot of reducing inputs and overheads and lowering the costs of production.

Through the Beef and Lamb Quality Assurance Scheme Origin Green intend to move the carbon footprint of the worst producers to the average footprint figure. This it could potentially reduce emissions by 500,000 tonnes CO₂ equivalent annually. This Origin Green claim would reduce Ireland’s greenhouse gas emissions from agriculture by almost 3% based on the figures published in the EPA’s National Inventory Report 2014. According to the Origin Green Sustainability report even this slight improvement will “*presents a very significant challenge and is something that could only be addressed over a considerable period of time.*” The problem is we must make deep emissions cuts over a short period of time. In this context the pathway being proposed by Origin Green towards carbon neutrality is not commensurate with the scale or the urgency of the challenge we face. Steps that reduce inputs in the form of energy and fertilisers are a clear win-win, increasing the profitability of farming enterprises while also reducing the climate and water impact of farming. However, increasing resource efficiency while at the same time increasing the industry’s overall environmental footprint through increased production cannot be called sustainable.

An Taisce are also concerned that the focus which being placed on increasing the grazing season will have unintended negative impacts on other aspects of the environment. Increasing the length of the grazing season may lead to overgrazing which is linked to land degradation, soil erosion and biodiversity loss. A 20% shift to spring slurry application from 50% to 70% may increase run-off leading to negative impacts on water quality and aquatic biodiversity. Any unintended negative impacts on the environment should be identified and addressed. Stocking densities must be set within the carrying capacity of the landscape.

An Taisce have a fundamental contention with the claim that the Irish food and drink industry is contributing to global food security. This claim has been used successfully by developed countries to undermine attempts to tackle the environmental impacts of industrialised agriculture. Powerful lobbies have been able to successfully alter the draft of the Paris Agreement to absolve the agricultural sector from making its fair contribution to
the global effort to reduce greenhouse gas emissions. The Paris Agreement states “Recognizing the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change.” This get-out clause will of course be used by countries like Ireland to assert that they are justified in increasing production, regardless of the consequences, as it is safeguarding food security.

Again, this is a fallacy which enables the sector to divert attention away from the total lack of climate mitigation in practice or policy. Firstly, it is a categorically false assertion that Ireland is contributing to food security. Ireland itself is a net importer of food energy. The FAO food balance sheets from 1961 to 2011 show that, on average over the period 2006 to 2011, in the dietary energy balance of imports versus exports, Ireland was feeding minus two million people every year (Doyle, 2016).

Secondly, the main agri-food exports from Ireland are meat and dairy: foods embodying high GHG emissions per unit energy, per hectare. These products are limiting global food security because they waste nutrition and land that could be used directly for human consumption. In terms of global sustainability, particularly in rich nations, it is detrimental to promote resource intensive products, like Irish beef and dairy, as resource scarcity is becoming a global crisis. According to the World Bank Report, Trade Policy and Food Security, there is no global food shortage (Gillson and Fouad, 2015). Therefore, an increase in the volume of production is not the answer to food security. Achieving food security could be accomplished by altering global trade to achieve a fairer distribution of nutrition. Reducing the amount of animal feed and biofuels being imported into the EU would help with this rebalance. As it is, beef, no matter how ‘efficiently’ produced, whether grass fed or not, is an extremely unsustainable and inefficient way of producing protein that requires large amounts of land and inputs of additional feed and fertiliser per kg of product (Nijdam et al., 2012).

Not only does Ireland not have a food surplus, it is simply untrue that increasing the production of luxury, GHG-intense products such as milk powder, for sale to an emerging global middle-class consumers like those in China, that Ireland is addressing a deficit in global nutritional energy. Locality of production is also an issue raised in food security. Addressing this requires enhancing local capacity in production on a small farm scale to meet the demands of local markets while also conserving the regions biodiversity, resource depletion and improving economic development (Irish Aid, 2009). Investing in aid programmes which help small farmers in the global South to build capacity and self-sufficiency should be encouraged by the EU and UN.

Climate change intensified events such as desertification, seasonal drought, flooding, and rising sea levels are predicted to cause reduced food yields, which will primarily be a consequence of production and consumption in developed countries. Given that climate change is “projected to undermine food security” (IPCC, 2014) by further weakening food production in areas already stricken by food insecurity, non-participation in reducing total greenhouse gas emissions is probably the worst contribution a developed country could make to global food security. Ireland’s ongoing development of the agricultural sector towards increased beef and dairy production will further the progression of resource depletion and climate change resulting in a negative feedback effect on global food security. It can in no way be regarded as sustainable. The role that the Irish food and
The role of the drink industry in undermining global food security has been elaborated on in the An Taisce's report: *Ireland’s Agricultural Sector’s Role in Food Security in the Wake of Climate Change (2016)*.

Of Ireland’s total land area 67% is used for agriculture. Of that, approximately 80% is devoted to grass (silage, hay and pasture), 11% is in rough grazing and the remainder, only ~9% is allocated to crop production. According to Bord Bia there were 6.9 million cattle in Ireland in June 2015, an increase of 0.5% from June 2014 and Ireland imported €779 million in animal feed (excluding unmilled cereal) from January 2015 to December 2015 (CSO, 2016). In importing large amounts of feed the Irish agriculture sector appears to be ignoring the second part of their favoured article of the Paris Agreement regarding "the particular vulnerabilities of food production systems to the adverse impacts of climate change." Even at the most basic level, in terms of Ireland’s own food security – the lack of nutritional diversity that arises through becoming more and more dependent on beef and dairy production (predominantly for export) may leave Ireland extremely vulnerable to adverse impacts of climate change. That is, the dominant agricultural policy and practice in Ireland currently favour putting all our eggs in one basket; hardly a prudent policy at a time of extreme volatility in the global milk market.

Dr Doyle (2016) conducted a food trade energy analysis for Ireland and the EU on behalf of the An Taisce Climate Change Committee. This analysis was carried out in response to claims made by the Irish food and drink sector that intensification of the Irish beef and dairy sector was environmentally sustainable and justified by the need to meet the nutritional needs of a growing world population. Dr Doyle argues that any scaling up of production needs to be assessed with respect of food security benefits, and implications for greenhouse gas (GHG) emissions. Food energy analysis is a useful technique for exploring the sustainability of agriculture. The technique entails converting all products to their food energy equivalent. One can then use the data to determine whether a country is a net importer or exporter of nutrition. Countries like Ireland which are currently net importers of food nutrition cannot be contributing to global food security. In addition to this by analyzing the GHG intensity of products produced in Ireland and the EU the environmental sustainability of food production systems can be scrutinized. Dr Doyle argues that the dominance of beef and dairy production in Ireland means that Ireland is not contributing to global food security and due to the high GHG intensity of ruminant based agriculture Ireland is exacerbating food security globally by contributing to climate change.
Ireland’s net food imports could feed 1.4 million people

What are the lessons from this food energy analysis? "Ireland and the EU can contribute to a sustainable global food supply by increasing cereal, oil crop and vegetable production, reducing beef production, and moving away from biofuels."

Ireland’s bovine GHG intensity exceeds EU average

Fig.2 Irelands Food Energy Imports and Exports (Doyle, 2016).

Fig.3 EU 28 GHG intensity of Combined Milk and Beef production (Doyle, 2016)
The argument that Ireland is simply offsetting food which would be produced elsewhere with a higher environmental footprint is also misleading as it gives the impression that the Irish food and drink industry is somehow a passive partner in the food supply chain, benignly reacting to external market forces being driven by global consumer demand. The reality is that Origin Green is itself targeted to take advantage of a ballooning human population and in particular the emerging middle classes in Asia and the global South. A large proportion of Origin Greens budget is spent on marketing, trade missions and food expos. The Irish authorities and Irish companies (Origin Green members) are, through expensive media campaigns and high profile trade missions, actively courting emerging trade partners and encouraging them to adopt western consumption patterns. According to WWF Living Planet Report (2010) if everyone in the world lived like an average resident of the United States or the United Arab Emirates, then a biocapacity equivalent to more than 4.5 Earths would be required to keep up with humanity’s consumption and CO₂ emissions. Conversely, if everyone lived like the average resident of India, humanity would be using less than half the planet’s biocapacity. In order to live within the limitations of a finite planet and stave of the looming environmental and humanitarian disaster consumers in the economically developed countries must change their consumption patterns in order to reduce their environmental footprint. We cannot hope to maintain our current lifestyles and also expect people in the global South to not strive to improve their standard of living. Origin Green can play a role in this evolution by promoting true sustainability. This shift is inevitable as it is a matter of survival and therefore Ireland will be at an advantage if we pioneer a pathway towards sustainability.

Lastly, in climate action, we would point out that forestry and soil carbon sequestration are important aims in terms of rebuilding biocarbon land-sinks. However, this sequestration is wrongly being assumed to equate to long-term carbon dioxide removal (CDR) that could count as an offset to continued emissions of greenhouse gases. As IPCC AR5 Ch. 6 makes clear, this is not the case because such sequestration is impermanent, subject to rebound effects from ocean sinks and is very limited due to time and land-use constraints. Mackey et al (2013) spell this out,

"concluding that considering carbon storage on land as a means to ‘offset’ CO₂ emissions from burning fossil fuels [and non-CO₂ emissions] (an idea with wide currency) is scientifically flawed. The capacity of terrestrial ecosystems to store carbon is finite and the current sequestration potential primarily reflects depletion due to past land use."

This also had crucial implications for Ireland’s continued exploitation of peatlands, extracting and burning peat is destroying a far greater and more stable long term carbon sink than that which is available in forestry. Any confusion of agricultural emissions with rebuilding land use sinks should account for peat destruction and the extremely limited CDR effect of forestry and soils. In other words mitigation really does mean cutting sectoral emissions in a sustained and substantial way.

To conclude: it is disingenuous for an industry actively increasing its total carbon emissions, in full-awareness of the effects on climate change and the implications thereof, to label itself as sustainable. The view that this could be regarded as a model of sustainability, to be replicated internationally does not hold up under scrutiny and its wise
scale adoption would be extremely dangerous given the resulting implications for the global environment and humanity. An Taisce urge Bord Bia, the DAFM and the farming stakeholder groups to plan for and achieve immediate and continuing absolute cuts in annual emissions in order to play a genuine part in GHG mitigation and aim to increase the net nutrition produced by Ireland per hectare of land. Bord Bia should discontinue its support of so-called ‘climate smart’ agriculture when it is clearly not true.

WATER

The resource efficiency of water use in the Irish beef and dairy sector is one of the key environmental merits highlighted in the Origin Green Sustainability report (2015). Given that agriculture is one of the main drivers of water stress globally and that water stress is predicted to increase as the result of climate change then being able to produce food with a low water footprint is an advantage which Origin Green are keen to highlight.

It is clear that the factors contributing to the low levels of water stress in Ireland are numerous and are for the most part not attributable to good environmental practices. Factors such as our hyper-oceanic climate with associated high levels of rainfall throughout the year ensure a reliable supply of freshwater. Ireland has one of the lowest population densities in the EU outside of the Scandinavian and Baltic Member States and we have lower levels of horticultural and heavy industry than other countries in Western Europe which contributes to our comparably low abstraction pressure. Our grass based ruminant agricultural systems have a lower water use per unit of output although it is unclear if the origin of imported feed and its associated water stress are included in the water footprint calculations.

As is the case with greenhouse gas emissions it is not the efficiency of water use but the overall environmental footprint of the industry on Ireland’s aquatic environment that should be considered. While water abstraction is not as big an environmental issue in Ireland as it is in some other EU Member States there is still regional water stress particularly in the East Midlands and Greater Dublin area. Rivers such as the Vartry have insufficient flow and will continue to be degraded as climate change and abstraction increase water stress. Beef production is among the most water intensive industries on the planet. The consumption of animal products contributes to more than one-quarter of the water footprint of humanity (Hoekstra, 2012). The water footprint of any animal product is larger than the water footprint of a wisely chosen crop product with equivalent nutritional value. If industrialized countries, where to move toward a vegetarian diet it would reduce the food-related water footprint of humanity by 36% (Hoekstra, 2012). One of the most effective ways the food industry has to promote sustainable water use is to encourage a shift away from a diet high in beef and dairy. It is also unclear what baseline Origin Green are judging water stress against and whether water stress should be considered to mean absolute water shortages or a significant reduction compared to a pristine water body.

Of course water stress is just one of the many pressures being exerted on the aquatic environment by the agricultural sector. In order to truly say that the Irish agri-food sector uses water in a sustainable way a more honest appraisal of the relationship between Irish agriculture and the aquatic environment is needed. The impact of agriculture on water
quality in Ireland and its associated aquatic biodiversity is a major environmental issue. There are some positive elements of Origin Green which encourage sustainable water use. The sustainability assessments being carried out by Origin Green on participating farms are a useful tool to build awareness of the importance of water conservation on farms. The abstraction of water in Ireland is poorly regulated and any steps which increase awareness and promote best practice are positive. The ambition and the level of participation in the water abstraction and water protection measures within Origin Green do not appear to be on the same level as the carbon navigator programme. All participating farms should be taking positive steps to reduce their water footprint. Likewise every farmer in the programme should follow best practice guidelines which protected water quality and aquatic biodiversity. This would involve compliance with the Water Framework Directive, the Nitrates Directive and the Habitats and Birds Directives plus additional measures such as fencing off watercourses.

The largest challenge facing Ireland’s freshwater and estuarine environments and our compliance with the Water Framework Directive (WFD) is the ongoing intensification of Irish agriculture and the dairy sector in particular. Not enough is being done to counter the challenge posed by diffuse agricultural pollution or the hydrological and morphological alterations to waterbodies associated with agriculture. The ambitious targets set for the expansion of the Irish food and drink industry and in particular the dairy sector under Food Harvest 2020 and Food Wise 2025 are the greatest threat posed to Ireland’s compliance with WFD obligations. There is no reason to believe that the negative impact that agriculture is currently having on our aquatic environment will not intensify in line with increased production and stocking densities. Many water bodies have zero capacity to absorb future negative impacts if good status is to be achieved and if high status is to be retained. The Irish agricultural sector must adhere to Irish and European environmental legislation, of which the WFD is just one example.

**Agriculture as a significant water management issue**

According to the significant water management issues in the Scotland river basin district report (2007) diffuse agricultural pollution can have the following impacts:

- Losses of nutrients from fertilisers, animal manures and slurries applied to land result in the proliferation of plant growth. This can smother rivers and estuaries while, in lochs and coastal waters, plankton reduces light penetration and affects oxygen levels.
- Organic matter from animal manures, slurries and effluent from livestock feeds (e.g. silage) depletes oxygen levels in rivers. This, together with toxic components such as ammonia, reduces the number of animals and plants that can thrive in our rivers.
- Soil erosion can have a direct physical impact by smothering gravels in rivers and loughs, and reduce light penetration in estuaries and coastal waters. It is also important in the transport of other pollutants such as pesticides, nutrients and faecal pathogens attached to soil particles.
- Livestock manures and slurries, and access to watercourses by cattle and sheep, can lead to significant losses of micro-organisms from faecal matter to bathing and shellfish waters. This can affect the amenity value of the water environment and pose a risk to human health.
• Losses of pesticides and veterinary medicines (including sheep dip) during handling, use and washdown can cause severe impacts on plants and animals in rivers and can affect the quality of drinking water. Diffuse pollution from agriculture is a significant issue for groundwater, rivers, lochs, transitional and coastal waters.

According to the EPAs Water Quality in Ireland Report 2010-2012 (2015), 47% of rivers, 58% of lakes and 55% of transitional water were not of good status for the period 2010-2012. The two most important suspected causes of pollution in rivers are agriculture and municipal sources, accounting for 53% and 34% of cases respectively. There was for example also a 5% reduction in satisfactory quality lakes (10 lakes) compared to 2007-2009 (EPA, 2015). Agriculture has been identified as the most significant pressure on water quality in the SERBD, the NWIRBD and NBIRBD (EPA, 2014 1, EPA, 2014 2). The most widespread water quality problem in Ireland continues to be elevated nutrient concentrations. The EPA water status assessment for 2010-2012 (2015) shows that water quality problems tend to be greater in areas of intensive agriculture and where population densities are highest due to wastewater discharges to waters. The most important suspected sources of pollution is agriculture. It has been estimated, that in 2012, the relative contribution of nitrogen and phosphorus to surface waters were mainly from agriculture (88% of nitrogen and 49% of phosphorus) and wastewater discharges (5% of nitrogen and 30% of phosphorus). Nationally there is a significant ongoing trend is the increase in slight pollution (Class B) from 12 per cent in the 1987-1990 period to over 20 per cent at present. More than half of the cases of slight pollution (which typically corresponds to moderate ecological status under the Water Framework Directive assessments) was attributed to agriculture – primarily diffuse agricultural pollution causing eutrophication. Agriculture is second to Municipal Waste Treatment and Urban Activities when it comes to Moderate Pollution (EPA, 2015).

Ireland’s agricultural sector is linked to Nutrient Enrichment, Health, Abstraction, Physical Modifications, and Sediment. Pollution, drainage and natural systems modification linked to agriculture are among the greatest pressures/threats on aquatic biodiversity in Ireland (NPWS, 2013). Agriculture is also one of the main land uses in high status catchments under the water framework directive and is as a result one of the most important pressures and threats on these extremely sensitive waterbodies. The percentage number of high status sites in Ireland has almost halved in the 22 years between 1987 and 2012 (EPA, 2015). In each survey period the decline continued, from 29.6% of the total sampled in the 1987-1990 period to 16.4% in 2007-2009. Although there was a slight increase in the numbers of high status sites in the latest survey (18.3%) EPA 2010-2012 survey (EPA, 2015). Only 11.5% of rivers, 9% of lakes and 3.6% of transitional waters were considered to be of high status for the 2010-2012 period (EPA, 2015). High Status Rivers equate to an EPA river monitoring score of Q4 or Q5 (EPA, 2015). The number of sites assigned Q5 high status reference condition continues to decline in the latest survey (38 sites (2007-2009) to 27 (2010-2012)).

The smallest pressure can impact on high status. Small increases in the amount of P and N can damage the sensitive ecology associated with these sites (Ni Chatháin et., 2012). Identified pressures include land-use changes associated with agriculture such as field drainage and fertilisation, animal access to waters, and sheep dip pesticides (Ni Chatháin et., 2012). Significantly the national network of high status water bodies are clustered and high status sites a negative correlation with intensive agriculture (Irvine & Ni Chuanigh,
The ongoing intensification of agriculture in areas with high status water bodies is a major concern and has been addressed (EPA, 2015; Forest-Service, 2015).

The conservation and appropriate management of High Status sites is also a legal obligation under the Water Framework Directive. The Water Framework Directive (WFD; 2000/60/EC) requires all EU Member States to categorise their water bodies according to their ecological status as high, good, moderate, poor and bad. The WFD also requires that Member States identify water bodies that have been minimally impaired by anthropogenic pressures (Irvine & Ní Chuanigh, 2010). The maintenance of high status water bodies is a fundamental element of the legislation within the WFD (2000/60/EC).

![Fig.4 Long-term trends in the percentage number of high ecological quality (macroinvertebrate) river sites (1987 – 2012). EPA Water Quality Report 2010-2012 (EPA, 2015).](image)

The freshwater pearl mussel (*Margaritifera Margaritifera*) and the nore freshwater pearl mussel (*Margaritifera durovensis*) are indicator species for pristine freshwater environments. It is very revealing that the most significant threats and pressures to this species are associated with agricultural practices and intensification. Addressing the following pressures and threats are considered to be of high importance for the survival of this threatened species (NPWS, 2013):

- Restructuring agricultural land holding
- Modification of hydrographic functioning, general
- Other human induced changes in hydraulic conditions
- Water abstractions from groundwater
- Diffuse pollution to surface waters due to agricultural and forestry activities

According to the Environmental Analysis Report for Food Harvest 2020 the overall environmental impact of Food Harvest 2020 was found to be Slight Negative pre-mitigation. These findings are based on risks associated with projected increases in input of organic and inorganic nitrogen and phosphorous fertilisers. Potential adverse impacts are primarily related to projected expansion of dairying and pig / poultry enterprises with potential loss of semi-natural habitats and ecological features; reduction in the suitability of habitats for a range of species, particularly lowland farmland birds (Farrelly et al., 2014). Food Harvest 2020 is likely to exacerbate pressures already associated with
nutrient enrichment, sedimentation; and acidification of surface waters; and nitrate and phosphate leaching into groundwater; microbiological contamination; contamination from pesticides, herbicides and farm chemicals; and abstraction pressure.

The Environmental Analysis Report for Food Harvest 2020 also makes reference to the fact that the protection of some drinking water sources is inadequate that the increased loading of nutrients predicted under Food Harvest 2020 was deemed to be a “risk factor”. The overall predicted impact before mitigation was found to be slight negative for water quality. This finding nationally is based on risks associated with projected increases in inputs of organic and inorganic nitrogen and phosphorous fertilisers along with strict adherence to existing legislation and GAEC (Farrelly et al., 2014). An assessment based on strict adherence to existing legislation and GAEC is not based in reality. If legislation and the requirements of GAEC were currently adhered to we would already have met our targets under the WFD for 2015. In a real world or business as usual scenario everyone will not adhere to legislation and best practice and agriculture will continue to be a major source of slight, moderate and serious pollution across all RBDs. An increase in the threats and pressures associated with agriculture will cause a deterioration in water quality nationally and lead to the loss of good status, high status and Q5 status in breach of our WFD obligations. Ireland faces enormous challenges to bring water bodies to the “good status” required under the Water Framework Directive and to prevent further deterioration in water quality. Agriculture will have a large influence on Ireland’s success in meeting water quality targets. The expanding production capacity of Irish agri-food processing companies may lead to an increase in discharges. The location of some existing processing sites could reach a limit where the assimilative capacity of receiving water is at or near capacity. Eutrophication is already a significant problem and the expansion of the national dairy herd is likely to compound this issue.

The interim report for the Agriculture Catchments Project (ACP) reveals weaknesses in the current regulatory measures under current conditions. Annual average P concentrations in three of the six catchment streams regularly exceeded the Irish Environmental Quality Standard (EQS). 50-100% of sites were found to be at risk of not meeting WFD ecological standards for macroinvertebrates. Nitrate concentrations were over the EPA standard needed to support ‘Good status’. The increase in N and P inputs associated with Food Harvest 2020 will exacerbate these issues.

Livestock manures and slurries, and access to watercourses by cattle and sheep, can lead to significant losses of bacteria, viruses and protozoa to drinking, bathing and shellfish waters. This can affect the amenity value of the water environment and pose a risk to human health (Mawdsley et al., 1995; SEPA, 2007). Following the application of these wastes to land the potential exists for environmental contamination. Plants, soil and ultimately water courses which may subsequently be used as catchments for public water supplies may all be affected. (Mawdsley et al., 1995; SEPA, 2007). Grazed grasslands are the main diffuse source of pathogens (Oliver et al. 2005) and the magnitude of the impact on water quality is a function of stocking density, length of grazing season and grazing practice (Ferguson et al. 2007). The increase in slurry associated with Food Harvest 2020 and Food Wise 2025 as well as the predominance of grass based bovine husbandry in Ireland means that intensification will have a negative impact on health. The health impact of agricultural expansion should also be considered as well as the associated cost implications involved in making contaminated water potable.
An Taisce recognise that there has been an improvement in the levels of pollution emanating from the agricultural sector since the 1990’s. Improved awareness for example has contributed to a reduction in the amount of fish kills associated with poor agricultural practices (EPA, 2015). While we recognise that projects associated with the Agricultural Catchments Programme and the measures associated with the Nitrates Directive have reduced the levels of eutrophication associated with agriculture in many catchments it is unlikely that water quality will not deteriorate if intensification of beef and dairy sector continues without rigorous mitigation measures. The EPA themselves have highlighted that the planned expansion in the agricultural sector under Food Harvest 2020, is the single biggest threat to the modest improvements seen in recent years (EPA, 2015).

The Irish authorities proposed strategy to mitigate these negative impacts is vague and is based around the assumption that we will achieve 100% compliance with environmental legislation and GAEC, which is fanciful. The main strategy seems to be to increase monitoring. Waiting for an inevitable impact does not seem a wise or cost effective strategy in the long run as restoration and in particular ecological restoration can take time and resources. Food Harvest 2020 is not in line with our obligations to improve water quality or in line with the 2050 sustainability vision espoused by Origin Green. There is a clear need for Origin Green to positively contribute to the improvement of not only water usage but also water quality if the 2050 sustainability vision is to be achieved.

**Biodiversity**

In Europe around 47% of land area is under agricultural use. In Ireland the figure is much higher with 67% of land being under agricultural use (DAFM, 2014). So it is not surprising that agriculture has a profound influence on the biodiversity of Europe and Ireland. Approximately 59% of the c.950,000 ha in the terrestrial Natura 2000 network in Ireland, is farmed. This accounts for 26% of Irish farmers. This does not include farmers who farm in NHA lands, commonage lands and other High Nature Value farmlands which have no designation (NPWS, 2013). According to the NPWS Only 3% of agro-ecosystems in the EU were assessed to be in favourable conservation status in 2007. Critically, none of the grassland habitats selected in European or Irish SACs were in favourable condition for the same period (2000-2006) (NPWS, 2013).

Ireland is obliged to report to the European Commission on the status of sites and species protected under the Habitats and Birds Directives. These reports are a good barometer for the status of Irish biodiversity and the main threats and pressures. According to the 2013 Article 17 report, agriculture is the greatest pressure/threat to habitats in the Irish Natura 2000 network. Negative impact associated agriculture include ecologically unsuitable grazing (including undergrazing and overgrazing) and fertilisation. Agriculture was a pressure and a threat of high, medium and low intensity for over 70% of designated habitats (Fig.5). Agriculture was also the greatest pressure/threat under the High intensity category impacting almost 40% of sites (Fig.6).
Fig. 5 The proportion of habitats impacted by Pressure or Threat category at High, Medium and Low intensity.

Fig. 6 The proportion of habitats impacted by Pressure or Threat category at a High intensity
According to the NPWS ecologically unsuitable grazing regimes represent approximately 50% of the pressures recorded in the ‘Agriculture’ category. The grazing pressures noted were both intensive and non-intensive grazing. No intensive grazing is assigned as a pressure where a habitat has not recovered from the impacts of overgrazing and even a small amount of grazing is still considered to negatively impact the habitat. One-third of the pressures in the ‘Agriculture’ category are assigned to abandonment, which should be considered in conjunction with the ‘Natural and Abiotic processes’ category where a similar proportion of the pressures are assigned to succession. ‘Natural system modifications’ are also one of the other major pressures/threats on Irish habitats in the report and many of the negative impacts also directly related to agriculture and the intensification of farming. One third of natural systems modifications are due to drainage while the other major issues include burning, reclamation and dredging.

In relation to species 52% are assessed as Favourable, 20% as Inadequate, 12% as Bad and 16% as Unknown. As with habitats agriculture and associated natural systems modifications are the greatest high intensity pressure / threat on Irish species. Agriculture and associated natural systems modifications account for just under 40% each of high, medium and low intensity pressures / threats.

Farmland bird species are in critical decline. Upland species are also in decline while species associated with high status water bodies under the water framework directive such as freshwater pearl mussel are in bad conservation status. It is clear that unsustainable agricultural activities and their associated knock on impacts in the form of pollution and habitat loss/degradation are the greatest driver of biodiversity loss. Much of the negative impacts in Ireland can be directly linked to agricultural intensification. Between 2007 and 31% of habitats are considered to have a declining conservation status, while no improvement is reported for 48% of habitats. According to the NPWS “there is no evidence that there will be any major decline in pressures over the next 12 years.” An Taisce would go further than this and say that the intensification of Irish agriculture under Food Harvest 2020 and Food Wise 2025 and the indirectly linked expansion of the forestry sector will be associated with an increase in pressures and a decline in the conservation status of Irish habitats and species.

The abundance and diversity of bees, birds and other species of insects and plants have suffered serious losses as a result of changing farming practices in Ireland, according to the findings of the Ag-Biota project, a five-year scientific study conducted by University College Dublin (UCD) on behalf of the Environmental Protection Agency (EPA, 2009). The increased use of machinery, the removal of hedgerows, and the greater use of chemicals has led to landscape simplification and degradation and, as elsewhere in much of Europe, a reduction in the diversity of species across the Irish countryside (EPA, 2009). The species and habitats which will be most negatively impact include those which are linked to the continuation of traditional extensive farming practices or High Nature Value farming. According to current estimates about 17 % of the habitats in proposed Natura 2000 areas depend on a continuation of extensive agricultural practices (EEA, 2005). There is little data about the actual conservation status of habitats or species across Irelands high nature value farmland ecosystems however proxies include the distribution of rare and threatened butterflies and rare bird species. The number and conservation status of butterfly species in the prime butterfly areas have a negative conservation status
in the EU-15. According to Butterfly International about 40% of all agricultural prime butterfly areas experience negative impacts from changes in farming intensity indicating the need for the conservation of HNV farming (EEA, 2005). One third of Irish wild bee species are threatened with extinction in Ireland (NBDC, 2015).

The red list includes species of birds whose populations have declined by over 70%, as well as those that are threatened globally. Of the 9 Irish farmland birds (grey partridge, quail, corncrake, lapwing, curlew, redshank, barn owl, twite, yellowhammer) on the red list, the number of occupied 10 km squares has at least halved since 1970. Of particular concern in the farmed landscape is the significant decline in breeding waders recorded in recent reports and from the 2007-2011 Bird Atlas survey. Corn Bunting, a once abundant farmland bird has declined by 66% across Europe and is sadly now extinct in Ireland. Twite are barely hanging on while corncrake are now gone from the Shannon callows and the breeding Curlew population in Ireland has declined by 80%.

According to the NPWS the Habitats and Birds Directives are not providing sufficient protections in the farmed Natura network in Ireland. Recent Rural Development Programmes in Ireland have not addressed this fundamental problem (NPWS, 2013).

It is positive that some Origin Green verified members are setting targets to protect and enhance biodiversity on their properties. This aside Origin Green have not done enough to address biodiversity loss within the programme to date. There do not currently appear to be any measures within the Origin Green programme which are targeted at improving on farm level biodiversity. While it is accepted that assessments are ongoing this is a major weakness to the sustainability credentials of Origin Green. It is not clear how the All-Ireland Pollinator Plan 2015-2020 will be integrated into the programme. The negative impact of the proposed changes to the Wildlife Act under the Heritage Bill 2016 will likely outweigh any positive impact that can be achieved through Origin Green. While some farmland bird surveys have been carried out in conjunction with Bird Watch it is unclear how this will be integrated into Origin Green or if there is any real appetite to develop a meaningful biodiversity strategy at all.

According to the Origin Green Irish farming “performs well compared with other countries through the widespread participation in various biodiversity enhancement programmes (including REPS, AEOS, etc.). With the advice available from organisations such as Teagasc, Producers will be able to maintain or enhance the biodiversity of the farm.” An Taisce take issue with this statement. The fact that Ireland has widespread take up of agri-environment schemes does not imply that Irish farming is environmentally friendly. Commenting on Ireland’s past RDP the National Parks and Wildlife Service (NPWS) point out that the programme suffered “due to poor design of prescriptions, inadequate targeting and baseline setting and little or no monitoring of results” (NPWS, 2013). The management of schemes and payments has also been hugely contentious with 80% (£433m) of funds allocated for Natura 2000 areas during the 2007-2013 period being reallocated away from Natura 2000 management. Referring to the standard of Irish agri-environment schemes the NPWS who have direct responsibility and expertise on agri-environment schemes have said that the Department for Agriculture, Food and the Marine (DAFM) has given little consideration to the recommendations the NPWS has made (NPWS, 2013). In this context participation in agri-environment schemes is in itself not a
positive unless there has been a demonstrable improvement in biodiversity as the result of participation in the scheme. This is not evident in Ireland and as we have shown the net impact of agriculture continues to be a major negative threat/pressure on biodiversity. It also has to be said that Bord Bia do not fund agri-environment schemes and therefore have no right to claim credit for any positive outcomes of these schemes. By encouraging participation in agri-environmental schemes Bord Bia may inadvertently be creating pressure for greater access to these schemes. In the absence of increased funding greater access to the limited pot available for agri-environmental schemes will lead to the dilution of the payments available for measures, a lowering of the standards required for qualification for schemes or a watering down of the measures required within the scheme. Farmers who support HNV farming systems are often associated with marginal land. These farmers often have to deal with both the physical constraints of the land they farm on top of socio-economic disadvantages. They and the biodiversity they support are heavily reliant on the funding provided by agri-environment schemes. The dilution and capping of agri-environmental schemes may make farming unviable with knock on social and environmental consequences.

In the Origin Green Sustainability Report it says that one of the areas covered in the assessment are Special Areas of Conservation. It is not clear what this means and whether it refers to the presence of designated Special Areas of Conservation (SAC) under the Habitats Directive within a farm. If this is the case it does not make sense that other designated sites such as Special Protection Areas (SPA) under the Birds Directive or Natural Heritage Areas (NHA) under the Wildlife Amendment Act (2000) are also not mentioned. The presence of a designated site on farm in itself should not indicate sustainability. The real question is what is the conservation status of the site and is Origin Green positively impacting of the sites conservation status.

The proposed changes in the Heritage Bill 2016 which relate to the legal dates for hedge cutting and burning under section 40 of the Wildlife Act are not in line with sustainable hedgerow management or the All Ireland Pollinator Plan 2015-2020 which are mentioned in the Origin Green Sustainability report. These negative changes are being brought about as the result of lobbying by the Irish Farmers Association (IFA). This is another example of the reality on the ground where rather than driving environmental standards certain hard liners are actively driving policies which will result in biodiversity loss.

More targeted locally led agri-environment schemes are needed as well as better biodiversity metrics and more monitoring. Positive steps which Origin Green should promote to improve on farm biodiversity would include knowledge transfer about the importance of biodiversity and ecosystem services. Compliance with environmental legislation must improve and knowledge transfer has an important role to play in this as does proper implementation of the Wildlife Act and the Habitats and Bird Directives. Creating, enhancing and protecting on farm habitats are all positive steps that can easily be integrated into Origin Green. Measures should be targeted at a regional level to tackle local biodiversity issues. For example if farms are in a catchment which supports freshwater pearl mussel then practices which protect water quality could be promoted. The integration of the All-Ireland Pollinator Plan would be positive. Origin Green should continue to promote the wise use of pesticides and the frugal use of herbicides and pesticides. As agricultural pollution is a major issue under the headings of water and biodiversity and is set to increase in importance due to agricultural intensification
measures which improve nutrient management and the protection of watercourses would be very welcome.

**Bord Bia Certification Criteria**

An Taisce met with Bord Bia in relation to Origin Green and raised the clear credibility issues we have with the programme. This is typified with by the **certification of Monaghan Mushrooms** as sustainable. The mushroom industry in Ireland is totally dependent on the use of peat as a growing medium. The harvesting of peat involves the drainage and complete destruction of raised bogs. Active raised bog is an Annex I priority habitat under the Habitats Directive. Even in its degraded non-peat forming state the habitat is considered so rare and threatened that degraded bog is also an Annex I habitat. The Overall Status of active raised bog in Ireland is assessed as Bad and declining. This is due to historic losses and ongoing declines due to peat extraction and continuing drying, shrinking and slumping of the bog structure. The extent of active peat forming areas has reduced greatly with a loss of 20-30% reported since 2001 (NPWS, 2013). In Ireland over 80% of the former distribution of active raised bog has been lost. The 2009 decision by An Bord Pleanala not to grant permission for the extraction of moss peat from the undesignated raised bog Kilballyskea Bog in Co. Offaly, on the grounds that the site contained the Annex I habitat 7120 Degraded raised bogs still capable of natural regeneration, acknowledges that undesignated, intact peatlands represent a nationally and globally threatened habitat and not a resource for moss peat. Damaged peatlands are also a persistent source of pollution and carbon dioxide (CO2) and, at the national level, Irish peatlands are a net source of carbon, estimated currently at around 3 Mt C/year (EPA, 2011). One of the conclusions of the EPAs BOGLAND report was that “neither past nor current management of peatlands in Ireland has been sustainable. Disturbances in the form of industrial and domestic peat extraction, private afforestation, overgrazing, wind farms and recreational activities have had and are having major negative impacts on the hydrology and ecology of these habitats (EPA, 2011).” There is no environmentally friendly way to harvest peat moss. This is a natural resource that accumulates at the glacially slow rate of 0.5 – 1.0 mm per year, or about ¼ of an inch. Peat harvesting involves the removal of deep layers of peat that have literally taken centuries to accumulate. In fact, since harvesting implies sustainability, it is more accurate to describe commercial peat removal as strip-mining. At present, within the EU, peat is excluded from the Eco-label for growing media and soil improvers, and is not regarded as a renewable energy source. Any product associated with the use of peat cannot be considered sustainable and should not be certified by Origin Green. The certification of Monaghan Mushrooms as sustainable exposes Origin Green as a ‘green washing’ exercise being carried out by Bord Bia.

**Conclusion**

An Taisce strongly support the Origin Green vision for 2050. Given the current trajectory Irish agriculture is on it will be a significant challenge to achieve many aspects of the 2050 vision. In the short term the best pathway to achieving the sustainability vision lies in promoting measures which ensure that the Irish agri-food sector is compliant with national and EU targets to reduce greenhouse gas emissions, halt biodiversity loss and improve water quality. Efforts to improve sustainability must focus on areas where Irish agriculture
is currently having a negative impact on the environment rather than simply focusing on areas where we have a perceived market advantage. Origin Green must look to go beyond basic compliance with cross compliance measures if Ireland hopes to be a global leader in sustainable food and drink. Setting realistic targets and deadlines for achieving improvements in sustainability will be essential. Origin Green must look to incentivise the most sustainable producers to maintain or improve their standards. Origin Green must address the net environmental impact of the Irish food and drink industry. An efficiency based approach will not achieve this end. Focusing on improving the worst producers alone will not be an effective approach in the long run. Origin Green must review the criteria required for Origin Green membership.

**Acronyms**

HNV  
WFD  
DAFM  
NPWS

**References**


