

# Origin Green

## Progress Update Report



**BORD BIA**  
IRISH FOOD BOARD



# Origin Green is Ireland's food and drink sustainability programme.



**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.



Origin Green is Ireland’s food and drink sustainability programme. It is a voluntary programme, led by Bord Bia, that brings together our food industry – from farmers to food producers, retailers to foodservice operators – with the common goal of sustainable food production. This programme enables Ireland’s food industry to set and achieve measurable sustainability targets that respect the environment and serve local communities more effectively. Crucially, Origin Green is about measuring and improving how we do this on an ongoing basis.

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# Key Results



**9%**

average reduction in CO<sub>2</sub> per unit of milk produced on farms that joined SDAS in 2014



**5%**

average reduction in CO<sub>2</sub> per unit of beef produced on farms that joined SBLAS in 2014



**875,006**

trees planted on farms



**1,250km**

of hedgerows added



**14,732**

farm hazards addressed by producers



**13,282**

farms have water meters in place



**84%**

of farms conducting soil testing



**95%**

of cattle's diet is from grass or grass based forages

## Food manufacturers achieved:

**11%**

energy reduction per unit of output 2012-2017



**17%**

water reduction per unit of output 2012-2017



**4,717**

tonnes of surplus food donated to FoodCloud



**9,261**

trees planted on manufacturer's sites



**€8.1m**

charity donations

# Introduction

Origin Green was launched in 2012 with the aim of assisting the Irish food and drink industry to produce food and drink more sustainably. Since its inception seven years ago, the programme has evolved significantly, as the importance of sustainability to the Irish food and drink industry has increased.

Globally, the food and drink industry faces many sustainability concerns relating to increased demand for finite raw materials while at the same time a changing climate disrupts global supply chains. With Origin Green, these challenges become an opportunity for Ireland to become a global example of how the sustainable performance of an entire industry can be improved.

Since the launch of Origin Green the Irish food industry has made great progress towards the aim of driving sustainable food production. At farm level, there are over 51,000 members of Bord Bia's Sustainable Assurance Schemes for beef, lamb, dairy, horticulture and eggs. Over 212,000 carbon assessments have taken place on beef and dairy farms, and results indicate that their respective carbon footprints have declined. At company level, there are over 340 Verified Members of the programme, including 10 at Retail & Foodservice level. To date, companies have set over 2,400 sustainability targets, reaffirming the industry commitment to continuous improvement. Furthermore, collaboration remains a cornerstone of the programme. Therefore, Origin Green is committed to working with national and international partners who demonstrate best practice in their fields, in an effort to improve the performance of the industry as a whole and drive continuous improvement.

In light of the global food industry's growing sustainability challenges, Origin Green needs to constantly evolve and drive improvements by measuring what matters on an ongoing basis. This is to ensure that sustainable food production is both viable and achievable, but – most importantly – to ensure that it makes a positive difference. Therefore, Bord Bia has developed a strategy for the next phase of Origin Green 2019-2021, which Bord Bia will implement in parallel with the organisation's corporate strategy over the same period.

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

**Dan MacSweeney**  
Chairman, Bord Bia

**Tara McCarthy**  
CEO, Bord Bia



Dan MacSweeney, Chairman,  
Bord Bia and Tara McCarthy,  
CEO, Bord Bia

In light of the global food industry's growing sustainability challenges, Origin Green needs to constantly evolve and drive improvements by measuring what matters on an ongoing basis.





# What is Origin Green?

# 1

## Background and Scope

### Scope

Origin Green is Ireland's food and drink sustainability programme. It is a voluntary programme, led by Bord Bia, that brings together the Irish food industry – from farmers to food producers, retailers to foodservice operators – with the common goal of sustainable food production. This programme enables Ireland's food industry to set and achieve measurable sustainability targets that respect the environment and serve local communities more effectively. Crucially, Origin Green is about measuring and improving how we do this on an ongoing basis.

### What is sustainable food production?

Sustainable food production means the production of safe, nutritious food within a viable industry that simultaneously protects and enhances the natural environment and the local community. In essence, it means meeting the needs of the present without compromising the future.

### The Ambition

The overall ambition of the Origin Green programme is that farms and food manufacturing businesses throughout Ireland sign up to the sustainability agenda, making measurable commitments to producing in a sustainable manner, with progress that is independently assessed and verified. Realising that Bord Bia cannot solely lead the move towards sustainable production, we are committed to working with both domestic and international partners to improve performance through collaboration.



The motivation behind Origin Green is to assist the Irish food industry in producing food in the most sustainable way possible so that Ireland can become an exemplar in sustainably produced food and drink.

## What is Origin Green?

### Origin Green for Producers

On-farm assessments constitute a key component of the Origin Green programme. The rollout of sustainability assessments at farm level has been made possible by Bord Bia's pre-existing Quality Assurance infrastructure, which has been in place for over twenty years. This infrastructure sees more than 100 auditors undertake over 650 independent farm audits each week. Traditionally, these assessments have focused on traceability, animal health & welfare, and general environmental issues, with an overarching focus on food safety. All of these elements are still relevant from a sustainability perspective. The Sustainable Assurance Schemes expands the scope and depth of sustainability measures tracked in order to ensure that Origin Green delivers an assessment system which measures what matters.

The additional sustainability criteria being measured to date as part of Origin Green include greenhouse gas

emissions; biodiversity; water measures; energy efficiency; soil management and socio-economic factors.

Following each audit, the producer receives notification of the results in a feedback report on the farm's performance, with reassessments every 18 months. This allows them to make informed decisions on improving the sustainability of their farms while also improving their efficiency and farm viability.

To date, there are over 51,000 producers in the Sustainable Beef and Lamb Assurance Scheme and the Sustainable Dairy Assurance Scheme. In November 2017, Bord Bia launched the Sustainable Egg Quality Assurance Scheme and the Sustainable Horticulture Assurance Scheme. Sustainable Assurance Schemes are also being developed for pigmeat and poultry.

### Origin Green for Manufacturers

Origin Green's food and drink manufacturing members commit to a mandatory mix of target areas specified by the Origin Green Charter. The mandatory areas, from which targets are set, form the basis of a business's 3-5 year sustainability plan. The plan is independently verified by international verification specialists, Mabbett, to ensure the targets are viable and robust. Each plan is reviewed annually and monitored for progress against the set targets.

Target areas include:

- Raw material sourcing
- Manufacturing processes
- Social sustainability

By the end of 2018, Origin Green has 346 companies with independently verified and annually monitored sustainability plans.

### Origin Green for Retailers & Foodservice Companies

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, which is independently reviewed annually.

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

- Sustainable sourcing
- Operations
- Social sustainability

Following its launch on a pilot basis in 2016, ten companies have become fully verified members of the Origin Green programme at retail and foodservice level.

## Domestic Collaboration

From the outset, the Origin Green programme has placed considerable emphasis on collaboration.

The ongoing assistance and involvement of a range of organisations and stakeholders ensures the successful implementation and development of the programme. As Origin Green grows, so too does the importance of the specialised knowledge that these agencies and organisations provide in developing the programme.



**Animal Health Ireland**

Animal Health Ireland (AHI) is a not-for-profit organisation which functions as a partnership between private sector organisations and businesses in the agri-food industry, and the Department of Agriculture Food and the Marine. AHI provides the knowledge, education and coordination required to establish effective control programmes for non-regulated diseases of livestock.

**Bord Iascaigh Mhara**

Bord Iascaigh Mhara (BIM) is the Irish state agency responsible for the development of the Irish seafood industry. As an Origin Green partner, BIM assists seafood companies at each step along the way to achieving their sustainability goals, from initial applications to supporting companies in devising sustainability plans, setting achievable targets and tracking progress each year over the course of their plans.

**Dairy Industry Ireland**

Dairy Industry Ireland (DII) represents Ireland's primary and secondary dairy processors. DII represents its members at national, EU and international level and provides comprehensive information, advice and representation.

**Dairy Sustainability Ireland**

Operating under the Dairy Industry Ireland umbrella, Dairy Sustainability Ireland is a collaborative project with Bord Bia, the Department of Agriculture and a number of Ireland's dairy processors. This new initiative has been established to help farmers meet environmental targets, improve profitability and to copper fasten Ireland's reputation as a world leader in grass-fed dairy production

**Department of Agriculture, Food and the Marine**

The Department of Agriculture, Food and the Marine is the government department dedicated to 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 database. With the written consent of farmers, this data is 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**

The Environmental Protection Agency is an independent public body established under the Environmental Protection Agency Act, 1992. It is at the front line of environmental protection and policing, ensuring that Ireland's environment is protected.

**Farming for Nature**

Farming for Nature is an independent, not-for-profit initiative which aims to support High Nature Value farming in Ireland. Bord Bia provided sponsorship of the National Farming for Nature awards 2018. The main purpose of the Award is to unearth and to share the stories of farmers across Ireland who are making a positive difference to nature on their farms and in their communities.

**Food Safety Authority of Ireland**

The Food Safety Authority of Ireland (FSAI) was established under the Food Safety Authority of Ireland Act, 1998. The principal function of the FSAI is to protect consumers by leading a collaborative food safety community to continuously raise food standards and create a culture of excellence.

**FoodCloud**

FoodCloud is a social enterprise that connects food businesses with surplus food to charities that need it through three redistribution hubs in Cork, Galway and Dublin.

**Irish Cattle Breeding Federation**

The Irish Cattle Breeding Federation (ICBF) was formally set up in 1998, and is a non-profit organisation charged with providing cattle breeding information services to the Irish dairy and beef industries. ICBF exists to benefit farmers, the agri-food industry and wider communities through genetic gain. ICBF do this by the application of science and technology to ensure that farmers and industry make the most profitable and sustainable decisions.

**Irish Co-operative Organisation Society**

The Irish Co-operative Organisation Society serves and promotes commercial co-operative businesses and enterprise, across multiple sections of the Irish economy. Their core business is to provide vision, leadership and value to the co-operative movement in Ireland.

**Irish Creamery Milk Suppliers Association**

The Irish Creamery Milk Suppliers Association represents all farmers, particularly dairy and livestock farmers, by lobbying at local, national and EU levels. It places special emphasis on preserving the family farm structure and defending the rights and incomes of farm families.

**Irish Farmers Association**

The Irish Farmers Association (IFA) is Ireland's largest farming representative organisation. The IFA represent Irish farmers at home and in Europe, lobbying and campaigning for improved conditions and incomes for farming families. They also provide representation, support and advice to members on an individual basis. The IFA operates the Smart Farming programme with the EPA, which focuses on resource efficiency at farm level.

Ongoing assistance and involvement of a range of organisations and stakeholders ensures the successful implementation and development of the Origin Green programme.



#### **Irish Forum on Natural Capital**

The Irish Forum on Natural Capital brings 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**

Meat Industry Ireland (MII) is the sector association responsible for representation of the business interests of the beef, lamb and pigmeat processing sector in Ireland. MII provides a wide variety of services for its members including up to date information on all technical, legislative developments and policy changes that may affect the meat industry.

#### **National Biodiversity Data Centre**

The National Biodiversity Data Centre (NBDC) is a national organisation that collates, manages, analyses, and disseminates information on Ireland's biodiversity. The NBDC has responsibility for the All-Ireland Pollinator Plan 2015-2020. It is a voluntary initiative that aims to address the ongoing decline of Ireland's pollinators.

#### **National Rural Networks**

National Rural Networks (NRN) are a network of rural development stakeholders set up in each EU member state. The overall aim of the NRN is to build and sustain a membership-based network that maximises the beneficial outcomes of the rural development programme.

#### **Repak**

Repak is a business-led compliance scheme licensed by the Irish government to collectively fund the recovery and recycling of packaging on behalf of Irish producers. 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.

#### **Sustainable Energy Authority of Ireland**

Sustainable Energy Authority of Ireland's (SEAI) 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 delivers 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. Teagasc, through its research in the fields of agriculture and food, has a long tradition of adding significant value to Irish and international organisations through access to expertise, resources, infrastructure and/or intellectual property.

#### **University College Dublin**

University College Dublin (UCD) is Ireland's largest university with Ireland's only dedicated School of Agriculture and Food Science and works with Ireland's agricultural sector to protect our natural resources to ensure sustainability and global competitiveness. Its Michael Smurfit Business School is Ireland's leading business school, successfully pioneering Bord Bia's Origin Green Ambassador programme.

#### **Veterinary Ireland**

Veterinary Ireland is the representative body for veterinary surgeons in Ireland. Its role is to represent veterinary surgeons in Ireland and to facilitate the veterinary profession in its commitment to improving the health and welfare of animals under its care, to protecting public health and to serving the changing needs of its clients and the community through effective and innovative leadership.

## International Collaboration



### Carbon Trust

Carbon Trust is an independent, expert partner of leading organisations around the world. Its work helps organisations contribute to, and benefit from, a more sustainable future through carbon reduction, resource efficiency strategies, and commercialising low-carbon technologies.

### 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.

### European Roundtable for Beef Sustainability

The European Roundtable for Beef Sustainability (ERBS) is a multi-stakeholder initiative, developed by the SAI Platform Beef Working Group, committed to making the beef supply chain more sustainable. The ERBS envisions a world in which all aspects of the beef value chain are environmentally sound, socially responsible and economically viable. The ERBS works to deliver action on beef sustainability priorities through multi-stakeholder engagement.

### Dairy Sustainability Framework

The Dairy Sustainability Framework (DSF) has been developed to provide overarching goals and alignment of the sector's actions globally on the path to sustainability. The DSF will enable the dairy sector to take a holistic approach to sustainability through a common language, alignment of international sustainability activity and

through this generate a common sustainability commitment that can be expressed at a global level, but also regional, national and organisational levels.

### Global Round Table for Sustainable Beef

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

### Mabbett

Mabbett is a leading international environmental, engineering, health and safety, and sustainability consultancy. Mabbett is the Origin Green programme's third-party verification partner. Following review and approval by Bord Bia, all initial Origin Green plans are verified by Mabbett for accuracy, robustness and credibility. Approval by Mabbett indicates that a company's Origin Green sustainability plan meets the requirements of the programme.

### WWF

The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally. WWF's unique way of working combines global reach with a foundation in science, involves action at every level from local to global, and ensures the delivery of innovative solutions that meet the needs of both people and nature.

## Origin Green Ambassadors

### What is the Origin Green Ambassador Programme?

In 2013, the Origin Green Ambassador programme was set up by Bord Bia in conjunction with the UCD Michael Smurfit Graduate Business School. The programme is designed to open important conversations on sustainability, and to share the vision of Origin Green. These conversations take place on a global stage among leading players in the food and drink sector.

The Origin Green Ambassador programme is built on two interlinked pillars; education and partnerships with major international food companies. Together they support Origin Green Ambassadors to develop coherent, strategic, and effective approaches to sustainability with leading global companies.

Over the course of three cycles, the programme has grown in strength. The willingness to work openly with Ambassadors has seen the principles and practices of Origin Green shape strategies inside many international organisations.



### Current Ambassador, Cecelia Mercer

Origin Green Ambassadors develop the skills to become future sustainability leaders within the global food industry. The MSc. combines lectures from leading sustainability academics and hands-on experience implementing sustainability initiatives within global organisations. Following completion of the programme, I and other graduates will have the ability to address key corporate issues in business sustainability.

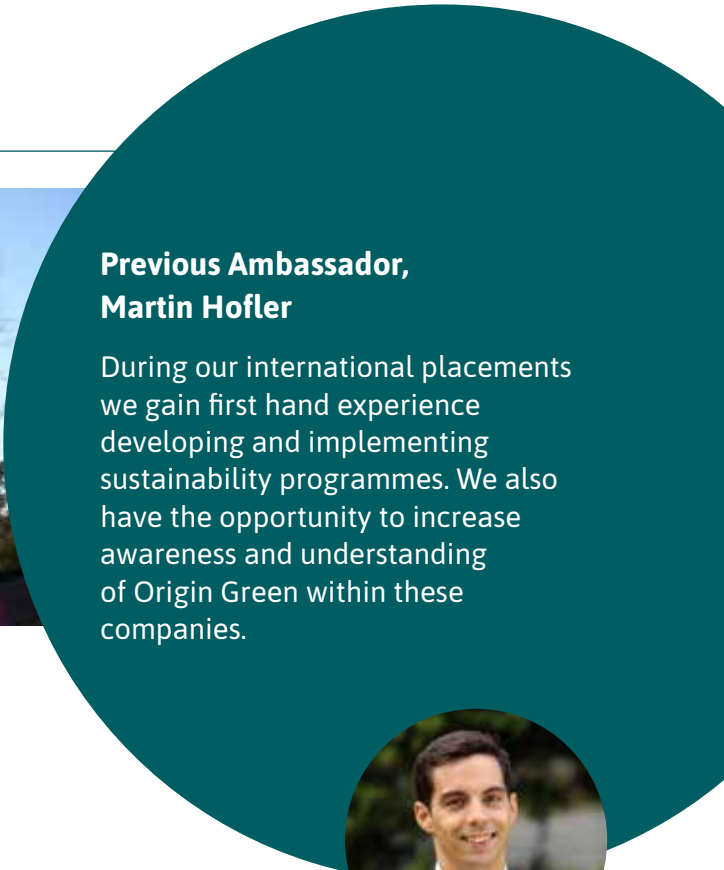


### Who is involved?

The Origin Green Ambassador programme takes 10 ambitious people who are passionately committed to the better management of our planet's resources on a 23-month journey towards an MSc. in Business Sustainability. Their journey comprises of both academic modules and company placements. Academic modules take place in the UCD Michael Smurfit Graduate Business School and include guest lectures from Harvard Business School, MIT and NYU.

Out of the programme's 23 months, 17-18 months are dedicated to work placements in leading commercial organisations. Here, Ambassadors are immersed in the development and implementation of sustainability programmes. Examples of placement companies include organisations in Europe, North America and Asia, including Abbott Nutrition, Ahold, Asda, Coca-Cola, EPIC (Subway), Fair Oaks Farms, Mars, M&S, McDonald's, Nestlé, PepsiCo, Starbucks, Tesco, Unilever, Walmart, The World Bank and WWF.





**Previous Ambassador,  
Martin Hofler**

During our international placements we gain first hand experience developing and implementing sustainability programmes. We also have the opportunity to increase awareness and understanding of Origin Green within these companies.



**Selection of Participating Companies**



## Origin Green’s Alignment with the United Nations Sustainability Development Goals

In 2015, the 193 member states of the United Nations (UN) agreed the 2030 Agenda for Sustainable Development, which includes the 17 Sustainable Development Goals (SDGs). The SDGs are a set of goals to end poverty, protect the planet and ensure prosperity for all as part of a new sustainable development agenda. The SDGs cover a broad range of social and economic development issues. These include poverty, hunger, health, education, climate change, gender equality, water, sanitation, energy, urbanisation, environment and social justice.

In 2016, Bord Bia demonstrated the alignment of the Origin Green Charter with nine of the 17 UN SDGs. Subsequently with the addition of new Origin Green Charter target areas for packaging and diversity and inclusion, Origin Green now aligns with fifteen of the 17 UN SDGs.

### **Bord Bia joins the United Nations Global Compact**

To further support Origin Green’s alignment with the UN SDGs, Bord Bia became a United Nations Global Compact (UNGC) member on June 26th, 2018. The UNGC is the world’s largest corporate sustainability initiative with over 13,000 members and other stakeholders from over 160 countries. Through membership of the UNGC, Bord Bia will gain access to a range of international stakeholders and resources to share best practices, guidance and emerging solutions to address global sustainability challenges, and support private businesses to deliver upon the SDGs. This will further guide Bord Bia’s ongoing development of Origin Green and deepen Bord Bia’s commitment to promoting the delivery of the SDGs within the Irish food and drink industry.

### United Nations Sustainable Development Goals



Sustainable Development Goal	Origin Green Alignment	Sustainable Development Goal	Origin Green Alignment
 <p><b>2</b> ZERO HUNGER</p>	Origin Green members are seeking to develop sustainable food production systems and implement resilient agricultural practices through responsible sourcing practices.	 <p><b>10</b> REDUCED INEQUALITIES</p>	Origin Green members are working to empower and promote the inclusion policies and practices within their workforce, local community and further afield.
 <p><b>3</b> GOOD HEALTH AND WELL-BEING</p>	Origin Green members are reformulating their products to reduce salt and sugar, developing “free-from” products for their consumers, and promoting a healthy lifestyle among their employees, customers and communities.	 <p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p>	Origin Green members contribute to their local communities through involvement with sports teams, charities and schools.
 <p><b>4</b> QUALITY EDUCATION</p>	Origin Green members are involved in employment programmes and work experience placements for students to improve their skills for future employment.	 <p><b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	Origin Green members are producing food and drink sustainably by sourcing raw materials from suppliers with recognised sustainability credentials, by sourcing locally and by taking part in Bord Bia’s Sustainable Assurance Schemes.
 <p><b>5</b> GENDER EQUALITY</p>	Origin Green members are actively addressing the issue of gender equality within their diversity & Inclusion strategies.	 <p><b>13</b> CLIMATE ACTION</p>	Origin Green members are tackling climate change through establishing energy reduction initiatives and making renewable energy investments.
 <p><b>6</b> CLEAN WATER AND SANITATION</p>	Origin Green members are reducing their water usage, developing and implementing wastewater treatment systems and finding unique ways to use naturally occurring rainwater in their production processes.	 <p><b>14</b> LIFE BELOW WATER</p>	Origin Green members are working to protect and enhance marine life by fishing responsibly and reducing marine waste.
 <p><b>7</b> AFFORDABLE AND CLEAN ENERGY</p>	Origin Green members are reducing their energy consumption and switching to renewable energy sources.	 <p><b>15</b> LIFE ON LAND</p>	Origin Green members are implementing biodiversity measures on their sites, such as protecting wildlife habitats and developing pollinator habitats.
 <p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p>	Origin Green members are creating job opportunities in their local communities and contributing to sustainable economic growth.	 <p><b>17</b> PARTNERSHIPS FOR THE GOALS</p>	Origin Green members are working collaboratively with other organisations and stakeholders with the common goal of sustainable food production.
 <p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	Origin Green members are making capital investments to upgrade and retrofit site infrastructure to increase resource-use efficiency and adopt environmentally sound technologies.		

# 51,000+

Producers are members of Bord Bia's Sustainable Assurance Schemes for beef, dairy, eggs, horticulture and lamb



# 100+

Independent farm auditors undertake over 650 farm audits each week

Assessments focus on:



Farms are inspected every 18 months

Schemes are fully accredited under ISO 17065:2012



# 9%



average reduction in CO<sub>2</sub> per unit of milk produced on farms that joined SDAS in 2014



# 5%



average reduction in CO<sub>2</sub> per unit of beef produced on farms that joined SBLAS in 2014

# 875,006

Trees planted

# 1,250

Kilometres of hedgerows added

# 13,282

Farms have water meters in place



# 84%

of farms conducting soil testing

# Producers

# 2



Producers are the foundation of sustainable food and drink production. They produce the food we eat - the meat, dairy, fruit, vegetables, and ingredients that go into our meals. They are stewards of the land, caring for Ireland's natural resources while producing food recognised worldwide for its quality and sustainable production methods.



## Origin Green at Producer Level

Driving improved producer sustainability performance under Origin Green is undertaken through the Bord Bia Sustainable Assurance Schemes. Each scheme is developed through a Technical Advisory Committee made up of representatives from the industry, Bord Bia, Farm Organisations, Teagasc, the Food Safety Authority of Ireland, the Department of Agriculture, Food and the Marine, and other technical experts.

The schemes are built on best practice in farming and processing, current legislation, relevant industry guidelines and international standards - and are accredited to the ISO 17065:2012.

The schemes have been designed to assess farming practices and record data to demonstrate the sustainability of Irish farming in a systematic way at an individual farm level and can therefore provide the necessary proof to customers that Irish farm produce has been produced under sustainability and quality assurance criteria. Under the schemes, audits are conducted by an independent auditor on every scheme member's farm at 18 month intervals and a comprehensive report is produced on the performance of the farm under the scheme's criteria.

Compliance with the scheme enables members to meet both regulatory and market demands and will ensure that the products placed on the market meet the highest quality and safety standards. In addition, committing to the programme will help producers improve the enterprise's sustainability, competitive performance and contribute to a fair and safe environment for workers. Origin Green's system of measuring and comparative feedback identifies steps to increase producer efficiency. Sustainable farming and efficient farming go hand in hand and safeguarding farm businesses and the environment for future generations.

The majority of total Irish production for beef, dairy, eggs, and horticulture is covered under the Bord Bia Sustainable Assurance Schemes.



## Beef & Dairy Updates

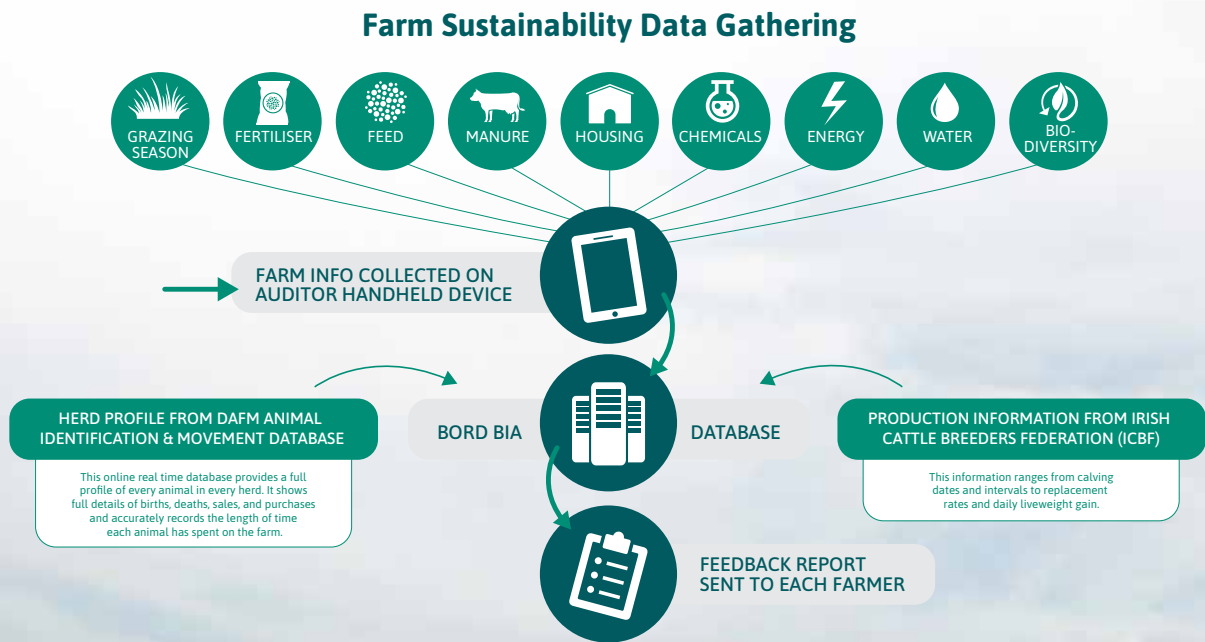
There is an increasing demand from purchasers that beef and dairy is produced on farms that are certified members of an accredited quality assurance scheme, which is based on sustainability principles, incorporating environmental, social and economic aspects. In Ireland this evidence is provided through the Sustainable Beef and Lamb Assurance Scheme (SBLAS) and the Sustainable Dairy Assurance Scheme (SDAS). To date c.50,000 beef producers are certified to SBLAS, representing 92% of Irish beef production, and over 16,000 dairy producers are certified to SDAS, representing 95% of Irish dairy production.

These schemes set out the necessary criteria to produce quality beef and dairy. In addition the scheme has also been designed to assess and record data to demonstrate the sustainability of Irish farming in a systematic way at an individual farm level. During the independent 18 month farm audits, members' compliance in areas relating to legal, quality and customer requirements including farm health and safety, food safety, traceability and animal welfare is assessed.

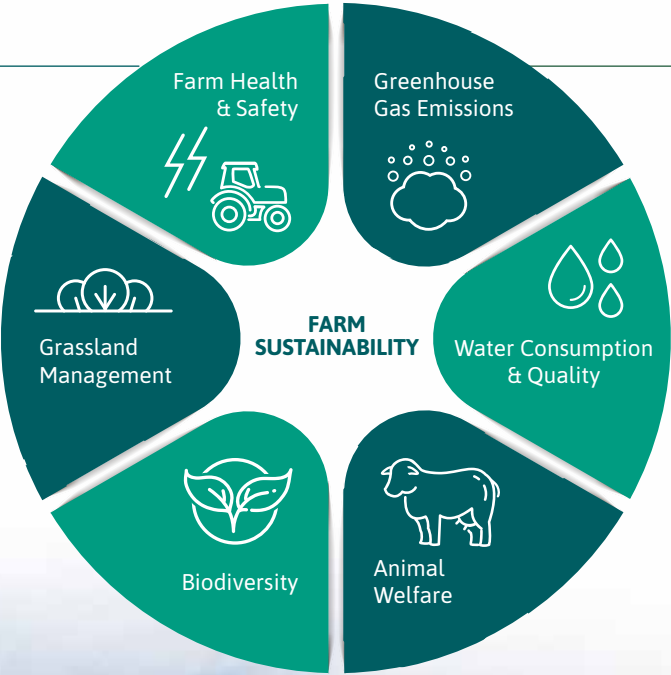
In addition, sustainability information is gathered through the sustainability assessment. This information is then sent to the Bord Bia database and combined with data from two other national livestock databases; the Animal Identification & Movement (AIM) and the Irish Cattle Breeders Federation (ICBF).

A core element of the Origin Green programme is the feedback and advice which is provided to each individual farm. Following the on-farm assessment, each participating farmer receives an individual feedback report that outline their current performance relative to their peers. It also outlines how they rank in terms of the practices that influence their carbon footprint. The feedback report also outlines the potential environmental and economic benefits from improving performance in any areas that offer scope for further development.

The figures presented in the following farm sections represents data collected on farms in 2017.



Through the gathering of producer information and collaboration with external agencies, Origin Green is working to preserve and enhance performance in the following six key sustainability areas on SBLAS and SDAS farms:





## Greenhouse Gas Emissions

Agriculture accounts for over 30% of Irish greenhouse gas production, with most of the remainder being contributed by the transport and domestic sector. The Irish grass-based dairy and beef production systems are relatively carbon efficient. An EU Commission’s Joint Research Centre report in 2011 found Irish dairy and beef production as one of the most carbon efficient in the EU. Ireland has the joint lowest carbon footprint in the EU for milk, 1.1 kg CO<sub>2</sub>-eq/kg milk and the fifth lowest carbon footprint in the EU for beef, 19 kg CO<sub>2</sub>-eq/kg beef.

With the increase in cattle numbers in recent years, the beef and dairy industry faces a challenge to reduce its overall carbon footprint. Therefore, as part of the development of on-farm sustainability assessments for Origin Green, Bord Bia in partnership with Teagasc developed an approved methodology and calculation model for the assessment of the carbon footprint for Irish beef and dairy farms. The carbon footprint modelling process, calculation and reporting is developed and maintained in conjunction with the Carbon Trust and is accredited to the PAS 2050 standard. This standard is a consistent internationally applicable method for quantifying product carbon footprints. Since the commencement of carbon footprint assessments, Bord Bia have generated over 212,000 carbon footprint results on beef and dairy farms.

The section below displays separate carbon footprint results for dairy and beef farms. The carbon footprints are presented on a 3 year rolling average basis in order to minimise short term carbon footprint fluctuations due to market and weather variability.

### Carbon Footprint Trends

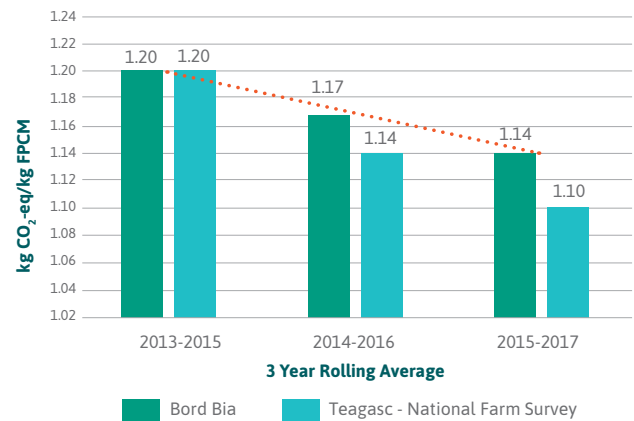
#### Dairy

Since the introduction of carbon footprint assessments on dairy farms in 2013 through SDAS, over 37,000 individual carbon footprint calculations have taken place on over 16,000 dairy farms. To verify the Bord Bia carbon results we have included a comparison with Teagasc’s National Farm Survey (NFS) results using the Teagasc Moorpark life-cycle analysis (LCA) model. NFS collects all the key financial and physical indicators at farm level in Irish farming from 1972 to date. In recent years the NFS has collected data related to farm’s environmental sustainability. This has enabled Teagasc to generate a yearly carbon footprint from this data.

The Bord Bia results to date show a continued decline in the carbon footprint intensity related to the production of milk. The carbon footprint results are presented in kilograms of carbon dioxide equivalent (CO<sub>2</sub>-eq) per kilogram (kg) of unit output. The average carbon footprint across participating farms has fallen from 1.20 kg CO<sub>2</sub>-eq/kg Fat and Protein Corrected Milk (FPCM) to 1.14 kg CO<sub>2</sub>-eq/kg FPCM.

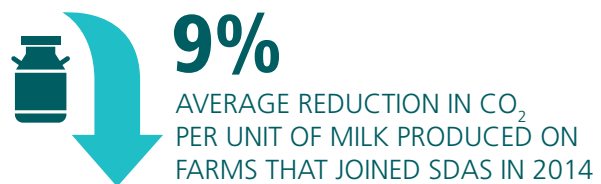
These results are comparable to the carbon footprint for milk reported by Teagasc’s National Farm Survey which has seen a similar rate of decrease from 1.20 to 1.10 kg CO<sub>2</sub>-eq/kg FPCM. While the methods used by Bord Bia and the NFS are the same, the differences in results can be explained by different data collection procedures and differences in the allocation of emissions between milk production and other farm activities.

#### Average Dairy Carbon Footprint (kg CO<sub>2</sub>-eq per kg FPCM)



In addition, Bord Bia’s results are representative of 95% of Irish dairy production while the NFS represents results from a smaller population of specialized milk producers. Going forward, Bord Bia and Teagasc will look to further align carbon methodologies.

The results of the assessments show a considerable level of variation across farms. The range of carbon footprint results once outliers were removed varies from 0.4 kg to 3.5 kg CO<sub>2</sub>-eq/kg FPCM. There is significant potential to adopt practices already in place across high performing dairy farms to drive further improvement. Farmers who joined in the first audit year of SDAS, in 2014, have demonstrated 9% average reduction in CO<sub>2</sub> per unit of milk produced on their farms.’

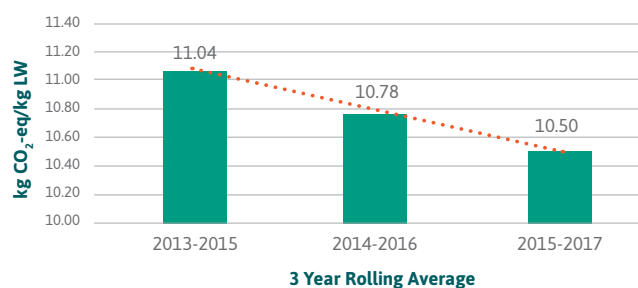


## Beef

Since the introduction of carbon footprint assessments on beef farms began in 2011, 175,000 individual carbon footprint calculations have taken place on over 50,000 beef farms. The assessment results to date show a continued decline in the carbon footprint intensity related to the production of beef. The average carbon footprint across participating beef farms has fallen from 11.04 kg CO<sub>2</sub>-eq per kg of beef live weight (LW) to 10.50 kg CO<sub>2</sub>-eq/kg LW.

Currently the Carbon Trust and Teagasc are updating the beef carbon footprint model. In the future this will facilitate direct comparisons with Teagasc's National Farm Survey carbon footprint results.

### Average Beef Carbon Footprint (kg CO<sub>2</sub>-eq/kg LW)



The range of carbon footprint results varies from 5 to 18 kg CO<sub>2</sub>-eq/kg LW. The variation in results is due to different production systems that exist on Irish farms that have different production efficiencies. The results to date highlight the fact that a considerable proportion of farms have practices in place that perform very strongly when it comes to greenhouse gas emissions. The challenge is for farms that have higher carbon footprints to adopt the practices of the best performing farms.

However, this can be achieved as shown by farmers who joined in 2014 and have undertaken a minimum of 2 audits have demonstrated on average a 5% in CO<sub>2</sub> per unit of beef produced on farms



Since the commencement of carbon footprint assessments, Bord Bia have generated over 212,000 carbon footprint results on beef and dairy farms.

## Carbon Navigator

While agricultural GHG emissions are difficult to reduce, farmers who adopt a number of practices and technologies can significantly improve profitability and lower GHG emissions. A key focus of the roll out of Origin Green at farm level is providing participating farmers with feedback and advice that can help reduce their carbon footprint, while also boosting the farm's financial performance as typically there is a close correlation between the two. This led to the launch of the Carbon Navigator, a software tool developed by Teagasc and Bord Bia, to help members of SBLAS and SDAS engage with measures that can drive farm profitability while at the same time enhancing environmental performance. The carbon footprint modelling process, calculation and reporting is developed and maintained in conjunction with the Carbon Trust and is accredited to the PAS 2050 standard.

The Carbon Navigator tool looks at practical day to day management practices that are relevant to farmers as they run their enterprise, and helps identify the potential impact both financially and environmentally from further improving performance.

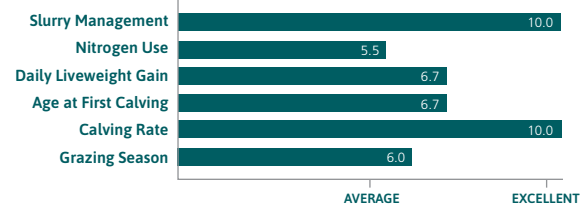


Examples of areas covered by the Carbon Navigator tool include:

- The length of the grazing season
- Age at first calving
- Calving rate
- Daily live weight gain
- Fertiliser usage
- Slurry management
- Economic Breeding Index (EBI)
- Energy efficiency

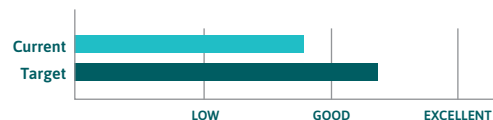
## How the Carbon Navigator works

THE FEEDBACK REPORT RECEIVED BY EACH FARMER OUTLINES THEIR CURRENT PERFORMANCE IN EACH OF THE MANAGEMENT AREAS COVERED BY THE CARBON NAVIGATOR TOOL:



EACH FARMER WORKS WITH THEIR ADVISOR TO IDENTIFY AREAS OFFERING SCOPE FOR FURTHER IMPROVEMENT. THEY INPUT 3/5 YEAR TARGETS INTO THE CARBON NAVIGATOR

THE TOOL RANKS THEIR CURRENT PERFORMANCE OUT OF 10 AND HOW THIS COULD POTENTIALLY IMPROVE IF THEY REACH THEIR TARGET



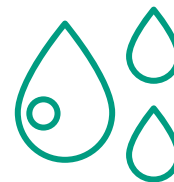
MOST IMPORTANTLY IT PROVIDES AN INDICATION OF THE POTENTIAL GHG AND FINANCIAL IMPACT OF ACHIEVING THE TARGET UNDER EACH MANAGEMENT AREA

GHG CHANGE:

**-1.5%**

€ BENEFIT:

**+€576**



## Water Consumption & Quality

### Introduction

The availability of fresh water is crucial to producing quality food and drink. Ireland has a mild temperate climate, which provides abundant water for grass-based dairy and beef farming. In order to protect and enhance water for sustainable agriculture the Department of Agriculture, Food & the Marine (DAFM) work in close partnership with the Irish farming community across many of its divisions and agencies on a range of water related schemes e.g., Teagasc-operated Agricultural Catchments Programme (ACP), Green Low Carbon Agri-Environment Scheme (GLAS) etc.

As part of the development of Origin Green, Bord Bia commissioned Cranfield University to assess the water footprint associated with Irish beef and dairy production in 2011/12. This report examined the footprint associated with different beef and dairy systems across various locations in Ireland. The research showed that the absolute level of water use in beef and dairy production in Ireland is low (up to 20% lower than other European countries) and utilises almost exclusively rainfall that would occur regardless of whether animals were grazing the fields or not.

Recent research carried out by Teagasc and UCD calculated the water footprint on 24 dairy farms (Murphy et al. 2017) and 16 beef and sheep farms (Murphy et al. 2018) using monthly farm level data. The water-footprint approach used in these studies quantified the blue (ground and surface water), and green (soil moisture due to evapotranspiration) water-footprints. The reports found that 99% of the water used in both the dairy and beef systems was green water.

Both these studies concluded that due to the large share of green water consumption in Irish livestock systems these systems could be considered sustainable from a water use point of view.

While the studies referenced above demonstrate how water is in relative abundant supply, it doesn't provide a licence to waste what is a highly valuable resource. Therefore, it is central under Origin Green that farmers use water responsibly and implement water efficiency measures on farms. As part of the farm audits, farmers within SDAS and SBLAS are required to provide information through the sustainability survey on specific water conservation measures engaged in on their farms including:

- Source of water used on farm
- Monitoring of water use
- Steps taken to minimise water use
- Level of rainwater harvesting & water recovery
- Steps taken to minimise leakages



**13,282**  
FARMS HAVE  
WATER METERS  
IN PLACE



**7,851**  
FARMS  
COLLECTING  
RAINWATER

The main purpose of this data collection is to build awareness of the importance of water conservation on farms. It also enables Bord Bia to focus on areas that require additional information, thus further facilitating farmers in their adoption of water conservation measures. Furthermore, under the schemes all farmers are required to engage in practices that protect water quality. All farmers are required to ensure:

- Protection of watercourses
- Management of timing and rate of application of fertilisers and chemicals
- Maintenance and protection of water sources

The availability of fresh water is a crucial element to producing quality food and drink ingredients.

**Collaboration:**

**Duncannon Beach Project**



Duncannon Beach is a very popular designated bathing area, located at Duncannon village within Waterford Harbour.

Not since 2007 has Duncannon beach held the ‘Blue Flag’ for ‘Excellent’ water-quality rating. A Microbial pollution risk assessment conducted by Wexford County Council identified that two small streams flowing across the beach likely pose the greatest faecal pollution risk to the bathing water. Therefore, Duncannon Beach Project’s aim is to improve the bacterial quality of the two coastal streams that flow onto Duncannon beach, by reducing pollution from agricultural and domestic sources. The project is led by Wexford County Council and includes Teagasc research and advisory staff, local agricultural consultants, dairy industry and Bord Bia sustainability staff, a local farmer and an IFA representative. In order to improve the streams water quality the projects activities include:

1. Creating farm-specific ‘Pollution Potential Zone’ (PPZ) plans for each farm.
2. Providing farmers with a full-time ‘Sustainability Manager’ who will help participant farmers achieve the objectives of the project by guiding them through their PPZ plans and by developing and delivering a number of knowledge exchange initiatives.
3. Monitoring farm practice change and water quality in the wider catchment area.
4. Creating a local awareness programme for domestic waste water treatment systems.
5. Developing community wide engagement with the project with the objective of creating a sense of local ownership, responsibility and appreciation for the local water environment.

These activities should contribute to the recovery and long-term retention of the Blue Flag status at Duncannon beach. Furthermore, successful results from this project will provide a demonstration of a range of innovative and cost-effective farm management practices for water-quality protection and a template for a water-quality focused, results-based, reward scheme which could be used to improve water-quality in particularly sensitive catchments.

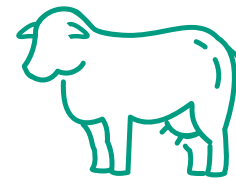
**Collaboration:**

**Agricultural Sustainability Support and Advisory Programme (ASSAP)**

The ‘Agricultural Sustainability Support and Advisory Programme’ is a new approach to achieving improvement in water quality. It involves the establishment and joint funding of a resource of 30 Agricultural Sustainability Advisors. The new collaborative and targeted programme is jointly led by Department of Housing, Planning and Local Government (DHPLG) and Department of Agriculture, Food and the Marine, and will be implemented from 2018 to 2021 with the support of Dairy Sustainability Ireland and Teagasc.

Bord Bia, along with a broader group of agencies and stakeholders will contribute to the implementation of the programme. Thirty “sustainability advisors” will be assigned to the programme, twenty of whom will be located in Teagasc while ten will operate within the dairy processors organisational structures. The twenty sustainability advisors embedded within Teagasc will provide a free advisory service to farmers who manage lands around “critical source areas” (CSA’s) of catchments that are currently under significant environmental pressure. Each individual farmer in these areas will have access to highly trained sustainability advisors who will provide one to one support and assistance in drawing up an individual action plan for their farm. The sustainability advisors will work collaboratively with all of the other farm advisors and stakeholders in their region to ensure that the work programme delivers the best possible outcome for the area in relation to water quality.

The 10 dairy processor based sustainability advisors will lead a change programme across the dairy sector focusing on best practice in Nutrient Management Planning (NMP) and supporting the effective management of farmyards and roadways. The programme has the potential to strengthen delivery of Ireland’s obligations under the Water Framework Directive. It is part of a new approach to River Basin Management Planning for the 2018 – 2021 cycle. This new approach includes the development of a much-strengthened evidence base to understand the full range of pressures affecting water quality and the development of a programmes of measures needed to deliver improvements.



# Animal Welfare

## Introduction

Consumer interest in and concerns over the animal welfare of food producing animals have grown much stronger within many European Member States in recent times. All major retailers see animal welfare as a key element within their corporate social responsibility programmes and are looking at ways of addressing public concerns so that they can meet their customer demands in this area. Having a well-developed animal welfare policy is seen by most retailers as a way to both benefit society while at the same time demonstrating to customers that their products are ethically sourced.

One of the main aims of the Origin Green programme is to drive continuous improvement across all areas of production and processing within the Irish food industry in order to achieve greater sustainability. Nowhere is this more important than in the area of animal health and welfare. The attainment of the highest possible standards in health and welfare is a major focus for SDAS and SBLAS.

The responsible and correct treatment of farm animals is paramount to ensuring high standards on farm.



Many of the criteria contained within SDAS and SBLAS relates to animal health and welfare either directly or indirectly. Bord Bia is committed to increasing animal welfare requirements in a stepwise manner over time based on, and in line with, legislative and market requirements. To this end, the standards are reviewed to ensure that they keep relevant and that all legislative changes and best practice with regards animal welfare is taken on board and incorporated into the standard on an ongoing basis.

**Collaboration:**

**Bord Bia Animal Welfare Working Group**

Bord Bia has set up a working group tasked to act as an advisory resource on animal welfare issues for the Technical Advisory Committees, the body set up to develop the standards. The group includes personnel from Teagasc who specialise in research associated with animal welfare issues, Animal Health Ireland, Department of Agriculture, Food and the Marine, Veterinary Ireland and Bord Bia. It is envisaged that this group will assist Bord Bia in the development of animal welfare criteria for the Sustainable Assurance Schemes. The policy and criteria developed will be based on sound scientific research, practical experience and reviews of outcomes of relevant studies from around the world.

## The Five Freedoms



The main criteria in the schemes which refer to each of the Five Freedoms are summarised in the table below.

Freedom from Hunger and Thirst	
Sufficient feed and clean water is available to maintain the animals' health and welfare status.	✓
Animals derive the bulk of their feed throughout their lifetime from grass and grass based forages.	✓
Water troughs or drinkers are regularly cleaned and inspected daily to ensure that they are fully functional.	✓
Water supply is adequate to meet peak animal requirements (i.e. drinkers fill sufficiently quickly to avoid any animals remaining thirsty).	✓
Freedom from Discomfort	
Housing is constructed, managed and maintained to permit effective cleaning and minimise discomfort, stress or injury to the animal.	✓
The accommodation should have sufficient natural light so as not to cause discomfort to the animals and appropriate lighting is available to allow inspection after dark.	✓
Sufficient ventilation to provide fresh air and to minimize draughts is in place, allowing heat dissipation and preventing the buildup of gases such as carbon dioxide, ammonia or slurry gases.	✓
Freedom from Pain, Injury or Disease	
Regular inspection routines are in place for all animals with the frequency of inspections increased during vulnerable periods (e.g., calving and adverse weather conditions).	✓
Animals must be handled with care, avoiding undue stress with proper animal handling facilities in place, where an animal can be restrained with minimum risk of injury and stress.	✓
The herd is under the routine care of a veterinary surgeon and all animals are presented for testing in accordance with disease eradication and control.	✓
A planned herd health programme is implemented (e.g., preventative treatments and/or vaccinations) and a herd health plan must be in place on farm.	✓
Freedom to Express Normal Behaviour	
Space allowance for animals is provided to allow freedom of movement and ample floor space for lying, grooming and normal animal to animal interactions.	✓
Feed barriers are designed and positioned so as to allow normal feeding behaviour and to minimize injury to the animal.	✓
Sufficient space is available for all animals to feed comfortably at the same time.	✓
Freedom from Fear and Distress	
The producer must be able to demonstrate competence in stockmanship (e.g., on-farm work experience and/or completed relevant training with Teagasc).	✓
Understand the significance of a change in the behavior of an animal and be able to demonstrate an understanding of the principles of best practice in animal welfare.	✓
Animals of a similar age and size should be housed together where possible. This social group should be allowed to develop and reallocation of animals to other pens should be minimised.	✓



## Biodiversity

### Introduction

Protecting and enhancing biodiversity at farm level is a key focus of the Origin Green programme. Measuring biodiversity accurately continues to present a challenge. Since the launch of the programme we have sought to build biodiversity within SDAS and SBLAS. Collaboration is at the heart of protecting wildlife across Ireland, Bord Bia works with the National Biodiversity Data Centre, Teagasc and other organisations to identify pragmatic measures to improve biodiversity on farms. Biodiversity criteria are included as part of the on-farm sustainability assessments under SDAS and SBLAS.

The farm sustainability assessment includes a full biodiversity section where farmers are asked the following:

- Participation in environmental schemes
- Measures in place to maintain & improve existing habitats
- Hedgerow management
- Tree planting
- Special areas of conservation (SACs) on farm
- Designated wildlife habitat area
- Changes in habitats between assessments
- Soil management
- Protection of field margins

The assessments undertaken to date have helped us identify the practices in place across SDAS and SBLAS certified farms. This is allowing us to identify areas for further assessment with a view to providing practical guidance to participating farms as to how they can further improve the biodiversity performance of their farm. Bord Bia will continue to collaborate with relevant organisations to identify how Origin Green can protect and enhance biodiversity on Irish farms.

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



## Collaboration:

### Including Farmland Habitats in Sustainability Assessments

The inclusion of farm maps of habitat features is becoming an urgent requirement for farm-scale sustainability assessments and for compliance or benchmarking with international certification schemes. However, habitat surveys involve visits to individual farms, which is expensive and time-consuming when it involves an ecologist to survey every farm. Bord Bia has been working with Teagasc to develop a remote sensing tool for remote assessment of wildlife habitats on farms that are part of the Origin Green programme. Started in 2016, the project has facilitated the mapping of habitats on 180 dairy, beef and arable farms. The identification of habitat types involved two steps. First, aerial imagery (such as in Google or Bing maps) was used by an ecologist to identify habitats; second, this identification was verified by an

on-the-ground field survey of the habitats. The accuracy of the aerial imagery was assessed, and was very high. For the purposes of a farm habitat survey for a sustainability assessment, this approach is highly appropriate, saving costs and speed of conducting ecological surveys of individual farms can be greatly reduced. Each pilot farm has received an individual feedback report with a farm habitat map, some photos of the habitats, and general guidance and recommendations on how they can maintain and improve the quality of habitats on their farm. The pilot phase was completed in 2017 and the next aim of this project is to develop a scalable method using remote sensing that can be applied across (tens of) thousands of farms without the significant logistical challenges and financial costs of traditional habitat surveys.

## Collaboration:

### Biodiversity Regeneration In a Dairying Environment (BRIDE)



The 'Biodiversity Regeneration In a Dairying Environment' (BRIDE) project in the river Bride Valley in east Cork will provide participating farmers with farm habitat plans that identify the most appropriate and effective wildlife management options for individual farms. An innovative element of the project is farmers will receive higher payments for improved habitat quality and thus higher wildlife gains. The BRIDE project is funded under the European Innovation Partnership (EIP) funding programme. It is led by two farmers from east Cork, Paul Moore, a tillage farmer from Midleton and Donal Sheehan, a dairy farmer from Castlelyons, along with Tony Nagle, an ecologist from Minane Bridge. Additional support is provided by Department of Agriculture, Food and the Marine, Teagasc, Birdwatch Ireland, and industry partners Glanbia, Kepak, Cork Co. Council, The National Biodiversity Data Centre and Bord Bia's Origin Green Programme.

The Project will run for 5 years and is designed to at least maintain and increase biodiversity on intensively managed farms in the area through simple innovative measures.

The effects on wildlife will be monitored through the project, which aims to create suitable habitats for local important populations of wildlife including skylarks, yellowhammers, bumblebees, frogs and newts. The BRIDE Project differs from traditional agri-environment schemes through its use of a results-based payment system, i.e., more and higher quality farmland habitats will result in higher financial payments.

An ecologist will work with participating farmers to develop a farm plan and advise on how to maximise the wildlife on their farm, and will focus on important habitats such as hedgerows, bogs, woodland, ponds, derelict buildings etc. Wild birds and other animals don't respect farm boundaries, and so the BRIDE Project is designed to work on a wider landscape scale. It will involve several clusters of neighbouring farms to collectively enhance biodiversity on a much larger scale than would be possible on an individual farm basis. Farmers will improve the environment for the wider community and local participation will help forge a strong identity that values local wildlife and the 'farming with nature' concept.



# 875,006

TREES PLANTED ON FARMS 2014-2018



# 1,250 KM

HEDGEROW ADDED ON FARMS 2014-2018

## Collaboration:

### Pollinator Guidelines

Bord Bia recognises the importance of pollinators in the ecosystem and the wider food chain. Bord Bia has worked closely with the National Biodiversity Data Centre (NBDC) to support the implementation of pollinator friendly practices by businesses and farmers through Origin Green. The NBDC is a national organisation that collects and manages biodiversity data to document and track changes to Ireland's wildlife. The NBDC published the All-Ireland Pollinator Plan 2015-2020, a nationwide strategy to address the decline of pollinators in Ireland. One of the goals of the All-Ireland Pollinator Plan is to develop tailored, pollinator friendly, management guidelines for all sectors. Origin Green has collaborated with the NBDC on the development of these guidelines for both companies in 2016 and farmers in 2017.

Bord Bia has worked closely with the NBDC to promote and raise awareness of the guidelines amongst the wider Irish food and drink sector, and provided promotional stands for the NBDC at Bord Bia's Bloom Festival and the National Ploughing Championships. To date, 23 Origin Green member companies have signed up to the pollinator business guidelines.



## Collaboration:

### Farming for Nature Awards

While there is widespread awareness of the environmental damage that can be caused by the wrong type of farming, there is perhaps less focus on the positive role that the right type of farming can play in enhancing our environment. Therefore, the Farming for Nature initiative ([www.farmingfornature.ie](http://www.farmingfornature.ie)) aims to shape a positive narrative around farming and nature by acknowledging, celebrating and supporting those farmers who farm in a way that enhances the natural health of our countryside.



As part of this initiative, a national Farming for Nature Award was conceived. Sponsored by Bord Bia, the award is supported by a wide range of farming and conservation interests including the Department of Agriculture, Food and the Marine, the National Rural Network, the National Parks and Wildlife Service, the Irish Farmers Association, The National Biodiversity Data Centre, Teagasc and the Heritage Council. The purpose of the award is to source, share and celebrate stories of farmers from across Ireland who go that extra mile to support nature on their farm, creating some new role models for sustainable farming.

The idea is the brainchild of a group of heritage enthusiasts based in the west of Ireland. One of this group, Dr. Brendan Dunford of the Burren Programme, explained that *"a few years ago, with Bord Bia support, we started a celebratory night for selected Burren farmers who we felt were pioneers in actively managing their land for nature. Witnessing these farmers being recognised by their community and their peers was both moving and powerful, and has really inspired other farmers in the area to follow suit on their farms and in some cases go on to develop nature-based businesses"*.

A panel of over 100 heritage specialists nominated farmers for this award, based on a set of agreed criteria. Six of the farmers were shortlisted for the award by a panel of judges and short videos profiling each farmer were commissioned for use on an online voting system where the public could choose their favourite story. All 6 shortlisted farmers become Bord Bia Farming for Nature Ambassadors. In 2018, Steve Conisbee was selected as the winner of the inaugural award during a special awards ceremony held in Kinvara on October 27th 2018.

## Grassland Management



### Introduction

Ireland's temperate climate and abundant rainfall have resulted in a grass-fed system with cows grazing outdoors for the majority of the year. 80% of Ireland's agricultural land is devoted to grasslands, with a yearly grass growth rate that exceeds the European average by more than a third, making grass the most important agricultural crop in Ireland. Grazing on such rich pastureland contributes significantly to the reputation and market position enjoyed by beef and dairy products from Ireland.

Accordingly, under SDAS and SBLAS, the producer will be aware of the need to manage their grass-based farm enterprises in an environmentally friendly manner. To continue to ensure we have healthy grasslands, the SDAS and SBLAS schemes incorporate key requirements relating to grass utilisation, land management and fertilizer.

80% of Ireland's agricultural land is devoted to grasslands, with a yearly grass growth rate that exceeds the European average by more than a third.

### Grass utilization

Under SDAS and SBLAS cattle must derive the bulk of their feed throughout their lifetime from grass and grass-based forages. During farm audits, producers are asked to provide information/data on each of the following performance monitoring criteria:

- Turnout and housing dates for all groups of animals
- Harvest dates and % digestibility of grass-based forages (where available) used on farm
- Types and quantities of concentrate feeds used during the year

Data collected through these audits show that on average cattle receive 95% of their diet from grass or grass based forages. The remaining 5% is composed of home produced and purchased feedstuffs such as compound concentrates. The use of concentrates are necessary for animal health and welfare as they provide vital minerals and energy at key times in the animals life such as prior to calving in the winter period.



CATTLE RECEIVE **95%**  
OF THEIR DIET FROM GRASS  
OR GRASS BASED FORAGES

## Land Management and Nutrient Application

Ireland is fortunate to have rich fertile soil ideal for the growth of grass. The predominant form of nutrient application to Irish fields is through the spreading of slurry onto fields.

Slurry is a valuable source of organic Nitrogen (N), Phosphorus and Potassium and, if used wisely, can help reduce chemical fertiliser requirements on farms. Teagasc recommend applying slurry in springtime when the N value of slurry is higher due to reduced losses of N as ammonia to the air in cool moist spring conditions. Slurry applied in spring is typically worth about 3 units more N per 1000 gallons than if it were applied in summer. Applying slurry early in the year also maximises the potential for the more slowly available organic N in slurry to be released over a longer growing season.

Where fields have an extra capacity to utilise additional nutrients, producers use fertilizers. The producer will be aware of the need to manage the land available to their farming enterprise(s) in order to optimise production while also maintaining and/or improving the environment. The producer will also be aware of the need to comply with the Nitrates Directive – S.I. No. 378 of 2006, European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006 - on nitrate fertilisation of the soil. The producer must be aware of the legal restrictions that apply to manure and fertiliser spreading on the farm (permitted spreading times, spreading restrictions etc.) and must store and apply them in a manner that minimises the risk of pollution, contamination and the spread of disease. In addition to correct nutrient management the producer must also conform to criteria in the area of land management by avoiding the placement of livestock on poorly drained land to minimise poaching, soil erosion and compaction, particularly near water courses.

**Producers within SDAS and SBLAS are required to provide the following grassland management measures:**

- Slurry application methods
- Slurry application details
- Soil erosion management from livestock and machinery
- Clover incorporation into grassland swards
- Proportion of the farm has been soil tested in the past 5 years
- Grass growth measurement methods used
- Fertiliser application training



**84%**  
OF FARMS  
CONDUCTING  
SOIL TESTING



### Collaboration:

#### Grass Fed Model

Bord Bia, in partnership with Teagasc, have developed a system that allows for the quantification of the volume of grass consumed by dairy cows and beef cattle. Using data from the National Farm Survey, (NFS) Teagasc built a model that determines the energy requirement of dairy cows at different stages throughout the year and determines how much of this energy requirement comes from grass, grass forage and concentrates. This model has now been incorporated into the Sustainable Dairy Assurance Scheme (SDAS) framework where the model is populated with data from audits conducted on dairy farms. As a result, every dairy farm audited under the SDAS will have a figure generated that quantifies the percentage of grass in the diet of dairy cows. A similar approach is being taken with beef cattle. Again, the availability of data collected as part of Sustainable Beef & Lamb Assurance Scheme (SBLAS) audits readily facilitates the calculation of the percentage of grass in the diets of beef cattle.

The approach is based on science. The model developed by Teagasc has been peer reviewed and a method paper published. This sets the Irish approach apart when it comes to supporting grass fed claims. The intention now is to develop a standard for Irish grass fed dairy and beef and to pursue ISO accreditation for this standard. This standard will clearly set out the requirements that a product must meet in order to be certified Irish grass fed. It will again underline the credentials of Ireland's grass based production systems.

## Collaboration:

### Carbon Navigator - Extending Grazing Season

In Ireland, beef and dairy animals are predominantly fed grass. Excellent grassland management is the key to the profitability and sustainability of Irish dairy farms. Grass utilization improves farms sustainability credentials as it lowers GHG emissions in two ways:

- Grazed grass in the early and late season is a higher quality, more digestible feed than grass silage leading to improvements in animal productivity and a reduction in the proportion of dietary energy lost as methane.
- The shorter housing season leads to reduced slurry methane and nitrous oxide emissions from slurry storage. Energy use from spreading is also cut.

Teagasc research has shown that producers who adopt a number of practices and technologies can significantly improve profitability and lower GNG emissions.

- On beef farms it is estimated that for every ten-day increase in grazing season, there is a 1.7% reduction in GHGs, and profitability is boosted by €27/cow.
- Every 1 day increase in grazing season length reduces carbon footprint by 0.17% per kg of milk and increases profitability by €2.70 per cow on a typical farm. In addition, every additional 100 litres of milk produced per cow through improved productivity or better use of grass is worth €30 based on a milk price of 30c/litre while also reducing methane emissions per kg of milk.

The Carbon Navigator developed by Teagasc and Bord Bia highlights the financial savings producers can achieve through increasing the grazing season length. Once the possible financial savings are identified, producers can work with an advisor to set targets for improvement. The Carbon Navigator will then estimate the % reduction in enterprise GHG emissions that will result from the achievement of the targets around simple practices such as:

- Based on location and soil type, farmers may have an opportunity to extend their grazing season by improving grassland management.
- Effective autumn and spring grassland management with attention to minimising damage.
- Backfence if necessary to limit poaching.
- Early nitrogen is essential for early grass. Spread 33 Kg/Ha from mid-February weather permitting.





## Farm Health & Safety

### Introduction

Health and safety criteria is an area that can directly impact on the farmer, their family and employees/contractors and is central to how a farm is managed. SDAS and SBLAS incorporate more than just legal requirements and good farming practices, farm audits also look at farmers' management of minimizing risks to employees and pollution control. For farmers to be compliant with SDAS and SBLAS they are required to ensure that all avoidable hazards (for both livestock and humans) are eliminated including unfenced lagoons, open wells, excessively low or insecure electric wiring, poorly fenced land bordering roads and railways, inadequately protected machinery, access to or gridding of agitation points, etc.

In addition to ensuring that all avoidable hazards are eliminated, SDAS and SBLAS farmers are required to develop a programme for managing farm health and safety. These programmes are provided for either through a completed Farm Safety Risk Assessment (FSRA) where there are fewer than 3 employees on the farm, or a completed Farm Safety Statement (FSS) where there are three or more employees. The FSRA or FSS assessment needs to be reviewed on an on-going basis and communicated to employees and visitors. Producers will be aware of the need to seek professional

advice in the completion of the FSRA / FSS and many agencies provide such a service. In addition, publications on this are available from various sources (e.g. Health and Safety Authority of Ireland, Teagasc, Farming Organisations, insurance providers etc.).

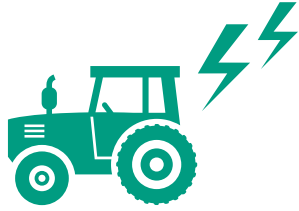
#### FSRA/ FSS requirements:

- An up to date FSRA / FSS must be available that identifies specific hazards on the farm, assesses the risk of injury and specifies how these risks are to be controlled.
- The FSRA / FSS must be available to all people who visit and work on the farm such as farm workers, farm relief personnel, contractors, etc.
- If the FSRA / FSS is not immediately available to hand, a notice must be displayed visible to all visitors, advising of the availability of the FSRA on request.
- Producers must have basic first aid supplies that are accessible at all times.

At Knowledge Transfer Farm Walks, run in conjunction with Teagasc, Health and Safety is an important focus with farm auditors available to talk with farmers about the common health and safety problems they encounter. They are also able to give some examples of issues they have come across during farm audits and provide measures to address these issues.

To be compliant with Bord Bia's SDAS and SBLAS farmers are required to ensure that all avoidable hazards (for both livestock and humans) are eliminated.





**14,732**

FARM HAZARDS IDENTIFIED BY  
FARM AUDITS AND ADDRESSED  
BY PRODUCERS 2014-2018

**Collaboration:**

**EPA: Farm Hazardous Waste  
Collection Campaign**

Hazardous wastes are generated through the normal running of a farm, from engine oils and filters to residues of pesticides, and out-of-date veterinary medicines. The safe removal of these potentially dangerous substances is required to improve farm safety while reducing the serious pollution risks associated with accidental spillages.

The EPA: Farm Hazardous Waste Collection campaign was initiated in 2013, and is led by the Environmental Protection Agency (EPA) working with a cross-government team that includes Teagasc; the Department of Agriculture, Food & Marine; the Department of Communications, Climate Action & Environment and local authorities. To ensure Bord Bia's sustainability assured farmers are aware of nearby collection centres, Bord Bia in conjunction with EPA sends text messages to remind over 51,000 sustainability assurance members to dispose of any hazardous waste at their nearest collection centres.

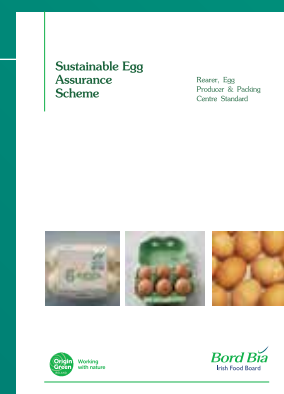
To date EPA's National Waste Prevention Programme Annual Report 2017 has reported that "9,000 farmers used the 46 collection centres and the total quantity of hazardous wastes collected was approximately 1,000 tonnes." Ultimately, the disposal of this waste safely supports farmers in complying with legislation and sustainability assurance schemes and assists farmers in keeping the farmyard safe for themselves and their families.



## New Bord Bia Sustainable Assurance Schemes Launched in 2017

### Sustainable Egg Assurance Scheme (SEAS)

Bord Bia launched the SEAS (a revision of the Egg Quality Assurance Scheme (EQAS)) in November 2017. The SEAS ensures that all eggs are produced and packed to the highest standards before reaching the consumer, assuring quality and sustainability at each stage of the egg production chain. In addition to requirements around traceability, animal welfare, biosecurity and food safety management, scheme members are now required to record data on sustainability such as their use of energy, antibiotic, feed, water and other measurements such as mortality rates and litter type. The data collected from members will be used to generate a performance report that will include the carbon footprint of each member as well as additional performance measurements, giving members their position against the industry averages. In addition to this, packing centers are now required to participate in the Origin Green programme as part of their Sustainable Egg Assurance Scheme (SEAS) membership and commit to the sustainability target areas as specified by the Origin Green Charter. Over a transitional period the 270+ egg producers on the EQAS will transition over to the SEAS.



### Sustainable Horticulture Assurance Scheme (SHAS)

The SHAS (a revision of the Horticulture Quality Assurance Scheme (HQAS)) was launched in November 2017. The core tenets of the SHAS are food safety, product quality, traceability, environmental protection and employee welfare arising from principles of Good Agricultural Practice (GAP), Good Hygiene Practice (GHP) and Good Manufacturing Practice (GMP) and are monitored through an independent auditing program. Members of the scheme are required to set and track their sustainability performance improvement per annum in raw material sourcing, resource efficiency, social sustainability and environmental/ biodiversity measures. Over a transitional period the 230+ members of the HQAS will transition over to SHAS.





## 2018 Origin Green Farmer Awards

The role of the farming community is at the centre of Origin Green. Therefore, every two years, Bord Bia hosts the Origin Green Farmer Awards, which recognise and reward the exceptional performance achieved by beef, horticulture and dairy farmers who are members of Bord Bia's Sustainable Assurance Schemes. The awards highlight Irish farmers who deliver efficiency and profitability in their farm enterprises while also meeting high standards around food safety, animal health, welfare and traceability. The 2018 Origin Green farmer awards recognised 39 farmers as finalists with a further eleven selected as overall winners within their respective farming categories.





## Beef & Dairy Winners

Dairy and beef farmer winners were selected from the over 51,000 members who are certified members of Bord Bia's Sustainable Beef & Lamb Assurance Schemes and Sustainable Dairy Assurance Scheme. The beef and dairy winners were visited by judges from Bord Bia, Teagasc and the Farmers Journal who were impressed with the practices being adopted by farmers to raise efficiency and profitability. These farms are among the top performers surveyed with regard to carbon footprint, biodiversity and water quality.

### Dairy Winners

#### Category: Large Herd

##### Winner: Shane and Dermot O'Loughlin



Shane and Dermot O'Loughlin milk 190 spring-calvers and 50 autumn-calvers in Co.Kildare. They have embraced several key sustainability areas including nutrient management, welfare, and innovation. In particular, the judges were struck by the efficiency and attention to detail of their farm operations. They host veterinary trials carried out by UCD and find the interaction very beneficial. Herd and calf health is monitored very closely and diseases are covered with a broad vaccination protocol as well as biosecurity measures.

#### Category: Reduced Carbon footprint

##### Winner: Trevor Crowley



Trevor Crowley and his family milk 136 cows on 72 hectares in North West Cork. The judges found the Crowley's farm to be a prime example of a well-managed, family-run dairy farm. In the period of 2016 to 2017, the Crowleys reduced their carbon footprint per kilogram of milk solids by 18%. They achieved this through a combination of best practices that included a longer grazing season, a 30% reduction in nitrogen application and reduced manure emissions due to a 17% reduction in housing days. Their emphasis on biodiversity was also noted, with the family planting new hedges over the years, watercourses fenced off to avoid pollution and a man-made pond installed as an alternative water source.

#### Category: Small Herd

##### Winner: Mairead & Pat McLoughlin



Mairead McLoughlin and her husband Pat are new entrants to dairy farming when they took over the management of the family farm in 2012. The McLoughlin's milk 56 cows currently with plans of increasing this number to 66 on an 18ha milking platform, with a further five hectares available to graze. They also run dairy replacements and a small dairy to beef enterprise on a leased outblock. They are great believers in technology and use Moo Monitors for heat detection and to observe cow health. Approximately 85% of cows calve in the first six weeks and all cows are bred via artificial insemination. Grass is measured weekly on the farm and grazing decisions are based on the results of the walk.



## Beef Winners

### Category: Dairy calf to beef

#### Winner: Derek and Garrett Peoples



Derek and Garrett Peoples run a dairy calf to beef operation alongside tillage and some forestry on their 220 acre farm just outside Newtowncunningham, Co. Donegal. They rear a batch of male Friesian calves each spring, which are finished as steers at between 22 and 24 months of age, average 320kg carcass weight. Attention to detail in hygiene, animal health and grassland management are paying dividends in achieving high daily weight gains at a low cost.

### Category: Suckler to beef

#### Winner: Noel Farrell



Noel Farrell and his wife Joan run a highly efficient 85-cow suckler-to-beef herd in Golden, Co. Tipperary. Their ICBF calving rate consistently averages 1.0 calves per cow per year, which is attributed to breeding fertile replacements. Male progeny are finished as young bulls under 16 months, at a carcass weight of over 400kg. High maternal milk yield and excellent grassland management are key drivers of this exceptional performance.

### Category: Suckler to weanling / store

#### Winner: Nicholas Bergin



Limousin-cross suckler herd is crossed with carefully-selected artificial insemination (AI) sires, to produce highly-muscled, healthy weanlings for premium niche live export markets. Nicholas has grown his herd from 60 to 80 suckler cows in 2018, following investment in housing and handling facilities.

### Category: Weanling or store to beef

#### Winner: David and Giles Aughmuty



David and Giles Aughmuty finish approximately 300 continental heifers per year in Co. Roscommon, alongside sheep and tillage enterprises. Carcasses average 353kg at 24 months and over 90% achieve conformation R= or better. The Aughmutys have an impressive focus on monitoring soil fertility and animal performance, as well as on feeding management.



## Horticulture Winners

Horticulture producer winners were chosen based on their overall audit performance in the Sustainable Horticulture Assurance Scheme since it was launched in November 2017. Each shortlisted finalist were visited by an independent judging panel comprising of experts from Teagasc, University College Dublin and Institute of Technology Blanchardstown. The horticulture producer winners were assessed across 17 sustainability topics including crop husbandry, health and safety, farm labour, local community involvement, environmental/biodiversity measures and energy usage. A background to the four winning producers is outlined below:

### Category: Mushrooms

#### Winner: Reilly Mushrooms



Reilly Mushrooms Ltd. is a family business, established in 1988 by Gerard and Mary Reilly with four family members now involved in day to day farm operations. The business has grown over the years and now employs more than 50 people. The farm produces approximately 50,000kg of closed cup and flat white mushrooms per week. To ensure consistency and high standards Reilly's have set out very clear procedures and protocols to meet customer and market demands.

#### Key sustainability measures on the farm include:

- The use of renewable fuel and solar panels for electricity production.
- Use of lean management techniques to drive efficiencies on farm.
- Reviewing options for alternative packaging.
- Implementing a high level of health and safety on farm and close attention to staff welfare.
- Invested €200k in a centralised piped steam sterilisation system to eliminate the need for any disinfectant use on the farm prior to mushroom house emptying.

### Category: Protected Crops & Fruit

#### Winner: Flynn's Irish Tomatoes



Flynn's Irish Tomatoes, owned by Martin Flynn a specialized tomato producer operating a modern and very efficient farm in Swords Co. Dublin. Employing 10-12 staff throughout the year the workforce expands to approximately 25 during the Summer when tomato harvest operations peak. Martin has invested in both infrastructure and technology allowing him to both maximise and monitor yield performance and predict production forwards to help manage the business.

#### Key sustainability measures on the farm include:

- Water management practices include rainwater harvesting and recirculation of fertigation water.
- Nutrient management practices includes regular balancing of plant nutrient inputs to match crop needs.
- Waste management planning includes strategies to reduce crop wastage through late season management of plant ripening.
- Use of high efficiency boilers and extraction of CO<sub>2</sub> from boiler exhaust used to feed plants.
- Integrated pest management is imbedded in the farm operations, and includes environmental controls and use of advanced spraying technology.



**Category: Potato**

**Winner: Kilmore Potatoes Ltd**



Based in Wexford, John and his brother Chris Fortune grow a wide range of potato varieties to cater to a number of market segments, including the planting of salad potatoes to meet a growing market segment commonly met by imported produce. Kilmore Potatoes provide jobs to 8 full time staff and seasonal workers as required during the season.

**Key sustainability measures on the farm include:**

- Biodiversity is encouraged with approximately 30 acres of land not cropped. This land is close to the shore and water courses running across the farm.
- Nutrient management practices includes regular soil sampling and inputs aimed at addressing any deficiencies matched to crop needs.
- Precision use of inputs includes GPS guided fertilizer equipment.
- Waste potatoes that do not meet with customer specification are diverted for use as animal feed.
- Integrated pest management is practiced to reduce dependency on plant protection products.

**Category: Field Vegetables**

**Winner: John B Dockrell**



Dockrells are a large grower of carrots and lettuce for the Irish market. Supplying their own carrots for 40 weeks of the year. The farm employs 31 permanent and 36 seasonal staff during peak times. Dockrells are currently planning to install solar panels to provide the daytime energy requirements of the business. Further investment is being assessed for a new carrot grader to minimise wastage.

**Key sustainability measures on the farm include:**

- Soil compaction is minimized at harvest through use of a self-propelled harvester and a built rubber tracked carrot chaser bin to transport harvested carrots to trailers parked on aluminum trackways at field entrance.
- Walking floor trailers are used for harvested produce to reduce breakages.
- Regular soil and plant tissue analysis is carried out to maximize nutrient management efficiency.
- All field operations are carried out using GPS guided equipment included spraying equipment and variable rate fertilizer spreaders.
- The farm implements a pest monitoring program to determine when treatment is required, reducing the use of plant protection products.
- Water management includes 5 acres of reed beds installed to filter and clean water from the carrot washing process and irrigation water for lettuce is sanitized using ultra violet treatment. Application can be controlled using an app on the phone and all use is recorded and monitored.

“It is a simple statement of fact that the progress we’ve made in Origin Green would not have been possible without the buy in and belief of organisations like Teagasc, the farm representative bodies, and the co-ops and processors who are now proud members of Origin Green. All have worked closely with us each step of the way, turning an ambitious vision into reality and bringing energy, resources and influence to the task of positioning Ireland as a real leader in sustainability.”

Tara McCarthy, CEO Bord Bia

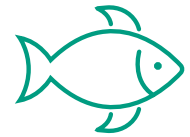


# Seafood





**Ireland's seafood industry contributed €1.15 billion to the Irish economy in GDP terms in 2017. The sector has experienced three consecutive years of growth since 2015.**



## Seafood

Ireland's seafood industry contributed €1.15 billion to the Irish economy in GDP terms in 2017. The sector has experienced three consecutive years of growth since 2015. It currently employs over 14,000 men and women, directly and indirectly, and is an important source of employment in rural coastal communities in Ireland. The industry is committed to meeting the targets set out in the Food Wise 2025 strategy by continuing to focus on sustainable fishing practices and the development of a high quality aquaculture sector.

**Irish seafood has gained a positive reputation in Ireland and on a global level as being of high quality and sustainably sourced.**



The Irish seafood sector has embraced the Origin Green sustainability programme since its inception. The first Irish seafood processing company became verified in December 2012, while the first primary aquaculture producers were verified in 2015. To date, a total of c.60 seafood companies have become verified Origin Green members. The development of the Origin Green sustainability plans by Irish seafood processors has improved their environmental performance in relation to energy usage, waste reduction and water efficiency.

The high rate of Origin Green membership within the Irish seafood sector demonstrates a commitment to sustainability throughout the entire seafood value chain. Fishermen, fish farmers and processors have all acquired green credentials through a multitude of Bord Iascaigh Mhara's (BIM) sustainability programmes.

BIM's sustainability initiatives target the entire seafood value chain, from vessels and fish farms to food production and retail.

At primary level, certification to standards such as the Responsibly Sourced Seafood Standard (RSS) for wild catch and the Certified Quality Aquaculture Standard, both internationally recognised to ISO 17065, ensure the sustainability of the raw material through independently certified management practices. Ireland has launched a government backed programme of Fishery Improvement Projects (FIPs) to demonstrate Ireland's commitment to sustainable fisheries to complement the sustainability elements of the RSS. FIPs are a globally recognised means of assessing fisheries and identifying actions to improve the management and sustainability of these fisheries.



BIM's Green Seafood Business Programme was established in 2012. To date it has assisted over 30 seafood companies at secondary level to achieve significant cost savings and efficiencies in areas including water usage, energy efficiency, transport and waste management. The seafood processing industry, in particular, has embraced this programme. The ability to improve efficiencies in these areas presents a great opportunity to reduce resource consumption and emissions while increasing profits.

The environmental, economic and social sustainability of the Irish seafood sector is central to BIM's strategy (BIM's Statement of Strategy 2018-2020 Enabling Sustainable Growth). BIM recognises how crucial the careful management and conservation of Ireland's natural capital is to the continued sustainability of the Irish seafood sector.

Current sustainability initiatives are diverse and far-ranging and include the following: research in gear technology; certification and stock management; energy and waste management to stewardship of the natural environment; continually improving measures by implementing management systems and achieving voluntary standards.

BIM also works with fishing ports and fishing vessels on the EU programme, Fishing for Litter, a fishermen's voluntary stewardship of the marine environment whereby fishermen take ashore litter they encounter while at sea. Since November 2015, approximately 229 tonnes have been voluntarily returned across a network of twelve harbours. In addition, industry aims to reduce plastics at source through BIM's nets recycling programme with approximately 600 tonne having been recycled since 2005.

For a more detailed analysis of the breadth of sustainability programmes and projects BIM has carried out through the seafood supply chain, please refer to the BIM Sustainability Atlas.

## BIM National Seafood Awards 2018

The biennial BIM National Seafood Awards recognises people, partnerships and businesses throughout Ireland's seafood sector under the headings of Innovation, Sustainability, Competitiveness and Skills. The Awards, dedicated to recognising the achievements of individuals and businesses revolutionising the Irish seafood sector under the key themes of Sustainability, Innovation Competitiveness and Skills were held in Dublin's Christ Church Cathedral on 27 November 2018. The 2018 sustainability category winners are detailed below.

### Category: Best in Sustainable Fishing

#### Winner: MFV Emma Lou T450



Alex Crowley and his crew fish on the MFV Emma Lou T450, an inshore vessel based in the southwest of Ireland.

#### Sustainability achievements:

- Adapted fishing practices to achieve EU SSCF definition (i.e., not using towed gear). This reduced fuel consumption per kg of fish landed and has also reduced the environmental impact of his fishing operations.
- Uses shrimp pots with an increased mesh size to allow smaller shrimp to escape. In addition, he and his crew grade the shrimp at sea allowing for the live return of smaller sizes.
- Member of the Irish Brown Crab FIP and has also signed up for the BIM Responsible Sourced Standard (RSS).

### Category: Best in Sustainable Aquaculture

#### Winner: Marine Harvest Ireland, Co. Donegal



Marine Harvest is the world's leading producer of Irish organic salmon.

#### Sustainability achievements:

- Secured its first Aquaculture Stewardship Council certification for its Deenish Marine farm in Co. Kerry.
- Achieved a 68% drop in greenhouse gas emissions per tonne when compared to the 2013 baseline figure.
- Launched a wellbeing programme covering healthy eating, physical fitness improvement, smoking cessation, and mindfulness. In 2017, 41.6% of the total workforce participated in the Employee Wellbeing programme.

### Category: Best in Sustainable Processing

#### Winner: Connemara Seafoods, Co. Mayo



Connemara Seafoods is Ireland's leading cultivator & producer of fresh, frozen, freeze chilled, pasteurised and organic seafood products with over 150 years' experience in the seafood business.

#### Sustainability achievements:

- Introduced an effective energy management plan including natural water harvesting systems.
- Developed an in-house software system allowing for the tracking of raw material and production data which is available to their partner suppliers to optimise their individual operations.
- Developed an advanced enzymatic waste system resulting in new products from seafood waste streams being used in environmentally approved air filtration systems.

# 346

## Verified Origin Green Members in 2018

Members commit to a 3-5 year sustainability plan

Participating members are required to set targets in the following areas:



**Raw Material Sourcing**



**Manufacturing Processes**



**Social Sustainability**

# 2,440

Sustainability Targets



# 17%

Water Reduction per Unit of Output 2012-2017



# 11%

Energy Reduction per Unit of Output 2012-2017

# 4,717

Tonnes of Surplus Food Donated to FoodCloud

# €8.1m

Donated to Charities and Community Organisations

# 9,261

Trees Planted on Manufacturing Sites





# Manufacturers

3

Origin Green enables food manufacturers to set and achieve measurable sustainability targets that help them reduce environmental impact and achieve efficiencies in the daily running of their businesses.

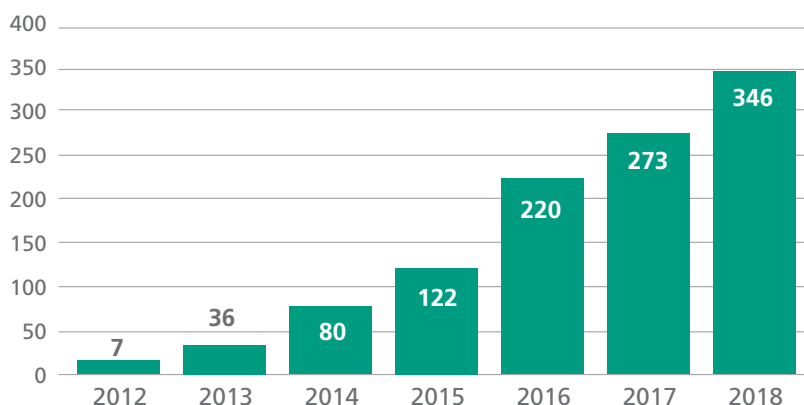
# Origin Green at the Manufacturer Level

## Overview

Origin Green enables food manufacturers to set and achieve measurable sustainability targets that help them reduce environmental impact and achieve efficiencies in the daily running of their businesses. Since the launch of the Origin Green programme in 2012, membership has consistently grown year on year to now include 587 participating companies. Of these 587 companies, some 346 of them are verified members of the programme, meaning that they have developed their sustainability plan and had it verified by a group of independent auditors responsible for ensuring that all accepted sustainability plans adhere to the standard required. A further 95 companies have submitted draft sustainability plans, and are refining these with the aim of becoming verified members of the programme. Additionally, 146 companies have registered their interest in the programme. These companies are currently at the introductory stage and will soon commence work on their sustainability plan.



Number of Origin Green Verified Members (2012-2018)



The number of companies achieving verified Origin Green membership status has grown for 7 consecutive years.

## Origin Green Plan Development

### Origin Green Process

At manufacturing level, the focus of Origin Green is the development of a sustainability plan with clear, measurable and time bound targets in accordance with the Origin Green Charter. As part of this process, each participating company commits to developing a multiannual sustainability plan for its business which must be at least three years in duration. This plan outlines robust, measurable targets relevant to its business in three key areas: raw material sourcing, manufacturing processes, and social sustainability. A company is designated as a verified member of Origin Green when its sustainability plan has been verified by independent auditors. On-going membership of Origin Green is subject to the submission of annual progress reports that are also independently verified.



### Independent Review

Origin Green's third-party verification partner is Mabbett, a leading environmental, engineering, health and safety, and sustainability consultancy. Following review and approval by Bord Bia, all initial Origin Green plans are verified by Mabbett for accuracy, robustness and credibility. Approval by Mabbett indicates that a company's Origin Green sustainability plan meets the requirements of the programme. The independent, third-party verification of Origin Green plans is a vital and central element of the programme.

Origin Green verified members are required to submit a plan review each year. The annual review is designed to report on the progress of the sustainability targets verified members have committed to and outlined in their plans. Following review and approval by Bord Bia, Mabbett verifies the updated data provided by the company to ensure the information stated in the plan is accurate, and the company is demonstrating its commitment to the programme and its sustainability initiatives. Mabbett also carries a number of on-site audits each year. They visit Origin Green companies to verify the updated plan, ensuring that the measures outlined have been put into place as described in the plan. Mabbett then provides a summary assessment report for each annual progress review containing recommendations for approving the report and relevant reasons for this decision. If members do not achieve their targets or demonstrate insufficient progress, Mabbett will assess whether the member should have their verified membership of Origin Green revoked and will make a recommendation to Bord Bia in this regard.

### Member Support

A fundamental part of Origin Green involves supporting Irish food and drink manufacturers as they work to set and achieve ambitious sustainability targets. In an effort to achieve this, a variety of tools and resources are available to participating companies as they work to achieve full verification, as well as retain their verified member status year-on-year.

### Available Supports

- **Workshops:** The Origin Green team has run over 60 introductory workshops which assist companies in understanding the programme and developing their plans.
- **Templates:** Participating companies are provided with an Origin Green plan template which outlines everything that needs to be included in their sustainability plan.
- **Online Course:** Following workshops, the Origin Green team runs a plan development course. The course has been designed to take companies from the introductory stage to the stage where they have developed a complete sustainability plan that is ready to become verified.
- **Feedback Reports:** Individual feedback reports are provided to companies developing sustainability plans to assist with development.
- **Cross-Sectoral Knowledge Sharing:** A number of visits to Origin Green verified member plants are organised with the aim of sharing knowledge about best-practice in sustainability with other companies.
- **One-to-One:** Should any other queries from companies arise, the Origin Green team is on hand to offer support and guidance on a one-to-one basis.




## Targets

Origin Green members establish sustainability targets in the following three target areas:

- **Raw Material Sourcing** - minimum of 2 targets to be set in this area, which must focus on sourcing from suppliers with sustainability certifications, developing sustainability initiatives with suppliers or improving the sustainability of packaging materials..
- **Manufacturing Processes** - minimum of 3 targets in this area with energy, waste, and water being mandatory targets for all participating companies. Emissions and biodiversity targets are also encouraged.

- **Social Sustainability** - minimum of 2 targets in this area with health and nutrition being a mandatory target area for all participating companies. One additional target is required in this area around community initiatives, employee wellbeing or diversity and inclusion.

Stretch Target: At least one target must be designated as a 'stretch' target within Origin Green plans. A stretch target refers to an ambitious target that represents a significant increase over current levels of performance within a given area.

Overview of Targets		
TARGET AREAS	MINIMUM TARGETS TO BE SELECTED	EXAMPLES OF TARGETS ESTABLISHED
 <p><b>RAW MATERIAL SOURCING</b></p> <ul style="list-style-type: none"> <li>• Source raw materials from suppliers with recognised certifications.</li> <li>• Develop sustainability initiatives with suppliers.</li> <li>• Packaging (<i>new mandatory target in 2019</i>) – Initiatives focused on improving the sustainability of packaging materials.</li> </ul>	<b>2</b>	<ul style="list-style-type: none"> <li>- 50% of office paper from FSC certified sources.</li> <li>- 60% of raw materials to have organic/ Fair Trade certification.</li> <li>- 80% of wild fish sourced to originate from sustainable fisheries.</li> <li>- 40% of coffee to be Fairtrade certified.</li> <li>- 100% of cattle sourced from Bord Bia Sustainable Beef and Lamb Assurance Scheme certified farms.</li> </ul>
 <p><b>MANUFACTURING PROCESSES</b></p> <ul style="list-style-type: none"> <li>• Energy (mandatory target) – Establish energy reduction initiatives and renewable energy investments.</li> <li>• Emissions – Commit to reduction of overall greenhouse gas emissions.</li> <li>• Waste (mandatory target) – Initiatives to prevent and reduce waste.</li> <li>• Water (mandatory target) – Reduce water consumption and improve wastewater systems.</li> <li>• Biodiversity – Conservation of ecosystems on site and sponsor biodiversity initiatives.</li> </ul>	<b>3</b>	<ul style="list-style-type: none"> <li>- 10% reduction of electricity by installing heat exchangers.</li> <li>- 15% reduction in water use by recirculating rinse cycle water.</li> <li>- 8% reduction in landfill waste by reusing Hessian bags.</li> <li>- 20% reduction of boiler emissions by installing solar convection tubing to heat water.</li> <li>- 12% reduction in carbon footprint by moving to bulk shipping of product.</li> <li>- Develop a reed bed wastewater treatment system.</li> <li>- Convert the surroundings of the main production site into a pollinator friendly space.</li> </ul>
 <p><b>SOCIAL SUSTAINABILITY</b></p> <ul style="list-style-type: none"> <li>• Health &amp; Nutrition (mandatory target) – Improve nutrition credentials of products and/or promote healthy eating habits.</li> <li>• Community Initiatives – Sponsor national and local community charities and/or organisations.</li> <li>• Employee Wellbeing – Initiatives to improve the health and wellness of employees.</li> <li>• Diversity &amp; Inclusion (<i>new optional target in 2019</i>) – Form organizational strategies and initiatives to ensure there is equality for all employees within the workforce.</li> </ul>	<b>2</b>	<ul style="list-style-type: none"> <li>- Reduce salt/sugar content by 20%.</li> <li>- Sponsor community action on healthy living.</li> <li>- Sponsor an ecology area along a local waterbody.</li> <li>- Involvement with schools in business training or student mentoring.</li> <li>- Encourage employees to become healthier (e.g., fitness schemes, sponsor gym membership, programmes to reduce stress and illness, etc.).</li> <li>- Sponsor community initiatives and/or local sporting events.</li> </ul>



Across all three target areas, companies decide upon targets that will deliver specific and measurable sustainability benefits. Once a company has selected targets, it must determine what specific capital investments and operational initiatives will achieve those targets. These targets and initiatives are outlined in the company's Origin Green plan.

The table below outlines how a representative energy target is presented within an Origin Green plan.

<b>Target Area 2 – Manufacturing - Energy</b>				
Target a 2% year on year reduction in energy per unit output for each year of the 5 year plan period from a 2016 baseline year, resulting in a cumulative 10% reduction over the lifetime of the plan.				
<b>Initiatives</b>	<b>Responsibility</b>	<b>Milestone Date</b>	<b>Verification Metric</b>	<b>Verification Method</b>
Review electricity bill for past year and establish baseline	Sustainability Manager	March 2017	Kwh	Spreadsheet with energy data and energy bills
Carry out an energy efficiency audit	Sustainability Manager	April 2017	Audit	Audit report
Install sub-metres to energy intensive areas on site	Sustainability Manager	May 2017	Kwh	Spreadsheet with energy data and energy bills
Energy efficient lighting and PIR sensors to be installed (2% reduction)	Production Manager	End 2017	Kwh	Spreadsheet with energy data and energy bills
Installation of VSD for aerators in WWTP (2% reduction)	Production Manager	End 2018	Kwh	Spreadsheet with energy data and energy bills
Improve efficiency of heat recovery on main compressor (2% reduction)	Production Manager	End 2019	Kwh	Spreadsheet with energy data and energy bills
Improve efficiency of heat recovery on compressor 2 (2% reduction)	Production Manager	End 2020	Kwh	Spreadsheet with energy data and energy bills
Installation of 20m <sup>2</sup> solar panels	Production Manager	End 2021	Kwh	Spreadsheet with energy data and energy bills

## Reporting Methodology

The following manufacturing sections outline the targets and initiatives established by the 273 verified Origin Green members present in Origin Green programme between 2012 until the end of 2017. Since Origin Green members are required to provide annual reviews that demonstrate target progress across a 12 month calendar year, 2018 results will not be known until 2020.

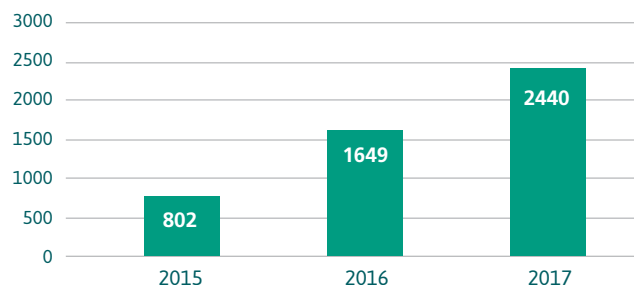
## Growth in Sustainability Targets

The number of sustainability targets set by members throughout the Origin Green programme increased with the addition of 53 verified members in 2017. In comparison to 2016 levels, the number of targets has risen by more than a third to reach 2,440. On average, this equates to each Origin Green member setting more than eight targets, despite the fact that 2017 requirements stipulated a minimum of six targets per company.



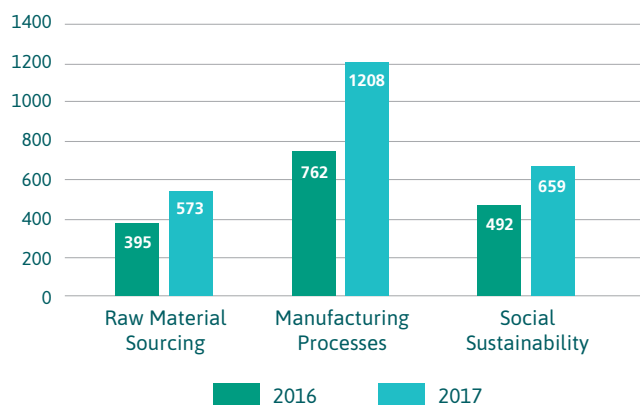
This trend is expected to increase even further with the addition of more than 80 new verified members in 2018. Furthermore, from January 2019 onwards, the Origin Green Charter will be revised to move from a minimum of six mandatory targets to a minimum of seven mandatory targets. This will require all companies to establish a new mandatory packaging target in addition to targets in energy, waste, water, health & nutrition, social sustainability, and ensuring all key raw material ingredients are sustainably sourced.

**Total Number of Sustainability Targets Chosen by Origin Green Members 2015-2017**



With the addition of 53 new Origin Green members in 2017, the number of Origin Green targets have increased across the three target areas, most notably within the manufacturing target area as shown in the graph below. The number of manufacturing targets chosen by members has risen by more than 50% due in part to the implementation of a mandatory water target for all Origin Green members in 2017. In addition, many members achieved their zero waste to landfill targets ahead of time and established new waste targets focused on waste prevention and recycling.





**Number of Origin Green Member Targets within each Origin Green Target Area 2016 vs 2017**





# Raw Material Sourcing

## KEY METRICS

 <b>573</b> RAW MATERIAL SOURCING TARGETS	 <b>57</b> TARGETS TO SOURCE PRODUCE FROM BORD BIA SUSTAINABILITY AND/OR QUALITY ASSURED FARMS	 <b>48</b> TARGETS TO DEVELOP SPECIFIC SUSTAINABILITY INITIATIVES WITH SUPPLIERS	 <b>120</b> TARGETS TO SOURCE CERTIFIED SUSTAINABLE PACKAGING MATERIAL OR REDUCE OVERALL PACKAGING SOURCED
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Raw material sourcing is a mandatory element of the Origin Green Charter, with companies required to set a minimum of 2 targets in this area. Companies are asked to assess the main raw materials used in their businesses in order to identify relevant targets that ensure raw materials are being sourced in a sustainable manner. Through this fundamental business input, Origin Green members are able to leverage 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 three headings:

- Commitment to source from suppliers with recognised certifications.
- Development of sustainability initiatives with suppliers.
- Sourcing certified sustainable packaging material, recyclable materials or reduce overall volume of packaging sourced.

Origin Green members have committed to 573 raw material sourcing targets and they continue to exceed the minimum requirements of this target area, with over half of members setting more than one target. A breakdown of the targets chosen by members under the raw material sourcing target area are shown in the chart below.

**Number of Raw Material Sourcing Targets Chosen by Origin Green Members per Target Area**



Through Origin Green raw material sourcing commitments, Irish food and drink manufacturers are making the commitment to increase the sustainability of their supply chain.

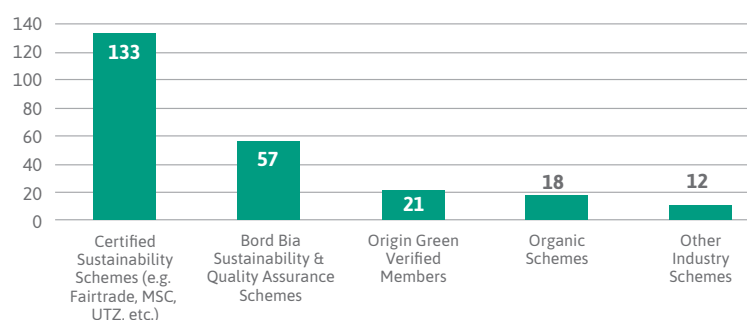
## Raw Material Sourcing

### Commitment to Source from Suppliers with Recognised Certifications

According to the Bord Bia Consumer Lifestyle Trends, consumers increasingly strive to live responsibly. They purchase goods that reflect their values and expect total transparency from suppliers to help them make these decisions. However, consumers develop decision fatigue when inundated with choices. Sourcing materials from suppliers with recognised certifications assures consumers of a product’s sustainability credentials as well as improving companies’ traceability through their supply chain.

Origin Green members have set 241 targets to source from suppliers with recognised certifications. Recognised certifications can include Bord Bia’s sustainable assurance and quality assurance schemes at a domestic level, as well as international schemes such as Fairtrade, Roundtable on Sustainable Palm Oil (RSPO), Marine Stewardship Council (MSC), etc. A breakdown of the targets chosen by members are shown in the chart below.

Number of Certification Schemes Chosen by Origin Green Members



#### Target Examples



##### Rainforest Alliance

Ensure that all cocoa, bananas, tea, palm oil, and/or coffee is 100% Rainforest Alliance certified by 2020.



##### Sustainable Beef and Lamb Assurance Scheme (SBLAS)

Launch a beef supplier engagement programme to ensure 100% of suppliers are members of SBLAS by 2018.



##### Marine Stewardship Council

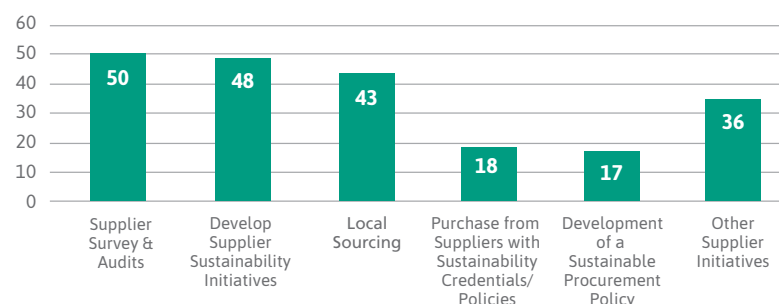
Maintain sourcing 100% of herring from the Marine Stewardship Council certified fishery in the Celtic Sea.

### Sustainability Initiatives with Suppliers

A company’s reputation can be affected by whether or not raw materials are sourced from suppliers with sustainability credentials. Therefore, Origin Green members are setting targets that involve working with existing suppliers to develop sustainability initiatives. This not only benefits the supplier, but also reduces long term supply chain risk for Origin Green members within their own businesses.

Origin Green members have set 212 targets to develop specific sustainability initiatives with suppliers. A wide range of these targets have been committed to by verified members. Companies have chosen targets to commit to sourcing from local suppliers and assist suppliers in improving their sustainability credentials. The spread of targets set by member companies are shown in the chart below.

Number of Supplier Initiatives Chosen by Origin Green Members



#### Target Examples



##### Local Sourcing

Review list of ingredients to establish current provenance of all ingredients and further increase sourcing of raw materials locally.



##### Supplier Sustainability Initiatives

Work with 50% of suppliers that participated in the Carbon Disclosure Project and provide them with information and support to improve their environmental programmes.



##### Supplier Audits & Surveys

Develop a sustainability questionnaire and audit to determine suppliers’ sustainability credentials and areas for improvement.

## Raw Material Sourcing

### Packaging

Food packaging plays an important role in ensuring food quality and safety when food products are being prepared, transported and displayed. However, due to the growing accumulation of packaging within the natural environment and most notably the world oceans, governments and consumers are demanding that food companies eliminate certain types of food packaging.

Origin Green members have committed to 120 packaging sourcing targets. Origin Green members are also setting targets focusing on improving the sustainability of their own packaging. This includes introducing packaging that is recyclable, reducing the amount of packaging that the product uses or sourcing certified sustainable packaging material. A breakdown of the packaging targets chosen by members are shown in the chart below.

**Number of Packaging Sourcing Targets Chosen by Origin Green Members**



Origin Green hosted a Sustainable Packaging Seminar in Bord Bia's Thinking House on 25th September 2018. The event was held in conjunction with Repak with support from Bord Bia's Consumer Insights team. Over 100 attendees from Origin Green manufacturing firms, retail and foodservice companies, and food and drink industry stakeholders attended the event, which aimed to educate Origin Green verified members on sustainable packaging and its implementation.

From January 2019, packaging became a mandatory target under the Origin Green Charter raw material sourcing section. To ensure companies have the required knowledge to set appropriate packaging targets, Repak is hosting a series of sustainable packaging clinics. The clinics give Origin Green members the opportunity to meet one-on-one with a Repak packaging technologist to discuss ways in which they can make their packaging more sustainable.

### Target Examples



#### Certified Sustainable Packaging

Ensure 100% of all paper based packaging has Forest Stewardship Council (FSC) certification.



#### Recyclable Material

Source plastic packaging that is fully recyclable.



#### Reduced Packaging

Redevelop product packaging to eliminate unnecessary packaging materials.



Origin Green Sustainable Packaging Seminar, 25th September 2018

## Raw Material Sourcing

### Castletownbere Fishermen’s Co-operative Society Ltd.

#### Supporting the Sustainability of Irish Fisheries



Castletownbere Fishermen’s Co-Op, based in the southwest coast of Ireland was founded in 1968. The Co-Op lands high quality seafood direct from its own fleet of fishing trawlers with a staff of 70 people.

Over recent years, international markets have become more demanding about the sustainability of the fishing stocks from which they source. In response to this, under its Origin Green raw material sourcing targets, Castletownbere Fishermen’s Co-op has made the commitment to improve the sustainability of its fisheries by working closely with Bord Iascaigh Mhara (BIM), Ireland’s Seafood Development Agency, to implement Fishery Improvement Projects (FIPs). FIPs provide a platform for fishermen, seafood buyers and suppliers to develop a strategy to improve a specific fishery by considering better policies and management over a given time period. Developing a FIP is a recognised method, globally, of improving the sustainability of fish stocks. BIM have linked the participation of registered FIPs to its Responsibly Sourced Seafood standard (RSS). This link provides the opportunity for actions and participation in a FIP to be verified independently to a third party certified standard.



Castletownbere Co-op understands the importance of FIPs to simultaneously improve both the sustainability of fisheries and to access markets which demand sustainability and environmental credentials. The company has identified that this is a very important initiative and is a key stakeholder in the development of FIPs for Nephrops, Albacore Tuna, Monkfish, Megrims and Hake. In addition, the Co-op aims to have all its vessels involved in FIPs for respective target species. To fulfil these commitments, the company will convene pre-competitive supply chain roundtables to identify practical actions based on objective scientific information and set clear timeframes to achieve improvement targets. Furthermore, Castletownbere is also underpinning this commitment to sustainable fishing practices with independent certification of its member vessels to the BIM RSS standard, which covers handling, quality, and environmental aspects, as well as crew wellbeing.

### The Foyle Food Group

#### Collaborating with Suppliers to Drive Sustainability on Farm



Established over three decades ago, the Foyle Food Group has a long-standing history of supplying quality beef to leading retailers, manufacturers, foodservice providers, and butchers in Europe and around the world.

The Foyle Food Group has a ‘ground up’ approach to sustainable procurement, partnering closely with its supplier base. Within the Republic of Ireland, Foyle sources over 98% of its beef from producers certified under the Bord Bia Sustainable Beef and Lamb Assurance Scheme (SBLAS).



In order to assist its supplier base to drive sustainable beef farming practices, Foyle has established a beef improvement programme, which comprises of approximately 20% of its suppliers who provide 80% of beef processed. Group meetings are held every 8 weeks to discuss how to adopt more sustainable farming practices and drive improvement.

To date, topics covered within these discussion groups have included:

- Grassland Management
- Animal Nutrition
- Animal Health
- Soil Management
- Benchmarking

After each meeting, best practice guides are produced by Foyle and made available for its entire supply base on the company’s dedicated producers website.

By providing farmers with expert knowledge on key farm management practices, Foyle not only aims to improve the long term sustainability of its supply base, but also drive farm profitability.

## Raw Material Sourcing

### Greenfield Foods

#### Committed to Sustainable Egg Sourcing



Greenfield Foods was established in 1998 and is Ireland's largest egg packing centre. The company has a production base of 1.3 million birds from 70 farm sites and packs 6.5 million eggs a week.

Greenfield Foods has a longstanding commitment to source eggs from suppliers certified under the Bord Bia Egg Quality Assurance Scheme (EQAS). Despite the strong recognition of quality assurance schemes within the international market, consumers are now seeking additional sustainability attributes in the products they purchase. Therefore, in consultation with the Irish egg industry, the longstanding EQAS transitioned in 2017 to become the Bord Bia Sustainable Egg Assurance Scheme (SEAS).

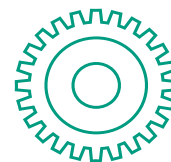


Understanding the importance of sustainability not only to customers but also to improving business performance, Greenfield Foods has committed to sourcing 100% of its eggs from farms with SEAS certification. SEAS contains the pre-existing quality requirements around traceability, animal welfare, biosecurity, pest and food safety management, but now scheme members are required to record data on sustainability. Under the scheme, egg producers are required to maintain records on aspects such as energy use, litter type and feed usage, and at their packing centres submit sustainability data including electricity use, packaging use, water use and distances incurred from delivery and collection of eggs.

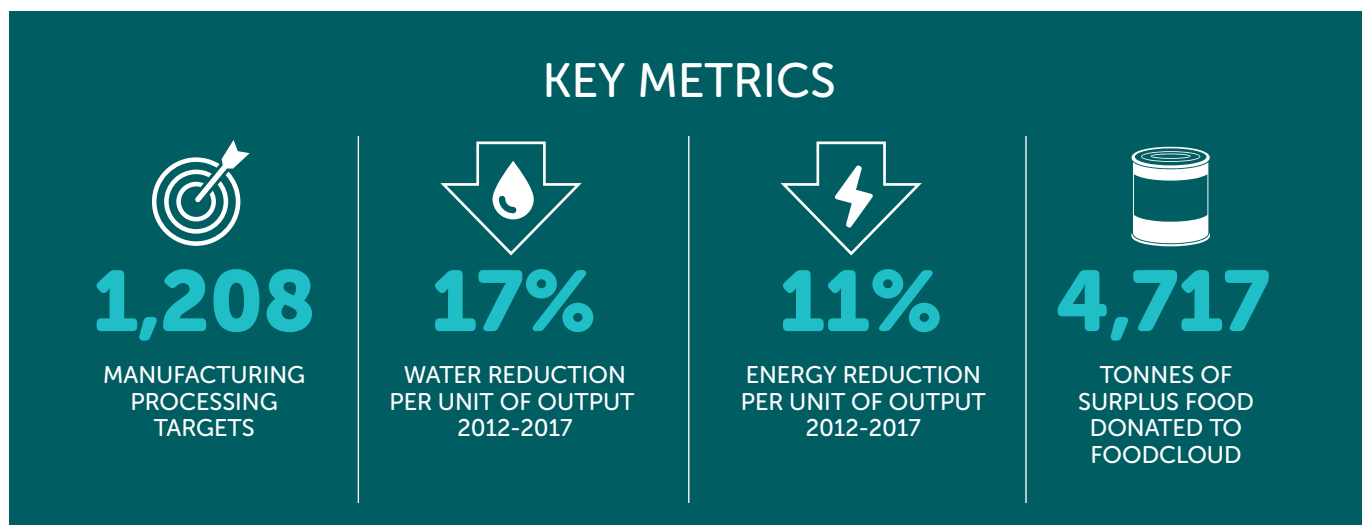
The data collected from Greenfield Foods' producers is used to calculate their carbon footprint. This is included in a feedback report on the member's quality assurance and sustainability performance, allowing them to make informed decisions on improving the sustainability of their business.

Origin Green members have committed to 573 raw material sourcing targets.





# Manufacturing Processes



Origin Green members have committed to 1,208 manufacturing targets.

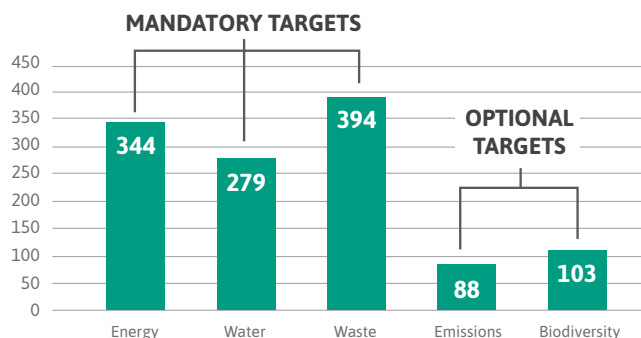
This sector of the Origin Green Charter encompasses elements that are key to the manufacturing of a company's food and drink product. The focus in this area is for companies to develop targets that will reduce the resource intensity of manufacturing processes. The areas that are covered in this section are:

- Energy & Emissions
- Water
- Waste
- Biodiversity

Participating companies must set a minimum of three targets in this area. Energy, water and waste are mandatory target areas as they are integral to the manufacturing processes. In addition, companies can set additional emissions and biodiversity targets to align with their company's ambition and strategy.

Origin Green members have committed to 1,208 manufacturing targets. Members continue to exceed the minimum requirements of this target area with over half of members setting more than three targets. A breakdown of the manufacturing targets chosen by members are shown in the chart below.

**Number of Manufacturing Processes Targets Chosen by Origin Green Members per Target Area**



## Manufacturing Processes

### Energy & Emissions

## KEY METRICS:

# 344

ENERGY TARGETS

# 1,598

ENERGY INITIATIVES

# 11%

ENERGY REDUCTION PER UNIT OF OUPUT 2012-2107

# 556

ENERGY MONITORING AND INVESTIGATION INITIATIVES

A 2011 UN FAO report stated that the global food sector accounts for around 30 percent of global energy consumption and produces over 20 percent of global greenhouse gas emissions. If the global food sector is to play its part in mitigating climate change, food companies are required to improve the energy efficiency of their operations and implement means to reduce their dependences on fossil fuels and move to renewable energy sources. In response to this, energy is a mandatory target and emissions is an optional target.

### Areas of Focus within Energy

Origin Green plans contain a total of 344 energy targets comprising of 1,598 initiatives. Establishment of energy reduction targets also has the added benefit of reducing GHG emissions as a result of reduced electricity generation. By far the most selected energy initiative is monitoring & investigation, as the first step for all members is to determine energy usage across their sites before making energy initiative capital investments. After identifying areas for energy initiatives, members have chosen to invest in a range of initiatives including the retrofitting of existing equipment and conducting employee training to embed a workplace culture that focuses on energy efficiency. A breakdown of the energy initiatives undertaken by members are shown in the chart below.

### Initiative Examples

**Energy Efficiency Measures**

Utilise passive design techniques when planning new operations and designing buildings to minimise energy usage.

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**Gas/ Oil Reduction**

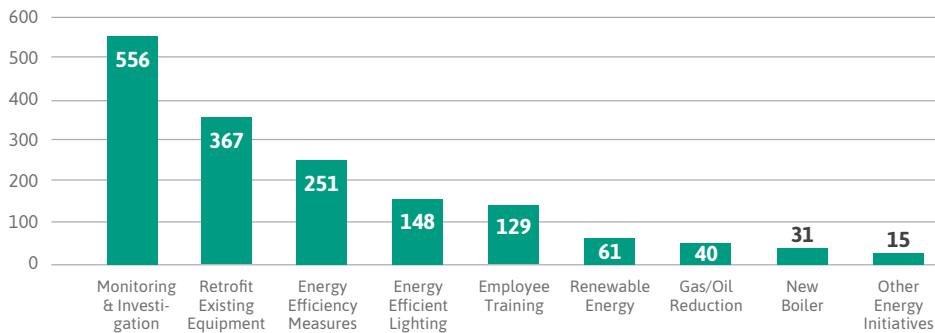
Switch to an electric fleet, replacing 2 vehicles every year with electric alternatives.

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**Monitoring & Investigation**

Conduct an energy audit to ensure machinery is operating at the optimal point to provide the maximum amount of output.

**Number of Energy Initiatives Chosen by Origin Green Members**



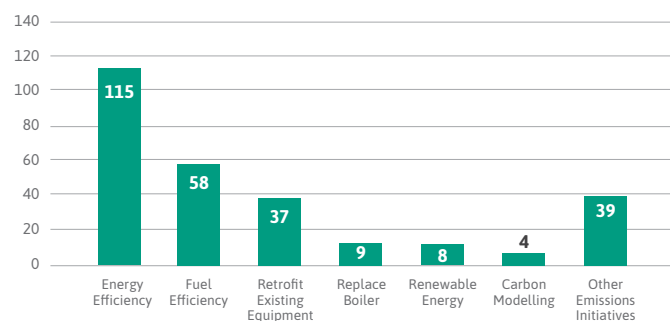
Origin Green plans contain a total of 344 energy targets comprising of 1,598 initiatives.

## Manufacturing Processes

### Areas of Focus within Emissions

Origin Green members have selected 88 emissions targets comprising of 270 initiatives. Larger companies, who are required to report their GHG output as part of the EU Emissions Trading Scheme, have had the biggest uptake in setting GHG reduction targets. Smaller to medium sized companies have tended to focus on reducing energy use which has the added benefit of reducing the GHG emissions as a result of reduced electricity generation. Members who have established emission targets have focused on both energy and fuel efficiency initiatives. These initiatives will ultimately allow companies to continue to produce food and drink products while simultaneously reducing overall emissions. A breakdown of the emission initiatives undertaken by members are highlighted in the chart below.

Number of Emissions Initiatives Chosen by Origin Green Members



### Initiative Examples



#### Retrofit Existing Equipment

Install new energy efficient technology to older existing equipment e.g., heating systems and refrigeration systems.



#### Replace Boiler

Convert boilers from heavy fuel oil to natural gas to reduce CO2 emissions.



#### Renewable Energy

Install solar panels or an on-site wind-turbine to generate energy.

### Performance

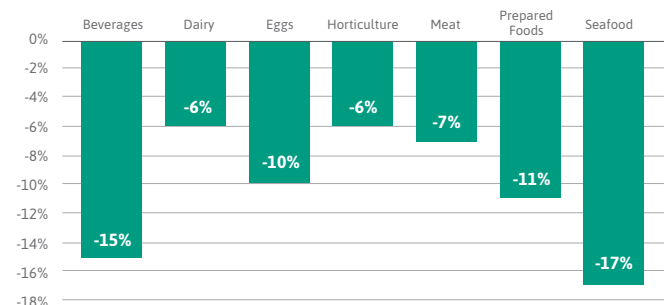
When the energy targets for all Origin Green members are cumulated, it shows that energy usage per unit of output from 2012 - 2017 averaged 11% lower than the baseline year of their individual plans.



**Energy Usage Per Unit of Output 2012-2017**  
(%change relative to base year)

All sectors show reduced energy usage per unit of output 2012-2017. The largest reduction was evident in the seafood and beverage sectors, highlighting the range of energy efficiencies and investments being implemented throughout these sectors. A breakdown of the energy usage per sector is shown in the chart below.

Energy Usage per Unit of Output 2012-2017  
(% change relative to base year)



## Manufacturing Processes

### The Bretzel Bakery

#### Embracing 'Smart' Technology to Achieve Operational Efficiencies



The Bretzel Bakery is a Dublin based bakery which supplies fresh bread to over 200 customers in the greater Dublin area, becoming synonymous as a producer of the highest quality bread.

As part of its Origin Green plan, the company is embracing the latest innovative technology to track its energy usage. Utilising an operational intelligence portal in partnership with the Irish company, Cognition, The Bretzel Bakery is ensuring the full optimisation of energy usage within its bakery.



Automated live energy data is collected via data-capture sensors in the Bretzel Brakery's Dublin site, feeding real-time production information into a live analytics platform. The platform alerts the company when energy production standards are not optimum, as well as pinpointing where savings can be made in energy or production quality. The bakery captures over 30,000 data points each week to help it understand hard to track but expensive issues, such as:

- ensuring gas and electricity ovens are being used at optimum times
- over-cooling of freezers and efficiency of refrigeration
- quality of dough production by managing both temperature and humidity
- consistency of quality standards for temperature, shift patterns and machine use
- water temperature tracking to negate the need for additional chilling

The outcomes from using intelligent alarming to manage activities are reduced operational costs, reduced costs of non-compliance, and much more efficient production processes, making the Bretzel Brakery one of the leanest artisan bread bakers in Europe.

### Heineken Ireland

#### Achieving Ambitious CO<sub>2</sub> Reductions



Heineken is one of Ireland's leading beer and cider companies, having been built on a proud brewing heritage that started in Cork over 160 years ago. Today, Heineken employs approximately 400 people in Ireland and is a major supporter of Irish agriculture, sourcing 100% of its malted barley from Irish farming families.

Heineken Ireland has set a number of ambitious emission-based targets across production, distribution and refrigeration as part of its Origin Green sustainability plan.



Within its production facility, the company aimed to reduce CO<sub>2</sub> emissions by 40% per hectolitre (hl) over 2008 levels. It set about achieving this target under its global carbon reduction programme titled 'Drop the C', where Heineken aimed to reduce carbon emissions by growing its share of renewable thermal energy and electricity. Heineken's Cork site followed suit by converting to 100% renewable electricity. By transitioning over to a renewable source, the company far exceeded its original reduction target of 40% per hl to achieve a reduction of 55%.

Under refrigeration, Heineken Ireland aimed to reduce emissions produced by fridges by 50% and achieved this target by converting 100% of fridges to 'green fridges'. All Heineken 'green fridges' have three characteristics: they use a hydrocarbon refrigerant, are LED illuminated and have an energy management system.

Heineken also achieved its distribution reduction target of 20% three years ahead of the globally set target. This was done through working on its distribution activities and improving the efficiency of route to market and delivery.

Through achieving these reductions, Heineken Ireland's Cork plant is in the top 25% of the most efficient Heineken breweries globally.

## Manufacturing Processes

### Keogh's Farm

#### Carbon Neutrality Delivered through International Partnership



Keogh's Farm specialises in the production of potatoes and premium hand cooked crisps from its family farm based in North County Dublin. The majority of the company's potato and crisp products are sold domestically and across 15 export markets.

Keogh's Farm has been working closely with the Irish developmental charity, Vita, to drive knowledge transfer in Ethiopia. Utilising the company's extensive knowledge on the production of the potato, they have worked alongside Teagasc, the Irish Potato Federation and local groups, to produce better quality potatoes with improved yields in the highlands of Southern Ethiopia. Keogh's aim through the project is to make these communities self-sufficient and deliver long-term sustainable potato cultivation for Ethiopian farmers.



Building upon this, the company has also broadened out the scope of its work in Ethiopia to assist in the building of water wells for local communities and introduce more fuel efficient stoves, which significantly reduce the requirement for fuel & intensive labour hours gathering materials to burn in the stoves. Through supporting these energy efficiency projects which reduce carbon emissions, Keogh's Farm were able to purchase carbon credits. The purchase of these carbon credits enabled Keogh's to offset their carbon emissions in their Irish operations and achieve carbon neutrality in 2018.

Through its work in this region, Keogh's has been able to transfer the knowledge gained on its family farm over generations to better the lives of many Ethiopian families for the long-term.



## Manufacturing Processes

### Water

## KEY METRICS:

# 279

WATER TARGETS

# 956

WATER INITIATIVES

# 17%

WATER REDUCTION PER UNIT OF OUTPUT 2012-2017

# 124

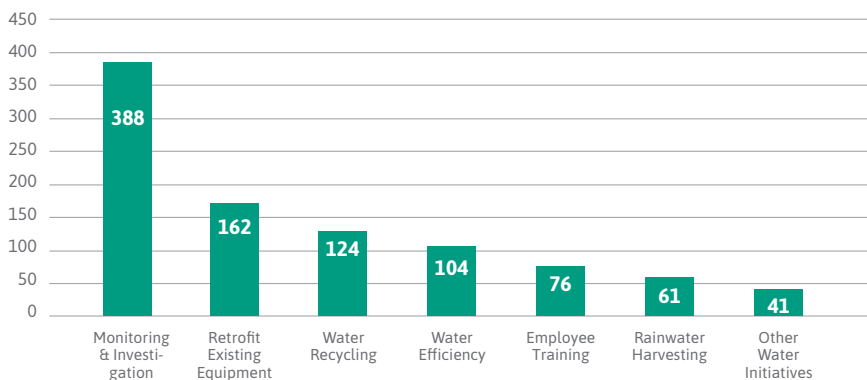
WATER RECYCLING INITIATIVES

Water is vital to all food and drink production. It is used to grow and feed agricultural materials and to heat, cool, and clean during processing. As the global population increases, the demand for fresh water also increases. This puts serious stress on our water sources. According to the United Nations, with the existing climate change scenario, 1.8 billion people are expected to be living in areas with absolute water scarcity, and two-thirds of the population could be under water stress conditions by 2025. Although Ireland typically has ample rainfall throughout its regions, conservation of water is important to maintain plentiful supplies during times of scarcity and drought. To encourage water conservation, water is a mandatory target area in the Origin Green programme, where member companies focus on reducing water use efficiency within general production operations, cooling and heating, and wastewater management.

### Areas of Focus within Water

Origin Green plans contain a total of 279 water targets comprising of 956 initiatives. Companies have set a wide range of initiatives to achieve water targets over the duration of their plan. Similar to the energy and emissions section, monitoring and investigation is by far the most selected initiative chosen by members, as this allows them to identify which water efficiency initiatives will deliver the best return on investment. Members have then set initiatives around the retrofitting of existing equipment, replacing existing equipment with more water efficient equipment, and/or installing water saving devices. A breakdown of the water initiatives chosen by members are shown in the chart below.

Number of Water Initiatives Chosen by Origin Green Members



### Initiative Examples

**Monitoring**  
Install monitoring or short interval controls specific to water usage monitoring systems to set short and long term goals.

**Water Recycling**  
Recapture water so it can be reused multiple passes through the cooling system, reducing the need for new water.

**Rainwater Harvesting**  
Harvest rainwater off rooftops to utilise non-potable for non-potable applications.

Origin Green plans contain a total of 279 water targets comprising of 956 initiatives.

## Manufacturing Processes

### Performance

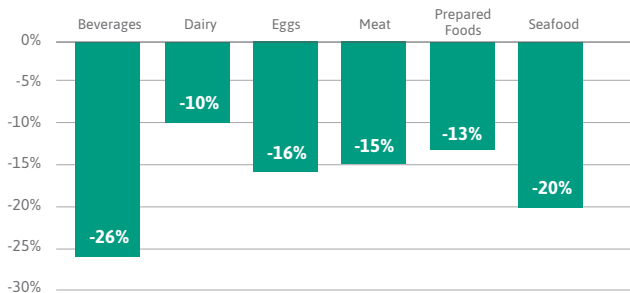
When the water targets for all Origin Green members are cumulated, it shows that water usage per unit of output from 2012 - 2017 averaged 17% lower than the baseline year of their individual plans.



**Water Usage Per Unit of Output 2012-2017**  
(%change relative to base year)

All sectors represented by members show reduced water usage per unit of output over the past six years. The largest reduction was evident in the Beverages and Seafood sectors with declines of 26% and 20% respectively. A breakdown of the water usage per sector is shown in the chart below.

**Energy User Per Unit of Output 2012-2017**  
(% change relative to base year)



### Glenilen Farm

#### Committed to Water Conservation



Glenilen Farm, owned and operated by Alan and Valerie Kingston, is based in Drimoleague, West Cork. The company manufactures a premium range of yoghurts, butter, cream and desserts for the Irish and UK market.

Water is a vital resource in dairy processing as it is required across all areas of operations, such as heating, cooling, and cleaning. Understanding that water is a finite resource that must be used responsibly, Glenilen Farm implemented water conservation features into its manufacturing site to reduce the abstraction of groundwater from two on-site wells. Glenilen’s target was to reduce groundwater usage by 10% per unit of output by 2017.



To achieve a 10% reduction, Glenilen first invested in a water monitoring system with flow meters installed throughout its site to monitor water usage both inside and outside of the plant. These meters are continuously monitored within the processing area. Graphed water usage readings are displayed on a staff information board on a weekly basis which enables employees to track progress in achieving Glenilen’s targets. As a result of this monitoring programme, Glenilen have improved water distribution and delisted some inefficient water lines.

In a further initiative to reduce the usage of water from groundwater sources, the company installed two rainwater harvesting tanks with a combined storage capacity of 46,000 litres. This harvested water is used to flush in water lines and it also feeds into the boiler in order to be used for wash-downs. As a result of these efficiency measures, Glenilen has reduced its water consumption by 65.7% on a cubic metre basis per tonne of product produced. Going forward, the company is also looking to establish further water reduction targets as part of its second Origin Green plan.

## Manufacturing Processes

### Waste

#### KEY METRICS:

**394**  
WASTE  
TARGETS

**1,193**  
WASTE  
INITIATIVES

**166**  
RECYCLING  
INITIATIVES

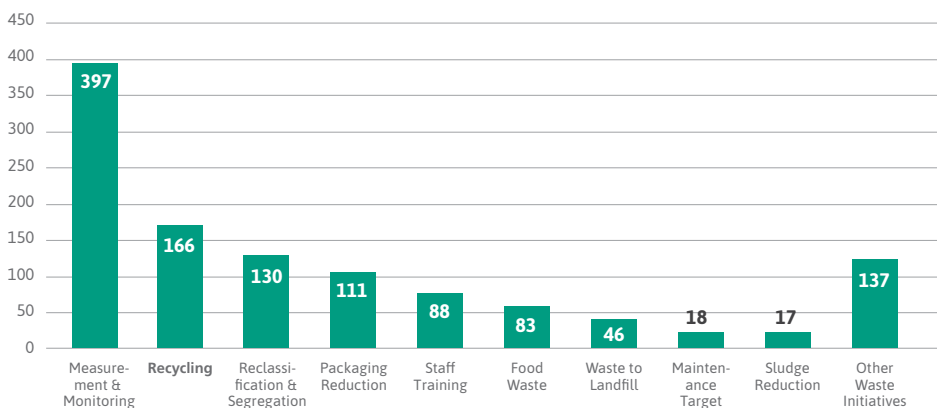
**4,717**  
TONNES OF  
SURPLUS FOOD  
DONATED

When waste is improperly disposed of there can be severe impacts on air, surface and groundwater, soil, and marine environments. Over 12 million tonnes of plastic end up in oceans each year, releasing toxins and endangering marine life. Additionally, the United Nations Food and Agriculture Organisation estimates that over 30% of all food produced for human consumption is wasted. In response to this Origin Green members are required to develop waste targets aimed at prevention, minimisation or recycling.

#### Areas of Focus within Waste

Origin Green member companies have established a total of 394 waste targets comprising of 1193 initiatives. Since the launch of the Origin Green programme, the type of waste targets members set has shifted noticeably. When Origin Green first launched, the majority of companies set targets focused on reducing the level of waste diverted to landfill. However, due to many companies achieving their zero waste to landfill targets earlier than expected, and with the release of new EU waste and packaging directives, members have established targets focused on waste prevention and recyclability. This is evident by members setting recycling and waste segregation initiatives. Furthermore, packaging reduction initiatives are key to many companies' waste targets along with minimising food waste. The spread of waste initiatives set by member companies is shown in the chart below.

Number of Waste Initiatives Chosen by Origin Green Members



#### Initiative Examples



##### Food Waste

Partner with local groups or businesses to donate surplus food fit for human consumption.



##### Packaging Reduction

Avoid composite packaging (multiple materials) or design packaging to allow for separation of individual parts for recycling.



##### Staff Training

Educate staff about recycling initiatives and the importance of keeping soiled packaging from entering recycling containers.

Origin Green member companies have established a total of 394 waste targets comprising of 1,193 initiatives.

## Manufacturing Processes

### Irish Country Meats

#### Partnering with Customers to Minimise Packaging Waste



Irish Country Meats is one of Europe's leading lamb processors and currently services 30 markets worldwide.

As part of the company's Origin Green sustainability plan, Irish Country Meats is committed to creating as little waste as possible in its two production facilities. The company has an active recycling plan in place which ensures that all cardboard, plastic, paper, metal and wood waste is segregated, separated and appropriately recycled. Central to achieving this waste reduction target has been the understanding that the best form of waste management is to eliminate or reduce the cause of waste from the outset.

The company identified packaging sent to customers as an area where waste reduction could be achieved in consultation with customers. Therefore, over recent years, Irish Country Meats has worked with a number of customers to accept products in reusable trays instead of using corrugated cardboard packaging. As a direct result of the switch to reusable trays, the company observed an 84% reduction in the volume of paper cardboard waste generated. This eliminated 17 tonnes per annum from the waste stream.

By collaboratively engaging with its supply chain, Irish Country Meats was able to significantly reduce the volume of packaging from suppliers needing disposal. This not only helps suppliers achieve their own waste targets, but also minimises associated expenses in the management of this unnecessary packaging waste.



### FoodCloud

#### Tackling the issue of food surplus, one good meal at a time



FoodCloud is a social enterprise that connects businesses with surplus food with charities across Ireland.

Every year, roughly one third of the food produced in the world for human consumption is lost or wasted – approximately 1.3 billion tonnes of food.



**FoodCloud**

FoodCloud - through its retail app and its warehouse model, FoodCloud Hubs - works with retailers and food manufacturing businesses with the objective of rescuing as much good quality food from the supply chain, prioritising feeding people before looking at other disposal options.

Reduction of food surplus represents a great opportunity for food businesses – from minimising costs, gaining revenue from increased yield, reducing waste transport and associated air emissions, lowering costs to landfill to increasing revenue from by-products recovered from what would otherwise be solid waste, and demonstrating social responsibility by supporting those in need in our communities.

As an Origin Green Partner, FoodCloud is dedicated to making surplus food rescue and redistribution affordable and scalable for the food industry, who often find that they have too much. FoodCloud's tech-based solution allows businesses to measure their impact in terms of surplus and the charities and communities benefiting from the donations, which helps Origin Green members track KPI's towards achieving their sustainability goals.

To date, Origin Green members through FoodCloud Hubs have made the following contributions as part of their Origin Green targets:

- 42 Origin Green Members have donated to FoodCloud Hubs
- 4,717 Tonnes of Surplus Food Redistributed

## Manufacturing Processes

### Biodiversity

## KEY METRICS

# 103

BIODIVERSITY TARGETS

# 336

BIODIVERSITY INITIATIVES

# 9,261

TREES PLANTED ON MEMBER'S SITES

# 47

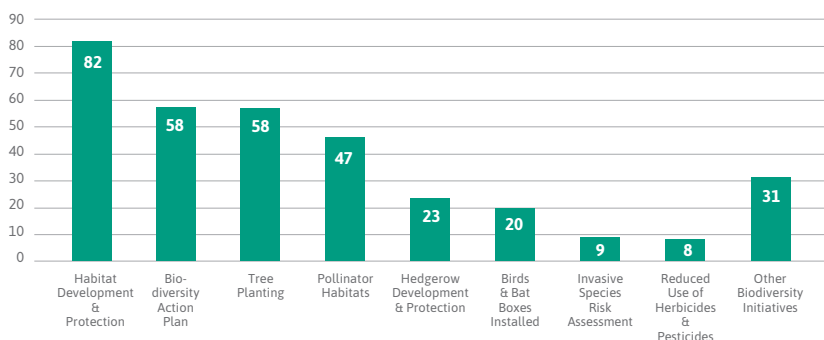
POLLINATOR HABITATS ON MEMBER'S SITES

Biodiversity provides a variety of benefits including production of food and water, maintenance of soil fertility, control of climate and disease, nutrient cycling, and crop pollination. Food security is put at risk by the loss of biodiversity, as well as clean air and fresh water. Origin Green verified members are encouraged to include at least one biodiversity target in their plans under the manufacturing target area. The target can focus on improving biodiversity on their sites and immediate surroundings or assess how they can enhance, integrate or protect existing biodiversity throughout their operations.

### Areas of Focus within Biodiversity

Origin Green members have established a total of 103 biodiversity targets comprising of 336 initiatives. The most popular biodiversity initiative among members is habitat development and protection initiatives, which focus on developing new wildlife habitat on members' sites or on community lands. These initiatives may involve the development of a wetland site or planting to create new habitats. The planting is reflected by members establishing hedgerow development and protection initiatives, as well as planting 9261 trees across their sites. Another popular initiative is the creation of a biodiversity action plan under the direction of the All-Ireland Pollinator Plan, which Origin Green has promoted to member companies. To facilitate the adoption of biodiversity initiatives on site, Bord Bia partnered with the National Biodiversity Data Center to publish The Pollinator Plan Business Guidelines in November 2016. A number of actions contained within the guidelines are reflected in the initiatives established by members such as the creation of pollinator habitats, and reduced use of herbicides and pesticides on sites. A breakdown of the biodiversity targets chosen by members are shown in the chart below.

Number of Biodiversity Initiatives Chosen by Origin Green Members



### Initiative Examples

**Development & conservation of ecosystems on site**

Maintain or establish wetlands to attract biodiversity.

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**Sponsoring local biodiversity initiatives**

Support local community groups in their attempts to protect and enhance biodiversity.

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**Creating pollinator habitats**

Attract pollinators by planting a pollinator garden with native plants.

Origin Green members have established a total of 103 biodiversity targets comprising of 336 initiatives.

## Manufacturing Processes

### Finnegan's Farm

#### Collaborating to Enhance Pollinator Habitats



Finnegan's Farm is a fifth generation, family-run farming business situated in the heart of the Boyne Valley region. Finnegan's specialise in a number of crops, but the company's main enterprise is in growing and supplying fresh potatoes to Irish retailers.

Pollinators, especially bees, make up an important part of Ireland's biodiversity. The annual value of pollinators for human food crops is €53 million. Unfortunately, one third of our bee species are threatened with extinction in Ireland. In 2016, The National Biodiversity Data Centre and Bord Bia launched a framework for Businesses as part of the All-Ireland Pollinator Plan 2015 - 2020, which identified actions that companies could take to help boost pollinators and the livelihoods of farmers who rely on their invaluable pollination service.



Pollinator protection is critically important to Finnegan's Farm's operations, as all of the company's crops require pollination for them to grow. Under the guidance of the All-Ireland Pollinator Plan, Finnegan's Farm set an Origin Green target to increase the number of natural pollinators by protecting and maintaining natural habitats across the farm's c.1800 acres.

Since bee species such as the honeybee, bumblebee and solitary bees are central to the fertilisation of plants, the company consulted with a local bee expert to place six beehives within its oilseed rape fields. This is an excellent location for the bee hives as the oilseed rape is an ideal food source for the bees. In the first year alone, the bee population in each hive has grown from 25,000 up to 70,000-80,000. In addition to increasing the number of bees on the farm, the company has also sought to promote other pollinators on farm by reducing the mowing of grasslands by 33%. This unmown grass provides a pollinator friendly environment allowing wildflowers to thrive among the long grass, thus providing an excellent food source for pollinators.

Looking forward, Finnegan's Farm will seek to raise awareness of its biodiversity initiatives within the local community through a range of different topics, such as pollinator friendly planting and engaging with local groups.

### Emerald Mussels

#### Biosecurity Planning for Invasive Alien Species



Emerald Mussels are a premier shellfish producer in Ireland and the first producer of seabed cultured mussels worldwide classified by the EU as Organic and which carry the EU Organic Logo. Emerald Mussels are also members of the MSC certification for the Ireland Bottom Grown Mussel Fishery.

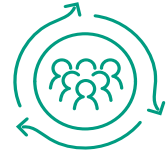
Invasive Alien Species are animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found, with serious negative consequences for the natural and human environment in which they become established. Within the aquatic environment, invasive species such as the Slipper Limpet can also threaten aquaculture stocks and the natural environment upon which aquaculture depends.

### Emerald Mussels Ltd.

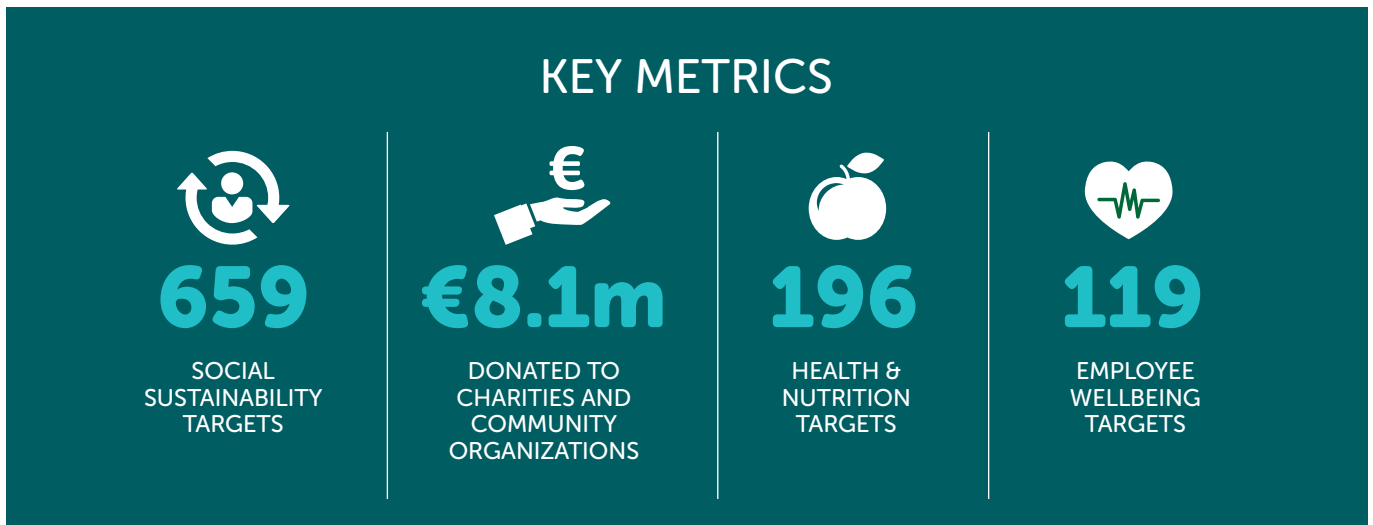
In order to combat the introduction of invasive species, Emerald Mussels has developed Origin Green biodiversity targets to minimise the risks of new species arriving, spreading and causing impact. To achieve this target, the company has voluntarily carried out an invasive species risk assessment and biosecurity plan with assistance from BIM in line with the guidance provided by the Invasive Species Ireland Project. The plan involves the following six step process:

1 UNDERSTANDING YOUR SITE	RISK ASSESSMENT
2 UNDERSTANDING HOW A PLAN CAN BE INTRODUCED TO YOUR SITE	
3 IDENTIFICATION OF SIGNIFICANT RISKS	
4 DEVELOPING BIOSECURITY MEASURES	BIOSECURITY PLAN
5 BIOSECURITY OBSERVATION, MONITORING & REPORTING	
6 CONTINGENCY PLANNING	

To implement the species risk assessment and biosecurity plan, Emerald Mussels provided staff training on how to identify "high impact" species and how to record/ photograph suspected species found. Following training, reminders are issued via notice boards to ensure staff remain vigilant. Staff also conduct regular monitoring as part of day to day activities and have established structures to record and report any potential invasions. Under the programme, Emerald Mussels have not detected any high risk species to date.



# Social Sustainability



With social sustainability growing in importance, the area has become a critical area within the Origin Green Charter. Businesses, consumers and other stakeholders are increasingly recognising the importance of social sustainability as an integral part of their overall sustainability strategies. Origin Green members are required to include a minimum of two targets within this area. Companies must select a health and nutrition target as well as another target in the area of employee wellbeing, community initiatives or diversity and inclusion.

Global companies are increasingly aware of the need to embed workplace diversity and inclusion programmes within their employee practices to not only retain a positive company culture but also to attract and retain talented employees. In recent years, some Origin Green members have run diversity and inclusion training programmes under their employee wellness programmes. To encourage more members to develop diversity and inclusion initiatives, in 2019, diversity and inclusion became an optional target area under social sustainability. Members who establish a diversity and inclusion target are encouraged to develop a diversity and inclusion strategy with the support of the Agri-Food Diversity and Inclusion Forum’s ‘Diversity & Inclusion Toolkit’. The toolkit developed in conjunction with Bord Bia and AON includes templates and links to reliable sources of expert advice and guidance on how to implement D&I considerations into a company strategy.

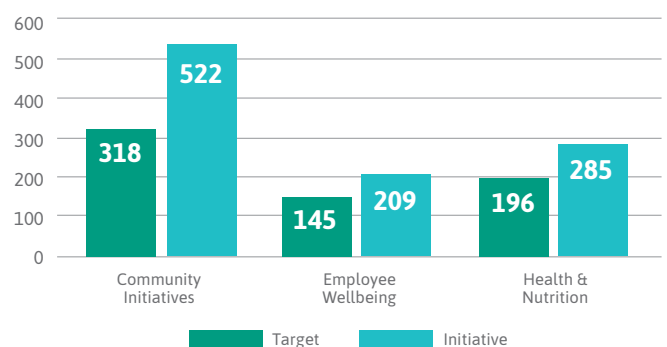
Within the social sustainability target area, targets are set under four headings:

- **Health & Nutrition** – This may include website information on nutritional content of products, nutrition labelling, development of healthy product ranges, reduced sugar, fat or salt content, or sponsored community action on healthy living and how to eat healthier.

- **Community Initiatives** – This may include sponsorship of school initiatives, sporting events, biodiversity projects, supporting local charities, involvement with schools in business management training or student mentoring, or community literacy and well-being programmes.
- **Employee Wellbeing** – This may include initiatives to encourage employees to become more healthy such as fitness programmes or developing better work-life balance programmes to reduce stress and illness.
- **Diversity & Inclusion** – This may include initiatives related to developing hiring practices to recruit candidates from a variety of backgrounds, establishing training programmes to bring issues of cultural bias practices to light, reviewing existing diversity policies or increased communication to employees regarding these policies.

Origin Green members have committed to 659 social sustainability targets. A breakdown of the targets chosen by members under the social sustainability target areas are shown in the chart below.

**Number of Social Sustainability Targets and Initiatives Chosen by Origin Green Members per Target Area**



## Social Sustainability

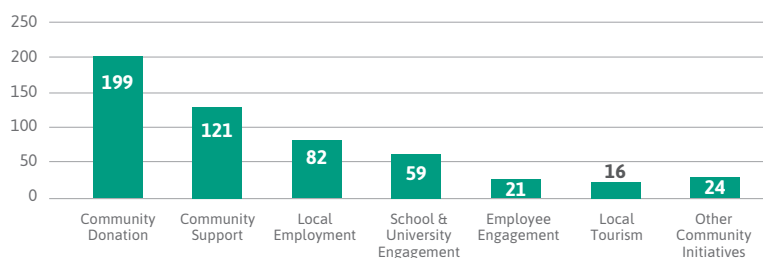
### Community Initiatives

As part of the Origin Green Charter, companies have the option of setting a target in the area of community initiatives. Companies, especially in more rural areas of Ireland, can become a cornerstone of the community, providing employment opportunity and revenue for the area. In a similar way, the company can support its local community through a number of initiatives designed to enhance the area in which it is based, such as the sponsorship of community initiatives supporting local charities or providing work experience for students from local schools.

#### Areas of Focus within Community Initiatives

Origin Green members have established 318 community targets comprising of 522 initiatives. The most popular target under the community area is community donations with 199 initiatives established and over €8.1 million donated. This is followed by sponsorship of local community groups, sports teams and events with 121 initiatives. Another positive trend sees Origin Green verified members strengthening their relationships with local schools and universities by offering work experience and school presentations. A breakdown of the various community initiatives set by members are outlined in the chart below.

Number of Community Initiatives Chosen by Origin Green Members



### Initiative Examples



#### Community Donation

Guarantee multiannual funding to local charities, community organisations and/ or sports groups.



#### Community Support

Set aside a percentage of employees' company time to support community groups and/or host community events.



#### Local Employment

Involvement in local employment programmes and work experience placements for local students.

### Sample of Charities & Groups Supported by Origin Green Members

- Alzheimers Society of Ireland
- Amnesty International
- Barnados
- Barretstown
- Birdwatch Ireland
- Capuchin Day Centre
- Chernobyl Aid Ireland
- Chernobyl Children International
- Concern Worldwide
- Our Lady's Children's Hospital, Crumlin
- Social Entrepreneurs Ireland
- Down Syndrome Ireland
- Dyslexia Association of Ireland
- Focus Ireland
- Grow it Yourself
- Irish Hospice Foundation
- Irish Cancer Society
- Irish Heart Foundation
- Irish Wheelchair Association
- Jack & Jill Children's Foundation
- Pieta House
- Royal National Lifeboat Institution (RNLI)
- Ronald McDonald House Charities
- Simon Communities in Ireland
- Society of St. Vincent de Paul
- Special Olympics Ireland
- Supervalu Tidy Towns
- The Care Trust
- Temple Street Children's University Hospital

Origin Green members have established 318 community initiative targets comprising of 522 initiatives.

## Social Sustainability

### East Coast Bakehouse

#### Supporting Local Communities from the very Beginning



East Coast Bakehouse, based in Drogheda County Louth, bakes biscuits for the Irish and export markets. It is Europe's newest large-scale biscuit manufacturer.

As a new company establishing itself in the community of Drogheda, East Coast is conscious of the important role it can play in supporting the local community. It provides local employment in an area of high unemployment and is beginning to build partnerships with local educational institutions, community organisations and charities. The company has committed to delivering three community targets each year up to 2020.



The first target was to establish a charitable fund called “The Baker’s Dozen Fund” to assist food related charities. The company has pledged the profits from every 13th biscuit from its East Coast Bakehouse branded range to build the fund. Annual allocations to its nominated charity partners, The Simon Community and GIY (Grow it Yourself), are being made and the company commits to profiling the charities and their programmes on its company website and social media channels.

The second target focuses on hosting students on work placements, facilitating valuable hands-on experience in areas such as new product development, quality management and food manufacturing. The company continues to develop its internship programme working with local institutions, including Dundalk Institute of Technology.

The third community target is to work with local groups and organisations each year. Some activities conducted in 2017 included hosting the Drogheda Young Innovators Awards, along with hosting local schools and community members on site to learn more about biscuit manufacturing. East Coast also launched a partnership with Irish Girl Guides – a national programme to promote entrepreneurship – selling cookies to raise funds for local Girl Guides organisations. With 30,000 packets sold nationwide in 2017, the initiative was continued and further developed in 2018.



## Social Sustainability

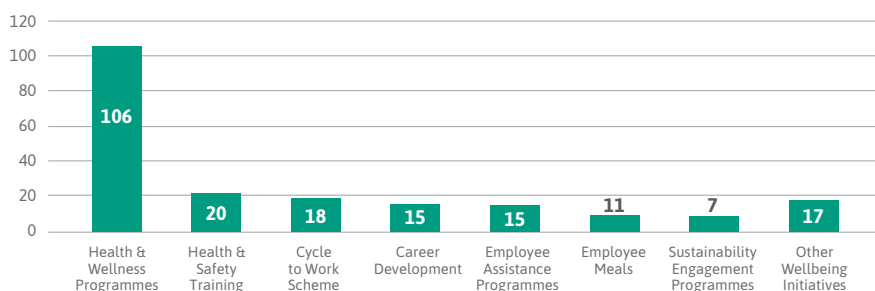
### Employee Wellbeing

Companies are increasingly acknowledging the importance of employee wellbeing, not only to the sustainability strategy but the overall success of the company. Employees who feel valued and have an appropriate level of work-life balance tend to be happier in their roles, work more efficiently and stay with the business longer. To achieve employee wellbeing, companies need to ensure employees develop a sense of purpose in their jobs and have an overall healthy body and mind.

#### Areas of focus within Employee Wellbeing

Origin Green members have set 145 employee wellbeing targets comprising of 209 initiatives. By far, health and wellness programmes are the most chosen employee wellbeing initiative by members. These health and wellness programmes encourage employees to develop healthier lifestyle choices including healthy eating, active lifestyles through sponsored gym membership or developing better work-life balance programmes to reduce stress and illness among staff. A breakdown of the various initiatives chosen by members are shown in the chart below.

Number of Employee Wellbeing Initiatives Chosen by Origin Green Members



#### Initiative Examples



##### Health & Wellness Programmes

Implement a fitness/health campaign for staff, such as support to join a gym, and cycle to work initiatives or stop-smoking campaigns.



##### Career Development

Provide access to regular training and up-skilling. This could include companies organising skill development workshops or sponsoring employees to attain high education certifications.



##### Employee Assistance Programme

Provide a confidential counselling service to help employees resolve personal and work related problems that may affect health, well-being and performance at work.



Origin Green members have set 145 employee wellbeing targets comprising of 209 initiatives.

## Social Sustainability

### Epicom

#### Maintaining Employee Engagement and Wellbeing



Founded in 1999, Epicom is a private label food manufacturer producing milk based powder blends. The company has grown considerably over the years, now employing 300 staff in four locations around Ireland.

Epicom has always been proactive in encouraging and maintaining employee engagement and well-being. It believes in the importance of developing a workforce that is not only engaged in day-to-day work but is also involved in social sustainability initiatives like community support activities.



Within Epicom's Origin Green plan, the company took an innovative approach to social sustainability. Each year, it focuses on delivering one significant initiative under different themes. The themes chosen to focus on were employee fitness and nutrition, local community group support, employee language development, and employee smoking cessation. Focusing on different themes helped keep the employee engagement programme fresh and relevant and retain staff interest.

Over recent years, Epicom has carried out a number of initiatives over the span of its Origin Green plan, including employee outings and sweepstakes for employees. Notable projects include:

- An employee fitness and nutrition event, which included a group talk delivered by qualified nutrition and fitness professionals, diet planning, fitness at work and at home discussion, and group and individual exercise planning.
- Partnership with a local gym, providing free introductory sessions and group membership discounts for all employees.
- The addition of an employee leisure room with entertainment and lounge areas.

These projects and initiatives enhance the positive culture within the company and optimise the physical, as well as mental health and wellness of employees.



## Social Sustainability

### Health & Nutrition

In an effort to meet growing customer and societal demand, Origin Green introduced health and nutrition as a mandatory social sustainability target in 2016. The importance of health and nutrition is rising globally, and Origin Green is committed to enhancing the impact of our members on society. There exists a valuable opportunity for members to include health and nutrition as a key focus of their sustainability plans to ensure they meet the requirements of increasingly health conscious consumers.

#### Areas of focus within Health & Nutrition

Origin Green members have set 196 health and nutrition targets comprising of 285 initiatives. To achieve these targets, companies have set a number of initiatives focused on improving the nutritional profile of their products. These targets include investing in new healthy products ranges and reducing salt, sugar and allergens from existing products. Companies' commitment to health and nutrition expands beyond their products as many companies have hosted public nutrition presentations and developed new nutrition labelling on packaging. A breakdown of the various initiatives chosen by members are outlined in the chart below.

#### Initiative Examples



##### Product Reformulation

Develop an offering of a diverse range of products with enhanced nutritional credentials (e.g., reduced sugar, fat, salt, etc.).



##### Consumer Education

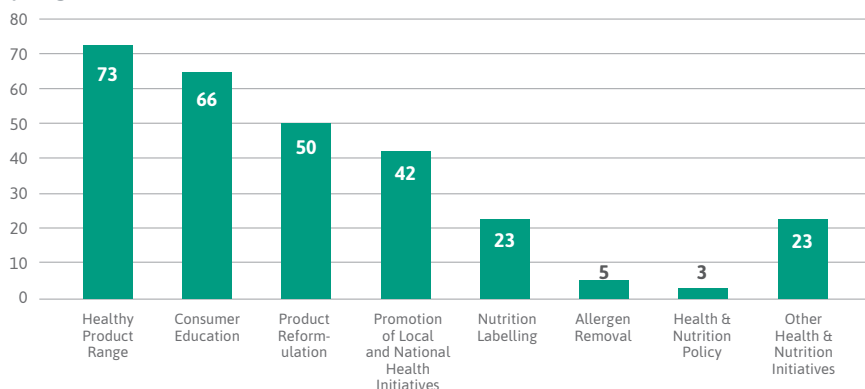
Develop responsible advertising or promotions that helps viewers easily determine nutritional attributes of the product.



##### Promotion of Healthy & Active Lifestyles

Educate consumers about healthy lifestyles by sponsoring community events or developing guidance on the company website.

Number of Health & Nutrition Initiatives Chosen by Origin Green Members



Origin Green members have set 196 health and nutrition targets comprising of 285 initiatives.

## Social Sustainability

### Camile Thai Kitchen

#### Innovating to Reduce Salt & Sugar



Camile Thai Kitchen supplies food to its company owned and franchised restaurants from its base in West Dublin. The company positions itself in the quality and health segment of foodservice.

Consumers are scrutinising more closely than ever before the food and drink they are choosing to consume. Demand for healthy options has increased dramatically, representing a tangible business opportunity for companies. In order to understand the importance of delivering nutritious meals to its customer base, Camile Thai Kitchen works with a nutritionist that analyses recipes for calories and allergens, and is engaging health food professionals to design exclusive healthy options. All of its dishes are calorie counted to make it easier for consumers to make an informed choice.



Under Camile Thai Kitchen's Origin Green plan, it has set a target to significantly reduce the refined sugar and salt content in recipes. The sugar reduction will be achieved by replacing refined sugar with oligofructose, a high-fibre sweetener made from chicory root. The salt reduction will involve substituting salt with buffered vinegar, a process that is currently in the development stage. Camile Thai Kitchen reduced the amount of sugar they use by 1000kg in 2017 and have a target in place aiming to reduce by a further 2250kg by the end of 2020.

Outside of its day-to-day operations, Camile Thai has also committed to continuing to educate customers on health and nutrition through its website, and provide lectures and cooking demonstrations to the general public and students throughout Ireland.

### Flahavan's

#### Delivering and Promoting Healthy Diets



Flahavan's is one of Ireland's oldest food companies, producing oat-based food products. Today, Flahavan's celebrates over 230 years of milling in Kilmacthomas, Co. Waterford and sells a range of over 40 oat products worldwide.

Within its Origin Green sustainability plan, Flahavan's has set a target to reduce the amount of sugar added to its products. After reviewing its product portfolio, Flahavan's made a commitment to reduce the sugar content in convenience sachets and pots by 10%. Sensory research information recommends that when reducing ingredients in a product that impacts upon a product's taste, reductions should be made in small increments so that the consumer will not detect a difference. Plans were put in place to make the gradual reductions over time, and by June 2018, Flahavan's achieved a 10% reduction in added sugar. This translated into a reduction of 929kgs, or 232,000 teaspoons of sugar since the introduction of this initiative.



Flahavan's also committed to developing a larger educational awareness campaign on the importance of a healthy breakfast. To give the company greater reach with its message, in 2017 it partnered with the television show 'Operation Transformation', a programme encouraging people in Ireland to transform their lives by adopting healthier lifestyles. Through this partnership, Flahavan's gave away a free pack of porridge to every household in Ireland to champion healthy breakfasts.



The importance of health and nutrition is rising globally, and Origin Green is committed to enhancing the impact of our members on society.



**10** fully verified members of the programme

Participating members are required to set targets in the following areas:



**Sustainable Sourcing**



**Operations**



**Social Sustainability**



Members commit to a five year sustainability plan

Plans are independently reviewed annually and monitored for progress against the set targets



**221**

Origin Green Sustainability Targets



A close-up photograph of a person's hand pushing a shopping cart. The hand is wearing a black watch with a silver face. The cart has an orange handle. The background is a blurred grocery store aisle with various products and bright lights.

# Retail & Foodservice

4

## Origin Green at the Retail & Foodservice Level

A key ambition for the Origin Green programme from its inception was to create a programme that encompasses the entire supply chain. Therefore, with the introduction of the Origin Green Retail and Foodservice Charter in 2016, Origin Green is moving another step towards extending the programme across the entire Irish food and drink supply chain. By joining Origin Green, retail and foodservice companies have the opportunity to establish strong sustainability credentials and therefore build their reputation with a growing number of consumers who want to be able to 'do the right thing' when it comes to where they purchase and consume food and drink products.

Like manufacturers, retailers and foodservice companies sign up to a dedicated Origin Green Retail & Foodservice Charter. Under this, companies develop a sustainability plan which outlines a series of ambitious and measurable targets as part of a five-year sustainability action plan. These plans are also verified by Mabbett for robustness and credibility.

As part of the Origin Green Retail & Foodservice Charter, participating members set targets in the following three target areas:

- **Sustainable Sourcing** – Source from food producers and manufacturers that have a verified commitment to sustainability and can demonstrate commitment to suitably accredited schemes. Implement packaging initiatives within their operations.
- **Operations** – Reduce energy consumption, waste generation and/or water usage across all operational areas. (e.g., transport, refrigeration, surplus food, etc.).
- **Social Sustainability** – Formally support community organisations, help ensure ongoing employee wellbeing and deliver products that provide a nutritionally balanced and healthy offering to customers.

At least one target must be designated as a 'stretch' target within Origin Green plans. A stretch target refers to an ambitious target that represents a significant increase over current levels of performance within a given area. 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.

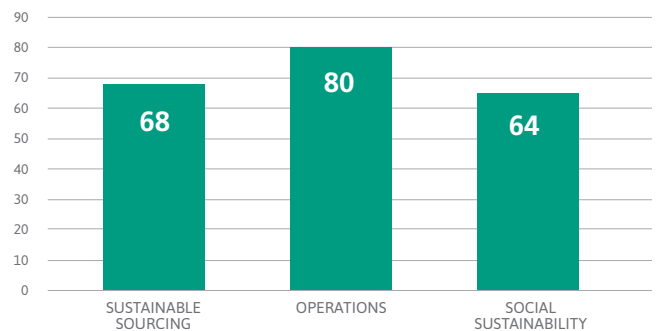
### Participating Retail & Foodservice Members



### Performance

To date, since the launch of the Origin Green Retail and Foodservice Charter, ten companies have become members of Origin Green. The ten retail and foodservice members have set 212 sustainability targets as part of their their Origin Green plans. On average, this equates to each member setting more than 21 targets. By members exceeding their required Origin Green target, on average by 14 targets, it indicates that sustainability is key to their business operations. A breakdown of the targets chosen by members across the four target areas is shown in the chart below.

**Number of Targets Chosen by Origin Green Retail and Foodservice Members per Target Area**



With Origin Green retail and foodservice members embedding sustainability within their company strategies, this can have significant influence down the Irish food and drink supply chain. In the coming years we are likely to see Origin Green retail and foodservice members preferentially sourcing from producers and manufacturers who establish robust sustainability targets. This is already evident as Origin Green retail and foodservice members have established the following sourcing targets:

19

### TARGETS




TO SOURCE **100%** OF PRODUCT FROM RELEVANT BORD BIA QUALITY OR SUSTAINABILITY ASSURANCE SCHEME PRODUCERS

7

### MEMBERS

TO SOURCE BETWEEN **10%-60%** OF PRODUCE FROM VERIFIED ORIGIN GREEN FOOD AND DRINK MEMBERS

## Overview of Retail & Foodservice Targets

TARGET AREAS	MINIMUM TARGETS TO BE SELECTED	EXAMPLES OF TARGETS ESTABLISHED
 <p><b>SUSTAINABLE SOURCING</b></p> <ul style="list-style-type: none"> <li>• Commitment to source from suppliers with recognised sustainability certifications</li> <li>• Development of sustainability initiatives with suppliers</li> <li>• Packaging</li> </ul>	2	<ul style="list-style-type: none"> <li>- Continue to source beef from farms who are members of Bord Bia's Sustainable Beef &amp; Lamb Assurance Scheme.</li> <li>- Increase the amount of coffee purchased from Fairtrade certified sources from 50% to 100%.</li> <li>- Use only RSPO certified palm oil in own-label products by 2021.</li> <li>- Increase the number of suppliers with Origin Green Verification from 10% to 40%.</li> <li>- Work with all egg suppliers to ensure that they are members of Bord Bia's Sustainable Egg Assurance Scheme.</li> <li>- 100% of own-label packaging to be compostable, reusable or recyclable.</li> <li>- Reduce level of cardboard used in transit by 50%.</li> </ul>
 <p><b>OPERATIONS</b></p> <ul style="list-style-type: none"> <li>• Food Waste</li> <li>• Transport</li> <li>• Emissions</li> <li>• Biodiversity</li> <li>• Energy</li> <li>• Water</li> </ul>	3	<ul style="list-style-type: none"> <li>- Reduce total food waste by 15%.</li> <li>- Work with FoodCloud to donate surplus food to charity.</li> <li>- Introduce renewable and alternative fuel sources for the company's vehicle fleet.</li> <li>- Reduce emissions produced in the supply chain by 20%.</li> <li>- Sign up to the All-Ireland Pollinator Plan.</li> <li>- Introduce a wildflower garden on-site at Head Office.</li> <li>- Reduce total energy consumption by 10%.</li> <li>- Replace all incandescent lighting with LED lighting.</li> <li>- Reduce water consumption by 15% by 2020.</li> </ul>
 <p><b>SOCIAL SUSTAINABILITY</b></p> <ul style="list-style-type: none"> <li>• Community Engagement</li> <li>• Employee Wellbeing</li> <li>• Health &amp; Nutrition</li> </ul>	2	<ul style="list-style-type: none"> <li>- Donate a minimum of €10,000 per year to a charity chosen by employees.</li> <li>- Sponsor local sports teams and community events.</li> <li>- Develop and implement a learning &amp; development programme for all staff.</li> <li>- Introduce a volunteer day where employees can work with a charity of their choice.</li> <li>- Reduce the amount of sugar used in own-label products by 5%.</li> <li>- Sell only health-conscious products at the till area in stores.</li> <li>- Reduce amount of salt used in recipes by 40%.</li> <li>- Introduce a new employee mindfulness programme across all sites.</li> </ul>





# Origin Green - Next Phase

# 5

## Introduction

Bord Bia's Origin Green Programme was established in 2012, leveraging a growing need from buyers identified in a Bord Bia commissioned international insight study. The research, conducted by PWC, concluded that the perception of Ireland as a producer of sustainably produced food was positive and credible, but that leadership could be attained by creating a demonstrable measurements behind the sustainability claims in Irish produce.

Origin Green was conceived to measure, monitor and lead environmental improvements support claims that Irish food and drink is sustainably produced and drive our nation's leadership in sustainable food production.

The initiative has proven fortuitous, as seven years on, the global food and drink market has changed significantly and sustainability is at the top of both the customer and consumer agenda. While Ireland is recognised as a leader in this field, and remains the only country with an independently verified national sustainability scheme, this leadership position has created an expectation for continued improvement and development of the programme.

Therefore, in 2018 Bord Bia reviewed the Origin Green programme, preparing a three year Origin Green strategy to run alongside our corporate strategy for 2019 – 2021, highlighting the centrality of Origin Green in delivering the organisation's overall mission.

Bord Bia's strategic thinking has been informed by data and insight commissioned specifically for the purpose. These include:

- Insight into global consumer and customer needs and their perceptions of Ireland as a sustainable food producer (2018)
- Insights from Origin Green farmer members (2018)
- Insights from Origin Green food & drink company members (2018)



## Global Trade Customer Insight

The global sustainability study was conducted by PWC among consumers and customers in 13 strategically important markets (North America: United States and Canada; Europe: United Kingdom, France, Germany, Italy, Netherlands, Poland and Sweden; Asia: Japan, Republic of Korea and China; Middle East: Saudi Arabia.) At customer level senior procurement and sustainability professionals with key retailers, manufacturers and food service providers in each market were interviewed. Over 8,500 consumers, a demographic representation of each market, were also surveyed.

### MAIN FINDINGS:

#### 1. Ireland is seen as a food sustainability leader in leading countries

In markets where sustainability awareness is high (e.g. UK, Germany, France, Netherlands & Italy), Ireland's sustainability is positively perceived by consumers. Others, where the sustainability agenda is not yet developed, and there are lower levels of awareness of Ireland, consumers are much less likely to rank Ireland highly as a sustainable food producer.

#### 2. Customers lead in the West, Consumers lead in the Rest

In Western markets, particularly European markets, the sustainability agenda and importance of sustainability for Irish food is being driven by trade customers who are increasingly in this realm. Beyond Europe (notably Asia, Middle East) it is the consumer who is more driven/interested in the topic of food sustainability, with specific interest in health and food safety. This highlights the importance of nuance and subtlety in this complex topic; how customer and consumer-focused strategies develop, and how the Origin Green Programme evolves as a consequence.

#### 3. Sustainability & Food Sustainability have different meanings

Consumers associate 'sustainability' with 'protecting the environment' but they associate 'food sustainability' with being 'better for the planet'. Importantly, that definition of being 'better' for the planet relates to food being 'healthy', 'fresh', 'clean' & 'safe'. For some consumers, there is a nutritional dimension to food sustainability.

#### 4. Grass-Fed is a new dimension of the sustainability conversation

Back in 2008 the phrase 'Grass-Fed' was not on the radar of consumers or customers alike. Today, Grass-Fed is to the fore in conversations with customers in 'Leading' countries where the sustainability conversation is more mature. In markets where the 'healthy' dimension of food sustainability is more resonant, 'Grass-Fed' is a short-cut for consumers.

#### 5. The 'health' dimension of food sustainability gathers importance

Future-proofing Origin Green with mandatory health targets for companies makes sense given the emergent focus on the health dimension of food sustainability for customers and consumers.

#### 6. Transparency is a potential differentiator for Ireland

The research highlighted that both customers and consumers are becoming ever more demanding around transparency of information on food products. This can relate to nutritional information, animal welfare, animal feed, environmental impact, sustainability targets and third party and government endorsements. The rich pool of data that Origin Green has harvested could be converted into a real point of difference for Irish food and drink.

#### 7. Customers display and increasing appetite for detail

The most 'Leading' customers (often in Western Europe) are demonstrating strong appetite for more detail around food sustainability from their suppliers. e.g. animal feed and animal as part of the customer sustainability conversation.

## Origin Green Farmer Insights

Primary producers are the foundation of sustainable food and drink production, and insight into their point of view is critical. Independent consultants conducted primary research with representatives of the main farming organisations and individual farmers.

### MAIN FINDINGS:

1. Overall Origin Green has a positive image among the farming community as a programme that promotes Irish produce abroad and helps to maintain current markets. This fundamental support is a strong basis for growth.
2. There is an opportunity to better inspire farmers of the central role they play in delivering Origin Green's farm sustainability credentials through participation in Bord Bia's sustainability assurance schemes, thus building passion for a common goal.
3. Many farmers, especially younger farmers, believe that environmentally sustainable farming is intrinsic to the future of Irish farming and deeply connect with Origin Green's programme of measured and independently verified results.
4. Some farmers report that membership of Origin Green – in terms of reporting – can be challenging and there is opportunity to offer support and fresh impetus to the data collection phase.
5. Origin Green will be most successful when it encompasses focus on farmers' long term economic sustainability as well as interests of consumer and customer; its journey is one towards a holistic programme where all stakeholders benefit.

## Origin Green Company Insights

Savage Insights conducted research with food & drink company members of Origin Green. (n = 20 companies, varied across size and category)

### MAIN FINDINGS:

1. Members are positive overall, but challenge the Origin Green Programme to continue to develop its consumer relevance; Origin Green cannot stand still.
2. Autonomy of target setting is seen as a strength in recognising sectoral differences and allowing flexibility but a potential weakness if allowed to accommodate a lack of ambition.
3. Opportunities exist around thought leadership, innovation sharing and communications.
4. Many members felt the need for formal certification to add credibility and maintain engagement and relevance with the scheme.
5. There was positive feedback on Bord Bia's communication of the programme, (B2B communications, branding at trade events). Feedback on transitioning to a consumer facing logo was mixed and generally regarded as needing more consideration.
6. Greater clarity on the potential of sustainability to winning business is required for some members.

## A Robust Strategic Direction

Informed by the stakeholder research, a new vision for Origin Green was devised. Before determining the vision it is important to have a clear understanding of what "food sustainability" means.

### Food Sustainability

In developing this strategy food sustainability is defined as:

*"Food sustainability means shared responsibility for the production, supply and consumption of **safe and nutritious** food within a **viable** industry that simultaneously **protects and enhances** our natural environment and quality of life now and in the future".*

### Origin Green Vision

The purpose of the vision is to provide a concise explanation of the new strategy's purpose and ambition.

*Irish food and drink is the **first choice globally** because it is **trusted as sustainably produced by people who care**.*

Our ambition relates to this definition because:

- We are focused on driving sustainability in food production at every point in the supply chain.
- We will encourage sustainable consumer purchasing behaviour.
- Origin Green members set targets on safety and nutritional levels in their food.
- The food produced by Origin Green members is backed up by transparent assurances on quality and sustainability.
- The overall ambition is to provide a better livelihood for Origin Green members, an improved product for consumers and an enhanced environment in which to live.

## Strategic Objectives

To make the vision a reality, and having analysed the market drivers and insights, the challenges and opportunities have been distilled into four strategic objectives:



### Objective 1: Deepen membership engagement

The size and reach of Origin Green membership is one of its key strengths and ultimately it is the members who deliver sustainably produced food. As the programme moves forward, members will need to increase their commitment levels and engagement with the programme to continuously deliver real impacts. For this to be fully realised members and aspiring members will be bolstered when they see the relevance and value of the programme to their businesses.

#### ACTIONS

- Develop and articulate a member-led business case for participation.
- Employ technology to streamline and simplify participation i.e. online membership platform, Quality Assurance database etc.
- Develop communication and engagement plan for all membership categories.
- Optimise auditing and helpdesk resources to articulate the Origin Green benefits on an individual farmer basis.
- Develop and host workshops for members on sustainability topics relevant to their businesses i.e. packaging, waste, etc.
- Develop an online communications tool to assist members in communicating their sustainability credentials to customers.

Our performance in achieving this deepened engagement will be measured and monitored over the lifetime of the strategy. We will seek to increase the number of Origin Green company members to 400 by 2021; and increase the satisfaction among these companies each year demonstrating that membership has a benefit, and is delivering specific commercial benefits.

### Objective 2: Be a leader in food sustainability

Origin Green is currently a unique national programme and has resonated with other sustainability leaders in government, nongovernment organisations (NGOs), and private sector organisations both nationally and internationally. The Origin Green Ambassador programme has been significant in gaining unique access and visibility at the highest levels in multinational organisations.

Ireland, through Origin Green, has been a first mover in food sustainability and can leverage this to strengthen our relationships commercially, reinforce our reputation as being innovative and maintain and build on our credibility as a food sustainability leader.

#### ACTIONS

- Establish an Origin Green Programme advisory panel with key stakeholders.
- Develop a food sustainability hub of excellence in Bord Bia.
- Create a Food Sustainability Index to quantify, monitor and ensure we are continuously improving.
- Develop a communications plan for positioning our leadership in sustainability.
- Host an international food sustainability event biennially.
- Develop plans to work with NGOs and multinational customers to maximise awareness and engagement.
- Maximise the effectiveness of the Origin Green Ambassador programme to ensure insights are captured and used for continuous improvement.

Our performance in achieving leadership in food sustainability will be measured and monitored over the lifetime of the strategy. In 2019 we will establish a sustainability index that assesses the sustainability measures relevant to the Irish food sector. We will also seek to increase the ranking of Ireland, globally, as a sustainable food producer among international trade customers in priority channels and markets, and by 2021 see Ireland ranked in the top 5.

### Objective 3: Driving sustainability improvement

Origin Green has developed a comprehensive framework for auditing and collecting data at farm level. The next phase of the programme must drive sustainability improvements and measure such impacts as well as inputs. Collaboration and alignment by all key

stakeholders will be required to achieve the required scale of improvement. These stakeholders include farmers and their representative organisations, buyers of farm output i.e. dairy co-ops and meat processors, Department of Agriculture, Food & Marine, Teagasc, Bord Iascaigh Mhara and Bord Bia.

Among supplier, foodservice and retailer members of Origin Green there is a varied level of ambition in selfselected targets. A more structured and standardised approach, driving national impact, would be beneficial.

#### ACTIONS

- Identify and collaborate with key partners to review current programme, agree common goals and deliver on these goals.
- Incorporate sustainability measures into all Origin Green schemes and obtain and maintain independent accreditation for all schemes – farmers, food manufacturing, retail and food service.
- Maximise use of collected data to identify potential for improvement e.g. enhanced farmer feedback report in collaboration with Teagasc and DAFM.
- Utilise companies' targets data to drive improvement through enhanced engagement.
- Develop a Farm Sustainability Navigator – build on the Carbon Navigator tool to include biodiversity and water indices and tools.
- Celebrate and promote sustainability champions as exemplars of best practice.

Our performance on driving sustainability improvements will be assessed on two main criteria, namely that all farm based schemes are converted to Sustainability Assurance Schemes, and a new broad independently accredited processor scheme developed for all company members. With these it is integral that we develop, with stakeholders, a revised programme of requirements. We will pilot these revised programmes and commence transitioning of existing members to them. Our goal for 2021 will be to achieve 33% of all members at farm and company level complying with the revised Origin Green membership criteria, and that 50% of Origin Green companies have transitioned to the revised programme.

### Objective 4: Increasing market access and value for Origin Green members

Origin Green has established a strong reputation among international trade customers who are leaders in food sustainability. There is a burgeoning opportunity in emerging markets and those outside of Europe.

Developing the unique Origin Green story is key to delivering value for Origin Green members. Messaging would ideally be tailored to different markets' priorities. Trade customer communications will continue to deliver best return on investment, but support of messaging to the consumer can complement these efforts.

#### ACTIONS

- Create a simple articulation of Origin Green's targets and purpose.
- Tailor message depending on sector and market and deliver through an integrated marketing strategy.
- Build awareness and preference for Origin Green at international trade fairs in existing and new markets.
- Build awareness and support among the Irish public for Origin Green and sustainable options generally.
- Assist individual members in developing their own sustainability credentials' communications to best leverage their Origin Green membership.

Our success on this objective will be measured by establishing benchmarks and increasing by 2% each year the awareness among customers at trade fairs of 'Ireland as a source of sustainably produced food and drink', and awareness among priority partner customers in priority markets of 'Ireland as a source of sustainably produced food and drink'.

## Conclusion

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Over the past seven years, Origin Green has been a leader in sustainability, helping to bring competitive advantage to the Irish Food & Drink Industry and forging a reputation for innovative leadership internationally. The accelerated success of Origin Green depends on its ability to evolve its mandate and expand its reach. The four strategic objectives identified in this strategy, and the actions to deliver them, will ensure that Origin Green continues to position Ireland's food and drink as a global leader in sustainable food production, acknowledged by trade and consumers alike. Bord Bia will develop new annual work programmes to deliver on these objectives and, through collaboration with multistakeholders, is fully committed and motivated to deliver on the strategy.





**2014**

80 companies have had their plan independently verified

43,500 beef farms are audited and carbon footprinted on an eighteen month cycle

9,000 dairy farms, accounting for more than 50% of dairy farms in Ireland, are signed up to the newly launched Sustainable Dairy Assurance Scheme



**2013**

**Bord Bia Sustainable Dairy Assurance Scheme launched**

36 companies have had their plan independently verified

Bord Bia hosts an inaugural Global Sustainability Conference attended by 750 delegates from around the world

Bord Bia launches the Origin Green Ambassador programme

**43,500 beef farms audited**



**2012**

**Formal launch of Origin Green**

Origin Green formally launched to trade customers at SIAL Food & Innovation Trade Show in Paris, France

Bord Bia pilots new sustainability charter based on global best practice with 7 Irish food and drink companies

Carbon Trust - Bord Bia receives accreditation from The Carbon Trust for the dairy carbon footprinting model

Bord Bia in partnership with Teagasc, develop The Carbon Navigator a software tool to help beef and dairy farmers engage with measures that can drive farm profitability while at the same time enhancing environmental performance

273 companies have had their plan independently verified



## Over 190,000 farm carbon footprints audits undertaken

Bord Bia launch the Origin Green public awareness campaign to highlight the positive work being undertaken throughout all levels of the supply chain in Ireland by Origin Green members

**2017**

Bord Bia launch:

- Sustainable Beef and Lamb Assurance Scheme
- Sustainable Horticulture Assurance Scheme
- Sustainable Egg Assurance Scheme

Water became a mandatory Origin Green manufacturing target



**346 companies had their plan independently verified**

**2018**

To further support Origin Green's alignment with the UN SDGs, Bord Bia joined the UN Global Compact, the world's largest corporate sustainability initiative with over 13,000 corporate participants

30 Origin Green Ambassadors have undertaken 90 placements within leading food and drink organisations

Bord Bia cohosts the Global Conference on Sustainable Beef in Kilkenny, which is attended by over 230 delegates from around the world

**2015**

**122 companies have their plan independently verified**



Origin Green is the theme for the Ireland pavilion at Milan Expo 2015 - the overall theme of the event is 'Feeding the Planet, Energy for Life'

Bord Bia hosts the 2nd Global Sustainability Conference with representatives from over 100 global food and drink organisations

First Origin Green report published

**2016**

**Health and Nutrition became a mandatory Origin Green Target**



220 companies have had their plan independently verified

Retail and Foodservice Origin Green Charter pilot launched

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

Origin Green aligns the Origin Green Charter with 9 of the United Nations Sustainable Development Goals

The National Biodiversity Data Centre and Bord Bia launch a Framework for Businesses as part of the All-Ireland Pollinator Plan, which identifies actions that companies and farmers can take to help protect pollinators

