



Working
with nature



Sustainability Report 2016

Growing the success of Irish food & horticulture

Bord Bia
Irish Food Board



527

Registered Companies



4,600

Tonnes of Waste Diverted from Landfill



245

Annual Reviews



92

Biodiversity Targets



50

Origin Green Ambassador Placements



137,000

Carbon Footprint Audits



24.7m

Individual Data Points Collected on Farm



24,000

Tonnes of Waste Recycled or Recovered



Over

1,600

Sustainability Targets



220

Verified Members



1.1m

Cubic Metres of Water Saved



82

Health and Nutrition Targets

DISCLAIMER: Bord Bia does not carry out monitoring or measurement of actual 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.

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Introduction

In 2012, when the Origin Green programme was officially launched, Bord Bia set an ambition to have every farm and food and drink manufacturing business throughout Ireland on the road to sustainable production by 2016. With over 137,000 farm assessments completed to date, 527 participating companies, and the introduction of the Retail and Foodservice Sustainability Charter, we have made great strides towards fulfilling our ambition. Reflecting upon this commitment, Bord Bia is pleased to publish its second annual Sustainability Report.

The global food and drink industry now faces enormous challenges including a changing climate, risks to our natural capital and a demand for raw materials that strains our world's natural resources. In anticipation of these challenges, Origin Green started to establish the infrastructure and framework required to facilitate Ireland's ambition of becoming a world leader in sustainably produced food and drink.

Since its inception, over 117,000 beef carbon assessments have been completed, as well as over 20,000 dairy carbon assessments on farms. This year saw the largest number of Irish food and drink manufacturing companies become fully verified members of Origin Green, more than doubling the performance of any other year. This comes in addition to the introduction of retail and foodservice companies to the programme, thus ensuring all levels of the supply chain are participating in Origin Green for the first time.

Considerable progress has been made as we continue to pursue our overall ambition to establish Ireland as a world leader in sustainable food and drink production and to have every farm, food manufacturer and now retail and foodservice company signed up to Origin Green. Our Statement of Strategy for 2016-2018, Making a World of Difference, further reinforces this ambition by setting out our commitment to underpin each and every aspect of our work with Origin Green.

Realising that no one country, sector or individual business can solely lead the move towards sustainable production, we are committed to working with both domestic and international partners to improve performance through collaboration. We embrace the global work of the United Nation's Sustainable Development Goals and will work to align our future developments with this framework.

We invite you to learn more about our progress, as well as our goals moving forward, outlined in this report.

Michael Carey

Chairman, Bord Bia

Aidan Cotter

Chief Executive, Bord Bia



Origin Green and the United Nation's Sustainable Development Goals

In 2015, the United Nation's introduced the Global Sustainable Development Goals; a set of 17 ambitious goals that cover a wide range of issues including responsible consumption and production, climate action, sustainable communities, as well as targeting poverty and hunger, and health and well-being.

Initially seen as the successors to the Millennium Development Goals (MDGs), the ambition and scope of the Sustainable Development Goals is much broader. These goals, agreed to by 193 world leaders, including Ireland, set out a roadmap for governments and industry to move towards a fairer and more sustainable future.

Our 2016 Sustainability Report demonstrates alignment with the UN Sustainable Development Goals. We have highlighted where the Irish food and drink industry either has an impact on a particular goal, such as energy and water, or where it can actively contribute to the achievement of a goal, such as responsible consumption and production. In addition, the UN Sustainable Development Goals and their associated targets will be used to provide guidance in the on-going development of the Origin Green programme.



Origin Green Alignment with the UN Sustainable Development Goals



Section 1

What is Origin Green?







What is Origin Green?

Launched in 2012, Origin Green is the national sustainability programme for the Irish food and drink industry. It is the only sustainability programme in the world which operates on a national scale, uniting government, the private sector and food producers, through Bord Bia.

Independently verified at every stage, Origin Green enables Ireland's farmers and food producers to set and achieve measurable sustainability targets, reduce environmental impact and serve local communities more effectively.

- » **First national sustainability programme in the world**
- » **Independently verified at every stage**
- » **Inclusive of producers and manufacturers of all sizes, across all levels of the supply chain**

How does Origin Green work along the Supply Chain?

SUPPLY CHAIN LEVEL

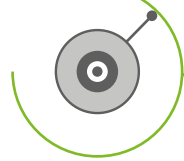
METHODOLOGY

WHAT IS MEASURED?

FARM



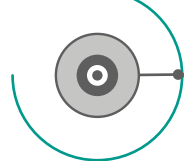
ON FARM ASSESSMENTS



MANUFACTURING



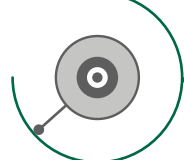
SUSTAINABILITY CHARTER



RETAIL AND FOODSERVICE



SUSTAINABILITY CHARTER



- ENERGY
- EMISSIONS
- BIODIVERSITY
- WATER
- SOCIO-ECONOMIC
- TRACEABILITY
- WELFARE
- ANIMAL HEALTH
- FOOD SAFETY
- RAW MATERIAL SOURCING
- WASTE
- SOCIAL SUSTAINABILITY
- HEALTH & NUTRITION
- SUSTAINABLE SOURCING
- TRANSPORT

Section 2

Progress Update - Farm Level



Bringing beef and dairy farms currently running behind the average to the average would potentially reduce emissions by over 1.4M tonnes CO₂ equivalent annually. This equates to 7% of total emissions from agriculture.

Every 5% footprint reduction on beef and dairy farms that are part of Origin Green would potentially reduce emissions by over 720,000 tonnes CO₂ equivalent annually.



Section 2

Progress Update - Farm Level

Improving farm sustainability continues to be a primary focus of the Origin Green programme. Beef and dairy farm assessments are now well established with many farms entering into their second and third audit cycle. Development of carbon models for the outstanding sectors continues to progress well with a number of initiatives to be rolled out within the first quarter of 2017.

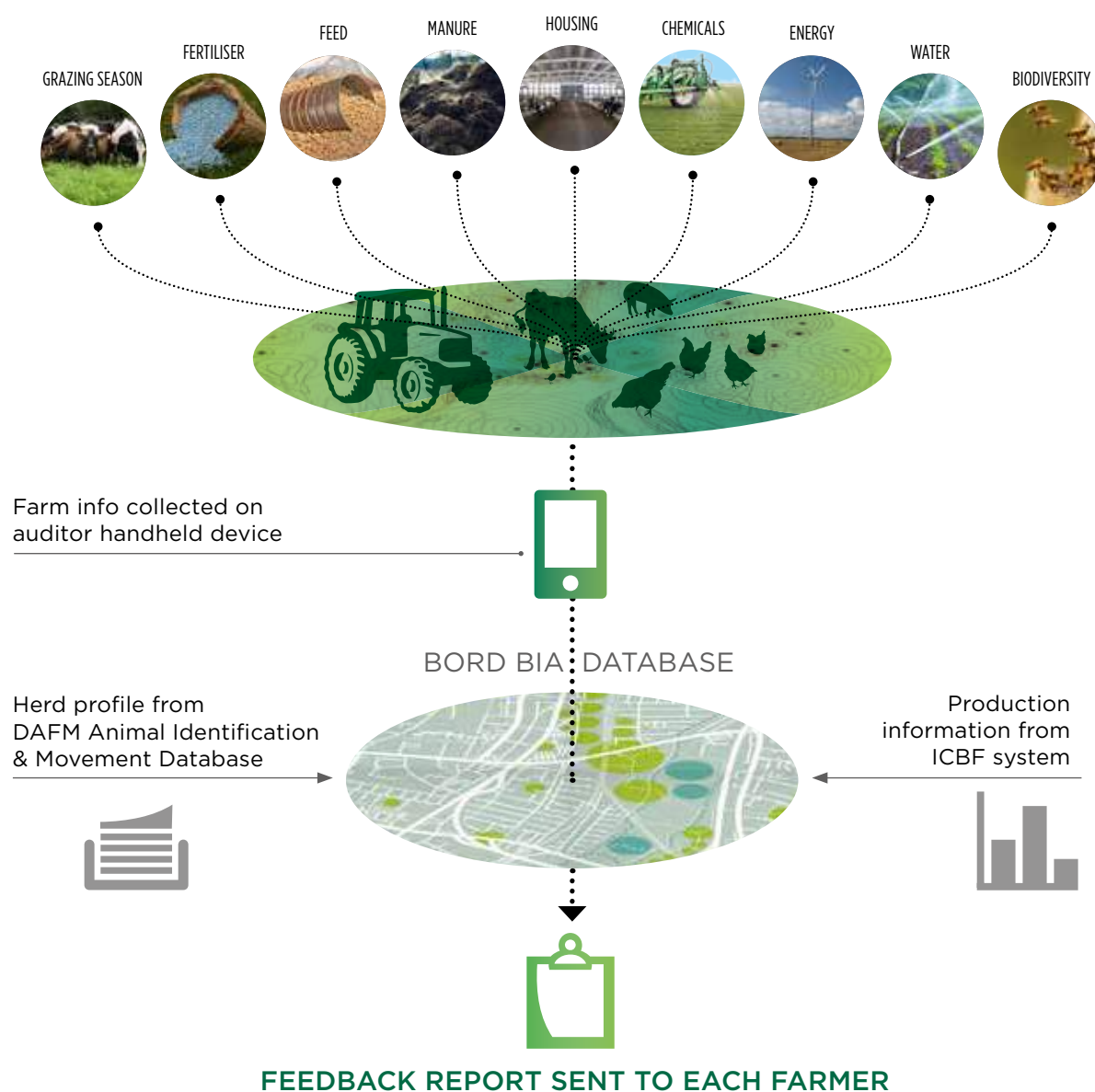
Roll Out of Farm Assessments by Sector – 2016 Update

SECTOR	2016 UPDATE	SECTOR	2016 UPDATE
Beef	Commenced 2011. Over 117,000 farm assessments have been conducted to date. Carbon Footprint Model updated in 2016 to account for alterations to footprinting methodology.	Poultry/Eggs	Revised Scheme set to be launched in 2017. Methodology being developed in conjunction with the Carbon Trust to quantify carbon and other sustainability criteria.
Dairy	Commenced January 2014. Over 20,000 farm assessments have been conducted to date.	Lamb	Sustainable Beef and Lamb Assurance Scheme (SBLAS) to be concluded by year end 2016. Rollout to commence in Q1 2017. Lamb footprinting criteria currently in development with Teagasc.
Grain	Pilot programmes commenced in 2014. Assessment tool developed based on carbon footprint and other criteria as identified by Sustainable Agriculture Initiative's (SAI) Farm Sustainability Assessment (FSA) methodology.	Horticulture	Industry pilot in 2015. Revised Sustainable Horticulture Quality Assurance Scheme (SHQA) due to launch in 2017.
		Pig	Methodology being developed in conjunction with the Carbon Trust to quantify carbon and other sustainability criteria. Revised scheme set to launch in 2017.

How are Origin Green carbon models developed?

- » Bord Bia and relevant stakeholders, including Teagasc, undertake a number of pilot programmes to develop an approved methodology and calculation models for each sector.
- » Finalised models are then put forward to the Carbon Trust to be accredited to the PAS 2050 standard.
- » Auditors are trained in carbon auditing.
- » Audits are conducted and repeated on an 18 month cycle.

How Do Farm Assessments Work?



Partners at farm level



Department of Agriculture,
Food and the Marine (DAFM)



Teagasc



Irish Cattle Breeding
Federation (ICBF)



The Carbon Trust

Beef Update

Carbon footprint assessments were first introduced on beef farms as part of Bord Bia's Beef & Lamb Quality Assurance (BLQAS) programme in 2011. Since then, over 117,000 farm carbon assessments have taken place on over 49,000 farms.

BEEF CARBON ASSESSMENTS

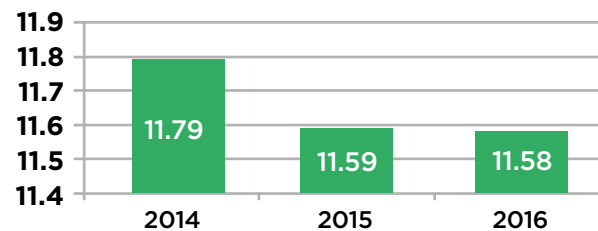
- » Data gathered from over 49,000 farms
- » Data also collected from national ICBF and DAFM AIM databases
- » Over 117,000 audits conducted since 2011
- » Carbon footprint calculation model developed in conjunction with the Carbon Trust to the PAS 2050 Standard

Carbon Footprint on Beef Farms

The assessment results¹ to date show a minor reduction in the average carbon footprint per kg of beef liveweight. The average carbon footprint across participating farms now stands at 11.58 kilograms of carbon dioxide equivalent (CO₂e) per kilogram (kg) of beef liveweight² versus an average of 11.59kg CO₂e/kg beef in 2015.

The data indicate that there remains a considerable level of variation across farms. Allowing for outliers, the range of carbon footprint results varies from 5kg to 18kg CO₂e/kg beef produced.

Average Carbon Footprint (per kg of beef liveweight)



Potential for Reduction

There remains considerable scope for improvement potential in terms of sustainability performance across participating farms. In line with similar findings for 2015, if those farms participating in the BLQAS that are currently behind the average for their production system moved to the average footprint figure, it could potentially reduce emissions by 500,000 tonnes CO₂ equivalent annually.

Every 5% improvement achieved by BLQAS farms currently behind the average would help reduce greenhouse gas emissions by almost 185,000 tonnes CO₂ equivalent. For all BLQAS farms, every 5% improvement results in a drop of almost 340,000 tonnes CO₂ equivalent.



¹ 2016 results are derived from available data up to 31st October, 2016.

² The 2015 average carbon footprint per kg of beef liveweight was revised from 12kg to 11.59 due to an update to the Beef Carbon Model.

Improvement Targets

There has also been a sustained increase in the number of greenhouse gas reduction targets being set by participating farms as members strive to improve their sustainability performance. The Carbon Navigator continues to be utilised as a key decision tool at farm level to help identify opportunities for improvement. A key aspect of the programme is identifying targets for improvement and providing advice on what actions farmers can take to achieve targets. To date, over 37,000 individual improvement targets have been established. When completed, these targets could potentially reduce greenhouse gas emissions by over 7%.



37,762

Improvement targets
established on beef
farms since 2014

KEY IMPROVEMENT MEASURES ON BEEF FARMS

- » Longer Grazing Season
- » Lower Age at First Calving
- » Increased Calving Rate
- » Improved Growth Rate
- » Improved Nitrogen Use Efficiency
- » Improved Slurry Management



Beef Data and Genomics Programme (BDGP)



The Beef Data and Genomics Programme will run from 2014 until 2020. The scheme aims to support the suckler herd by improving the genetic merit of the national herd. This will be facilitated by the collection of data and the genotyping of animals to lower greenhouse gas emissions by improving quality and efficiency. A mandatory requirement for participants is that farmers complete a carbon navigator assessment on farm by the end of November 2016. This will be updated each subsequent calendar year throughout the remaining years of the programme.

Sustainable Beef and Lamb Assurance Scheme (SBLAS)



It is anticipated that the Sustainable Beef and Lamb Assurance Scheme (SBLAS) will be concluded in 2016 and will begin to be rolled out nationwide in early 2017. Carbon footprint assessments on farms have been carried out voluntarily with farmer permission up until this point in time. The new SBLAS scheme will seek to formalise these carbon assessments as a core element to the new standard and build upon the strong work completed to date.



Irish Cattle Breeding Federation (ICBF)



Ireland leading the way with new Beef Genomics Programme

In 2015, the Department of Agriculture, Food and Marine (DAFM) launched the Beef Data and Genomics Programme (BDGP), an EU co-funded scheme, with a €300m budget. The scheme is an environment/climate measure as part of the Rural Development Programme (RDP), with the very clear objective of breeding more profitable, sustainable and carbon efficient cows for the Irish beef industry.

The programme has the potential to reduce GHG emissions per cow by some 5-10% each year, when compared with current levels. This will be achieved by having a slightly smaller cow, which will eat less, be more fertile and will have higher milk output per calf. Importantly, these are also the same attributes that drive profitability on farm, confirming the close relationship that exists between profitability, sustainability and carbon efficiency. The potential reductions have been validated against existing Bord Bia Carbon Navigator data, whereby looking at the relationship between Herd Carbon Output and Herd Replacement Index, a clear relationship was evident. Thus ICBF and DAFM are confident that by increasing the number of 4 & 5 star females on Irish beef farms the objectives of the scheme will be achieved.

At this stage, some 25,000 farmers are participating in the scheme with a total of 550,000 cows. Almost all herd-owners have undertaken their BDGP training courses and have completed their Bord Bia Carbon Navigator assessment. Official Genomic Evaluations have been made available to all participants by ICBF and herd-owners are working their way towards achieving their 2018 and 2020 Replacement Index targets of having sufficient 4 & 5 star females on their farms.

Dr. Andrew Cromie

Irish Cattle Breeding Federation (ICBF)

Dairy Update

The Sustainable Dairy Assurance Scheme (SDAS) was launched in December 2013 and continues to be rolled out across Ireland. To date, almost 17,000 of Ireland's dairy farms have applied to take part in the scheme. By the end of October 2016, over 20,000 carbon audits had been conducted and 13,000 farms had become certified members of the SDAS. These certified farms account for over 70% of Ireland's dairy farms.

Carbon Footprint on Dairy Farms

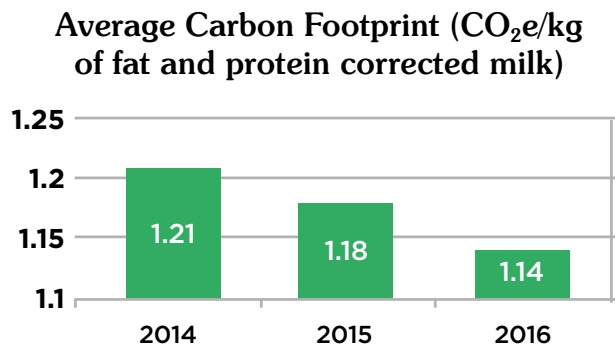
Since carbon audits began across dairy farms in Ireland, there has been a sustained reduction in the average carbon footprint from 1.21kg CO₂e/kg of fat & protein corrected milk³ in 2014 to 1.14kg CO₂e/kg in 2016.

As with beef, quite a wide level of variation remains across dairy farms. When outliers are removed, the general range tends to run from 0.8kg – 1.7kg CO₂e/kg fat & protein corrected milk.

Potential for Reduction

If members of the SDAS currently behind the average progressed to the average footprint figure, it could potentially reduce emissions by over 930,000 tonnes CO₂ equivalent. Extrapolating these figures to include the remaining dairy farms that are expected to become part of the SDAS in early 2017, it would result in a potential reduction of 1,000,000 tonnes CO₂ equivalent.

In addition, every 5% improvement in SDAS farms behind the average would reduce greenhouse gas emissions by 270,000 tonnes CO₂ equivalent. For all SDAS farms, every 5% improvement results in a drop of almost 380,000 tonnes CO₂ equivalent.



DAIRY CARBON ASSESSMENTS

- » Sustainable Dairy Assurance Scheme launched in 2013
- » Data gathered from 13,000 farms
- » Over 20,000 farm carbon audits conducted since 2014
- » Carbon footprint calculation model developed in conjunction with the Carbon Trust to the PAS 2050 Standard

³ Fat & Protein Corrected Milk: This is the functional unit used for carbon footprinting dairy output on farm. It adjusts litres of milk to allow for the level of milk solids produced.

28,680

Improvement targets established on dairy farms since 2014

Improvement Targets

As with beef, there has been a sustained increase in the number of greenhouse gas reduction targets being established by participating farms with over 28,000 targets being set since the roll out of the Sustainable Dairy Assurance Scheme. The Carbon Navigator continues to play a key role in identifying opportunities for improvement on dairy farms across Ireland. When achieved, these targets could potentially reduce greenhouse gas emissions from dairy farms by 14%.

KEY IMPROVEMENT MEASURES ON DAIRY FARMS

- » Increased Economic Breeding Index (EBI)
- » Longer Grazing Season
- » Improved Nitrogen Use Efficiency
- » Improved Slurry Management
- » Energy Efficiency



Standards Map



STANDARDS MAP
YOUR ROADMAP TO SUSTAINABLE TRADE

The Sustainable Dairy Assurance Scheme has recently been approved to feature on Standards Map. This provides comprehensive, verified and transparent information on voluntary sustainability standards and other similar initiatives covering issues such as food quality, safety and traceability.

The Carbon Trust



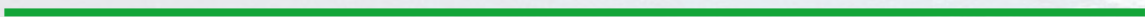
With agriculture, forestry and land-use change representing up to one fifth of global emissions it is vital that governments take steps to reduce these emissions. Bord Bia's work in Ireland provides a valuable blueprint for other countries seeking to get to grips with the environmental impacts of agriculture.

At the foundation of Bord Bia's success is trust. There is a good relationship with farmers who want to be part of their Quality Assurance Scheme. Farmers recognise that through sharing their performance data they will benefit in two ways. First, they receive clear feedback on how they compare with peers along with guidance on how to improve their own production efficiency. And second, they help strengthen the reputation of Irish farming for producing high quality and sustainable food.

The large-scale participation of farms in footprinting provides a wealth of data to benchmark and compare their management practices in order to spot opportunities. This is a great example of the value of big data in action. It means that reports can highlight win-win situations where there is overlap between financial savings for farmers and real environmental benefits, which works for both smallholders and larger operations. Other countries can learn a lot from Ireland's approach.

Tom Cumberlege

Senior Consultant, Carbon Trust





Origin Green Sustainable Producer Award Winners

Bord Bia honoured Ireland's most sustainable farmers at its Origin Green Sustainable Beef and Dairy Producer Awards ceremony in October, 2016. Over 200 industry representatives attended the Awards, which aim to highlight the link between environmental sustainability and efficient beef and dairy production at farm level. Farms awarded are among the top performers in a pool of nearly 60,000 farms surveyed in the Bord Bia Quality Assurance Schemes for beef and dairy. In total, 28 farmers from across the country were shortlisted based on their sustainability credentials with regard to carbon footprint, biodiversity and water management.



Beef



Suckler to Weanling/Store Category:
*Neville Myles, Legaltion, Ballyshannon,
Co. Donegal*

CO² Emissions per kg beef liveweight: 10.2kg

The Myles family are farming approximately 50 hectares of grassland in a few divisions, and also carry out some contracting work. Their 68-cow suckler herd is split between spring and autumn calving and a flock of 100 breeding ewes is also kept. Cows are a mixture of continental crosses, with Limousin the most popular, followed by Simmental, Charolais and Belgian Blue. This year, calving rate averaged 0.95 calves per cow. Neville has a key interest in breeding, using mostly A.I., followed by a Limousin stock bull. The land is well-divided into grazing paddocks. Sward quality is maintained through sheep grazing, taking baled silage and strategic reseeding. Slurry is well utilised in spring and early summer. Bull weanlings are sold to specialist finishers at 10-11 months and weigh between 450 and 500kg..



Weanling/Store to Beef Category:
*Kieran Dooley, Leabeg, Tullamore,
Co. Offaly*

CO² Emissions per kg beef liveweight: 6.4kg

Kieran Dooley specialises in the intensive finishing of well-bred continental young bulls and heifers, along with his brother Brian and son Joe. In recent years, the Dooleys have opted to buy more and more of their cattle direct from suckler farms. These animals tend to acclimatise faster, with fewer health problems. Cattle are purchased throughout the year, including many strong-weanling bulls with good weight-for-age which are suitable for finishing at less than 16 months of age. Heifers and lighter bulls are grown on pasture for most of the grazing season. This farm has an excellent system for handling and weighing stock. In all finishing pens, cattle stand on slatted flooring to feed and lie-back onto a bedded area. Feeding management is exceptional, with fresh feed offered twice a day. Diets include maize silage, fodder beet, cereals and potato by-product. Finishing bulls consistently achieve average weight gains of 2.0 kg/day.



Suckler to Beef Category: *Alfie Kirwan,
Hearnabrook, Killimor, Ballinasloe,
Co. Galway*

CO² Emissions per kg beef liveweight: 10.5kg

Alfie Kirwan has a well-managed grassland farm in east Galway. He has a compact, spring-calving suckler herd consisting mainly of Saler and Simmental-cross cows. Breeding is predominantly by A.I., with a Simmental bull used at the end of the season. There has been a strong focus for many years on breeding fertile replacements with good milk and longevity. This strategy is paying dividends, with 52 cows producing 57 live calves in 2016, leading to an ICBF average calving rate of 1.09 calves per cow. This would be among the top performers in the country. The farm has a long grazing season and stock is weighed regularly. Last year, Alfie took the decision to convert to organic production, encouraged by the demand for this premium niche market. Winter housing facilities have been adapted to meet the straw-bedding requirement. Going forward, he is keen to maintain soil fertility, utilising manure and slurry.



Dairy Calf to Beef Category: *Pat and Tom
Redmond, Gorey, Co. Wexford (with Nicky
Livingston, Farm Manager)*

CO² Emissions per kg beef liveweight: 6.3kg

Brothers Pat and Tom Redmond's farm business spans 120 hectares of grassland, tillage and vegetable crops. Their beef enterprise focuses on the rearing of over 500 Angus-cross calves annually. These animals are produced in a coordinated manner, so as to finish 10 high-quality heifers per week. Processed in a local abattoir, their beef is supplied to the family's two hotels in Gorey, Co. Wexford. Virtually all of the cattle's feed is grown on-farm, including grass silage, maize silage, fodder beet and cereals. All heifers receive a period of supplementary feeding prior to finish, promoting consistent eating quality. Heifer carcasses average 290kg and 51.5% kill-out.

Dairy



Small / Medium Herd Category: *John Joe and Theresa O'Sullivan, Gurrane, Rosscarbery, Co. Cork supplying Lisavaird Co-op*
CO² Emissions per kg of fat & protein corrected milk: 0.8

John Joe and Theresa O'Sullivan milk 70 cows with a herd EBI of 174 on 45 hectares. Cows are milking 19 litres at 4.5% fat and 4.05% protein. Although grass measurement has only been commenced on the farm this year, achieving a long grazing season has never been a problem with cows grazing for over 300 days each year. Excellent use is made of slurry with approximately 80% of all slurry produced spread in Spring, thus reducing the reliance on chemical fertilizer. The main slurry tank on the farm is agitated with an aerator system that is run for about an hour a day from Christmas to ensure slurry is agitated sufficiently prior to spreading. Biodiversity is a key feature on this farm with 12% of the farm classified as a habitat, including some woodland, an ancient fort and an orchard where John Joe practices his hobby of beekeeping.



Liquid/Winter Milk Category: *Dermot Sherry, Drumhillock, Co Monaghan supplying LacPatrick Co-Op*
CO² Emissions per kg of fat & protein corrected milk: 1.08

Farming 63 ha in North, Co Monaghan in 5 separate farm blocks, Dermot took over the farm in 2008. Cow numbers have reached a peak this year of 118, up from 70 just a few years ago. Dermot is operating off a 28 ha milking platform, and as stocking rate has increased a massive emphasis is now placed on early turnout and grassland measurement and management. The measurement of grass only started on this farm 3 years ago, and is now a major focus for Dermot. Spring turnout date is 5 - 6 weeks earlier than what it was a few years ago. Rainwater is harvested from the roof of the milking parlour and the adjoining slatted shed and is used for washing yards and machinery. Having worked as a hoof trimmer, Dermot places a large emphasis on cows feet and legs as well as fertility and kg milk solids when selecting bulls for breeding.



Carbon Footprint Reduction Category: *Patrick Brennan, Ballingarry, Roscrea, Co. Tipperary supplying Arrabawn Co-Op*
CO² Emissions per kg of fat & protein corrected milk: 0.86

Patrick is milking 171 cows on a 73 ha acre grazing block, with a further 24 ha on outside blocks for young stock and silage ground. Over recent years this farm has been converting from tillage as cow numbers have increased, therefore a lot of the ground has been relatively freshly reseeded. An early grass farm, calving starts on January 20th with 79% cows calved within 6 weeks and cows are turned out during the first week of February. Cows are producing 430 kg MS/yr with 500 kg concentrate. Cows are milking at 4.45% fat and 3.75% protein. This year, Patrick replaced two electric water heaters with an external, wall mounted gas water heater which is twice as economical and has hot water available on demand. He also recently installed a GPS system on the tractor and has saved 2 tonnes of fertiliser due to an increased emphasis on more accurate spreading.



Large Herd Category: *John Hannigan, Sandfield, Dromcollogher, Co. Limerick supplying Kerry Co-op*
CO² Emissions per kg of fat & protein corrected milk: 0.78

John milks 112 Friesian cows with a herd EBI of 182 on 63 hectares. Cows are milking 19 litres at 4% fat and 3.83% protein. When John was building this herd he was very selective about where he sourced his stock choosing to buy from well-known and proven pedigree herds. AI companies continue to test calves on the farm annually. Grass on the farm was top quality and plentiful reducing the reliance on concentrates which totals approx. 550kg/cow/year. Regular soil testing is considered in the fertilizer plan and John gives priority to spreading lime as he gets the best result and value from this. Slurry is spread utilising an umbilical system in Spring.





Biodiversity

Protecting and enhancing biodiversity at farm level remains a key focus of the Origin Green programme.

Measuring biodiversity accurately continues to present a challenge, however Bord Bia remains dedicated to working with the National Biodiversity Data Centre, Teagasc and other relevant organisations to identify pragmatic measures to improve biodiversity on farms.

The National Biodiversity Data Centre has already begun to work with Irish farmers to ascertain what actions should be taken. As a result of this work, farm pollinator guidelines will be published in early 2017 which will focus on the promotion and implementation of effective measures to protect and improve pollinator levels across Irish farms.

Bord Bia continues to work with Teagasc to roll out a pilot study on almost two hundred farms to understand the value and advantages of remote habitat mapping as an effective way to measure and monitor farm level biodiversity.

In addition, as part of our efforts to collaborate for further improvement, Bord Bia recently joined the Irish Forum on Natural Capital to help achieve their vision for an Ireland in which natural capital and ecosystem goods and services are valued, protected and restored.

BIODIVERSITY

- » Biodiversity criteria included as part of the on-farm sustainability assessments under Origin Green
- » Bord Bia continue to support the roll out of the All-Ireland National Pollinator Plan
- » Farm Pollinator Guidelines to be published early 2017
- » Remote assessment of wildlife habitat piloted on almost 200 farms in 2016 in conjunction with Teagasc





Including Farmland Habitats in Sustainability Assessments –

A Joint Project Between Bord Bia and Teagasc

Many sustainability assessments struggle to include and implement assessments of farmland biodiversity. This is despite farmland habitats (e.g. hedgerows, ponds, woodlands and species-rich grasslands) being quite common on Irish farmland, and biodiversity being an important pillar of environmental sustainability.



Traditionally, habitat surveys have involved visits to individual farms, which is expensive and time-consuming. Teagasc has been working closely with Bord Bia on a pilot project to develop alternative methods to include farmland habitats in farm-scale sustainability assessments. While not yet fully completed, progress to date indicates that remote mapping is an effective option to identify broad habitat types.

Over the last year, farmers have been invited and volunteered to participate in this pilot study. To date almost 200 dairy, beef and arable farms have taken part and have facilitated the mapping of habitats on their farms. The identification of habitat types occurs over two steps. First, aerial imagery (such as in

Google or Bing maps) is used for an initial habitat identification; second, this identification is then verified by on-the-ground photographic evidence of the habitats.

Through the Bord Bia Quality and Sustainability Assurance Schemes, auditors are scheduled to visit farms every 18 months. As part of this pilot project, while on farm, auditors were invited to take photographs of existing habitats. These photos were then shared with an ecologist who was able to verify the habitat type without leaving their office. Through utilising existing structures and leveraging file-sharing technology to share the habitat images with an ecologist, the costs and speed of conducting ecological surveys of individual farms can be greatly reduced.

Aerial photography is an excellent starting point for identifying semi-natural wildlife habitats. Photos of the habitats were sent to an ecologist

to verify the habitat type, and a habitat map was produced.

Once a habitat map is generated, a customised farm habitat plan can then be generated which is designed to satisfy the requirements of relevant sustainability assessment criteria such as those set out in the Farm Sustainability Assessment by the Sustainable Agriculture Initiative (SAI) Platform. The farm habitat plan contains:

- A habitat map for a farm
- The area of habitats on the farm
- Information on the wildlife benefits and important management practices of the habitats that occur on an individual farm
- Photos of the habitats that occur on the farm.

Many sustainability schemes place a strong focus on environmental themes that typically include nutrient management, reduction

of greenhouse gas emissions, water quality, and soil management. The agri-food industry is now being challenged to include biodiversity in farm-scale sustainability assessments – this pilot project guides us on how to meet this challenge.

Dr John Finn
Researcher, Teagasc



Aerial photography is an excellent starting point for identifying semi-natural wildlife habitats.



Photos of the habitats were sent to an ecologist to verify the habitat type, and a habitat map could be produced.

All-Ireland Pollinator Plan

Pollinators, especially bees, make up an important part of Ireland's biodiversity. In the Republic of Ireland, the annual value of pollinators for human food crops is at least €3 million. Without pollinators it would be impossible for farmers or gardeners to affordably produce many of the fruits and vegetables we need for a healthy diet. Pollinators are also necessary for a healthy environment and landscape. Without them, the 78% of wild plants in Ireland that require insect pollination would disappear. That would make the countryside a less beautiful and colourful place, and would impact tourism and the way we market our food products worldwide.



Unfortunately Irish pollinators are in decline and the problem is serious. One third of our 98 bee species are threatened with extinction from Ireland. The All-Ireland Pollinator Plan 2015-2020 is a strategy that addresses this problem. The Pollinator Plan identifies 81 actions that collectively aim to stop pollinator declines by creating a landscape where pollinators can survive and thrive. At its core the Plan is about working across all sectors to provide the food and shelter Irish pollinators need to flourish. Bord Bia has worked closely with the National Biodiversity Data Centre to support the implementation of the Pollinator Plan through Origin Green.

During the first year of the collaboration between Origin Green and the All-

Ireland Pollinator Plan, implementation was encouraged at both farm and food company level. One of the goals of the Pollinator Plan is to develop tailored suites of pollinator-friendly management guidelines for all sectors. Origin Green has collaborated with the Pollinator Plan on the development of these guidelines for both the business and farming sector.

The Pollinator Plan's Business Guidelines were published in November 2016 and distributed to the more than 500 Origin Green participating companies. These Business Guidelines suggest 18 practical actions that any business can take to help implement the Pollinator Plan. More than a dozen Origin Green companies have already engaged and

taken measures to support pollinators. Following the publication of these Business Guidelines, the number of targets/actions in the 'Biodiversity' element of Key Target Area, 'Manufacturing Processes' is expected to continue to grow. Similar guidelines for farmland are in development and are due for release and distribution through the Origin Green network in spring 2017.

The Pollinator Plan was also promoted to the public through appearances at the 2016 Bloom Festival and Ploughing Championships. To raise awareness about pollinators among the next generation, a Junior Version of the Pollinator Plan was published in both Irish and English. Bord Bia helped promote the

Junior Pollinator Plan by sponsoring pollinator workshops for national schools across the country as part of Science Foundation Ireland's 2016 Science Week Programme.

The collaboration between Origin Green and the Pollinator Plan continues to promote the conservation and protection of Irish pollinators. More resources for helping pollinators are becoming available all the time.

Dr. Úna Fitzpatrick
Ecologist, National Biodiversity Data Centre



Seafood

BIM

Ireland's
Seafood
Development
Agency

Over the past decade Bord Iascaigh Mhara (BIM), Ireland's Seafood Development Agency, has undertaken a considerable amount of work to ensure a sustainable future for the country's fisheries, aquaculture and processing businesses. This focus has evolved to position Sustainability as a core business objective along with Skills, Innovation and Competitiveness to achieve BIM's vision of 'Ireland as the International leader in high value differentiated seafood products that satisfy growing domestic and international demand for nutritious, safe and responsibly and sustainably produced food'.





In response to an ever increasing number of environmental pressures, the seafood sector frequently adopts higher standards than those required by law in an effort to improve product quality, safety and environmental performance. Environmental management is embedded within all of the initiatives undertaken by the catching, farming and processing components of the sector. These range from energy and waste management to stewardship of the natural environment, continual improvement measured through the implementation of management systems, and achievement of an array of voluntary standards.

The Irish seafood sector has embraced the Origin Green sustainability

programme, with the first processing company verified in December 2012. In 2015, the first primary aquaculture producers became verified, with interest and involvement gaining momentum across the entire sector. As of October 2016, a total of 43 seafood companies have become verified members of the Origin Green programme. Of these, BIM has directly assisted 27 seafood companies to become verified and is working with an additional 22 companies in preparation for membership.

In the area of primary production, which typically comprises of businesses with a small number of employees, BIM's aquaculture section has been working with their client companies on a one-to-one basis to develop their Origin

Green sustainability charters alongside other management systems. BIM's Green Seafood Business Programme offers assistance to guide seafood processors through the Origin Green sustainability plan template, visiting sites and giving practical advice on how to finalise a company's sustainability plan for submission to Bord Bia.

While demand is increasing to source from Marine Stewardship Council (MSC) certified fisheries, external factors outside the industry's control can present challenges. One tool for addressing this issue is through Fishery Improvement Projects (FIP). These types of forums have been set up by the Sustainable Fisheries Partnership (SFP), a business-focused NGO, to good effect in a number of

countries and specific fisheries, precisely to help fisheries achieve sustainability criteria. From an Irish perspective, FIPs will be used as the vehicle to demonstrate a commitment to achieving sustainability, while continuing to ensure economic viability.

In addition, BIM primary standards are being enhanced to include additional sustainability criteria. FIPs will link into these standards and combined, will demonstrate the commitment of Irish seafood suppliers to sustainable practices with the ultimate aim to progress more Irish fisheries to certification under MSC. BIM has already started this project and will initially focus on the nephrops, whitefish and crab fisheries throughout Ireland.

Section 3 Progress Update - Manufacturing Level



Origin Green Verified Members





220 members and growing...

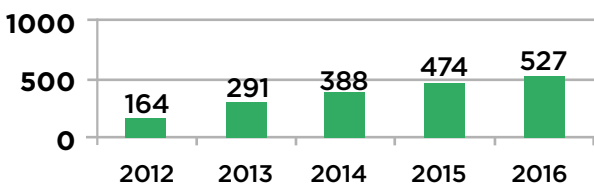
Section 3

Progress Update - Manufacturing Level

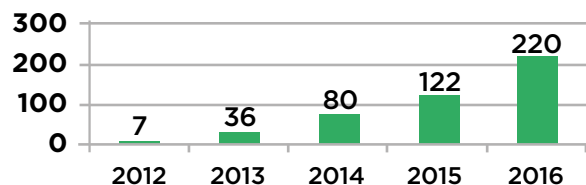
After four years of sustained growth and development, Origin Green now has a total of 527 participating companies. Of this, some 220 companies have achieved fully verified membership of the programme, signalling that their sustainability plan has been independently verified by the SGS Group. A further 154 companies have submitted draft sustainability plans as they work to refine their submissions and progress towards fully verified membership. The remaining companies are attending Origin Green planning workshops and actively developing their sustainability plans. Bord Bia offers significant resources and support to companies throughout the plan development process, with each company on average receiving fifteen hours of one-to-one support.

2016 represents the largest growth in verified membership to date, more than doubling the previous year, with 98 new verified members. In terms of export value, Origin Green verified members now account for over 90% of Ireland's total food and drink exports portfolio, signalling the fourth consecutive year of growth. The entire base of 527 Origin Green participating companies accounts for 95% of total food and drink exports, highlighting the on-going and sustained commitment of Irish food and drink manufacturers towards sustainability and Origin Green.

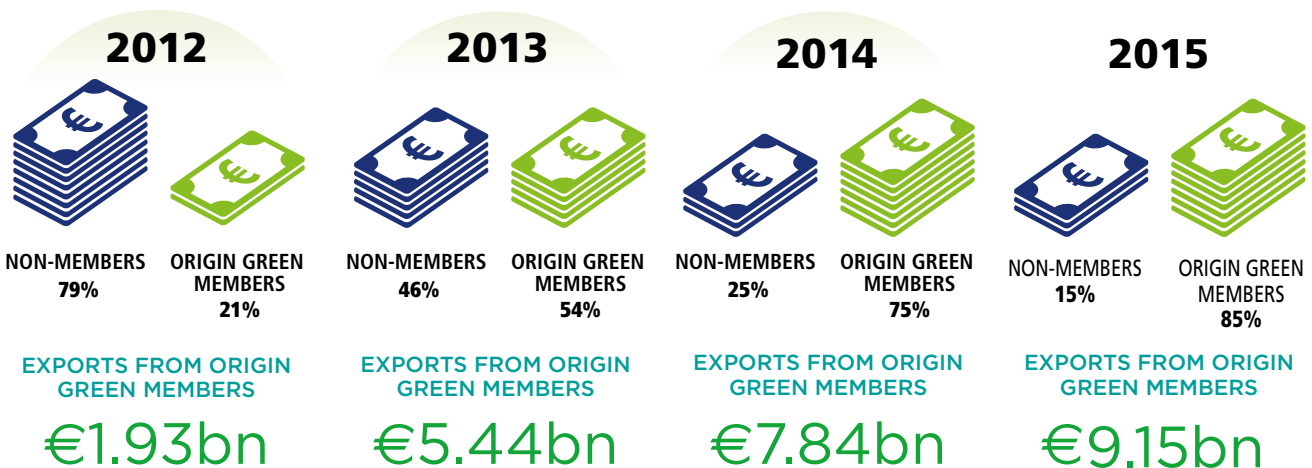
Trend in companies signing up to Origin Green June 2012 to October 2016



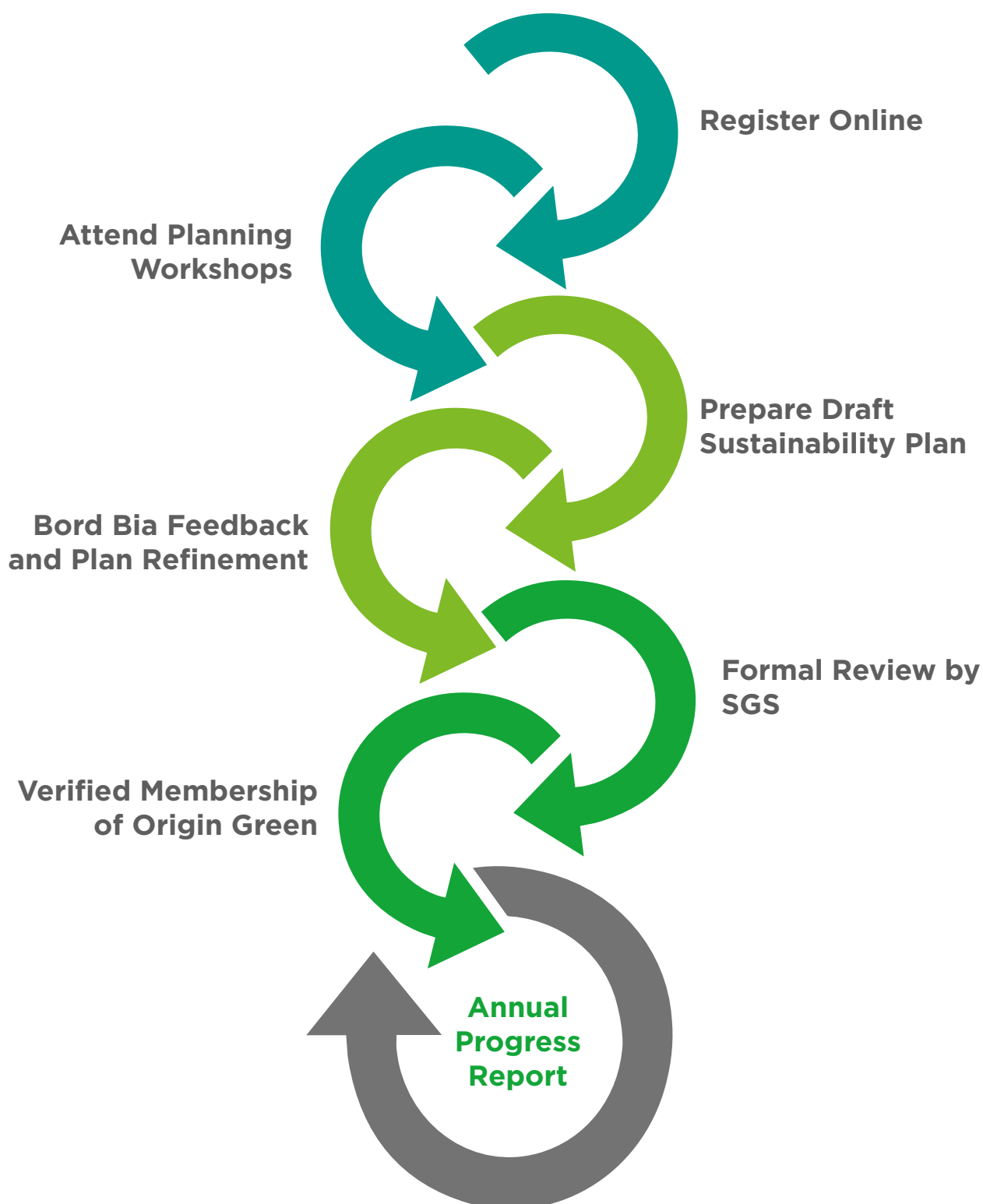
Increase in verified membership June 2012 to October 2016



Percentage of exports from Origin Green verified members



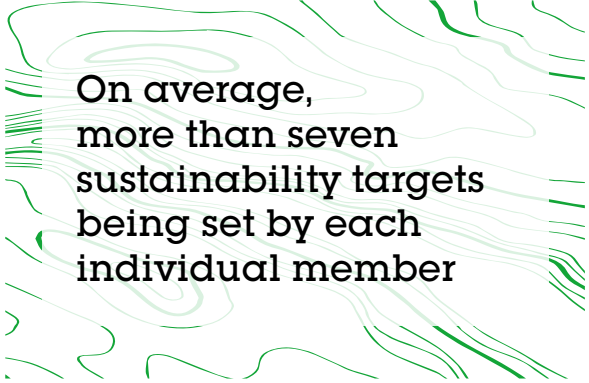
Origin Green Process at Manufacturing Level



Growth in Sustainability Targets

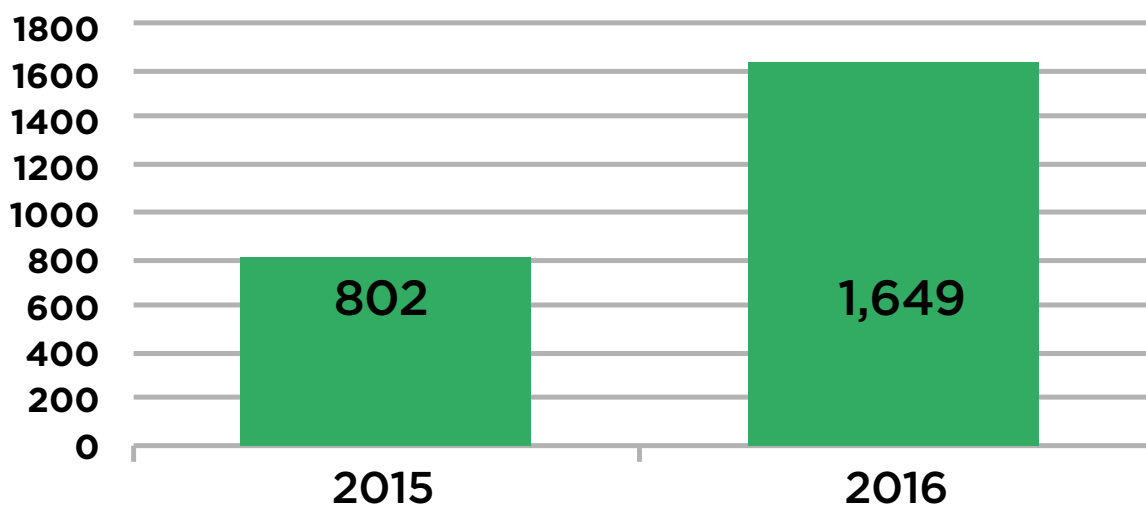
There has been a significant increase in the number of sustainability targets established throughout the Origin Green programme with the addition of 98 verified members in 2016. In comparison to 2015 levels, the amount of targets has more than doubled to reach 1,649. This highlights the growing level of ambition amongst both new verified members in 2016, as well as increasing commitments from pre-2016 members. On average, this equates to more than seven targets being set by each individual company, despite the fact that present requirements stipulate a minimum of four targets per company. Members are surpassing minimum requirements at every stage.

This trend is expected to increase even further with the addition of new verified members. Furthermore, from January 2017 onwards, the *Origin Green Sustainability Charter* will be revised to move from a minimum of four mandatory targets, to a minimum of six mandatory targets. This will include all companies being required to establish a formal health and nutrition target, as well as energy, waste, and water targets becoming compulsory within all sustainability plans.



**On average,
more than seven
sustainability targets
being set by each
individual member**

Total Origin Green Sustainability Targets 2015 vs. 2016



Origin Green Sustainability Charter

Minimum Origin Green Plan Requirement from 2017

RAW MATERIAL SOURCING (1 TARGET)

Supplier Certification | Sustainability Initiatives



MANUFACTURING PROCESSES (3 TARGETS)

Energy | Emissions | Waste | Water | Biodiversity



SOCIAL SUSTAINABILITY (2 TARGETS)

Health & Nutrition | Community Initiatives | Employee Wellbeing

TARGET AREA	MINIMUM NUMBER OF TARGETS TO BE SET	ADDITIONAL DETAIL
RAW MATERIAL SOURCING	ONE	TARGETS MUST ADDRESS KEY RAW MATERIALS AND RISK RAW MATERIALS.
MANUFACTURING PROCESSES	THREE	TARGETS MUST BE SET FOR ENERGY, WASTE AND WATER. BIODIVERSITY AND EMISSIONS TARGETS ARE ALSO ENCOURAGED.
SOCIAL SUSTAINABILITY	TWO	ONE TARGET MUST BE SET FOR HEALTH AND NUTRITION. ONE TARGET MUST ALSO BE SET FOR COMMUNITY INITIATIVES AND/OR EMPLOYEE WELLBEING.

Reporting Methodology

LEGACY MEMBERS -
verified members from 2012
- 2015 with actual data

NEW MEMBERS -
verified members from 2016
onwards with projected data

ALL MEMBERS -
legacy and new verified
members of Origin Green

The following section outlines progress within the Origin Green programme at manufacturing level since 2012. During this period, membership of Origin Green has grown to reach 220 verified members. This report includes updates on the actual progress of members who featured in our 2015 Sustainability Report (122 companies) as well as introducing the targets and commitments from members who became verified during 2016 (98 companies).

Legacy Members




In order to accurately report on current and future progress, all companies that became verified members of the programme in the period 2012-2015 are referred to as 'legacy members'. This denotes that these companies have implemented targets and made progress over this period. Performance outlined against these legacy members is based on actual data up to 31st December 2015.

New Members

For reporting purposes, the 98 companies that became verified members in 2016 will be referred to as 'new members'. As they have yet to achieve their targets, performance outlined against these new members is projected data based on potential reductions outlined within their sustainability plans.

Projections from new members are combined with the current projections of legacy members to outline the anticipated performance amongst all verified members of the programme to 2017.

The performance against the various target areas within the *Origin Green Sustainability Charter* are reported upon and illustrated in three groups which are identified as follows:

Manufacturing Level Performance	Member Grouping	Logo
1. Performance to date amongst Origin Green verified members (2012-2015)	Legacy members i.e. Pre-2016 verified members with actual data.	
2. Performance by Sector (2012-2015)	Legacy members i.e. Pre-2016 verified members with actual data.	
3. Projected performance amongst all verified members (2015-2017)	Legacy and new members i.e. all verified members of the Origin Green programme based on projected data.	

Raw Material Sourcing

Through Origin Green raw material sourcing commitments, Irish food and drink manufacturers are leveraging their purchasing power to reduce risk, reinforce long-term supplier relationships, and build stakeholder and customer trust.

Within the raw material sourcing target area, targets are set under two headings:

- » Commitment to source from suppliers with recognised certifications
- » Development of sustainability initiatives with suppliers

MINIMUM REQUIREMENT(S):

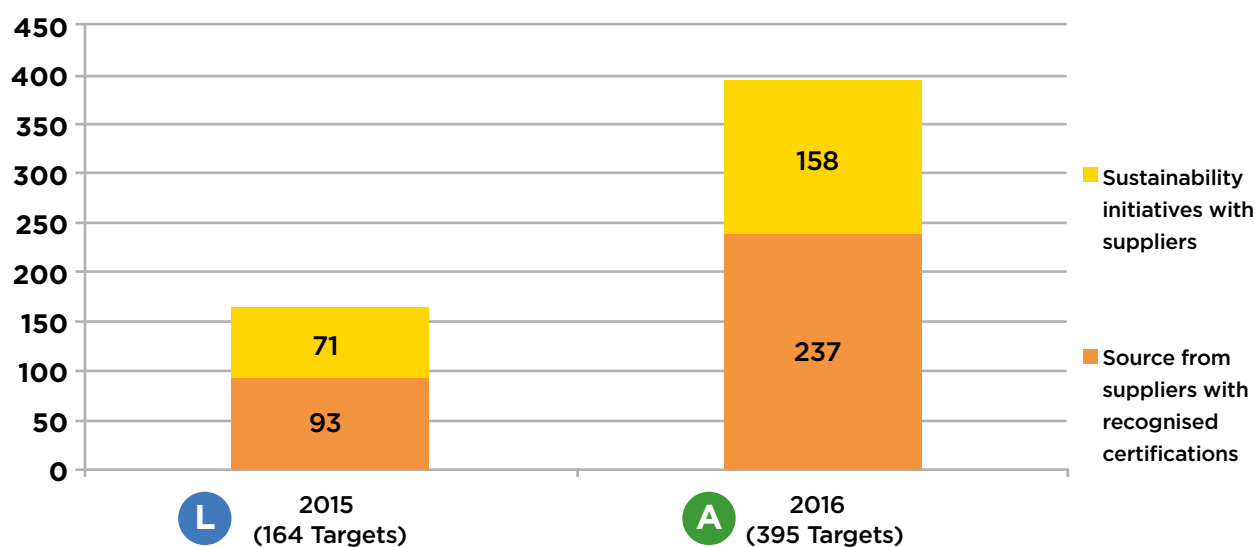
Origin Green plans must include at least one raw material sourcing target.

395

Raw material sourcing targets set to date

By the end of 2016, the 220 verified members of Origin Green had committed to 395 raw material sourcing targets, representing a 141% increase over 2015 levels. While membership of Origin Green increased significantly in 2016, verified members continue to exceed the minimum requirements of this target area with almost half of members setting more than one target. This increased level of commitment points to a growing consciousness amongst verified member companies around the importance of sustainable sourcing and reducing risk within their supply chain.

Distribution of Raw Material Sourcing Targets 2015 vs. 2016
(Number of Targets)



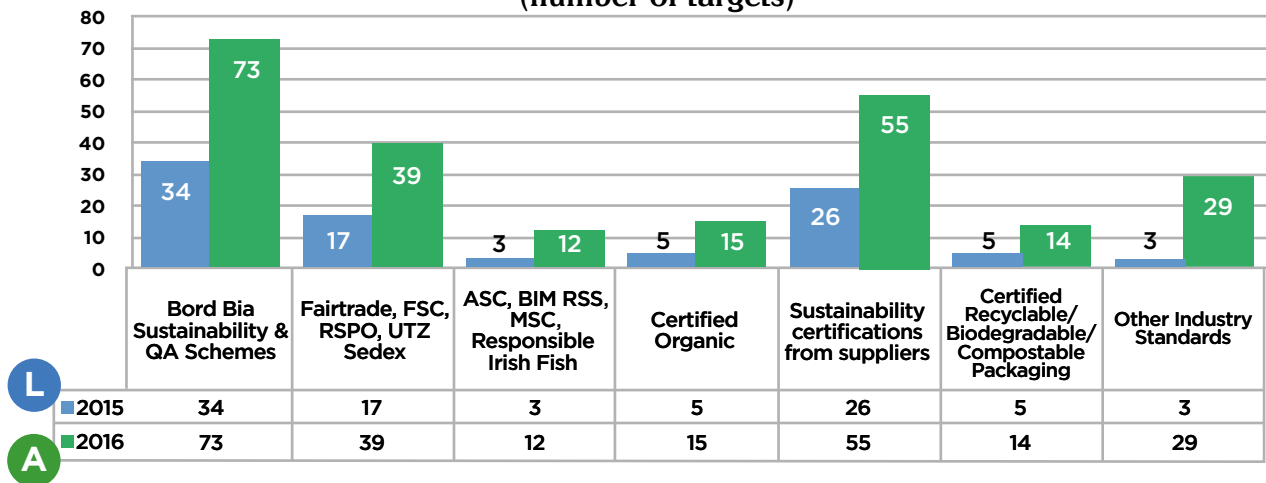
L = Verified Members 2012 - 2015 **A** = All Verified Members

Commitment to Source from Suppliers with Recognised Certifications

In an effort to confirm the sustainability credentials of inputs, ensure security of supply, as well as to improve traceability and quality, verified members of Origin Green are setting and achieving targets to source from suppliers with recognised certifications. These targets range from an increasing commitment to Bord Bia Quality and Sustainability Assurance Schemes domestically, to internationally recognised schemes such as Fairtrade, Roundtable on Sustainable Palm Oil (RSPO), and Forest Stewardship Council (FSC).

For 2016, the number of targets within this area has significantly increased, clearly indicating a growing awareness of the importance of sustainable sourcing amongst verified members. This year has also seen an increase in the number of Origin Green verified members sourcing directly from other Origin Green verified members due to their independently verified sustainability credentials.

Certification Schemes chosen by verified members 2015 vs. 2016
(number of targets)



TARGET EXAMPLES

BORD BIA SUSTAINABLE DAIRY ASSURANCE SCHEME (SDAS)

Launch a dedicated milk advisory team to ensure 100% of suppliers are members of the SDAS by 2017.

RESPONSIBLY SOURCED PALM OIL (RSPO)

Ensure that all palm oil sourced is 100% RSPO certified by 2019.

RECYCLABLE PACKAGING

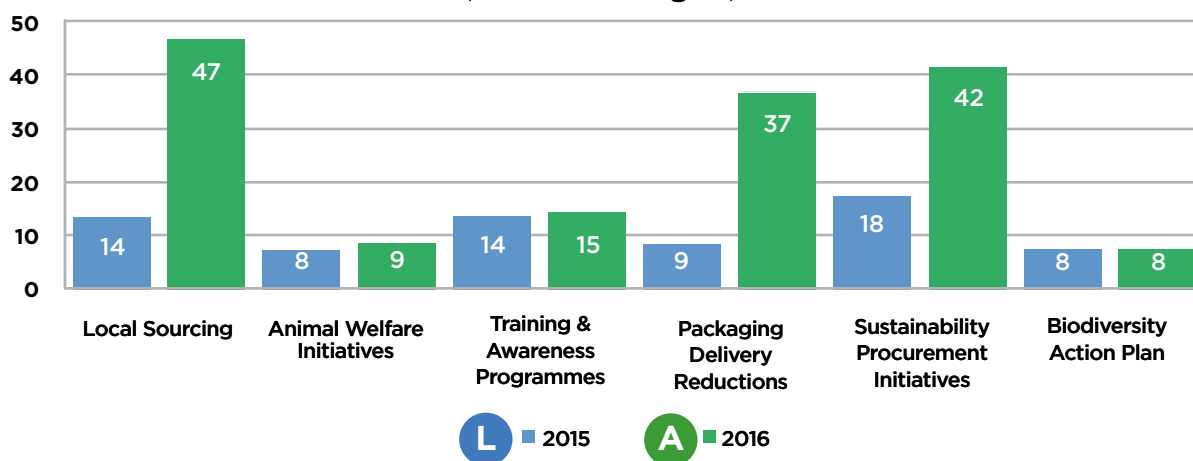
Move towards fully recyclable packaging in all of our product ranges by 2018

Development of Sustainability Initiatives with Suppliers

Origin Green verified members are continuing to set an increasing number of targets to work directly with their own suppliers to develop sustainability initiatives. These targets are typically ambitious and long-term in nature. They also require Origin Green verified members to commit significant time and resources to working directly with their current suppliers to engage on environmental and sustainability issues and to collaborate towards improved performance. This not only benefits the supplier, but also reduces long term supply chain risk for verified members within their own businesses.

Targets in this area are multi-faceted and range from the development of a formal sustainable procurement policy to working with farmers on biodiversity action plans.

Sourcing Initiatives committed to by verified members 2015 vs. 2016
(number of targets)



TARGET EXAMPLES

ANIMAL WELFARE

Ensure that 10% of suppliers attend an Animal Health Ireland CellCheck workshop each year to prevent high Somatic Cell Counts (SCC) and improve mastitis control on farm.

TRAINING & AWARENESS PROGRAMMES

Develop two documented training and awareness programmes with suppliers to reduce unnecessary packaging materials and improve transport delivery strategies.

SUSTAINABLE PROCUREMENT INITIATIVES

Conduct a sustainability questionnaire and audit of all suppliers by 2018 with a view to reducing excess packaging materials on bulk deliveries of bottles and raw materials.



Carbery: Driving Continuous Improvement on Farm



Established in Cork in 1965, Carbery Group is recognised as a leading international manufacturer of speciality food ingredients, flavouring systems, and as an award-winning cheese producer. Carbery's facility in Ballineen, West Cork is one of the largest cheese producing plants in Ireland and the UK. The company is owned by its farmer shareholders and processes approximately 390 million litres of milk and produces close to 40,000 metric tonnes of cheese annually.

As part of its Origin Green raw material sourcing targets, Carbery has committed to having all of its suppliers certified to the Bord Bia Sustainable Dairy Assurance Scheme (SDAS) by 2017. The company is utilising its Carbery Greener Dairy Farms Project in conjunction with the SDAS to ensure that all of its suppliers integrate sustainability initiatives on their farms.

Carbery collaborated with Teagasc on the Greener Dairy Farms Project as an innovative programme designed to measure, monitor, and optimise resource allocation and best practices on farm. This collaborative project utilises veterinarians, milk quality advisors, and discussion groups to advise farmers on how to improve their carbon footprint, as well as optimise water usage and soil nutrient management on farm.



The Carbery Greener Dairy team assisting a member supplier on farm



Boortmalt: Implementing Best Practice on Farm



Boortmalt is the second largest producer of malt in Europe and fifth largest globally. Established by the Minch family in Athy Co. Kildare, the company has been supplying high quality malt in Ireland for beverage production since 1847. Today, Boortmalt is the largest producer of malt in Ireland, supporting up to 600 growers each year.

As part of the company's Origin Green raw material sourcing target, Boortmalt set an ambitious target to have 90% of its Irish supplier base participating in the Sustainable Agriculture Initiative's (SAI) Farm Sustainability Assessment (FSA) tool by 2017. The SAI Platform was created by leading global brands to facilitate sharing of knowledge and best practices to support the development and implementation of sustainable agricultural practices. Its Farm Sustainability Assessment (FSA) tool gives farmers the ability to assess the efficiency of their farms, identify areas for improvement, and benchmark against peers internationally.

In 2016, Boortmalt surpassed its initial target of 90% participation in the FSA by 2017, with 100% of growers having completed the assessment. Following the successful implementation of the FSA, the company then went a step further and developed the Boortmalt Sustainable Farm Assessment Standard. This will enable Boortmalt to implement the best practice guidance of the SAI's Farm Sustainability Assessment tool on an annual basis, thus maximising yield output, quality, and efficiency amongst its supplier base. Initiatives include regular soil testing to identify optimal conditions for particular varieties of malting barley, as well as the facilitation of knowledge transfer groups amongst 25% of its supplier base annually.



The sustainability team at Boortmalt Ireland



Wicklow Way Wines: Local Sourcing from the Very Beginning


MÓINÉIR

Established in 2015 in Enniskerry, Co. Wicklow, Wicklow Way Wines is Ireland's first fruit winery. Founded by husband and wife team, Pamela and Brett Stephenson, the company's aim was to produce quality artisan small batch wines sourced exclusively from local Irish suppliers.

Refining its unique Móinéir wines over a three year period, the company's flagship Strawberry Wine is created from exclusively Irish strawberries, while the Blackberry Wine is created from Irish blackberries with a quantity of wild elderberries foraged from the Wicklow hills. From picking the berries to making the wine, bottling and labelling, the entire process is crafted by hand.

As part of Wicklow Way Wines' Origin Green raw material sourcing targets, the company has taken great care to form strong relationships with local producers and suppliers in the surrounding counties of Meath, Wexford, Dublin and Tipperary. As a result, the company has committed to using 100% Irish fruit in its wines and will ensure that all producers are part of Bord Bia's horticulture quality assurance scheme.

Currently producing approximately 5,000 bottles of wine a year, the company forecasts significant growth; nevertheless, it will continue using solely Bord Bia approved suppliers as the business grows. Through its commitment to local sourcing, Wicklow Way Wines can ensure traceability and quality, while minimising food miles.



**MINIMUM
REQUIREMENT(S)
FROM 2017:**

Origin Green plans must include at least one energy target.

Manufacturing Process: Energy

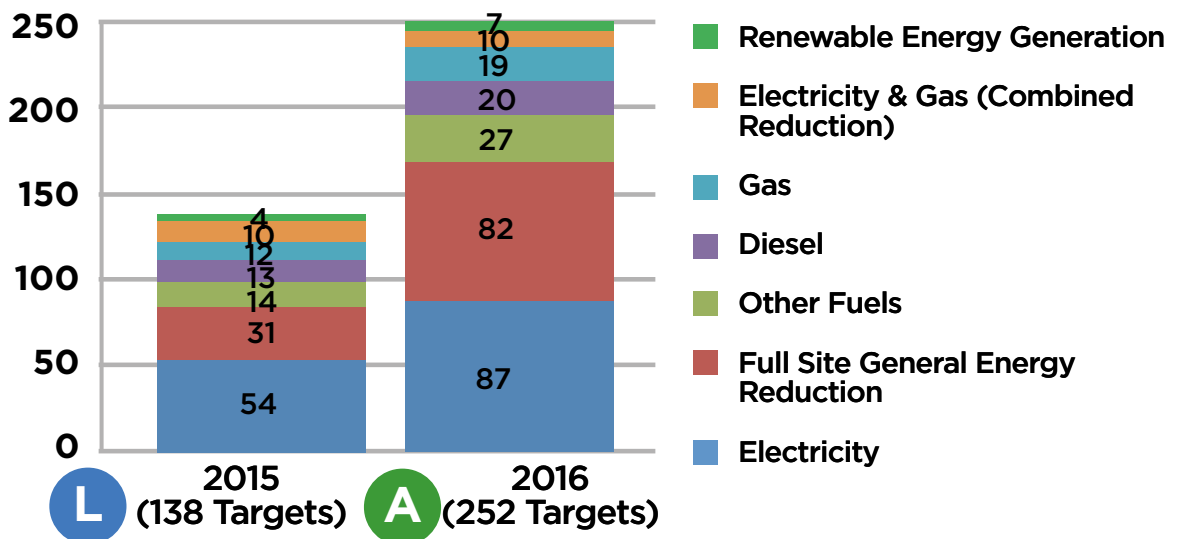
The conservation of energy not only benefits businesses from a financial perspective, it also benefits society at large. The burning of non-renewable fossil fuels has led to the production of greenhouse gas emissions, a key driver of climate change. This has had a detrimental effect on the global environment with the United Nations highlighting that 14 of the world's 15 hottest years have occurred since 2000.

The total effect of such changes has led to a concerted effort globally to reduce our dependence on fossil fuels. According to the Sustainable Energy Authority of Ireland's (SEAI) *Energy Security in Ireland Report 2016*, of the 85% of energy which Ireland imports annually, 97% of this mix is derived from fossil fuels. In light of this, there has been a renewed effort within the Origin Green programme to further maximise energy reductions and encourage renewable energy initiatives. Although over 85% of the verified membership base has established one or more energy targets to date, from January 2017 onwards, energy will no longer be an optional choice within the *Origin Green Sustainability Charter*; all companies will be required to set a minimum of one target in this area.

Areas of Focus within Energy

A combined total of 252 energy targets have been established by the 220 verified members of Origin Green, representing a significant increase on 2015 levels. The majority are energy reduction targets, primarily focusing upon electricity, gas and heavy fuel oils. A further seven stretch targets have been identified amongst companies generating renewable energy on site. With further incentivisation and advancements in technology, this number is expected to increase significantly over the coming years.

Distribution of Energy Targets 2015 vs. 2016



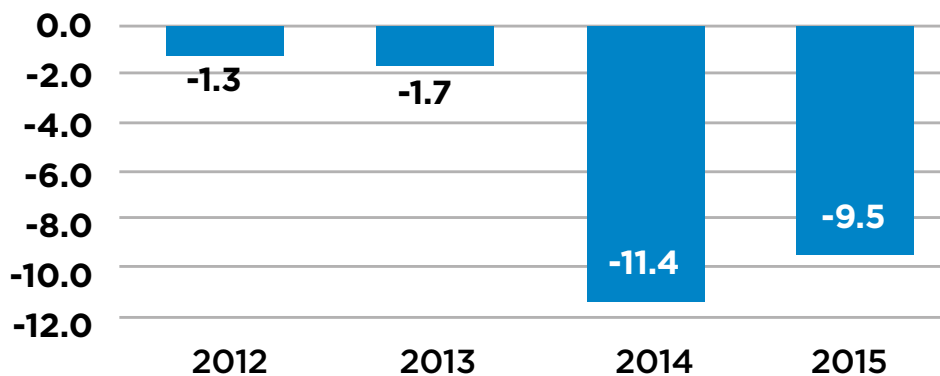
L = Verified Members 2012 - 2015 **A** = All Verified Members

L Performance to date amongst Origin Green Verified Members (2012-2015)

The 122 verified members participating in the programme from 2012 to 2015 have made significant progress in reducing their energy usage.

When the cumulative energy reduction targets are added amongst this group of 122 companies, it shows that energy usage per unit of output in 2015 averaged 9.5% lower than the baseline year of their individual plans.

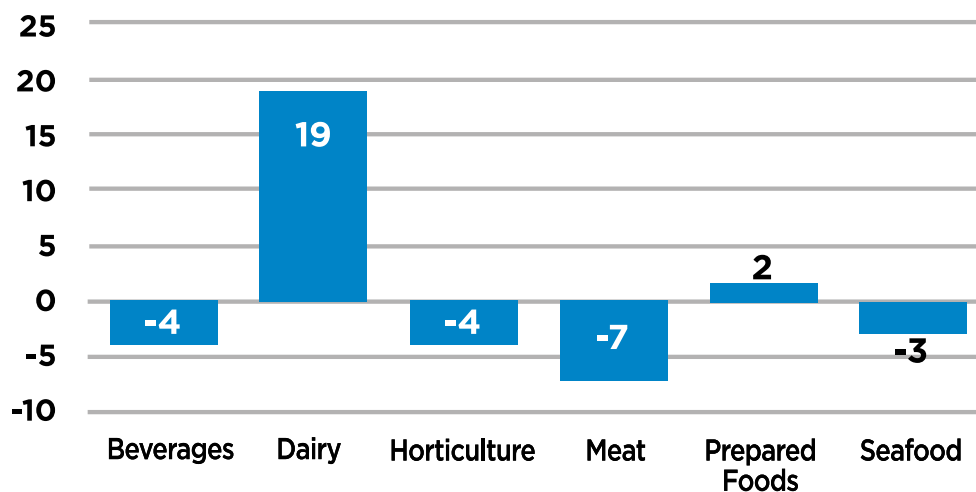
Progression in Energy usage per unit of output (2012 - 2015) (% change relative to base year*)



L Performance by Sector (2012-2015)

In terms of absolute energy reductions, most sectors are performing well with usage well below baseline levels. The meat sector has achieved the highest levels of savings with an absolute reduction in usage of 7%. The dairy and prepared foods sectors show increased absolute usage, which is in line with increased production and expansion across these sectors. Outside of the dairy sector, total energy usage across member companies saw a reduction of 45 million kilowatt hours in 2015 compared to 2012.

Trends in absolute energy usage by sector (% change in kWh 2015 vs. base year*)

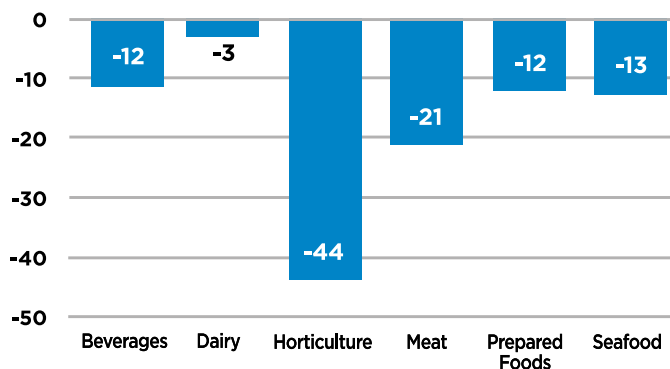


*Average base year is 2012

L = Verified Members 2012 - 2015 A = All Verified Members

All sectors show reduced energy usage per unit of output in 2015. The largest reduction was evident in the horticulture and meat sectors, highlighting the range of energy efficiency measures and investments being implemented throughout these sectors. Despite dairy processing having increased with the removal of quotas, a reduction of over 3% per unit of output was recorded over the period indicating the strong commitment of the dairy sector to harness efficiencies where possible.

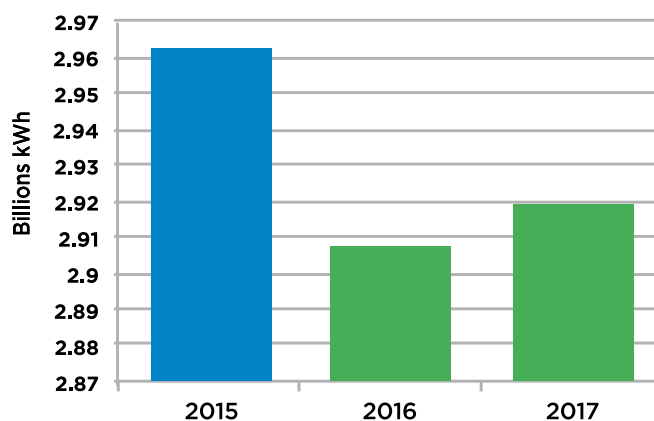
Trends in energy per unit of output by sector (% change 2015 vs. base year*)



A Projected Performance amongst all Verified Members (2015-2017)

In 2016, a total of 77 new verified members established energy targets as part of their Origin Green plans. Taking 2017 as a representative year among all 186 verified members with energy targets, projections for the period suggest a cumulative energy reduction of almost 43 million kilowatt hours across all sectors against a 2012 baseline.

Absolute energy usage among all verified members (projected 2015-2017)



Projected energy reductions to 2017 amongst all verified members would be equivalent to taking over 4,200 cars off the road.

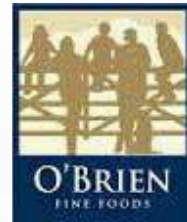


*Average base year is 2012

L = Verified Members 2012 - 2015 A = All Verified Members



O'Brien Fine Foods: Identifying Measures to Drive Energy Efficiency



O'Brien Fine Foods was established in 1978 and specialises in premium quality, handcrafted, Irish hams and breakfast meats exclusively sourced from Irish farms. O'Brien Fine Foods is based across two locations in Timahoe, Co. Kildare and Birr, Co. Offaly, employing a total of 370 people.

As part of the company's Origin Green plan, one of its primary manufacturing processing targets is to reduce absolute energy usage by 4% based on the company's 2013 baseline figures. It plans to accomplish this target by focusing on a series of initiatives to reduce overall usage.

Firstly, O'Brien Fine Foods has installed new lighting to its buildings; replacing inefficient T8 fluorescent lights with energy efficient T5 lighting tubes. Secondly, it has replaced all chill motors with energy efficient VSD units. This enables the motors to ramp up and down as required rather than running constantly, thereby reducing energy consumption and also noise generation.

In addition to implementing the above initiatives, O'Brien Fine Foods also carries out weekly audits of all factory areas. Energy waste such as air leaks, open doors and idle machinery is identified and included on an improvement register. Finally, the company also works with staff to raise awareness and provide training to employees as necessary.





Carrig Brewing Company & the Shed Distillery: Collaborating for Energy Efficiency



Located in Drumshanbo, Carrig Brewing Company is the first company in over 150 years to brew beer in Co. Leitrim. Husband and wife team, Sinead O'Connell and Martie Deegan, started Carrig Brewing Company in 2011 distributing the beer to Dublin and Carrick-on-Shannon pubs. It has since grown year on year and expanded its range of craft ales, lagers, and IPAs, as well as now distributing to a much larger domestic and international market.

A key target of Carrig Brewing Company's Origin Green plan is to reduce energy consumption by 20% over its plan period. In 2015, the company was able to reduce the kilowatts used for cooling its fermenters by two-thirds, replacing six individual tank chillers with a central glycol cooling system. This investment has reduced the energy per litre of beer produced from 0.7kWh/L to 0.5kWh/L, which compares favourably with other similar sized breweries.

Operating in The Food Hub, a collaborative production space, Carrig Brewing Company

is able to work in close proximity with other food and beverage entrepreneurs to collaborate on assorted projects. As an ambitious stretch target, Carrig Brewing Company is aiming to install a heat recovery system by 2017. This technology will work in conjunction with another Origin Green verified member, The Shed Distillery, who is located adjacent to Carrig Brewing. This technology will capture heat from the distillery's excess hot water and raise the temperature of the Carrig's Brewing Company's brewing water - potentially reducing energy usage by 10%.



MEMBER CASE STUDY



SECTOR: CONFECTIONERY

Butlers Chocolates: Utilising Solar Power for Water Heating



Butlers Chocolates is based in North Dublin where it has been making chocolate for over eighty years. Since its establishment in 1932 by founder Marion Butler, Butlers Chocolates has developed a renowned line of luxury chocolates, opened domestic and international cafes, and in 2011 it built the popular tourist destination, the Butlers Chocolate Experience & Visitor Centre. Butlers Chocolates are available in forty countries and sixty airports around the world.

As part of its Origin Green manufacturing energy targets, Butlers Chocolates has chosen to focus on utilising solar power for water heating. In collaboration with Gaelectric, the Irish renewable energy company, Butlers will install a 420,000kWh solar rooftop unit atop its Dublin factory. The project will be the biggest installation of its kind in the Republic of Ireland to date. The installation of the unit will meet 14% of the company's annual energy demand with 367,000kWh of electricity generated each year. Additionally, the creation of clean energy will save 195 tonnes of carbon emissions annually.



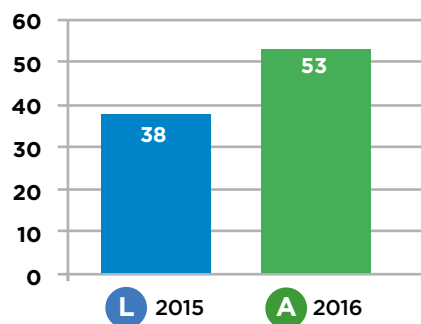
Butlers Chocolates announce its plans to build the largest solar rooftop unit in Ireland.

Optional Target:

Verified members are encouraged to include at least one emissions target in their Origin Green plans.

Manufacturing Process: Emissions

Number of verified members with emissions targets 2015 vs. 2016



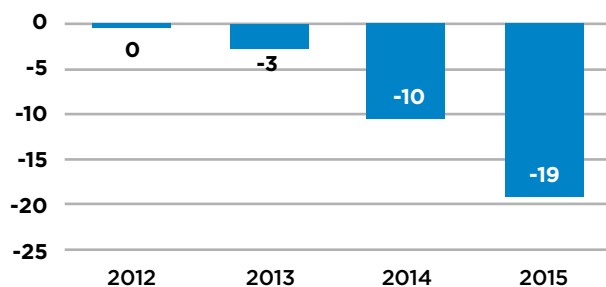
Recently, there has been a growing awareness amongst companies around their emissions output. This is reflected in the fact that the number of companies establishing targets in this space has risen from 38 to 53 over the past 12 months.

To date, a total of 53 companies have established emissions based targets, with most focusing upon specific emissions reduction projects. Within this space, emissions targets are predominantly established by larger companies who are required to report their output as part of the EU Emissions Trading Scheme. Smaller to medium sized companies have tended to focus more upon energy targets, which also help to reduce overall emissions. It is worth noting that from 2017, all verified members of Origin Green will be required to establish at least one energy target.

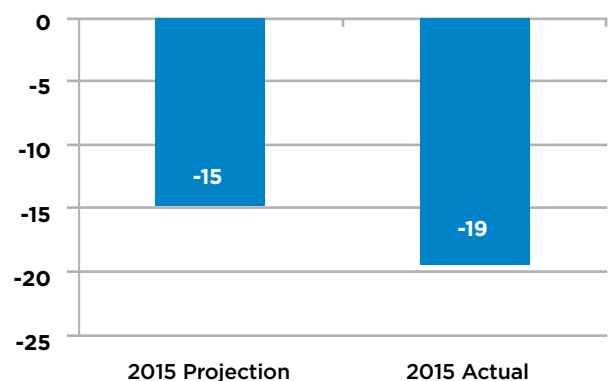
L Performance to date amongst Origin Green Verified Members (2012-2015)

or 2015, the data show that overall absolute emissions for this group of companies were almost 10% below baseline levels. This is despite significant and ongoing production expansion amongst a number of these companies. From the period of 2014 to 2015, emissions amongst this group had been reduced by over 7 million kg CO₂e. On a unit of output basis, this strong performance is reflected in the fact that emissions per unit of output were some 19% below baseline levels. This is a better than projected performance for 2015 by a further 4%

Progression in CO₂ emissions per unit of output reduction (% change relative to base year*)



Progression in emissions per unit of output actual vs. projected 2015 (% change relative to base year*)

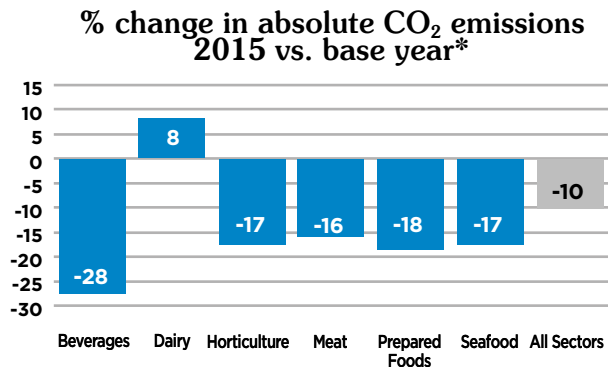


*Average base year is 2012

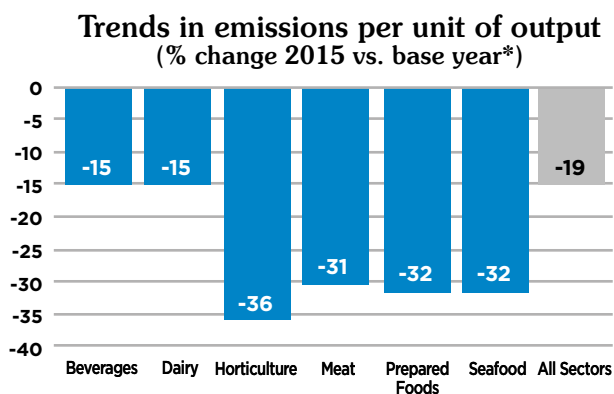
L = Verified Members 2012 - 2015 A = All Verified Members

L Performance by Sector (2012-2015)

On a sectoral basis, all verified members with absolute emissions targets established achieved lower absolute emissions with the exception of the dairy sector. This trend is in line with the significant expansion which has occurred within this sector over the past number of years following the removal of dairy quotas. The beverages sector has achieved the highest reduction of 28%, while all other sectors show reductions of circa 17%.



On a unit of output basis for the period to 2015, all sectors show a strong performance with significant reductions throughout the industry culminating in a 19% reduction overall. The most notable reduction is seen in the horticultural sector (-36%), followed by seafood (-32%), prepared foods (-32%) and meat (-31%). The dairy sector also reports a strong performance, reflecting increasing efficiency throughout the industry despite a rise in overall output.



A Projected Performance amongst all Verified Members (2015-2017)

In 2016, a total of 15 newly verified members established 15 specific emissions based targets. This reflects a positive trend, particularly amongst a number of SMEs who have established targets in this area. Projections for the period to 2017 suggest that absolute emissions will remain stable amongst this group of companies while continuing to fall on a unit of output basis.

*Average base year is 2012

L = Verified Members 2012 - 2015 A = All Verified Members



Keelings: Taking Action to Reduce Carbon Emissions



Keelings is a third generation family business, which began producing and selling fruits and rhubarb to local Dublin markets in 1926. Today the company continues to grow food in Ireland and has expanded to source globally and distribute fresh produce from around the world into Ireland and other European markets.

As part of Keelings' Origin Green plan, one of its primary targets is to reduce its carbon emissions. Conscious of the direct impact climate change has on fresh produce, especially in developing countries where many of the world's fruit and vegetables are grown; Keelings is committed to minimising the climate impacts of its operations and reducing emissions where possible.

The majority of Keelings' carbon emissions are produced by energy consumption. A number of energy efficiency projects will be rolled out such as the implementation of a Stop & Go control system for its banana rooms, utilising cool air from chilling rooms to serve as air cooling and conditioning in IT rooms, optimising refrigeration systems, and the installation of a refrigeration waste heat recovery heat exchanger unit to provide heating and hot water. Other carbon emission reduction projects include the rollout of an eco-drive programme to train drivers to drive more efficiently, maximising truck loading, and upgrading the current transport fleet to more aerodynamic trucks that use less fuel. Through these initiatives, Keelings aims to reduce its overall greenhouse gas emissions by 5%.

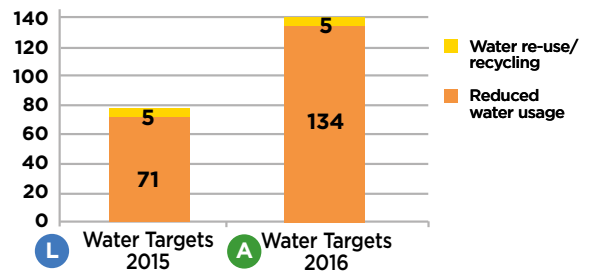


Manufacturing Process: Water

Minimum requirement(s) from 2017:
Origin Green plans must include at least one water target.

Water poses a high cost to Irish businesses and is a key area of focus within Origin Green plans. Building upon a strong performance in 2015, water usage continues to fall in both absolute and per unit terms amongst verified members. To date, 137 verified members have established a total of 139 water targets, a significant increase over 2015 levels. Verified members have set 134 targets to reduce water usage, while five targets have been set to re-use and recycle water.

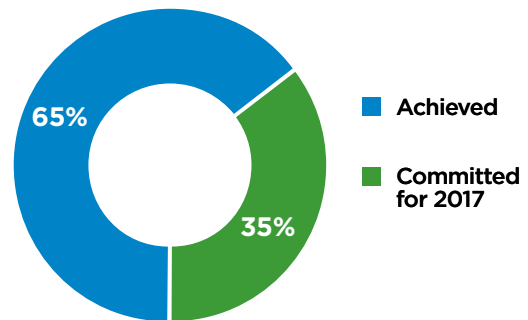
Distribution of water targets 2015 vs. 2016



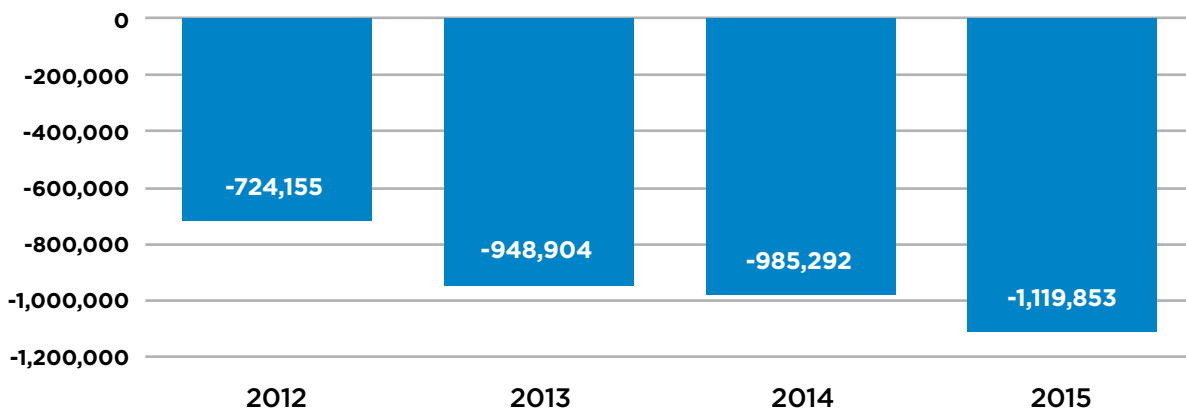
L Performance to date amongst Origin Green verified members (2012-2015)

Throughout 2015, over 134,000 cubic metres of water has been saved. Since the inception of the Origin Green programme in 2012, over 1.1 million cubic metres of water has been saved amongst the verified membership base. With water costing on average €2 per cubic metre, this equates to a cumulative saving of over €7.5 million. This number will be expected to increase even further as from January 2017 onwards, each verified member will be required to set a minimum of one target in this area.

Proportion of water commitments achieved to date



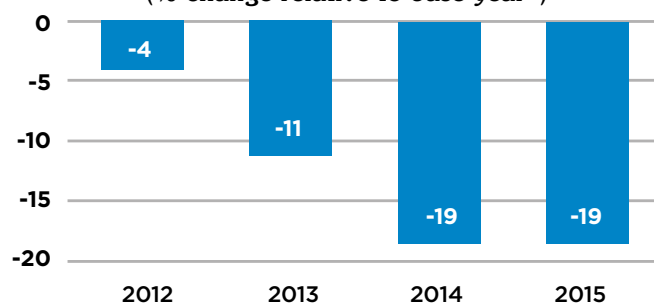
Trend in absolute water use reductions (cumulative change in cubic metres)



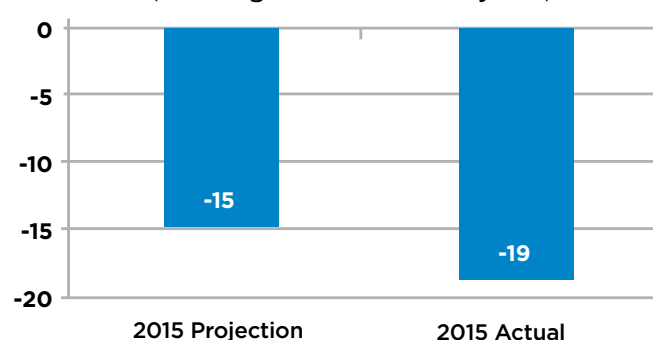
L = Verified Members 2012 - 2015 A = All Verified Members

Collectively, verified members had projected a saving of 15% in water usage per unit by 2015. However actual data indicates that this has been surpassed with verified members achieving a 19% reduction in water usage per unit against baseline levels.

Progression in water usage per unit of output
(% change relative to base year*)



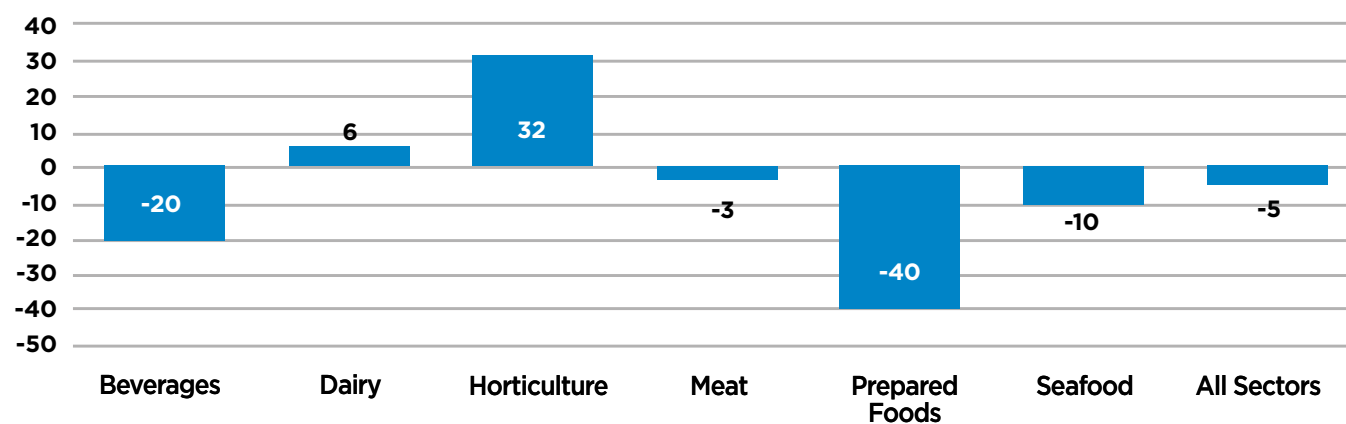
Progression in water usage per unit of output - projected vs. actual 2015
(% change relative to base year*)



L Performance by Sector (2012-2015)

The majority of sectors across the Irish food and drink industry have achieved reductions in absolute water usage in 2015, relative to the baseline year of their plans. The prepared foods sector leads the way with a reduction of almost 40% in absolute water usage. This is followed by the beverages and seafood sectors with reductions of almost 20% and 10% respectively. In terms of absolute levels, dairy usage remains slightly elevated due to increased processing but this will be remedied by 2017 where a drop of 1% in usage levels is anticipated. Absolute levels of water usage in horticulture are high for 2015, which may reflect growing demands from customers around the washing of produce.

Trends in absolute water usage by sector
(% change relative to base year*)

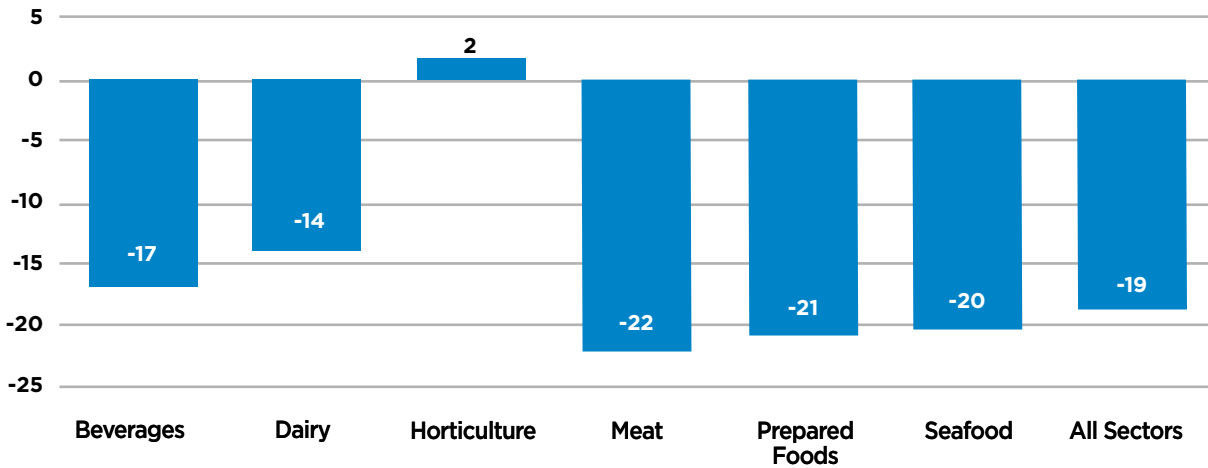


*Average base year is 2012

L = Verified Members 2012 - 2015 A = All Verified Members

On a unit of output basis, performance amongst verified members remains strong. All sectors show a drop in usage on a unit of output basis with the exception of horticulture. Verified members in the meat sector continue to achieve impressive reductions with a 22% drop in usage; this is followed again by the prepared foods and seafood sectors.

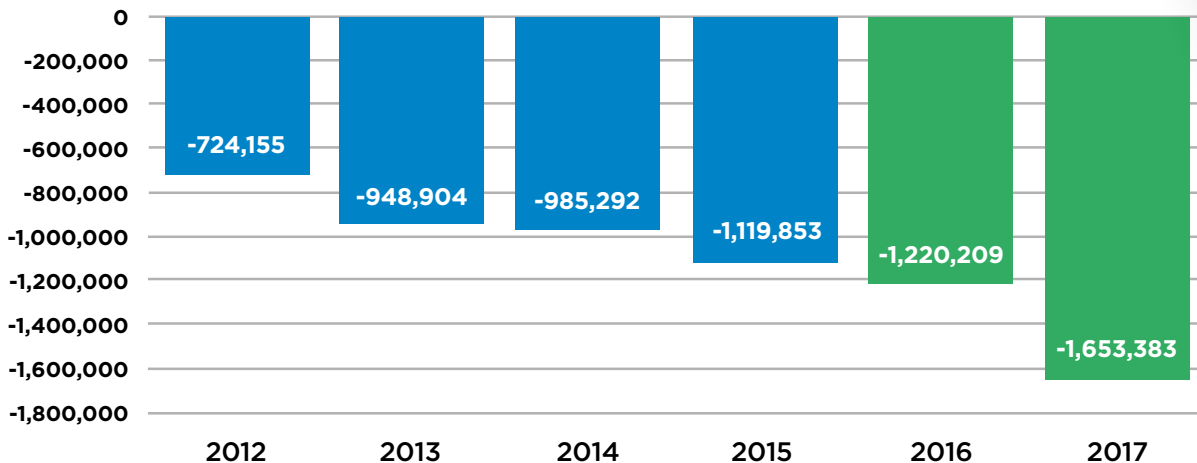
Trends in water usage per unit of output
(% change 2015 vs. base year*)



A Projected Performance amongst all Verified Members (2015-2017)


In 2016, a total of 44 new verified members established water targets as part of their Origin Green plans. As previously mentioned, the majority of these plans will run to 2020 with 2015 as a baseline year. In combining both newly verified members with companies who became verified members before 2016, the positive trend in reducing total water usage is projected to continue to 2017. Cumulative savings since the inception of the programme are projected to surpass 1.6 million cubic metres of water.

Cumulative water usage savings among all verified members
- projected 2015-2017 (cubic metres)



*Average base year is 2012

L = Verified Members 2012 - 2015 **A** = All Verified Members

A photograph of a swimmer in a pool, viewed from above. The swimmer is wearing a blue cap and dark swim trunks, and is swimming towards the right. A red lane line is visible in the foreground and background. The water is clear and blue. The pool floor has a grid pattern.

Projected cumulative
water usage savings
among all verified
members would be
enough to fill

660

Olympic sized swimming
pools by 2017.



Meade Potato Company: Harnessing Rainwater



Meade Potato Company is a family-owned grower, packer and distributor of fresh produce based in Lobinstown, County Meath. Philip Meade Sr. founded the company in 1982, specialising in potatoes but the company has now since diversified to offer a full range of fruit and vegetables to its customers.

As part of the ambitious water efficiency targets set out in its Origin Green plan to reduce the usage of mains water, Meade Potato Company installed a 200,000-litre capacity rainwater-harvesting tank, as well as a smaller 10,000-litre tank, at its farm and food production plant in Lobinstown. The company now uses the rainwater collected for an array of activities such as floor washing, all facility wash-downs, yard cleaning, and crop spraying.



The 10,000 litre capacity rainwater harvesting tank at Meade Potato Co.

In 2016, the company installed meters on the well and the main rainwater tank to establish a baseline for the amount of well water versus rainwater used at the packing and storage facility. After the company determines current water requirements, it hopes to significantly increase the use of rainwater and decrease use of well water where possible.

Meade Potato Company plans to expand its rainwater harvesting capacity even further by installing another tank at its new food production facility. The second tank will allow the company to address the water requirements of cleaning down operations at its new food preparation unit.

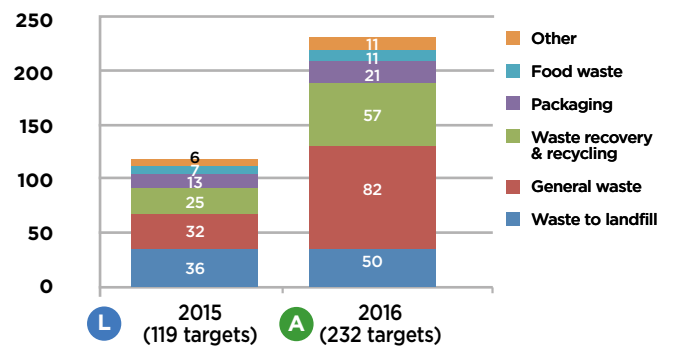


Manufacturing Process: Waste

Minimum requirement(s) from 2017:
Origin Green plans must include at least one waste target.

Waste targets have been selected by 167 verified member companies who have established a total of 232 targets. Over recent years, driven by a number of factors including environmental concerns, high costs, customer demands, and the rise of the circular economy, many Irish food and drink companies have focused upon reducing waste to landfill, reflected in the high volume of targets which continue to be set in this area. Furthermore, the implementation of simple mitigation factors on site, such as improved waste segregation, can quickly lead to reductions. This is reflected in the increased amount of waste recycling and recovery targets being established by verified members. For 2015, over 24,000 tonnes of waste was recycled or recovered.

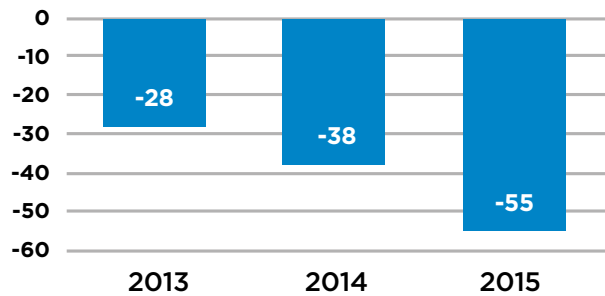
Distribution of waste targets 2015 vs. 2016



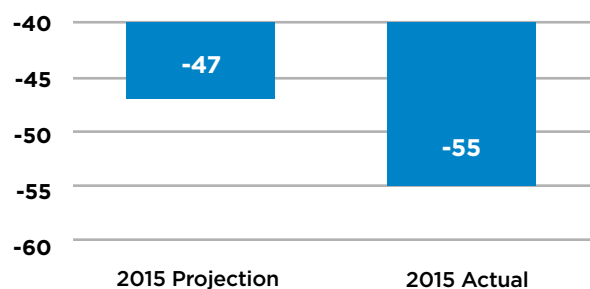
L Performance to date amongst Origin Green verified members (2012-2015)

For 2015, data relative to the baseline of 2012 shows a reduction of over 4,600 tonnes in the quantity of waste being sent to landfill. Overall, waste to landfill amongst verified members for 2015 was some 55% below baseline levels. This represents a better than expected return over projections, with landfill waste a further 8% below anticipated levels.

Trends in waste diverted to landfill (% change on baseline*)



Progression in absolute waste usage - projected vs. actual 2015 (% change relative to base year*)

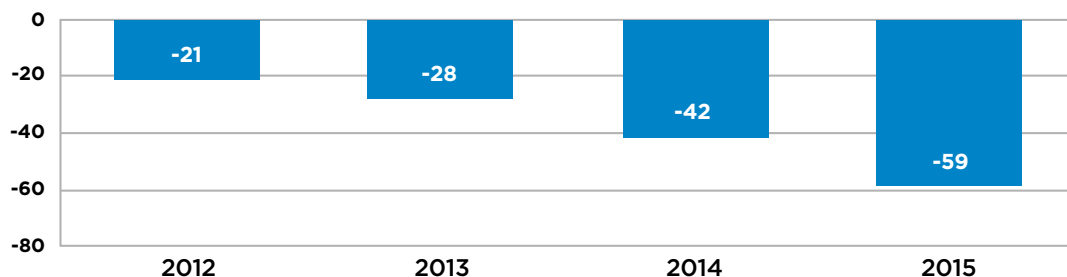


*Average base year is 2012

L = Verified Members 2012 - 2015 A = All Verified Members

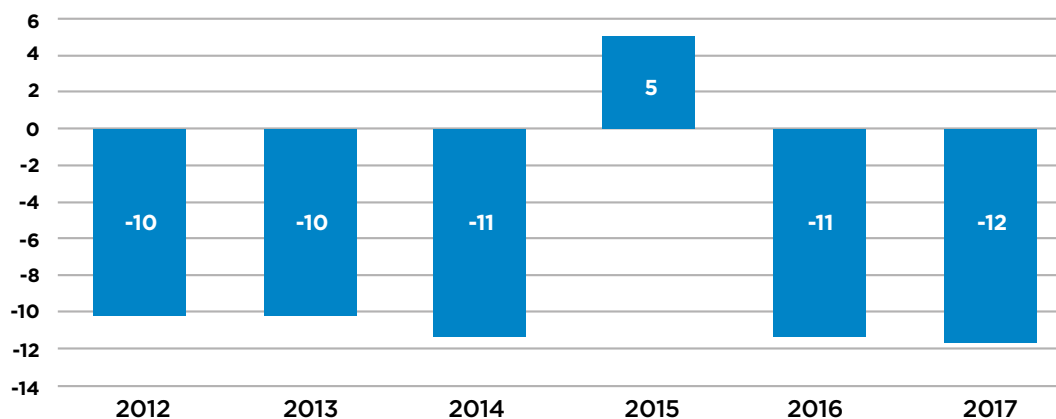
Significant reductions have also been recorded in the quantity of waste to landfill on a unit of output basis. For 2015, a 59% reduction has been achieved. This is 15% better than the projected 44% anticipated in 2015.

Progression in waste to landfill per unit of output
(% change relative to baseline*)



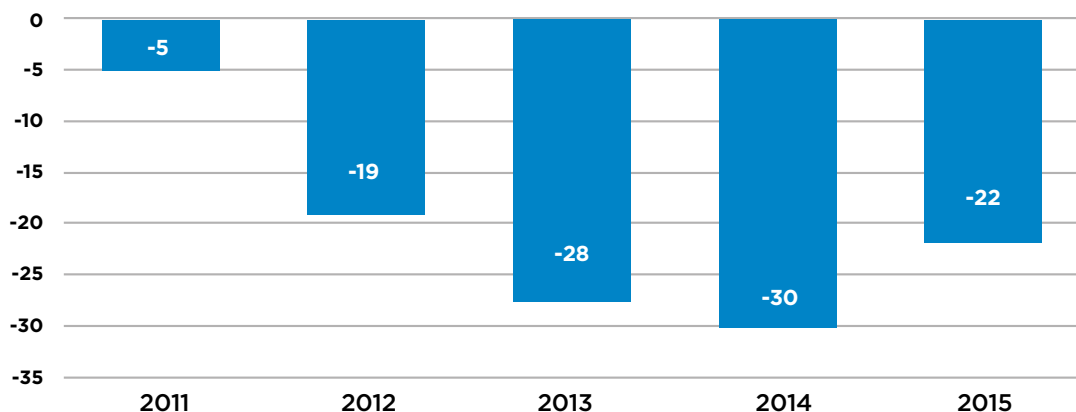
Another area of focus for verified members under the waste heading is the amount of general waste produced on site which is not landfilled. In contrast, the levels of general waste were slightly elevated in 2015, being 5% above baseline levels. An increase in processing and volumes across a number of sectors has led to this increase but this is expected to be reversed by 2017 with a drop of 12% anticipated among this group.

Trends in general waste
(% change on baseline)



On a unit of output basis, verified members have achieved a 22% reduction in general waste compared to baseline levels.

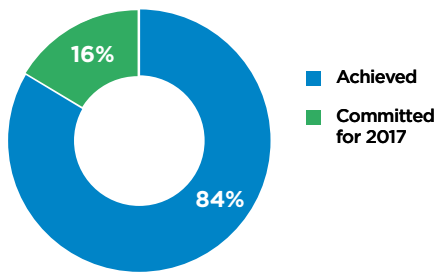
Progression in general waste per unit of output
(% change relative to base year*)



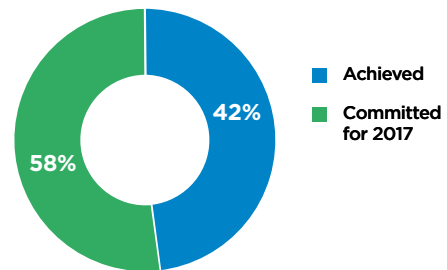
*Average base year is 2012

L = Verified Members 2012 - 2015 **A** = All Verified Members

Waste to landfill commitments achieved to date



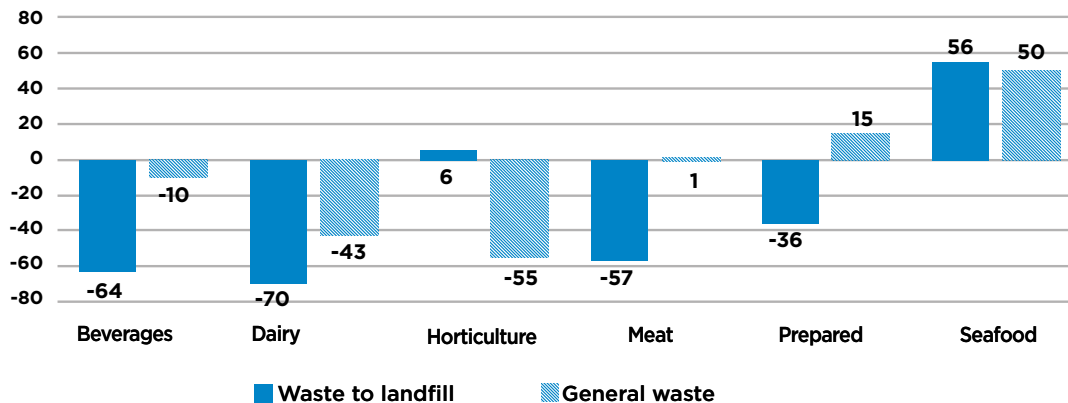
General waste commitments achieved to date



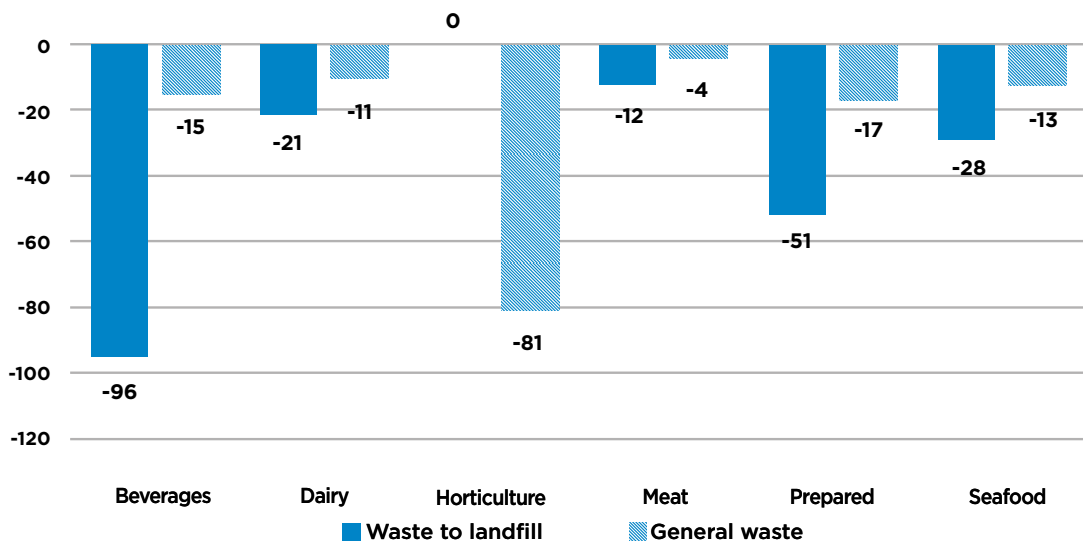
L Performance by sector (2012-2015)

A majority of sectors are reporting a strong waste reduction performance for 2015. This is led by the beverages, dairy, and meat sectors who are reporting strong achievements to date. The seafood sector experienced increased levels in both general and landfill waste, most likely associated with increased processing within the sector. Nevertheless, moving towards 2017, this is set to stabilise significantly in both general waste and waste to landfill.

Trends in absolute waste by sector to date (% change 2015 vs. base year*)

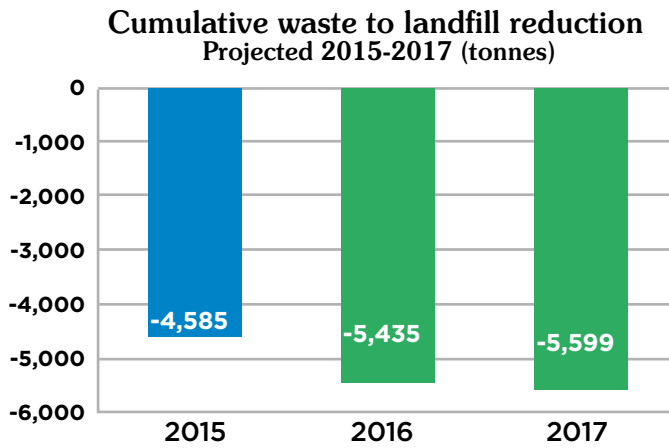


Waste commitments to 2017 (% change relative to base year*)



*Average base year is 2012

A Projected Performance amongst all Verified Members (2015 – 2017)



In 2016, a total of 12 new verified members established waste to landfill targets while 37 new verified members established general waste targets. In combination with existing members of Origin Green, waste to landfill is projected to be reduced by a further 1,000 tonnes by 2017, marking a cumulative reduction of almost 5,600 tonnes since the Origin Green programme began. For general waste, it is projected to experience a significant fall of over 18,600 tonnes compared to 2015 levels. This reduction is being aided by the establishment of more targets in waste recovery and recycling, which is estimated to surpass 30,000 tonnes by 2017.



Sofrimar: Transforming Packaging to Reduce Waste to Landfill



Sofrimar was established in 1979 in Kilmore Quay, Co. Wexford, Ireland. With over one hundred people employed in the area, and a further two hundred on local boats, the company supplies European and international markets with quality shellfish and whitefish.

As part of its Origin Green plan, the company set a number of ambitious packaging targets. As of 2016, Sofrimar has exceeded its goal to reduce the amount of polystyrene purchased for its products by 12%. Similar to many seafood processors, Sofrimar has used polystyrene for transporting its chilled products, as it is a very good insulator. However, polystyrene has limited recycling potential and is typically sent to landfill. Sofrimar is utilising an alternative form of transportation container for its chilled products. This new prototype carton uses polypropylene that is flat packed, recyclable, and easier to reprocess. In addition to their recyclability, the properties of the new polypropylene containers also reduce the amount of deliveries needed, as one delivery truck of the new material will deliver the same amount as four delivery trucks of the polystyrene containers.

Due to the decrease in polystyrene usage, Sofrimar has been able to greatly reduce the amount of waste to landfill it produces. This accomplishment has put Sofrimar on track to continue hitting its targets to reduce waste to landfill by 25% and reduce polystyrene usage by 40% by 2018.



The Sofrimar premises in Kilmore Quay, Co. Wexford



Rosderra: Innovating to Reduce Landfill Waste



Formed in 2008, Rosderra Irish Meats Group is the largest pork processing company in Ireland. Rosderra Irish Meats Group operates out of five processing facilities throughout Ireland supplying a full range of pork and bacon products. The company is fully focused on a “farm to fork” philosophy and takes great pride that it can trace its products from the initial farm supplier through to final delivery to customers.

Approved as an Origin Green verified member in February 2014, Rosderra Irish Meats set about reducing its waste by 10% by 2016 as one of its primary manufacturing targets. Prior to 2014, the majority of Rosderra’s waste was sent to landfill. Due to the nature of meat processing, packaging is often contaminated by residual waste, which makes recycling or reuse difficult. However, Rosderra Irish Meats have worked with a number of waste contractors to identify innovative solutions to divert its soiled plastic from landfill. Alternatives such as pelletizing and refuse derived fuel.

At all five of its sites, different colored coded bins are now provided in specific areas of the plant to foster increased segregation of waste into the following categories:

- 1) soiled plastic packaging,
- 2) clean hard plastics,
- 3) clean cardboard,
- 4) mixed municipal.

Rosderra Irish Meats have provided staff training across the group as part of the Rosderra Waste Management Plan.

Since becoming a verified Origin Green member, Rosderra Irish Meats have achieved “zero to landfill” status across all five processing sites.



MEMBER CASE STUDY



SECTOR: PACKING/POTATOES/BEEF/CHICKEN/PREPARED FOODS

Country Crest & Manor Farm: Industrial Symbiosis - Turning Waste into a Resource



Country Crest and Manor Farm are two Irish family-owned companies. Brothers Michael and Gabriel Hoey, fourth generation farmers co-founded Country Crest in 1993 as potato growers and packers in Lusk, North County Dublin. Since 1993, the company has grown to become one of Ireland's largest suppliers of quality potatoes and onions to multiple retailers. In 2008, Country Crest established a prepared foods division, which now operates under a separate sister company, Ballymaguire Foods.

The Carton Family established Manor Farm in 1775 and it is one of the oldest family companies in Ireland. Managing Director, Vincent Carton and Director of Information, Justin Carton, represent the eighth generation of the Carton family to work in the family owned business. In 1956, Manor Farm moved to a custom-built plant on the shores of Lough Sillan in Co. Cavan in 1970.

The two companies have been able to use industrial symbiosis, an association between two or more industrial facilities or companies in which the wastes or by-products of one become the raw materials for another, thus enhancing the sustainability of their individual supply chains.

Through this process, Manor Farm intends to send up to 10,000 tonnes of chicken litter to Country Crest which will then use to fertilise the company's cereal production land. In return, Manor Farm receives up to 5,000 tonnes of wheat grown on Country Crest land to serve as feed for its chickens. Manor Farm's additional targets include; divert 20% of organic biosolids by volume to fertiliser, reduce general landfill waste by

20%, decrease the amount of Biochemical Oxygen Demand (BOD)/Chemical Oxygen Demand (COD) discharged from the site by 15%, and lower water usage by 5%. Similarly, Country Crest will be able to benefit from this industrial symbiosis earning new revenue from Manor Farm's by-products.



The harvest at Country Crest, Lusk, North County Dublin

Manufacturing Process: Biodiversity

Under this heading, Origin Green verified members are encouraged to set targets to improve biodiversity on their site(s), or assess how they can enhance, integrate or protect existing biodiversity throughout their operations.

The World Wildlife Fund (WWF) estimates that biodiversity worldwide has declined by 52% since 1970. From an Irish perspective, biodiversity underpins our entire agriculture and food industries. The National Biodiversity Data Centre highlights that the value of biodiversity to the Irish economy is a minimum of €2.6 billion per year. The Environmental Protection Agency's (EPA) *State of the Environment Report 2016* highlights that biodiversity loss remains a risk throughout Ireland and there is a need to develop long term initiatives to prevent further biodiversity loss.

Of the 220 verified members of Origin Green, 64 companies have established a combined total of 92 biodiversity targets. This includes eight targets established at raw material sourcing level amongst verified members. These members are working directly with farmers to develop biodiversity action plans on their farms. Overall, this represents a significant increase over 2015 levels, with the number of targets having doubled over the twelve month period.

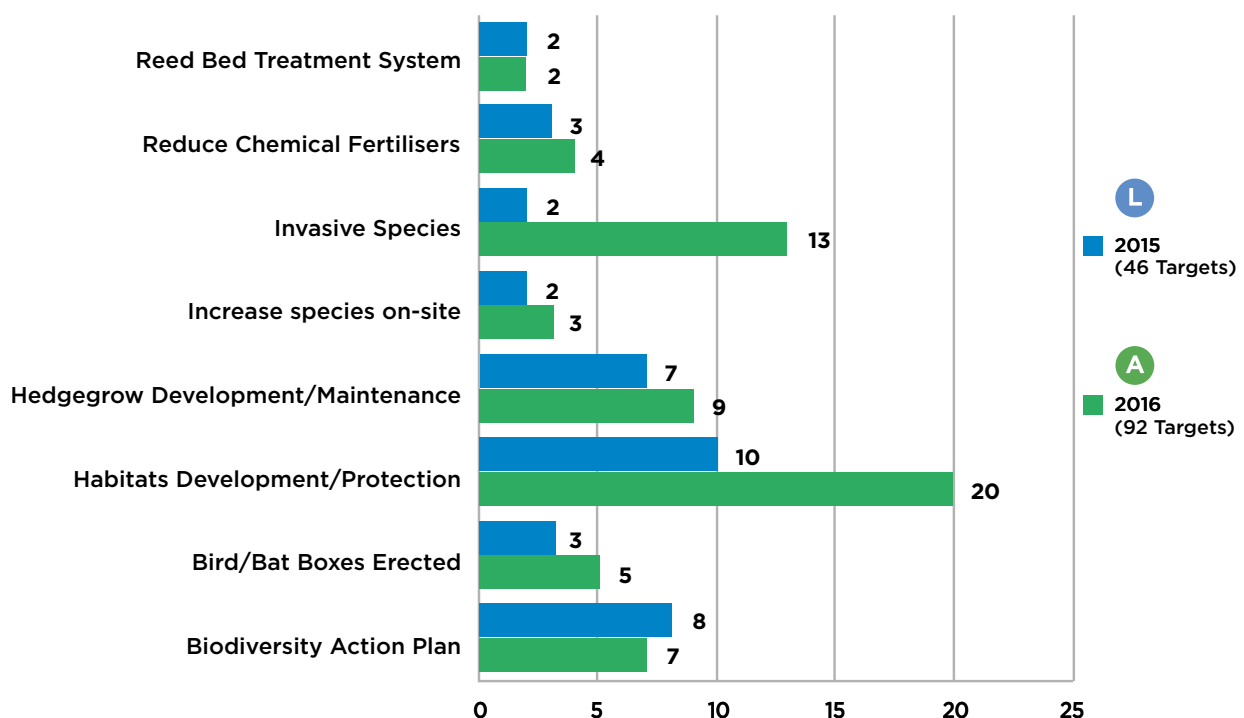
OPTIONAL TARGET:

Verified members are encouraged to include at least one biodiversity target in their Origin Green plans.

92

Biodiversity targets set to date

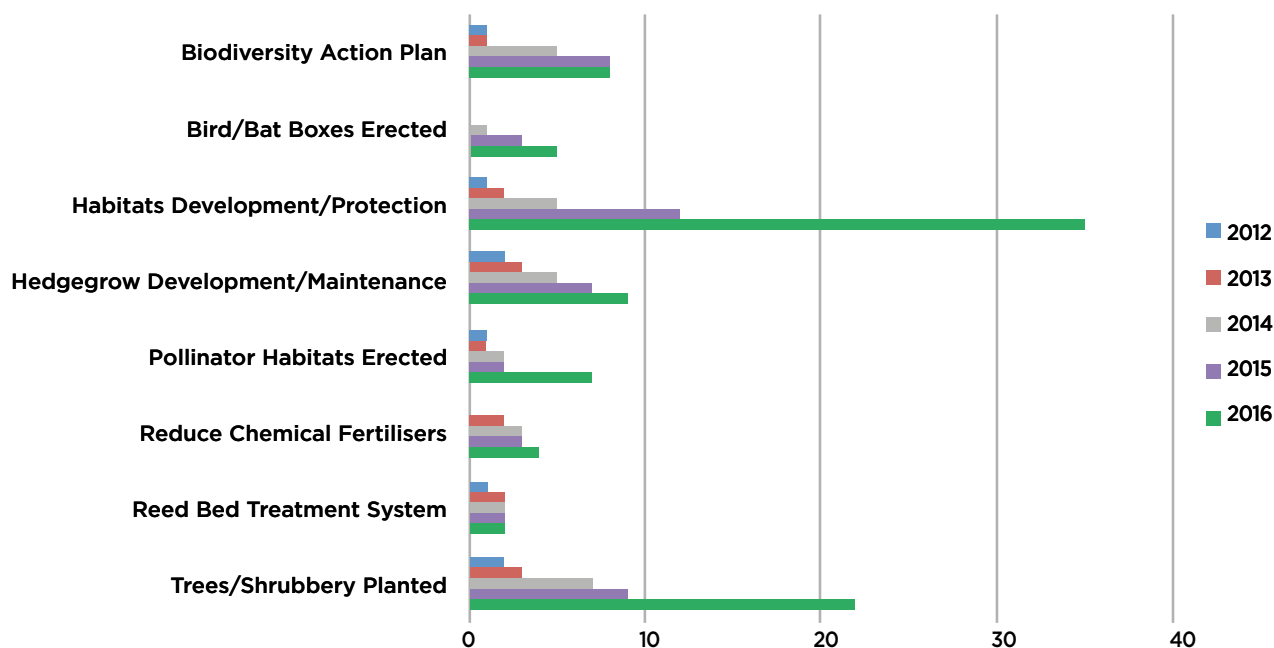
Distribution of Biodiversity targets 2015 vs. 2016



Given the rapidly growing awareness of the importance of biodiversity among the Origin Green member base, as well the increased support from knowledge experts such as the National Biodiversity Data Centre and Teagasc, an increasing number of members are now setting ambitious targets to protect, improve and enhance biodiversity.

While biodiversity metrics are not as developed or specific as those for energy, water and waste, initiatives can be straightforward to implement and offer a visual demonstration and reinforcement of a company's sustainability credentials.

Growth of Biodiversity targets year on year 2012 - 2016 (Number of Targets)



TARGET EXAMPLES

TREES/SHRUBBERY PLANTED

Plant native Irish trees around external perimeter of site increasing biodiversity and reducing odours on-site.

ALL-IRELAND POLLINATOR PLAN

Liaise with Biodiversity Ireland to participate in community-based initiatives aimed at promoting biodiversity.

HABITATS DEVELOPMENT/PROTECTION

Carry out wildlife audit on farm, followed by training from an organic certified eco specialist to boost native flora and fauna.





Sam Dennigan & Co.: Championing Biodiversity



Sam Dennigan & Co. is a family business established in 1976 in Oldtown, north County Dublin. The company started as a potato trading company but has since evolved into a thriving major international fresh produce business. Today, Sam Dennigan source, package, and distribute produce to wholesale, retail, and processing sectors domestically and internationally.

Through the company's Origin Green biodiversity targets, Sam Dennigan has set an ambitious target to create an Integrated Constructed Wetland (ICW) on its Oldtown site. With construction due to be completed in 2016, the ICW will upgrade the wastewater treatment the company currently has on-site and will be used to treat processing wastewater. The wetland is comprised of a series of densely vegetated ponds with free surface water flow. Wash water that is used to process potatoes flows via gravity from the secondary treatment plant to the wetland. In the ICW ponds, the vegetation works to optimise natural, biological,

chemical, and physical processes of pollutant removal without harming adjacent aquatic and terrestrial ecosystems. Located 50 metres south of the washing plant in Oldtown; the ICW will also serve to boost the aesthetics of the local landscape.

The implementation of the wetland will result in cleaner water and will function both as a natural way to reduce energy used to clean wastewater, as well as to increase biodiversity. The company also aims to engage local schools in a biodiversity programme, incorporating this site as an interactive learning tool for students.



The proposed Integrated Constructed Wetland (ICW) site at Sam Dennigan & Co., North County Dublin

Social Sustainability

The social environment is now considered equally as important as the physical environment; therefore, social sustainability must be at the forefront of any meaningful sustainability plan. From January 2017, Origin Green verified members will be required to include two targets under the social sustainability target area. Previously a minimum of one target was required.

In an effort to meet growing customer and societal demand, health and nutrition is now a mandatory target within Origin Green plans. The rising importance of health and nutrition globally, as well as Origin Green's commitment to enhance the impact of our members on society, means there exists a valuable opportunity for verified members to include health and nutrition as a key focus of their sustainability plans to ensure they meet the requirements of increasingly conscious consumers.

Verified members will also be asked to set another social sustainability target that focuses on their impact on the local community and/or employee wellbeing.

The three main areas of consideration under the social sustainability heading are:

- **Company Role in its Local Community - and/or**
- **Employee Wellbeing**
- **Health & Nutrition (Mandatory)**

By the end of 2016, the 220 verified members of Origin Green had established a combined total of 492 social sustainability targets. This represents a major increase over 2015 levels and showcases the ongoing and increasing commitment from companies to this target area. In comparison to the 208 targets established in 2015, figures for 2016 represent a more than doubling of social sustainability targets over the past twelve months.

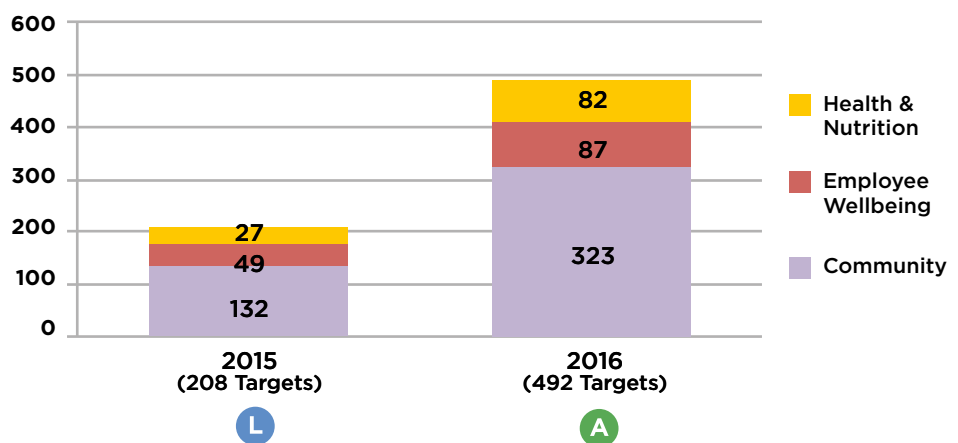
Minimum requirement(s) from 2017:

Plans must include at least one health & nutrition target and at least one community and/or employee wellbeing target.

492

Social sustainability targets set to date

Distribution of social sustainability targets 2015 vs. 2016



L = Verified Members 2012 - 2015 **A** = All Verified Members

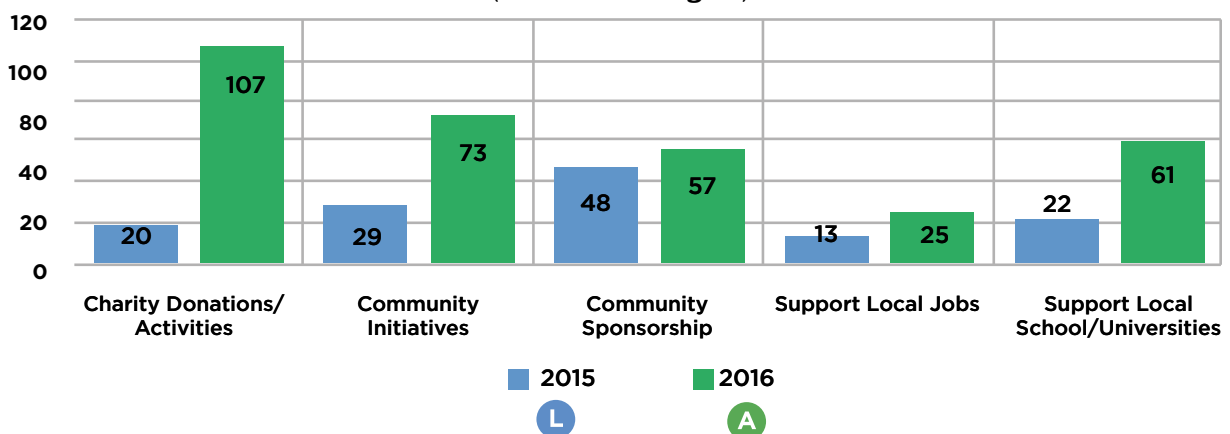
Company role in its local community

Under this heading, verified members continue to surpass expectations with a significant increase in the number of targets established in 2016. A total of 193 verified members have established 323 targets under the community heading. The breakdown of activities highlights a strong desire amongst verified members to give back to their local communities. The most popular target under the community area for 2016 is charitable donations and activities with over one hundred targets established. This represents a fivefold increase over 2015 levels. This is followed by sponsorship of local community groups, sports teams and events with 57 targets. Another positive trend sees Origin Green verified members strengthening the relationships with local schools and universities. Targets have increased significantly within this category, rising from 22 targets in 2015 to over sixty in 2016.

SAMPLE OF CHARITIES & GROUPS SUPPORTED BY ORIGIN GREEN VERIFIED MEMBERS

Special Olympics Ireland	Breast Cancer Research
Irish Hospice Foundation	Make a Wish
Irish Cancer Society	The Alzheimer Society of Ireland
Relay for Life	Barretstown
Red Cross	Ronald McDonald House
Laura Lynn Foundation	Irish Heart Foundation
St. Vincent de Paul	COPE
Food For Health Ireland (FHI)	Crosscare
FoodCloud Hubs	Irish Youth Foundation
Simon Community	WALK
Business in the Community	Chernobyl Children International
Our Lady's Children's Hospital	Jack & Jill Foundation
Birdwatch	Coeliac Society of Ireland
RNLI	Barnardos
Capuchin Day Centre	Acquired Brain Injury Ireland
Cork Penny Dinners	Make A Wish Foundation
Cycle Against Suicide	An Cosan

Breakdown of targets chosen under the community heading 2015 vs. 2016
(number of targets)



TARGET EXAMPLES

CHARITY DONATIONS/ACTIVITIES

Provide €5,000 of sponsorship annually to Action Lesotho to boost indigenous farmer skills and long term food security.

COMMUNITY INITIATIVES

Establish an All-Ireland Cooking Competition in conjunction with third level culinary arts and food technology colleges to promote Irish goods and healthy eating amongst younger generations.

FOOD DONATIONS

Donate all excess but unavoidable food waste to FoodCloud Hubs for redistribution amongst local charities nationwide.



MEMBER CASE STUDY



SECTOR: BEVERAGES

Teeling Whiskey: Reviving the Spirit of Local Community



Founded by brothers Jack and Stephen Teeling in 2012, Teeling Whiskey is a Dublin-based distillery that specialises in craft Irish whiskey and spirits. For the Teeling brothers, whiskey making is a long-standing family tradition with their ancestors having started distilling in 1782. In 2015, this tradition was revived with the company building the first new distillery in Dublin in over 125 years.

Located in Newmarket Square, the Teeling brothers chose The Liberties area of Dublin for their new distillery, a historic district that has faced economic stagnation in recent years. Through its Origin Green social sustainability targets, Teeling Whiskey has focused upon reviving the local economy by committing to create thirty new permanent jobs by 2017, as well as attracting tourists to the local area. With an investment of €10 million, the company was also able to create one hundred construction jobs through the building of the new distillery.

Social sustainability has been central to the ethos of Teeling Whiskey since its formation. In addition to the growth of employment in the local area, the company has regenerated The Liberties district by hosting pop-up events, such as the Spirit of Dublin Craft Fair. This provides a platform for independent business and allows the growth and development of a strong network for local craft and small businesses at its distillery, as well as opening its doors for the local community.

To date, Teeling Whiskey has attracted over 100,000 visitors to the new distillery and was named the world's best whiskey visitor attraction at the prestigious World Whiskies Awards in 2016.





Burren Smokehouse: Sharing the Sustainability Message



Founded by Peter and Birgitta Curtin in 1989, The Burren Smokehouse is located in Lisdoonvarna, Co. Clare, near the iconic Cliffs of Moher. With a primary offering that includes smoked fish products, such as salmon and mackerel, the business has grown to employ 18 local residents on a full and part-time basis.

From the beginning, the Burren Smokehouse has demonstrated a strong commitment to its local rural community. Owners Peter and Birgitta Curtin acted as founding members of the Burren Ecotourism Network (BEN), a dedicated group of tourism providers in the Burren & Cliffs of Moher Geopark area. The group works together to promote the Burren as a premier international ecotourism destination, catering to an ever increasing number of visitors to this unique UNESCO designated site.

The company has placed an emphasis on supporting education within its Origin Green plan. It is a member of The Taste Council's initiative; The Future is Food - an innovative secondary school programme developed in

collaboration with Bord Bia. Over the next three years, the Burren Smokehouse will increase the number of schools they work with and continue to host internships within the company. This will enable students to gain valuable real-life experience and lessons on entrepreneurship, as well as understanding the importance of sustainable food production.

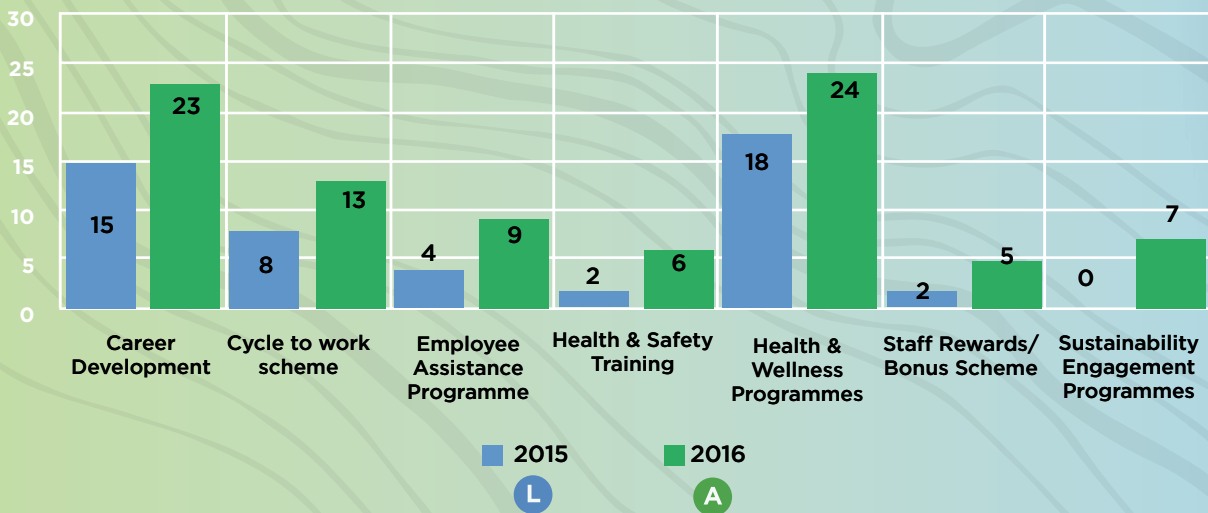
As well as showcasing the heritage of the ancient tradition of preserving food through smoking and drying, a key ongoing target for the Burren Smokehouse will be to include messaging about Origin Green and sustainability in all of its tour talks to national & international visitors.



Employee Wellbeing

Under the employee wellbeing heading, a total of 66 verified members have established a combined total of 87 targets. Once again, this represents a significant increase over the 49 targets established in 2015. The breakdown for 2016 shows targets increasing across all areas. Origin Green verified members continue to provide career development opportunities to their staff with this target increasing over 2015 levels. A rise in the amount of health and wellness programmes offered by employers also reflects a wider societal focus on this particular issue. In addition, the inclusion of sustainability engagement programmes for the first time amongst members, showcases a desire for employers to encourage staff to embrace sustainability within their own organisations.

**Breakdown of targets chosen under employee wellbeing 2015 vs. 2016
(number of targets)**



TARGET EXAMPLES

HEALTH SCREENING & FITNESS SCHEME

From 2015, all staff will be offered one health screening per annum and access to a newly developed staff fitness scheme.

CAREER DEVELOPMENT

Staff will be offered the opportunity to complete the Customer Service Excellence Ireland programme to improve communications both internally and externally.

WORK/LIFE BALANCE

Flexi time to be implemented in 2015, alongside weekend work being reduced, giving staff a better work/life balance.

Health & Nutrition

According to the World Health Organization (WHO), worldwide obesity has more than doubled since 1980. Most recent WHO figures outline the scale of the problem, with more than 1.9 billion adults globally being overweight or obese, with almost one-third of these being children. Overweight and obesity are major contributory factors for a number of serious and chronic diseases. Once considered a problem affecting more affluent countries, recent trends suggest overweight and obesity is also on the rise in middle and low income countries, particularly in more populated and urban settings.

One in every two people over 50 in Ireland today have at least one chronic disease, such as diabetes, cancer or heart disease. Health and nutrition has been a focus area within the *Origin Green Sustainability Charter* from the outset. Given the growing importance of this issue and the need for urgent action, in mid-2016 it became a mandatory target area within all Origin Green plans.

Throughout 2016, Bord Bia has refined the health & nutrition pillar in order to ensure its mandatory implementation was feasible amongst the diverse verified membership base. In doing so, a range of target areas can now be considered under this pillar including:

- **Reformulation**
- **Nutrient Profiling and Labelling**
- **Reduction of Saturated Fat, Trans Fats, Sugar or Salt Intake, or Artificial Additives**
- **Marketing and Education**
- **Promotion of a Healthy Lifestyle**

The broad scope of sub-targets under the health and nutrition banner now ensures that companies across all sectors and of all sizes can establish meaningful targets in this area.

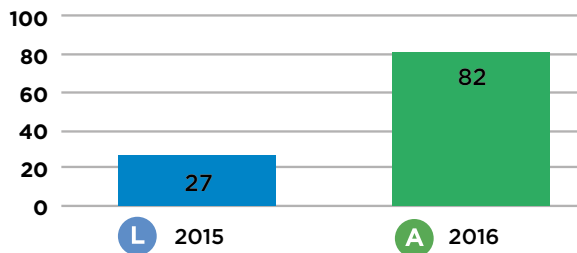
It must also be acknowledged that the implementation of health and nutrition based targets can yield positive business benefits for Origin Green verified members. Bord Bia's Consumer Lifestyle Trends which identifies the primary trends shaping people's lives over the next three to five years suggests that health, nutrition and wellness are now a key trend. Consumers are now scrutinising more closely than ever before the food and drink they are choosing to consume. Furthermore, the demand for healthy options has increased dramatically, representing a tangible business opportunity for companies throughout Ireland, both at home and in export markets.

During 2016, the amount of health and nutrition targets has more than trebled over 2015 levels. A total of 61 companies have established 82 targets within this area. This represents the most significant rise in this target area to date.

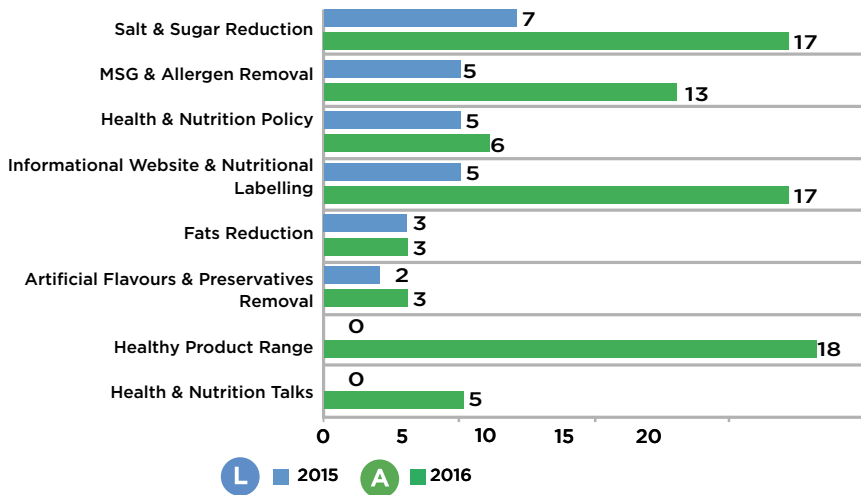
A breakdown of the various targets being set outlines a significant increase over 2015 levels in all areas. In particular, verified members are now placing an increased emphasis on removing salt and sugar to reformulate their products. They are also investing significant resources in both capital and R&D to boost their healthy product offering. This is reflected in the fact that 18 formal targets have now been established to launch healthy product ranges, thus diversifying current product portfolios. Companies are going above and beyond labelling laws to ensure that consumers are fully aware of their products health attributes. Furthermore, a number of targets have now been established around talks to local groups. This is in conjunction with a growing trend of providing more transparent information about health and nutrition on company websites.



Growth in health & nutrition targets 2015 vs. 2016



Breakdown of targets chosen under health & nutrition 2015 vs. 2016 (Number of targets)



TARGET EXAMPLES

LAUNCH NEW HEALTHY RANGE

New range of healthy products to be launched by 2017.

FATS REDUCTION

100% of hydrogenated fats to be removed from all products by 2018.

INFORMATIONAL WEBSITE

Website to be launched in 2017 promoting the health attributes of seafood alongside easy to make recipes.

MEMBER CASE STUDY



SECTOR: BEVERAGES

Britvic: Eliminating Sugar



Britvic Ireland, part of Britvic plc, is the second largest soft drinks company by volume on the island-of-Ireland, and number one in no/low sugar. The company has a proud history that spans over 240 years. Its portfolio of market-leading brands includes Irish favourites such as Ballygowan, MiWadi, Club and TK. Britvic is also the exclusive bottler for Pepsico brands Pepsi, 7UP and Mountain Dew.

Britvic Ireland has adopted the sustainable business goal of being trusted and respected in the communities in which it operates, one that builds on the legacy of innovation that has health and goodness at its heart. The company became an Origin Green verified member in September 2013.

Within Britvic's Origin Green plan, a key focus for the company is to continue as the industry leader in no/low sugar offerings. Britvic has a strong track record of innovation in its products, with the company committing to Food and Drink Industry Ireland's Livewell programme, which aims to combat the issue of obesity, encompassing product reformulation and workplace health initiatives.

In 2014, through its Origin Green health and nutrition targets, Britvic launched Club Zero, a no sugar variant of Club Orange which contains 3.5 calories per 100ml. With the launch of this brand, the company eliminated 169 tonnes of sugar from the Irish market. Building upon this, Britvic has expanded its portfolio to now include low calorie, low sugar, and no added sugar drinks alternatives such as MiWadi 0% Sugar and Ballygowan Sparklingly Fruity. The company has since gone further and voluntarily incorporated a front of pack labelling scheme to provide transparent information to its consumers.



Section 4

Future Developments

Sustainability is a continually evolving concept, as indicated by the growing scope of its definition as well as increasing demands from consumers who want more information about the sustainability credentials of the food and drink they choose to consume.

It is imperative that the Origin Green programme continually evolves and develops to reflect these changes. This will ensure Ireland can achieve its ambition to become a world leader in sustainably produced food and drink.

Throughout 2017, a number of changes and developments are planned across all levels of the supply chain to facilitate the continuous improvement of the Origin Green programme.



Strengthening the Origin Green Sustainability Charter



Raw Material Sourcing

Given the increasingly important role of sustainable sourcing, Bord Bia will provide additional resources to member companies throughout 2017 and beyond to facilitate the identification of risk raw materials as well as the development of robust, sustainable sourcing strategies across our member base.



Energy

From 2017, energy targets will become a mandatory inclusion as part of the *Origin Green Sustainability Charter*. This development will allow Bord Bia to identify the overall impact of the industry in terms of energy use and will also result in an increase in the number of targets and savings being made. Moving towards 2020, a number of current Origin Green verified members will have developed a second iteration of their sustainability plans which is likely to increase savings even further.

Only a small number of verified members have established renewable energy based targets to date. The projection for the period to 2015-2017 suggests a cumulative energy generation of over 15 million kilowatt hours amongst this group. This highlights the potential of renewable energy within the Irish food and drink industry. Bord Bia will continue to work with industry partners to identify and promote relevant schemes and technology to encourage more verified members to move towards renewable energy.



Emissions

Over the coming years, Bord Bia will be focusing on achieving a more complete picture of emissions performance amongst the Origin Green verified membership base with energy becoming a mandatory target for all companies from 2017. This will enable Bord Bia to gain a greater understanding of overall emissions usage among members of the programme.



Water

From 2017, water will be introduced as a mandatory target for all verified members. With this development, in addition to a number of companies nearing the establishment of the second iteration of their Origin Green plans, it is anticipated that water savings will increase even further over present levels.

Bord Bia will continue to assist verified members to set ambitious targets in water usage reductions as well as working closely with industry and relevant stakeholders to identify technologies and other efficiency measures that can be shared across our member base.



Waste

From 2017, waste will become a mandatory inclusion as part of the *Origin Green Sustainability Charter*. In recent times, alternative waste target areas have begun to gain increasing traction amongst verified members. For example, food waste is now viewed as a key priority for many companies. Cutting down unnecessary food waste helps to minimise costs, as well as reducing unnecessary landfill waste. Furthermore, the infrastructure and potential to mitigate food waste has improved significantly with the newly revamped FoodCloud Hubs providing an outlet for suitable food waste materials throughout the country. At present, only ten verified members have set formal food waste reduction targets. In future, this area will be a key focus for the Origin Green programme.

In addition, Bord Bia will work to leverage our growing network of verified members across all sectors as well as engaging relevant stakeholders to promote circular economy principles and harness symbiotic opportunities where possible across the Irish food and drink industry.



Biodiversity

The additional expertise provided by the strategic partnership with the National Biodiversity Data Centre has undoubtedly aided members that have struggled up until this point to establish meaningful biodiversity targets. In future, Bord Bia will continue to strongly encourage biodiversity targets amongst the verified membership base. This will be further strengthened by the launch of the *Businesses: Actions to Help Pollinators* guide which was launched in November 2016. The guide is a framework for businesses which suggests 18 practical pollinator friendly actions that companies of all sizes can implement in both outdoor and indoor spaces.

Bord Bia will also continue to work with other knowledge experts and relevant stakeholders to identify relevant metrics and indicators as well as initiatives to help companies take increased action to protect and enhance biodiversity in Ireland.



Social

Social sustainability continues to develop as a concept resulting in the closer merging of the traditionally separate areas of environmental sustainability and corporate social responsibility.

Bord Bia will work to identify and leverage relevant expertise and partnerships to enhance the overall impact of our member base in terms of social sustainability impact. Research will also be conducted to identify relevant metrics and initiatives to help Origin Green verified members continue to set ambitious targets in this space.

A key focus for the Origin Green programme within the employee wellbeing area will be to further promote and encourage diversity and inclusion within the workplace. With calls for increased transparency in this area, verified members must remain conscious of this growing demand. In light of this, Bord Bia will work with verified members to encourage the adoption of diversity and inclusion based targets within Origin Green plans. The benefits of such policies are highly positive such as fostering a diverse talent pool with multi-faceted skills, increasing creativity and problem solving, and helping to retain and attract talent.



Health and Nutrition

In 2016, health and nutrition became a mandatory target area within all Origin Green plans. All members are now required to include at least one target under this pillar. With customers making increased demands for more nutritious produce and societal calls for greater action in this area, this will help prepare verified members to cope with marketplace demand and further enhance their offering to consumers. Bord Bia will continue to work with companies to identify suitable targets and also seek support from knowledge experts and relevant stakeholders to further assist verified members.



Member Support

Supporting Irish food and drink manufacturers as they compile ambitious sustainability plans remains a key focus for Bord Bia. In doing so, we continue to utilise a number of measures to assist companies as they work to become fully verified members of Origin Green, as well as assisting companies to retain their verified membership status year-on-year.

AVAILABLE SUPPORTS

- » Workshops
- » Templates
- » Online Platform
- » Online Course
- » Feedback Reports
- » One-to-One

Small to Medium Sized Enterprises (SMEs)

Throughout 2016, the Origin Green programme has seen a major shift in membership from large scale enterprises to SMEs. Bord Bia work to cater for all types and sizes of businesses and have developed templates, tools and other supports to help SMEs become fully verified Origin Green members. For example, this year, the Origin Green team developed an easy to use resource usage tracker tool for companies that did not possess baseline data. The simple tool gives companies the opportunity to enter their monthly utilities usage in both absolute and monetary terms. As a consequence, it enables members to gain a better understanding of their usage across energy, waste and water and hence set targets accordingly based upon their performance. SMEs account for over 300 of our registered companies and over eighty are fully verified members. Being flexible and offering support to companies of different sizes is a critical element within the Origin Green programme and we will continue to tailor our support accordingly amongst different groups.

Origin Green Resource Use Tracker Tool



Nutmost: Sustainability from the start



Nutmost was created with the vision of bringing a better snacking experience to consumers, so they can have easy access to healthier, nutritionally optimised and tastier snacking options. Origin Green stands for values that Nutmost are striving to have in its culture and fosters the adoption of sustainable values in its business.

There are so many elements involved in starting a company but Nutmost had a clear vision to create a company that was trusted and respected in the community. Origin Green provided an ideal and essential framework to communicate effectively to customers the sustainable agenda that the company has adopted.

Origin Green provides a detailed structure to demonstrate the company's commitment to that agenda and identifies areas where continuous improvements are being made and where further improvements can be made. It also ensures Nutmost make sustainability part of the company's DNA from the start. Nutmost's targets focus on sourcing from sustainable suppliers, maximising resource efficiencies and working with local schools to provide beneficial work experience placements for students.

Nutmost aims to produce in the most sustainable manner possible, supporting the local and national community. The company believes a clean green Ireland is vital for the economic success of Ireland's food and tourism industry. Origin Green is at the forefront worldwide in helping Irish food companies develop and improve their sustainability. Therefore to be part of this initiative ensures Nutmost has a competitive advantage, creating a sustainable strategic advantage going forward both domestically and abroad.



Andrew Wynne - Founder, Nutmost

Launch of the Revamped Origin Green Platform

With increasing numbers of verified members each year, as well as a significant rise in annual progress reports year-on-year, Bord Bia made the decision in 2015 that sustainability plan submissions would be moved to an online system in 2017. Throughout 2016, Bord Bia has worked to establish an enhanced Origin Green Platform for member companies. This platform will launch in early 2017.

The platform will include all of the various tools, templates and helpful tips which are required throughout the development of a sustainability plan. In addition, it will also act as an information sharing network amongst companies and link them to experts within a given field. The enhanced platform will also act as a key learning resource and information bank for verified members who may wish to fully utilise sustainability messaging as part of their brand identify – giving them immediate access to the Origin Green marketing and communications team.

One of the most important functions of the revamped platform will be the facility for companies to complete their sustainability plans online. The online submission makes the process of completing a plan more straightforward than ever before, giving companies live feedback on their submission, as well as highlighting key trends around their performance each year.

The platform will foster ongoing continuous improvement and will provide enhanced technical support to member companies. It will also enable Bord Bia to improve our ability to track the overall impact of Origin Green and identify key trends throughout the industry, both on an individual and sectoral basis.



Themed Workshops and Knowledge Sharing Site Visits

Another development planned for 2017 will see the introduction of Origin Green workshops based around specific topics, themes and focus areas. Up until this point in time, the majority of workshops have focused upon new member companies, familiarising them with the Origin Green programme and guiding them through the sustainability plan development process. With the number of verified members growing annually, 2017 will see the continuation of workshops for new participants, as well as providing a wider range of workshops for existing verified members. These workshops will aim to continuously improve the overall impact of the Origin Green programme as well as fostering wider member engagement.

The Origin Green team will facilitate a number of themed workshops in 2017 focusing on areas such as biodiversity, food waste, renewable energy, and raw material risk mapping. These workshops will be run in conjunction with experts within respective fields as we strive to share knowledge and continuously challenge our verified members to improve their sustainability performance.

Finally, Bord Bia will also undertake a series of knowledge sharing site visits throughout 2017 with our Origin Green verified members. There are opportunities for a multitude of learnings throughout the food and drink industry on a cross-sectoral basis. These pre-competitive, best practice site visits are intended to facilitate enhanced learning amongst our verified member companies. Four quarterly visits are planned for 2017 representing all sectors within the Origin Green programme.



Retail and Foodservice

From its launch in 2012, a key ambition for the Origin Green programme was that the Irish market would become a showcase for the sustainable production of food and drink products. With the introduction this year of the *Retail & Foodservice Sustainability Charter*, we have moved one step further towards achieving this goal.



Similar to manufacturers, retail and foodservice companies participate in Origin Green through the development and delivery of ambitious, measurable and time bound targets as part of a five year sustainability action plan. These plans are also independently verified by SGS.

Target Areas

As part of the *Retail & Foodservice Sustainability Charter*, participating members are asked to set targets in the following areas:

- **Sustainable Sourcing**
- **Operations**
- **Health and Nutrition**
- **Social Sustainability**

Once a retail or foodservice company has become a verified member, they will be required to submit an annual progress report which is also subject to independent verification by SGS.

**All plans at this level
of the supply chain
are independently
verified by SGS,
including annual
progress reports.**

The SGS logo consists of the letters 'SGS' in a bold, dark grey font. A red horizontal line is positioned below the letters, and a red vertical line is positioned to the right of the letters, intersecting the horizontal line.

Target Areas

<p>Target Area 1: Sustainable Sourcing</p>	<ul style="list-style-type: none"> • Commitment to source from suppliers with recognised certifications • Development of sustainability initiatives with suppliers • Engage with farmers on areas such as animal welfare and biodiversity • Development of a Sustainable Procurement Policy
<p>Target Area 2: Operations</p>	<ul style="list-style-type: none"> • Energy • Transport • Water • Waste • Emissions • Biodiversity
<p>Target Area 3: Health and Nutrition</p>	<ul style="list-style-type: none"> • Reduced portion size • Reformulation • Nutrient profiling and labelling • Reduction of saturated fat, trans fats, sugar or salt, or artificial additives • Marketing and education • Promotion of a healthy lifestyle
<p>Target Area 4: Social Sustainability</p>	<ul style="list-style-type: none"> • Company's role in its local community • Employee engagement, training and wellbeing • Diversity and inclusion

Future Developments

Bord Bia has worked with a number of large retail and foodservice companies throughout 2016 to refine and finalise the *Retail & Foodservice Sustainability Charter*. Due to the considerable size of companies within this sector throughout Ireland, it takes a significant amount of time and resources to develop robust sustainability plans.

Following its launch on a pilot basis in 2016, two companies have become fully verified members of the Origin Green programme at the retail and foodservice level. Bord Bia will now work to broaden participation from 2017 onwards. The inclusion of this element is an exciting development within the Origin Green programme and ensures that all levels of the supply chain are involved in the programme for the first time, strengthening the sustainability credentials of the Irish food and drink industry even further.

Musgrave Group

Musgrave, founded in 1876 has grown to become Ireland's leading food retail and wholesale group. Together with its independent retailers, Musgrave employs 45,000 people across its network on the island of Ireland and in Spain. In Ireland alone, Musgrave employs more than 35,000 people and is the largest private sector employer in the country.



Committed to building a stronger more diverse organisation that delivers sustainable returns for all Musgrave operates its business in a way that considers social, environmental, and economic wellbeing.

As a retailer, we have chosen to focus on nine of the most relevant United Nations Sustainable Development goals. These goals fall into four broad categories: 1) minimising environmental and climate change impacts, 2) driving sustainable sourcing and consumption, 3) leading in health and well-being, and 4) taking an active leadership role in the community. These areas drive

our targets set under the Origin Green programme.

1) Minimising environmental and climate change impacts Over the past 10 years Musgrave has grown by almost 50% while reducing its carbon footprint by more than 50% in absolute terms. Initiatives that have contributed to this reduction include adopting 100% green energy for all company-owned facilities, employing advanced route planning and scheduling systems to help delivery drivers avoid or reduce mileage and implementing backhaul programmes to cut suppliers mileage by utilising space on Musgrave vehicles to transport good inwards

to distribution hubs. Despite the growth of Musgrave's business, total annual fleet emissions have reduced by 5,500,000 kgs since 2006.

Further efforts to reduce environmental impacts include waste prevention and recycling initiatives. In 2016, Musgrave recycled 97% of the waste generated by its business, up from 63% since 2006. The business now sends zero recoverable waste to landfill, while operational improvements have resulted in a reduction of over 30% in absolute waste generation since 2012.

2) Driving sustainable sourcing and consumption SuperValu was the first retailer in Ireland to adopt the IdentiGEN National DNA Traceback Programme for Bacon which allows the retailer to ensure all its bacon is undeniably Irish, reassuring the customer of the authenticity of the product. Further, its stores stock 100% fresh Irish beef, pork and lamb born and reared

in Ireland and 100% National Dairy Council approved milk for its own brand milk range.

First established in 2013, Food Academy is a hugely successful joint initiative by Musgrave, Bord Bia and the Local Enterprise Network which further supports our commitment to sustainable sourcing and consumption. The programme, through its mentoring and hands on approach, nurtures new start-ups in the food and drink sector, focusing on areas such as business planning, understanding consumer trends, raising finance and product development. It creates opportunities for local suppliers to develop their products and to then reach consumers through the extensive SuperValu network. In 2016 the programme was developed to include the FoodService Academy. This means that local food and drink producers now have a similar programme to improve their market opportunities with access to over 6,000 foodservice customers through Musgrave



Musgrave Group renews its sponsorship of the All-Ireland GAA Football Championship supporting hundreds of communities throughout Ireland.

MarketPlace, Ireland's leading wholesale supplier to retail, foodservice and SME businesses.

3) Leading in health and well-being

Musgrave is actively engaged in health and well-being initiatives at a local and national level and are committed to working with partners to make it easier and more affordable for shoppers to make healthy and nutritious food choices. In addition, we and our retail partners' work with fitness experts and organisations to promote initiatives, such as Centra 'Live Well' which aims to promote healthy living while bringing people together around the theme of a healthy, active lifestyle.

4) Taking an active leadership role in the community

Supporting hundreds of other family businesses through its retail network the company works closely with them to share best practice and to take an active leadership role in the community through support for

Tidy Towns, GAA, Breakthrough Cancer Research and a huge number of uniquely local initiatives covering health, community and the local environment. Musgrave is an active partner of other stakeholders working to improve the community we live in for all. An example of this is 'Feeding Ireland's Future', a joint initiative between the government and industry which supports young unemployed people to develop pre-employment skills for the retail sector and our partnership with the IGNITE Graduate Business Innovation Programme, promoting innovation and start up industry.

Our participation in Origin Green provides Musgrave with the exciting opportunity to have its comprehensive sustainability programme independently assessed and verified by SGS on behalf of Bord Bia and to provide the company with an on-going opportunity to continuously challenge and improve its performance.

McDonald's



McDonald's opened its first restaurant in Ireland on Grafton Street in May 1977. Since then, the company has grown into one of Ireland's largest employers with over 5,000 staff at ninety restaurants across the country. McDonald's Ireland welcomes over 150,000 customers every day. In order to continue meeting the needs of its customers and employees, McDonald's is committed to putting people, processes and practices into place to make sustainability the new normal – for its business, society, and the world at large.

In Ireland, McDonald's has endeavoured to make its business more sustainable throughout its entire operations. Food waste, cardboard, used cooking oil and mixed plastics are recycled in all of McDonald's Irish restaurants. Also, the company serves only Rainforest Alliance certified coffee and fish that is 100% Marine Stewardship Council (MSC) certified. Many Irish meat, water, dairy, and grain suppliers provide many of the other products and ingredients for McDonald's Irish restaurants and its European counterparts.

In 2016, McDonald's Ireland became the first foodservice company to achieve verified membership of Origin Green. Similar to other Origin Green verified members, the company had to develop sustainability timelines

and targets that were then independently verified. The company's primary goal in relation to the Origin Green charter is to further strengthen brand trust and awareness of its key sustainability initiatives with its customers, employees, and stakeholders across Ireland. At present, McDonald's sources products from Irish suppliers of which 60% are verified Origin Green members. A clear target for the company is to increase this number over the coming years and throughout the duration of the plan. In addition, a key goal is to continue to improve the sustainability of the company while reducing its carbon footprint. Two measures to achieve this goal include fitting energy-saving lighting in all restaurant lobbies, toilets and crew facilities by the end of 2018 and installing



Nigel McGuire, Director of Development & Supply Chain, McDonald's Restaurants of Ireland; Aidan Cotter, Bord Bia Chief Executive
Adrian Crean, Managing Director of McDonald's Restaurants of Ireland

all restaurants with waterless urinals by the end of 2018.

McDonald's ethos is about building relationships with customers and developing trust. This guiding principle started with founder Ray Kroc, who believed that 'giving back' to the community was an essential part of doing business. Community involvement is an essential element of McDonald's brand and corporate culture and it has a multitude of community engagement programmes of

across Ireland. The overall framework of McDonald's Irish operation allows each business manager or licensee to determine the most relevant and appropriate way for them to contribute locally. Beyond local community involvement that individual restaurants engage in, all stores support The Ronald McDonald House Charity (RMHC) on an on-going basis, with typical annual activities including charity cycles, golf classics and selling Santa hats to raise much needed funds.

McDonald's Ireland recognises the importance of providing balanced choices. Therefore, it has created targets under its Origin Green plan to serve more fruit, vegetables, low-fat dairy or wholegrains by 2020 and aims to reduce salt, sugar, saturated fat or calories across the menu by 2020.

Committed to people, McDonald's aims to create opportunities for its employees by providing them with lifelong skills and career opportunities and promote diversity and

inclusion by fostering a work environment that values the unique contributions of all.

McDonald's recognises that lasting change starts with partnerships, including with its global network of franchisees, suppliers and employees. The company will ensure that its relationships underpin and support its Origin Green commitments, and that those commitments are monitored and adhered to throughout the entirety of McDonald's Ireland organisation.

Section 5

Communications and Collaboration Update



EXCELLENCE

Origin
Green
IRELAND

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER



JOHN BRADY

DERMOT WALSH

Trillick, Co. Cork

- Milking 60 cows on a grazing block of 55 acres
- Yield currently producing 11 tonnes/day at 4.2% fat and 3.0% protein
- Cows spend over 300 days grazing every year
- Farmers' treatment from various soil of farms in farming community in particular
- Been focus on purchasing into cattle through use of AI and heifers bred onto a clean set of studs of breeding animals
- Thomas is a supplier to Barrymore Co-op

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER



JOHN JOE O'SULLIVAN

Assarbery, Co. Cork with sons Peter and Andrew



THOMAS CULLOTY

TIM TWOMEY

Barrow, Co. Cork

- Milking 55 pedigree registered Friesian cows on a 20 ha grazing platform
- Milky herd with 200 of cows in 6th lactation in milk and producing 485 kg milk solids
- All herds Cows are treated with worming at 12 weeks and remainder 100% at 12 weeks
- Grading pasture treatment in Spring through efficient use of slurry and fertilizer
- Paigie Angus herd on this farm also with 7000 calves yearly exported
- Thomas is a supplier to South Cork Co-op

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

THOMAS DUCKLEY

Bahama, Co. Cork

- Milking 100 cows in a 6000 milk production system on 600 to 650 acres in 2014
- 70% of herd in Spring calving with remainder calving in October/December
- Continuing working to produce more milk from yearling and heifer attention to avoid spreading pasture management
- Pressing focus on volume, health and fertility with an emphasis on nutrition to increase case yield
- Have focus on reducing energy requirements and costs on farm
- Thomas is a supplier to Clonsilla Dairy

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

THOMAS CULLOTY

Trillick, Co. Kerry

- Milking 60 cows on a grazing block of 55 acres
- Cows grazing from early March to early November weather permitting
- Cows producing 5500 litres per year with current fat at 3.88% and protein at 3.35%
- Slurry spread with urethical system in Spring and good use of slurry throughout the year on paddocks following grazing
- Keen focus on soil fertility with regular soil sample results considered in nutrient plan
- Very proactive approach to health and safety on this farm
- Thomas is a supplier to Lec Strand Co-op

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

EAMONN GARGAN

Redhills Park, Co. Wick

- 20000 Acres Mullagh Park, Co. Wick
- A 2000 acre 2000 cow herd of 18 cows
- Subsiding 100 of 180 cows from milking on the Cavan / Wick border of 1800 acres for grazing in 5 blocks
- A very high and compact 180000 with farm waste management and treatment with a high level of biosecurity keeping the use of chemical fertilizer at low as possible use
- Cows treated with worming by mid Feb followed by mid April
- Calving herd at 2 year old breeding their offspring in a 2000 cow herd and 1000 kg protein
- Thomas is a supplier to Lifford Dairy

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

DERMOT SHERRY

Drumhallow, Co. Monaghan

- Farming 155 acres in North, Co. Monaghan in 5 separate farm blocks
- Milking 120 cows at peak this year on a 70 acre milking platform, cow numbers have grown from 70 in recent years
- Rainwater is harvested from the roof of the milking parlour and appearing in the shed
- As stocking rate has increased a large emphasis placed on early turnout and grassland management and management. Turnout date is now 5 - 6 weeks earlier than a few years ago
- Cow fertility, kg milk solids and feet / legs are important breeding traits
- Dermot has a winter milk contract and is a supplier to LactPatrick Co-Op

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

MICHAEL POWER

Wolfeboro, Co. Wick

- Farming 400 ha farm with a 40 ha grazing platform
- Cow numbers have increased to current levels of 110 from 100 last season ago
- Have averaged 100 kg MS/cow in 2015, on target to produce 150 kg MS this year, supplemented with 2 in concentrate
- 200 fertility in heifers with most of the farm in 1000 kg MS, no more is required on 1000 kg MS
- Building of cow herd into autumn for early calving in 2016 and 2017
- Michael is a supplier to Clonsilla Dairy

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

JOHN HANNIGAN

Wexford, Co. Wick



PATRICK SHINE

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER



PETER & SIMON BREEN

Gurtan, Ennis, Co. Tipperary

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER



TONY MCCORMACK

Mallow, Longford, Co. Longford

PATRICK BRENNAN

Ballingry, Roscrea, Co. Tipperary

- 170 cows milking on a 180 acre grazing block, plus 2 separate 30 acre outside blocks for young stock and 2000 kg ground
- Some of the farm converted from tillage in recent years
- Calving starts on July 20th, 70% cows calved within 6 weeks. An early grass farm with cow turnout on 8th Feb
- Cows produce 450 kg MS/yr with 500 kg supplements
- Recently replaced 2 electric water heaters with an external, wall mounted gas water heater - twice as economical and hot water available on demand
- Installing GPS on the tractor fleet saved 2 in fuel this year
- Patrick is a supplier to Assarbery Co-Op

AWARDS FINALIST SUSTAINABLE DAIRY PRODUCER

Integrated Marketing Communications

Annually Origin Green delivers an integrated business to business (B2B) marketing and communications international campaign. Through the development of creative campaigns for digital and print as well as events through owned, earned and bought marketing activity, the Origin Green integrated marketing campaign delivers extensive exposure and awareness for the brand and its verified members.

In 2016, trade media advertising continued to target international customers across two campaigns. These campaigns ran across key international markets including the UK, France, Germany, Netherlands, Denmark, Sweden, Belgium, Italy, Spain, and the US. Media advertising was supported by a comprehensive digital and community management campaign to generate further awareness and maximise engagement among target audiences.



Online Presence

Given the international reach of the Origin Green programme, a strong digital presence is essential to communicate the message of Origin Green across various target markets. The Origin Green website is now available in nine languages including English, French, German, Dutch, Italian, Swedish and Danish. In addition, a Chinese Origin Green website was launched in September 2016.

60,000+
visitors to
www.origingreen.ie

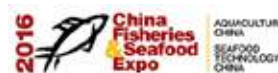
In order to communicate and engage with international trade customers, the Origin Green Twitter and LinkedIn communities provide a platform to share and discuss the topic of sustainability within the industry. Rich and informative content provides a solid base for Origin Green to share the message of Ireland's sustainability journey through, video, graphics, case studies and more.

This online presence allows Origin Green to be a part of the global sustainability conversation and provides continuous learning and development opportunities for the programme to further strengthen Ireland's sustainability commitments.



Trade Shows

Bord Bia exhibit at more than 25 international trade shows annually under the umbrella branding of 'Origin Green Ireland.' With over 800,000 international attendees, these shows provide a unique opportunity to share the story and progress of the Origin Green programme.



Origin Green Ireland

16,340

Experienced the Origin Green feature at Bloom 2016

Communication of Origin Green to the civic audience in Ireland began with the inclusion of an Origin Green feature at Bloom, inviting visitors to learn about the programme and to showcase the achievements of Irish farmers and food and drink producers as they work to lessen their impact on the environment and enhance their contribution to society. There was also a strong Origin Green presence at the National Ploughing Championships highlighting the vital role of farmers in the programme. Bord Bia will continue to share the progress and achievements of the Origin Green programme with the Irish public throughout 2017.



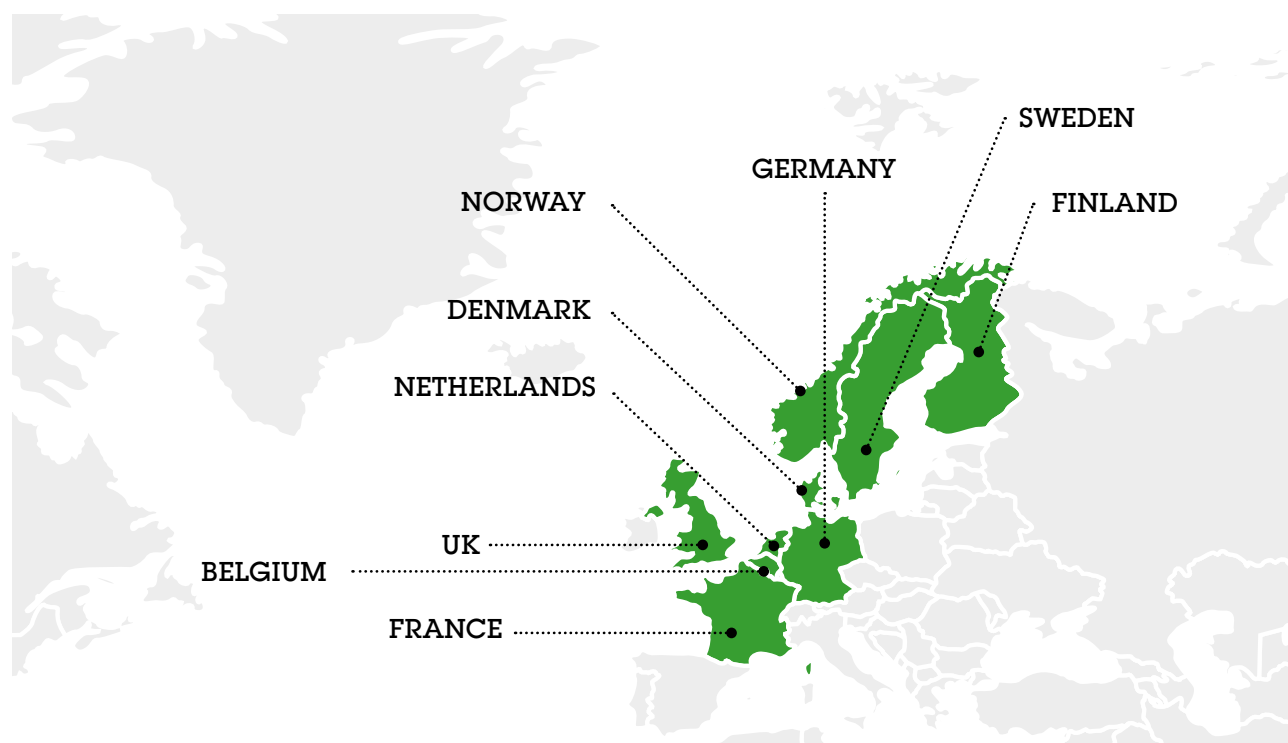
Verified Members as Co-Marketers

Verified members receive one on one marketing inductions to equip them with the knowledge and tools to help align their companies to Origin Green whilst communicating their individual sustainability stories. As the verified membership base increases, there is significant potential to amplify the Origin Green story, here at home and internationally. Bord Bia continues to develop programmes and tools to assist verified members in becoming co-marketers of Origin Green.

International PR and Communications

The earned media strategy for Origin Green is to drive continuous awareness in International markets, building new media relationships across traditional and online, business and trade media, and to deepen engagement with existing media relationships.

Throughout 2016, Bord Bia hosted 15 immersive Origin Green Inward Journalist Visits. Journalists from the United Kingdom, France, Germany, The Netherlands, Belgium, Switzerland and the Nordics were provided the opportunity to visit Irish farms and manufacturers to experience how Origin Green works at each level of the supply chain. These visits resulted in an anticipated reach of over 620,000 business and trade audience in 2016.



Origin Green Ambassadors

Following the completion of the first Origin Green Ambassador programme last year, a second group of ten professionals were appointed in September, 2015. Following a six month academic module at the Michael Smurfit School of Business in Dublin, the Origin Green Ambassadors have since completed placements with more than twenty global industry leaders.

Throughout the two year co-funded Origin Green Ambassador programme, the ten participants develop expertise in food sustainability, share the progress of Origin Green members within international markets and foster strong relationships with international industry and sustainability leaders.



Food Group





Collaboration

From the beginning, collaboration has played a vital role in assisting and enhancing the development and roll out of Origin Green across the entire food and drink supply chain in Ireland. Bord Bia continues to place significant emphasis on developing and maintaining collaborative relationships with a wide range of stakeholders both in Ireland and abroad.

Bord Bia's roll out of Origin Green would not be possible without the assistance and collaboration of a range of stakeholders. The involvement of the collaborators is invaluable in ensuring the successful delivery and ongoing implementation and development of the programme.





Animal Health Ireland (AHI)

Animal Health Ireland (AHI) functions as a partnership between private sector organisations and businesses in the agri-food sector and the Department of Agriculture, Food and the Marine. AHI offers the knowledge, education and coordination required to establish effective control programmes for non-regulated diseases of livestock.

Bord Iascaigh Mhara (BIM)

Bord Iascaigh Mhara (Irish Sea Fisheries Board) is the State Agency responsible for developing the Irish seafood industry. BIM assists participating Origin Green seafood companies through its Green Seafood Business programme, which helps to deliver greater resource efficiency measures and optimise environmental performance.

Department of Agriculture, Food and the Marine (DAFM)

The Department of Agriculture, Food and the Marine is the government department for the regulation and development of Ireland's agri-food and marine sectors. This includes the execution of Ireland's national traceability system through the Animal Identification and Movements (AIM) database following the written consent of farmers. The data are used by Bord Bia in the calculation of each farm's carbon footprint.

Enterprise Ireland

Enterprise Ireland is the government organisation responsible for the development and growth of Irish enterprises in world markets. Through its GreenStart and GreenPlus programmes, Enterprise Ireland provides grant funding and expertise to companies wishing to integrate environmental sustainability measures into their businesses.

Environmental Protection Agency (EPA)

The EPA is an independent public body established under the Environmental Protection Agency Act, 1992. Its GreenBusiness programme offers a range of no cost supports to help businesses identify potential resource efficiency savings. It also operates the Smart Farming programme in conjunction with the IFA.

FoodCloud Hubs

FoodCloud Hubs, formerly the Bia Food Initiative, is a social enterprise that connects businesses with surplus food charities across Ireland. With three redistribution depots in Cork, Galway and Dublin, it works to redirect business' food surplus to the hungry in Ireland.

Food Safety Authority of Ireland (FSAI)

The Food Safety Authority of Ireland (FSAI) works to ensure that food produced, distributed or marketed in Ireland meets the highest standards of food safety and hygiene reasonably available. It also ensures that food complies with legal requirements, or where appropriate, with recognised codes of good practice.

Irish Cattle Breeding Federation (ICBF)

The ICBF is Ireland's cattle breeding organisation which provides a central database that allows farmers and industry partners to make the best breeding decisions for the Irish livestock sector. ICBF provides access to farm productivity information for farm assessments.

Irish Co-operative Organisation Society (ICOS)

The Irish Co-operative Organisation Society (ICOS) is the co-operative umbrella organisation that serves and promotes commercial co-operative businesses and enterprise, across multiple sections of the Irish economy.

Irish Creamery Milk Suppliers Association (ICMSA)

The ICMSA represents farmers, particularly dairy and livestock farmers to help ensure that the family farm structure is preserved, alongside the rights and incomes of farm families.

Irish Dairy Industries Association (IDIA)

The Irish Dairy Industries Association (IDIA) represents Ireland's primary and secondary dairy processors. IDIA represents its members at national, EU and international level and provides comprehensive information, advice and representation services to its members.

Irish Farmers Association (IFA)

The Irish Farmers Association is a national organisation which represents farm families across all sectors of farming in Ireland.

Irish Forum on Natural Capital (IFNC)

The IFNC was established to bring together a diverse range of organisations and individuals from academic, public, private and NGO sectors who are interested in the development and application of the natural capital agenda in Ireland.

Meat Industry Ireland (MII)

Meat Industry Ireland (MII) is the representative body for the meat processing sector in Ireland. MII represents its members by interfacing with Government Departments, State Agencies and European Institutions on policy formation and other issues.

National Biodiversity Data Centre

The National Biodiversity Data Centre is a national organisation for the collection, collation, management, analysis and dissemination of data on Ireland's biological diversity. Bord Bia is actively supporting the *All-Ireland Pollinator Plan 2015-2020* and is working with the National Biodiversity Data Centre to support its implementation.

Repak

Repak is an industry funded organisation whose aim is to facilitate and grow packaging recycling. Repak's Prevent and Save programme is dedicated to optimising all packaging placed on the market. Repak also offers advice to companies on how to minimise packaging waste.

Smile Resource Exchange

The Smile Resource Exchange manages a network of businesses that reuse each other's surplus products, by-products and reusable items in order to save money and help the environment by diverting waste from landfill.

Sustainable Energy Authority of Ireland (SEAI)

SEAI's mission is to play a leading role in transforming Ireland into a society based on sustainable energy structures, technologies and practices. To fulfil this mission, SEAI deliver a range of programmes that help Irish industry plan and implement efficient and green energy technologies.

Teagasc

Teagasc is a public body whose mission is to support science-based innovation, knowledge transfer and education in the agri-food sector. Bord Bia has partnered with Teagasc in the development of carbon footprinting models and the Carbon Navigator tool.

University College Dublin (UCD)

University College Dublin (UCD) is Ireland's largest university with Ireland's only dedicated School of Agriculture and Food Science. Through its research, UCD is working with Ireland's agricultural sector to protect our natural resources while optimising food production to ensure sustainability and global competitiveness.



Environmental Protection Agency

EPA Forum on Food Waste

Food waste is an issue that affects all aspects of society in Ireland – producers, growers, retail, hospitality, and consumers. Everyone along the chain, from farm to fork, contributes to this. And wasted food is a missed opportunity to help those who experience food poverty.

Ireland has an opportunity to be a leader in tackling food waste by creating and showcasing new and innovative solutions. Through preventing food waste, becoming more efficient in using what we have, and rescuing surplus food that cannot be prevented, Ireland can reduce the environmental impacts associated with food waste. An efficient food system will improve the financial performance of businesses and householders, and help those who struggle on a daily basis to put food on the table.

Ireland is already making significant strides in this area and has many good practice examples to showcase. Through EPA-led programmes such as Green Business, Green Healthcare and Stop Food Waste, the EPA is working in partnership with many stakeholders across the food chain, including Origin Green companies.

But there is still a huge amount to do. Partnership is crucial to success. The Forum on Food Waste hosted by the EPA in 2014 identified the need for greater co-operation along the food chain. We need to do more to reduce food waste all along the supply chain; we need to work together and everyone has a part to play from producers to consumers. In order to understand where food waste is generated and identify areas for interventions, there needs to be reliable data. There is a need for more detailed information on types of food waste and management routes for that waste in order to identify opportunities for prevention. Without accurate information it is impossible to target the largest areas where improvements can be made, or assistance is needed.

As a country we need to continue to build on the successful work that is already happening in Ireland. Through this we can make Ireland the best country in Europe not just for quality food production but for food efficiency.



FoodCloud Hubs

Roughly one third of the food produced in the world for human consumption is lost or wasted. Outlined in the FAO's report, *Food Wastage Footprint: Impacts on Natural Resources*, this food waste is responsible for adding 3.3 billion tonnes of greenhouse gases to the atmosphere and costs approximately €750 billion annually to food producers. In Ireland alone, a million tonnes of food is discarded annually with 50,000 tonnes of this total being surplus food, not waste.

FoodCloud Hubs, formerly the Bia Food Initiative, is a social enterprise that connects businesses with surplus food charities across Ireland. Through its three redistribution depots in Cork (Little Island), Galway (Oranmore), and Dublin (Tallaght), FoodCloud Hubs work to redirect business' food surplus to the hungry in Ireland. The 3,000sq ft of storage capacity allows for the storage of seasonal volumes as well as canned goods, frozen meats, chilled dairy, cereals, pantry basics (such as flour, salt, and sugar) and non-perishable items. FoodCloud Hubs work with every level of the supply chain, farms, manufacturers and distributors, to redistribute surplus food. Companies who work with FoodCloud Hubs benefit in a number of ways including meeting their waste reduction targets, reducing their CO₂ emissions and broadening their social sustainability targets.

Through the help of Origin Green members, FoodCloud Hubs has redistributed 1,000 tonnes of surplus food to over 120 charities in Ireland, created 2.2 million meals and saved 3,500 tonnes of CO₂ to date.



Environmental Protection Agency

EPA Farm Hazardous Waste Collection Scheme

The Environmental Protection Agency (EPA) is leading a pilot farm hazardous waste collection programme, which represents the largest ever voluntary bulk removal of toxic pollutants out of the Irish environment. Since the commencement of the programme in 2013, over 5,000 farmers have voluntarily participated in the scheme; with over 600 tonnes of waste to date being collected at 26 bring centres throughout Ireland. An additional ten collection centres will take place in 2016, with over 2,000 farmers expected to attend.

Similar to many businesses, some hazardous waste (e.g. engine oils & filters, residues of pesticides, herbicides, out-of-date veterinary medicines, etc.) is generated through the normal running of a farm. Farmers benefit from the hazardous waste collection service and have noted that it allows for them to discard this material, comply with legislation and make farms safer for themselves and their families, as well as reducing the risk of potential negative effects to the environment.

The initiative has been supported through collaboration amongst a number of groups, such as Teagasc, Department of Agriculture, Food and the Marine (DAFM), Department of Communications, Climate Action and Environment (DCCA), Waste Electrical and Electronic Equipment Ireland (WEEE), European Recycling Platform (ERP), Irish Farmers Association (IFA), local mart owners, local agri-businesses and community development groups, as well as local authorities. Through its Quality Assurance infrastructure, Bord Bia has supported the initiative by raising awareness amongst members. Bord Bia urges farmers to avail of these centres to dispose of hazardous waste in a fully traceable and environmentally sensitive manner.

The multi-agency and inter-departmental project partners are working towards the goal of establishing a suitable and affordable national scheme for the management of farm hazardous wastes.



Irish Forum on Natural Capital

Natural capital is a concept that unites the economy and the environment as allies for a sustainable future. By valuing and accounting for nature's assets and the income we derive from them, businesses can make better, more sustainable decisions.

Natural capital is defined as the world's physical and biological resources, including air, water, minerals, soils, fossil fuels and all living things, which work together to deliver 'ecosystem goods and services'. These goods and services in turn provide benefits to society, including harvestable products like food, materials and fuel, clean air and water, nutrient cycling, pest control, flood and drought regulation and beautiful places to visit.

These benefits are valuable to businesses and society, but because many are 'free', their value - and, crucially, its depletion - is not visible on balance sheets and in decision-making processes. No factory owner would ignore creaks and rust in the machinery, and likewise, we should not ignore scientific evidence on climate change, soil fertility, pollination, biodiversity loss and water quality - all worrying signs of the decline of Ireland's natural capital.

The Irish Forum on Natural Capital's vision is for an Ireland in which natural capital and ecosystem goods and services are valued, protected and restored. Bord Bia and Origin Green have an important role to play in achieving this by supporting Irish farmers and businesses to put numbers on the true value of the natural capital on which they depend and the costs of their impacts on it, and use those values to make decisions that enhance natural capital rather than degrade it.

Hannah Hamilton

Executive Coordinator, Irish Forum on Natural Capital

International Collaboration

Given the scale of the challenge to meet the growing global demand for food while addressing significant risks including increased land and water scarcity, as well as rising greenhouse gas emissions, Bord Bia actively works to develop valuable relationships with international collaborators.



Carbon Trust

Bord Bia closely collaborated with The Carbon Trust well in advance of the development and launch of the Origin Green programme. Our initial engagement, in 2009, involved learning the principles of product carbon footprinting. In the interim, we developed certification models for measuring greenhouse gas emissions from beef, dairy, pigmeat, poultry, lamb and grain farming. Similar models have also been developed for the beef, lamb, pigmeat and poultry meat processing stages. The Carbon Trust has shared a number of achievements with us, with many of these models being the first of their kind to achieve PAS2050 accreditation.



SGS

SGS is internationally recognised and respected for its work as a conformity assessor and verifier. This position has lent credibility to the Origin Green programme's requirement for independent verification.



Sustainable Agriculture Initiative Platform

The Sustainable Agriculture Initiative (SAI) Platform was formed in 2002 by Nestlé, Unilever and Danone. It acts as a non-profit organisation to facilitate sharing, at a precompetitive level, of knowledge and best practice to support the development and implementation of sustainable agriculture for stakeholders throughout the food value chain.

Today, the SAI Platform has over 80 members, including some of the world's largest food and drink companies. The SAI Platform develops (or co-develops) tools and guidance to support global and local sustainable sourcing and agriculture practices.

Bord Bia has been a member of the SAI Platform since 2011 and is a member of its beef and dairy working groups which are actively involved in the development of the SAI Platform principles for sustainable beef and dairy production. We are currently part of the team tasked with developing a Farm Sustainability Assessment tool for European beef production.



Dairy Sustainability Framework (DSF)

The Dairy Sustainability Framework (DSF) is a programme developed by the Global Dairy Agenda for Action in collaboration with organisations such as the International Dairy Federation and SAI Platform. It is designed to provide a structure to align and connect sustainability initiatives across the global dairy sector and demonstrate the progress being made.

The DSF is focused on eleven key sustainability criteria, covering environmental, economic and social sustainability factors. The Framework will capture current initiatives and provide a structure for regional programmes to plan, execute, measure and report on the impact of new initiatives.

Bord Bia joined the DSF in 2014. During 2015 a series of global DSF pilots were undertaken. Ireland was chosen as one of the five pilot regions. The focus of the Irish pilot was to report on the development of the Sustainable Dairy Assurance Scheme, its expected impact and the identification of priority action areas within the 11 DSF criteria. Following a successful pilot, further work with the DSF is planned for 2017.



Global Roundtable for Sustainable Beef (GRSB)

The Global Roundtable for Sustainable Beef (GRSB) is a global, multi-stakeholder initiative developed to advance continuous improvement in sustainability of the global beef value chain through leadership, science and multi-stakeholder engagement and collaboration.

Bord Bia collaborate with the GRSB to share knowledge and highlight the value of adopting sustainability tools at producer level that can drive improvements in farm profitability.

The GRSB envisions a world in which all aspects of the beef value chain are environmentally sound, socially responsible and economically viable.





The Global Roundtable for Sustainable Beef

The Global Roundtable for Sustainable Beef (GRSB) is a multi-stakeholder initiative partnering with organisations throughout the beef industry from producers through to retailers and foodservice, as well as social and environmental NGOs. Our members account for a large proportion of internationally reared, processed and traded beef on six continents. Our ethos is that local solutions are required to deal with the enormous variation in production systems and environments in which beef can be produced.

Bord Bia has been developing systems to improve and demonstrate the sustainability of the beef industry in Ireland for many years and is in an excellent position to share this experience with other parts of the world; not in order to replicate these systems elsewhere, but to adapt them to local situations and environments.

Perhaps the most valuable lesson that Bord Bia has to teach others is that working with producer support tools that demonstrate real improvements in farm profitability is an effective way to get farmers interested and working on sustainability; not because of any hype, but because it is going to make their business stronger. This aligns perfectly with GRSB's description of sustainable beef systems being those that prioritise People, Planet, Progress and Animals.

Ruaraidh Petre

Executive Director, Global Roundtable for Sustainable Beef

Global Sustainability Forum

In November 2015, Bord Bia, in conjunction with the Sustainable Agricultural Platform (SAI) Platform and the World Wildlife Fund (WWF), held the inaugural Global Sustainability Forum in Ireland. This unique event, which brought together over four hundred people from industry, academia, NGOs and policy making, successfully engaged a wide range of stakeholders to exchange learnings across a diverse range of issues and served to provoke further action towards global sustainable food production.



**Engaging
Farmers
to Drive
Improvement**

**Ethical Supply
Chain**

Food Waste

**Learnings
Beyond Food**

**Raw Material
Supply**

**Science Based
Sustainability**

Key Topics Discussed

Global Sustainability Forum

**Sustainable
Consumption**

**Sustainable
Intensification**

**Sustainable
Seafood
Initiatives**

**Who's Driving
Change in the
Food Industry**

**Responsible
Sourcing**

**Country
Commitments**

Section 6 Delivering on a Vision for 2025 - Progress Update





Section 6

Delivering on a vision for 2025 - Progress Update

In our Sustainability Report 2015, Bord Bia set out our vision to become a world leader in sustainably produced food and drink by 2025. This vision was built upon five key pillars:

**Creating a
Showcase For
Sustainability
at Home**

**Enhancing
Our Impact on
Society**

**Lowering Our
Environmental
Footprint**

**Communicating
the Story of
Origin Green**

**Pursuing
Innovative
Solutions Through
Collaboration**

In this section, we highlight what progress has been made in each of these five key areas as well as identifying what further actions are required.

Lowering our Environmental Footprint

Over
137,000
farm assessments
conducted to date

Fostering more sustainable practices at farm level is a vital component of the Origin Green programme. From the beginning, Origin Green has declared an ambition at farm level to have the lowest environmental footprint in Europe. It is imperative that we commit to developing our primary production industry in a manner which enhances the environment.

Greenhouse gas emissions, biodiversity and water quality remain three critical focus areas for farm audits under the Origin Green programme. At manufacturing level, and now at retail and foodservice level, reducing environmental impact is a key component of the *Origin Green Sustainability Charter* with verified members setting targets to reduce overall emissions, maximise energy and water efficiencies, and minimise or exclude waste.

Greenhouse Gas Emissions

The rollout of carbon footprint assessments at farm level continues to provide invaluable information on performance levels as well as identifying issues that need to be addressed and where opportunities for improvement can be found.

Since 2009, over 137,000 farm assessments have been conducted providing over 27 million individual data points. While any improvement at farm level needs to take into account long-term trends, we are beginning to see positive improvement. In the last year, the average carbon footprint for dairy has reduced from 1.18kg CO₂e/ kg of fat & protein corrected milk to 1.14kg CO₂e/ kg of fat & protein corrected milk, while the average carbon footprint for beef has marginally reduced from 11.59kg CO₂e/kg beef to 11.58kg CO₂e/kg beef. We have also seen an increasing number of improvement targets being set by the farming community, indicating a strong willingness and commitment to drive improvement across the dairy and beef industries.

At manufacturing level over 250 energy targets have been established as well as 55 emissions reduction targets set.

Future Developments

Throughout 2017, beef and dairy audits will continue to assess whether we are improving farm level performance across Ireland. In addition, Bord Bia will oversee the rollout of carbon assessments across the pig, poultry, horticulture, lamb and grain sectors, providing the necessary data to establish carbon footprint baselines, as well as other environmental data. Similar to beef and dairy, these production systems will be subject to a continuous auditing cycle to track progress as well as identifying actions to drive improved performance.

At manufacturing level, Bord Bia will be introducing additional measures to the *Origin Green Sustainability Charter* throughout 2017. These changes will facilitate the collection of a wider range of detailed data which will allow Bord Bia gain a more comprehensive and accurate picture of the impact of the Irish food and drink manufacturing sector in terms of its sustainability performance.

Additional resources to enable improved data analysis will also be put in place during 2017.

Biodiversity

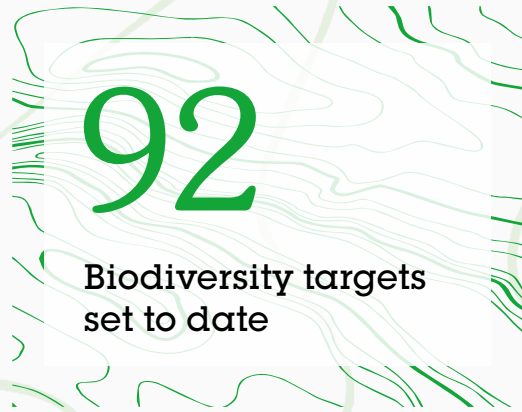
The Environmental Protection Agency, in the *State of Ireland's Environment 2016 Report*, recognised that changes in agricultural practice remain one of the key threats to both habitats and species and that the trend in biodiversity loss in protected areas has not been halted.

As recognised in our *Origin Green Sustainability Report 2015*, the environmental impacts we measure on farm cannot be limited to just greenhouse gas emissions. Biodiversity continues to be a key focus area of improvement for Origin Green. It is clear that biodiversity and agriculture are strongly interrelated and that the protection and enhancement of our biodiversity assets are essential for the sustainable production of food and drink in Ireland.

During 2016, Origin Green worked with the National Biodiversity Data Centre to raise awareness of the importance of pollinators and to encourage action throughout all levels of the supply chain:

- November 2016 saw the publication of pollinator-friendly management guidelines for the business sector which will be distributed to the more than 500 Origin Green participating companies.
- The All-Ireland Pollinator Plan was also promoted to the public through appearances at the 2016 Bloom Festival and National Ploughing Championships.
- Bord Bia helped promote the Junior Pollinator Plan by sponsoring pollinator workshops for national schools across the country as part of Science Foundation Ireland's 2016 Science Week Programme.
- More than a dozen Origin Green companies have already engaged and taken measures to support pollinators.

Bord Bia has also committed to working with Teagasc on a pilot project to develop a sustainability tool for remote sensing of wildlife habitats on Origin Green member farms and to provide guidance to farmers on how to maintain and enhance habitat areas on their farms. Throughout 2016, data was collected from nearly two hundred farms around Ireland.



Future Developments

Through the Origin Green programme, Bord Bia will continue to promote positive biodiversity measures across all levels of the supply chain. To improve knowledge and expertise, Bord Bia will actively engage with academia, NGOs and other knowledge experts to better understand what actions can be taken and how best to engage our member base.

Bord Bia will continue to support the implementation of the All Ireland Pollinator Plan throughout 2017. Following the publication of the Business Guidelines, the number of targets/actions under the Biodiversity pillar of the *Origin Green Sustainability Charter* is expected to continue to grow. Similar guidelines for farmland are in active development and are due for release and distribution through the Origin Green network in spring 2017. Once published, Bord Bia will work closely with the National Biodiversity Data Centre and other stakeholders to support primary producers to take action to promote and enhance biodiversity on farm.

A number of biodiversity specific workshops will also be held throughout 2017 to drive engagement on this issue and encourage wider action throughout all levels of the supply chain.



Water Quality

Water Quality continues to be a key concern for Origin Green along the supply chain. Under the European Union (EU) Water Framework Directive (WFD), all Irish inland and coastal waters must reach 'Good ecological status'.

The recent *State of Ireland's Environment 2016 Report* published by the Environmental Protection Agency identified that 'Nutrient enrichment is the most widespread threat to water quality in Ireland. Agricultural activities associated with water pollution include land spreading of artificial fertilisers and animal manures in unsuitable climatic and ground conditions, silage effluent discharges, farmyard runoff, watering animals and poorly managed ring feeders'.

Protection and improvement of water quality remains a key focus area for the Origin Green programme across all levels of the supply chain. Bord Bia continues to champion the inclusion of preventative measures throughout our farm quality and sustainability schemes, including nutrient management and pesticide use.

Good ecological status' means achieving satisfactory quality water, suitable for local communities' drinking, bathing, agricultural, industrial, and recreational needs, while maintaining ecosystems that can support all the species of plants, birds, fish and animals that live in these aquatic habitats. (EPA, 2016)

Future Developments

Across the supply chain, Bord Bia will actively engage with all necessary stakeholders to ensure we are maximising our impact to protect and enhance water quality. At farm level, Bord Bia will continuously review our quality and sustainability schemes to identify opportunities to improve existing criteria or include additional measures.

In 2017, water will become a mandatory target area for all Origin Green companies and will see an increase from the current 139 targets to a minimum of at least 220 targets in this area next year.

While water targets often focus on reduction and efficiency, Bord Bia will engage with the manufacturing and retail and foodservice sectors to build on water quality targets and to identify pragmatic and scalable solutions.

Challenges to be Addressed: Update

In our Sustainability Report 2015, a range of challenges were identified that need to be addressed if we are to achieve the lowest environmental footprint in Europe. In this section, we outline our progress to date:

Challenge One: Farm Implementation		
What needs to be done?	2016 Update	Who needs to be involved?
Increase participation in Bord Bia Quality & Sustainable Assurance Schemes.	Participation in Bord Bia Quality & Sustainable Assurance Schemes continues to increase. In 2016, almost 17,000 dairy farms completed their applications to participate in the Sustainable Dairy Assurance Scheme (SDAS). Considerable work has also been undertaken in 2016 to convert all existing Quality Assurance Schemes towards Quality & Sustainability Schemes. These schemes will be rolled out from early 2017, beginning with the Sustainable Beef & Lamb Assurance Scheme (SBLAS).	Bord Bia Government Departments Farm Organisations State Agencies
Highlight the on-farm and market benefits of pursuing sustainable farming practices.	Bord Bia continues to work with our stakeholders to hold workshops, create communication material and speak at relevant events to continually highlight the benefits of sustainable farming practices. The carbon navigator offers a pragmatic decision making tool to highlight the benefits of implementing sustainable practices on farm.	Stakeholder Groups Member Companies
Ensure that national programmes are linked to the objectives of Origin Green.	In 2016, as part of the Rural Development Programme, farmers participating in the Beef Data Genomics Programme (BDGP) must complete a carbon navigator assessment. To date, over 25,000 beef farms have signed up to the BDGP. In 2017, Bord Bia will also participate in a national programme with the EPA to mitigate and prevent food waste in Ireland. Bord Bia will continue to participate in national programmes and initiatives to the benefit of all stakeholders in Origin Green.	
Encourage adoption of Carbon Navigator tools.	In 2016, as part of the Rural Development Programme, farmers participating in the Beef Data Genomics Programme (BDGP) must complete a carbon navigator assessment.	
Develop additional tools/indicators that incorporate biodiversity, water quality and social sustainability.	Work is ongoing with Teagasc to develop tools to better indicate biodiversity on farm. Bord Bia has also joined a Dairy Sustainability Forum with industry to collaborate towards identifying indicators of water quality across the supply chain. In 2017, Bord Bia will conduct research to identify a range of social sustainability indicators with relevant stakeholders for use by the Origin Green member base.	
Consider potential to encourage sustainable farming when revising legislation.	Bord Bia will continue to monitor any legislative changes and strive to ensure that sustainability is at the forefront of the decision making process in Ireland. The release of the Food Wise 2025 strategy ensures that sustainable development will be at the forefront of decision making within the Irish agricultural and food industries.	
Promote sustainable farming in the development of European Union policy.	Bord Bia has worked to ensure that sustainable farming is embraced at not only national level, but also EU level. Through the Common Agricultural Policy's Rural Development Programme, Irish farmers will now complete a carbon navigator assessment as part of the Beef Data Genomics Programme.	
Publicise improving on-farm sustainability practices to international customers.	In addition, Bord Bia has also worked with European counterparts to develop a Product Environmental Footprint for beef in 2016 and this work will continue.	

Challenge Two: Farmer Engagement		
What needs to be done?	2016 Update	Who needs to be involved?
Communicate the interest among international customers to visit Irish farms to learn more about Origin Green.	Throughout 2016, 15 Inward Journalist Visits took place, showcasing Origin Green to a range of international customers.	Bord Bia Farm Organisations Government Departments
Publicly recognise individual farmer's achievements in adopting Origin Green.	In October 2016, Bord Bia held the Origin Green Sustainable Producer Awards celebrating the top performing beef and dairy farms in the country, assessing carbon footprint, biodiversity and water management. A total of 28 farms from across the country were selected as finalists for the Origin Green competition, from which eight producers were crowned winners of their particular category.	State Agencies Stakeholder Groups Member Companies
Highlight the potential benefits in relation to farm profitability to be gained from sustainable farming.	With a clear link now established between the adoption of sustainable practices and on farm profitability, the carbon navigator will continue to function as an important tool to merge these concepts and further boost farmer engagement around this key area.	
Incentivise adoption of sustainable farming practice in knowledge transfer programmes.	Knowledge Transfer Groups facilitate discussion of best practice on farm and the carbon navigator continues to play a key role in such discussions among the farming community. Over 20,000 farmers have registered to participate in the scheme so far.	
Develop initiatives at local level to publicise the advantages to farmers of Quality & Sustainable Assurance Schemes.	Bord Bia continues to participate in a number of initiatives throughout Ireland to highlight the importance of quality assurance and sustainability at farm level. Events range from participation at the National Ploughing Championships and Beef 2016, to more localised local informational evenings with farmers throughout the country.	
Demonstrate, where possible, how participation in national agricultural schemes contributes to Origin Green.	Bord Bia's ongoing involvement in national agricultural schemes helps to boost participation levels in Origin Green and also collaborate with stakeholders to promote sustainability on farm. The Beef Data Genomics Programme, Knowledge Transfer Groups, and continued linkages with Teagasc and other agricultural advisors via the carbon navigator tool were strong examples in 2016 of how Origin Green can contribute to other national schemes. This work will continue into 2017.	
When undertaking research, include focus on potential to drive sustainable farming practices.	Work around the benefits of sustainable farm practices will continue into 2017 as we assess the results of remote habitat mapping of biodiversity at farm level. This follows a pilot project with Teagasc throughout 2016 on almost 200 farms.	

Challenge Three: Manufacturing and Food Processing Engagement

What needs to be done?	2016 Update	Who needs to be involved?
<p>Assess how key customers are engaged with sustainability and how Origin Green might provide a potential source of competitive advantage.</p>	<p>Throughout 2016 a range of international research was conducted to identify how customers are engaged with sustainability. Bord Bia will utilise this research to refine our messaging with our customers to further boost our competitiveness internationally.</p> <p>Bord Bia also participates in leading international sustainability forums such as the SAI Platform and the Global Roundtable on Sustainable Beef to share knowledge and gain a wider understanding of the sustainability needs of leading customers.</p>	<p>Bord Bia</p> <p>Member Companies</p> <p>Government Departments</p> <p>State Agencies</p> <p>Industry Associations</p>
<p>Signpost supports available to develop sustainability plans & achieve Origin Green verified member status.</p>	<p>Manufacturing and Retail and Foodservice companies are informed of the supports available through a number of channels including email, workshops, relevant events and other Bord Bia services. Bord Bia will continue this support throughout 2017 as well as running more specialised workshops with existing members to continuously improve the impact of the Origin Green programme.</p>	
<p>Analyse in greater depth the particular challenges companies face in trying to become verified members with a view to developing further supports.</p>	<p>Following a review of the Origin Green programme in 2016, Bord Bia introduced a range of new measures and tools with the aim of simplifying the application process of becoming a verified member of the programme.</p>	
<p>Encourage greater interaction between companies to assist in overcoming challenges.</p>	<p>Throughout 2016, over 25 events were held for Origin Green members including workshops and support clinics. In 2017, the number of workshops and Origin Green events will increase. These events will be aimed at fostering company collaboration and increased engagement.</p>	
<p>Incentivise Origin Green participation in accessing Bord Bia services.</p>	<p>During 2016, Bord Bia formally linked Origin Green participation to the access of additional services such as marketing funding and trade fair participation.</p>	
<p>Motivate companies to progress their participation in Origin Green by communicating the impact of the programme.</p>	<p>Throughout 2016, Bord Bia took part in over 30 conferences to promote the impact of Origin Green. In addition, a civic awareness campaign is planned for early 2017.</p>	

Challenge Four: Manufacturing & Food Processing Implementation		
What needs to be done?	2016 Update	Who needs to be involved?
Communicate progress against plans throughout the company across all business units.	<p>In late 2016, Bord Bia appointed a dedicated Origin Green Membership Engagement Manager aimed at further improving the relationship with verified members of the programme. Throughout 2017, Bord Bia will work with our members to co-market Origin Green both domestically and among overseas audiences.</p> <p>The annual launch of our sustainability publication also assists in highlighting progress made throughout the programme each year among our companies</p>	<p>Bord Bia</p> <p>Member Companies</p> <p>Government Departments</p> <p>State Agencies</p> <p>Industry Associations</p>
Ongoing monitoring of targets to identify potential challenges.	<p>Following a review of the Origin Green programme in 2016, Bord Bia introduced a range of additional resources and tools to assist companies in the achievement of their sustainability targets.</p> <p>A revamped Origin Green online platform will also be launched to members in 2017.</p>	
Communicate the progress made by companies both domestically and internationally.	<p>Bord Bia continues to promote Origin Green internationally through our network of overseas offices and marketing campaigns which are run throughout the year in different markets. This is also assisted by inward journalist visits from key overseas markets. Fifteen such visits took place throughout 2016.</p> <p>Over 1,100 international buyer meetings were held in 2016 where progress made by members of the Origin Green programme was highlighted.</p> <p>Domestically, an Origin Green civic engagement campaign will launch in 2017 as Bord Bia strives to highlight the positive work being undertaken throughout all levels of the supply chain in Ireland.</p>	
Consider how policy can positively impact on Origin Green companies.	<p>Bord Bia will continue to advocate for robust policies which can improve Ireland's sustainability credentials and embrace legislation which can have a positive impact in protecting our environment and natural landscape.</p>	
Identify any regulatory barriers that may impede progress against plans and engage with state agencies.	<p>Bord Bia continues to engage with all state agencies and will continue to monitor any developments which could negatively impact our commitment to sustainability.</p>	
Communicate the progress being achieved by Origin Green.	<p>Bord Bia will continue to showcase the progress being made with the Origin Green programme and highlight the potential to improve the programme wherever possible. Bord Bia will provide frequent updates on the progress of the Origin Green programme.</p>	

Enhancing Our Impact On Society

The fundamental issues of traceability and health are becoming increasingly intertwined with the broader meaning of sustainability. As global supply chains become more complex and obesity, diabetes and other health problems become more commonplace, it is important that Origin Green plays a role in addressing these issues.

Traceability and Transparency

Bord Bia's Quality and Sustainability Assurance Schemes continue to place focus on the importance of traceability and transparency across the supply chain.

At manufacturing level, over 395 Raw Material Sourcing targets have been set, outlining members' commitments to source from independently verified and sustainable sources across a range of raw materials.

The recent inclusion of retail and foodservice companies to the Origin Green programme, as well as the mandatory inclusion of strong sustainable sourcing targets, will strengthen the links between all stages of the supply chain and foster higher levels of traceability and transparency.

Future Developments

Similar to the Sustainable Dairy Assurance Scheme, other quality assurance schemes will be revised to include additional sustainability criteria. Bord Bia will also engage with relevant stakeholders to investigate the sustainability risks throughout the supply chain.

From 2017, all Origin Green manufacturing and retail and foodservice members will be aided by Bord Bia in assessing key risk raw materials to identify any traceability or transparency issues. Additional expertise and resources will be provided as necessary.

Health And Nutrition

In mid-2016 Health and Nutrition began to be rolled out across the Origin Green membership base as a mandatory target area. As of October 2016, 82 Health and Nutrition targets had been established.

Health and Nutrition is also a mandatory target for retail and foodservice members of Origin Green who have a unique opportunity to engage with consumers on this issue through increasing healthy offerings and consumer education.

Future Developments

Throughout 2017 all members of Origin Green will be asked to set a Health and Nutrition target, Bord Bia will also engage with a wide range of stakeholders to understand the key risks, as well as technologies and mitigation measures available to improve the health and nutrition credentials of the Irish food and drink industry.

82

**Health & nutrition
targets set to date**

Creating a Showcase for Sustainability At Home

Our ambition to have every farm and every food manufacturer signed up to the sustainability agenda continues and has now evolved to also include the involvement of retail and foodservice companies in Ireland.

Membership of Origin Green has grown year on year at every level of the supply chain. On farm, we have completed 137,000 carbon assessments. At manufacturing level, we now have 527 registered companies, with 220 of those being fully verified. 2016 saw the largest number of members become fully verified, more than doubling performance over 2015 with 98 newly verified members.

In addition, the *Retail & Foodservice Sustainability Charter* was rolled out on a pilot basis in early 2016. Our first verified members were McDonald's and the Musgrave Group. We are currently working with a range of retail and foodservice companies as they work to become fully verified members of Origin Green.

Future Developments

Bord Bia will continue to engage with all levels of the supply chain to engage and assist them on the journey to becoming fully verified Origin Green members. We will continue to aim for full inclusivity and work with members of all sizes, across all sectors. We will make additional resources available where required, increase the number of workshops, and facilitate knowledge sharing across the different levels of the supply chain and different sectors.

In addition, in order to further engage the Irish public, Bord Bia will launch a civic engagement campaign during 2017.

Pursuing Innovative Solutions through Collaboration

Bord Bia continues to actively engage with leading international organisations including WWF, SAI Platform, The Carbon Trust, FAO and The World Bank to identify opportunities to improve the Origin Green programme.

The Global Sustainability Forum held in late 2015 brought over 400 delegates from 19 countries to Ireland to share knowledge and experience, and presented a platform for different stakeholders to work together to address common sustainability challenges.

The Origin Green Ambassador programme continues to see professionals placed in markets around the world where they are creating opportunities for collaboration and knowledge sharing. By the end of 2016, fifty Origin Green Ambassador placements had been hosted by over thirty international organisations including manufactures, retailers, and NGOs.

Future Developments

The Origin Green Ambassador programme will be repeated in 2017 and will see a new round of placements completed. Bord Bia will continue to actively engage with stakeholders, both domestically and internationally, to continuously improve the Origin Green programme.

Communicating the Story of Origin Green

Communicating the story of Origin Green remains a key focus for Bord Bia. Throughout 2016, awareness of Origin Green continued to grow internationally with the delivery of an integrated business to business (B2B) marketing and communications international campaign. The hosting of inward journalist visits, features in international trade press, participation in trade fairs and a heightened online social presence all played a key role in communicating Origin Green in international markets.

The Origin Green Ambassador programme was also continued throughout 2016 with fifty international placements completed overall to date.

Bord Bia continue to provide dedicated resources to Origin Green members to assist them in communicating their sustainability commitments and achievements and to leverage Origin Green in their domestic and international marketing.

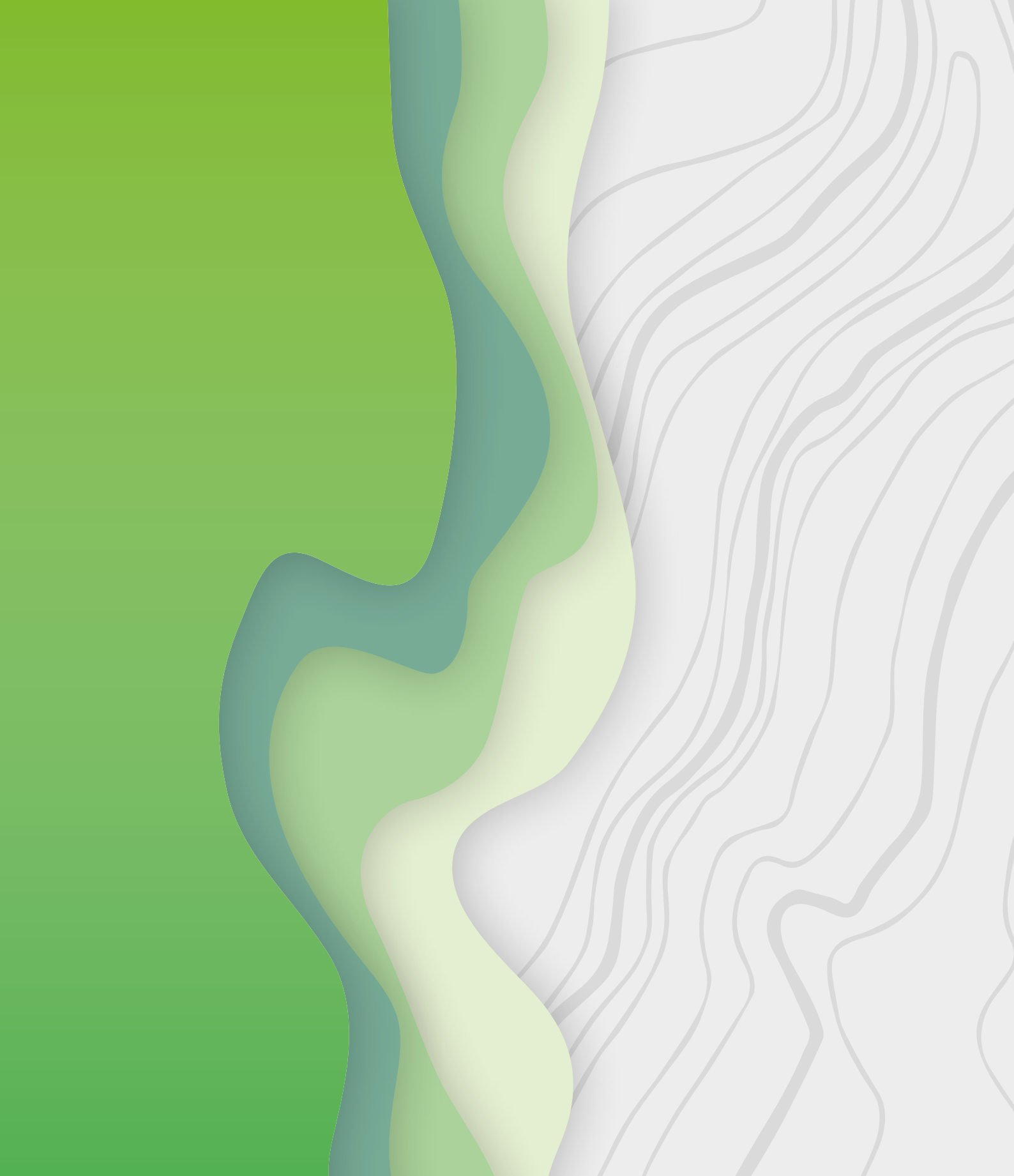
Future Developments

The marketing and communications international campaign will continue to be rolled out throughout 2017.

As part of our ambition to engage the Irish public with Origin Green, Bord Bia will launch a civic engagement campaign during 2017. This campaign aims to showcase the achievements of Origin Green members across all levels of the supply chain. The campaign will also work to engage the Irish public with the wider issue of sustainability.

An enhanced public website will also be launched in 2017 to provide additional and more detailed information about the impacts and overall performance of the Origin Green programme.





Growing the success of Irish food & horticulture

Bord Bia
Irish Food Board