



Working
with nature

***Assessing the
Sustainability of the
Global Beef Value Chain
An Irish Perspective***

Jim O'Toole

Presentation to Global Conference on Sustainable Beef, 5 October 2016

Growing the success of Irish food & horticulture


Bord Bia
Irish Food Board

Sustainability Trade Research Study

November 2009



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PRICEWATERHOUSECOOPERS 

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Viewed as green
& natural...

We now need to
prove it...



EARTH OBSERVATORY

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IRELAND'S NATURAL ATTRIBUTES

GRASS BASED PRODUCTION

Grassland Area

Ireland

Europe

80%

40%

Production (t DM/Ha)

Ireland

Europe

15

11

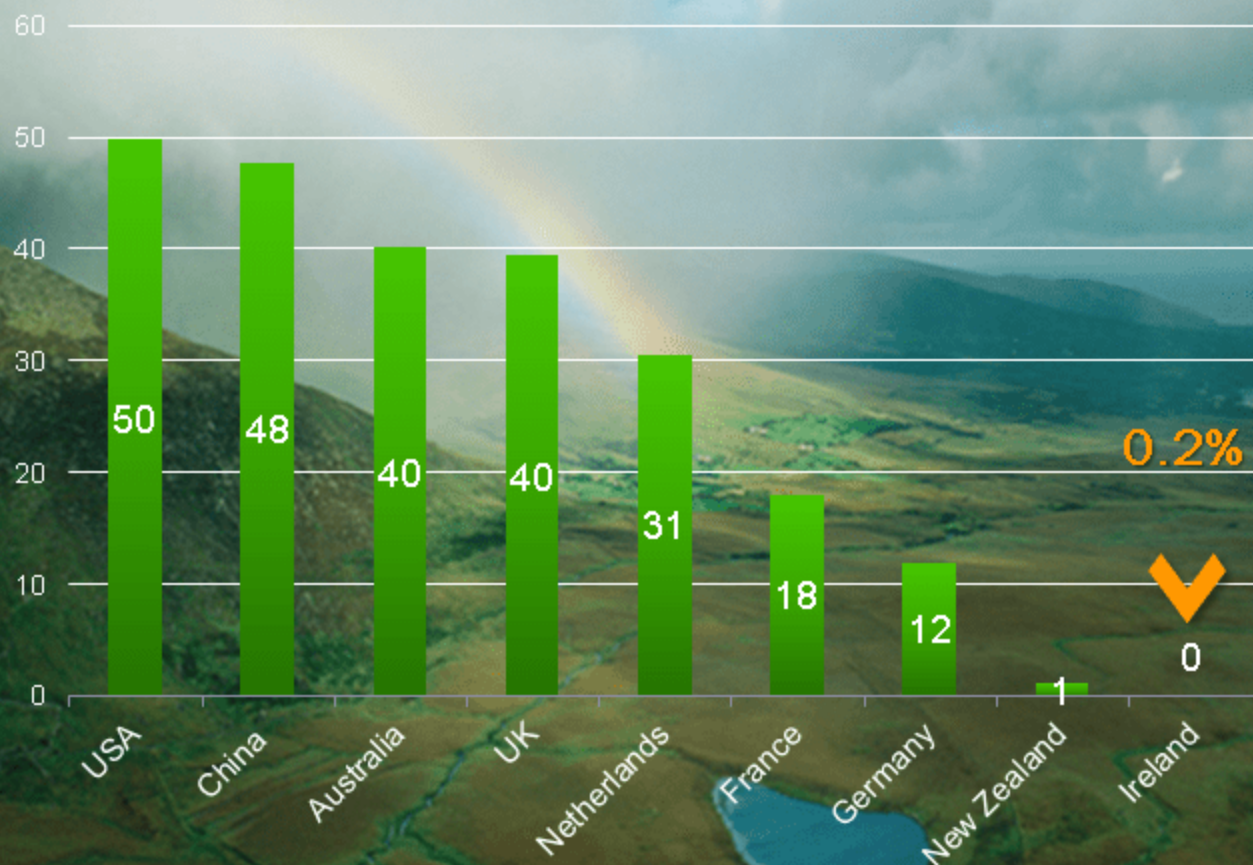
GULF
STREAM

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IRELAND'S NATURAL ATTRIBUTES

Ireland has a very favourable
water stress index
(% of territory under water stress)

WATER AVAILABILITY



AGRICULTURE USES 70% OF
THE WORLD'S FRESHWATER

Source: Growingblue.com

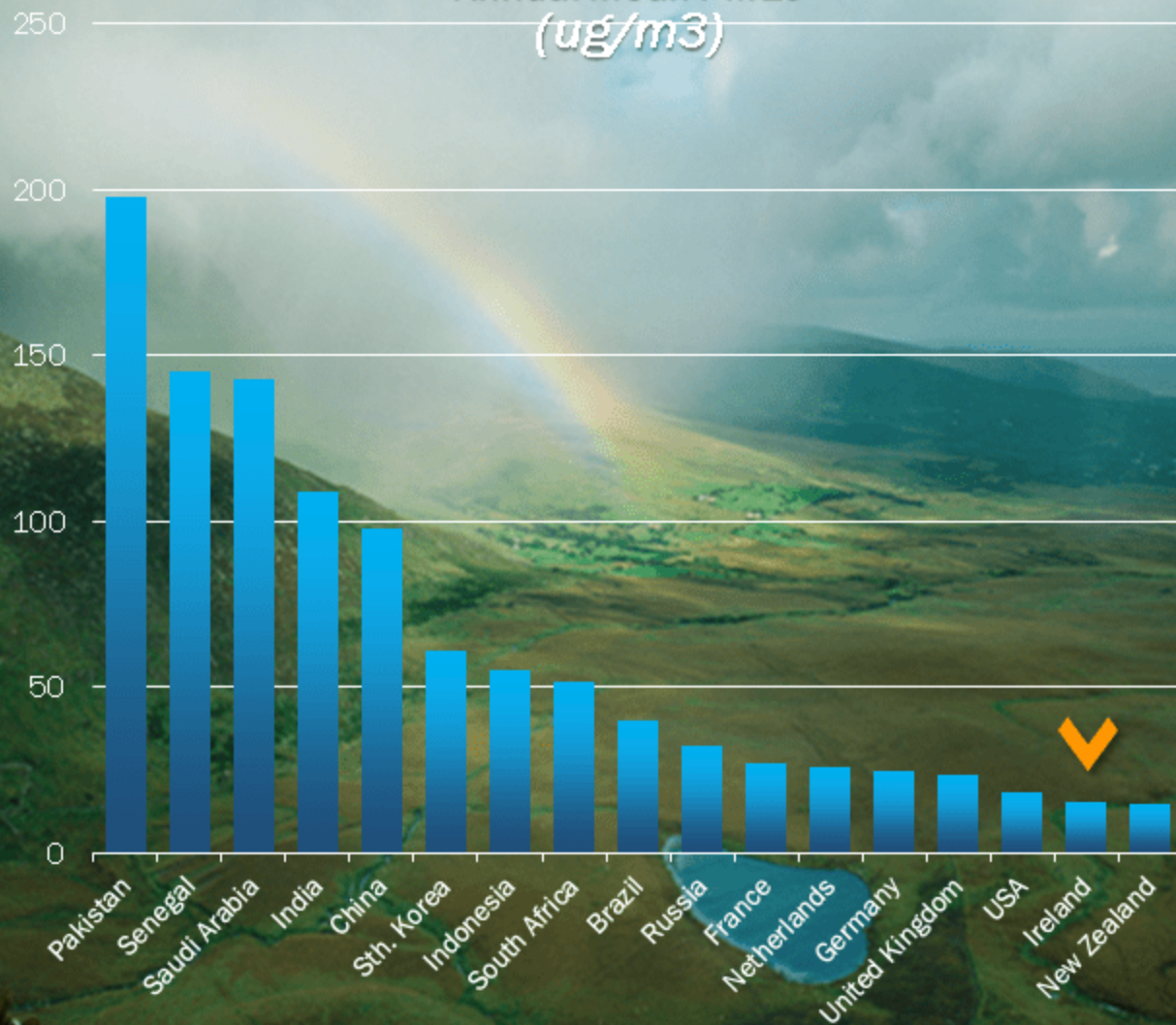
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IRELAND'S NATURAL ATTRIBUTES

AIR QUALITY VERY HIGH

Urban Outdoor Air Pollution
Annual mean PM10
($\mu\text{g}/\text{m}^3$)



Source: World Health Organisation

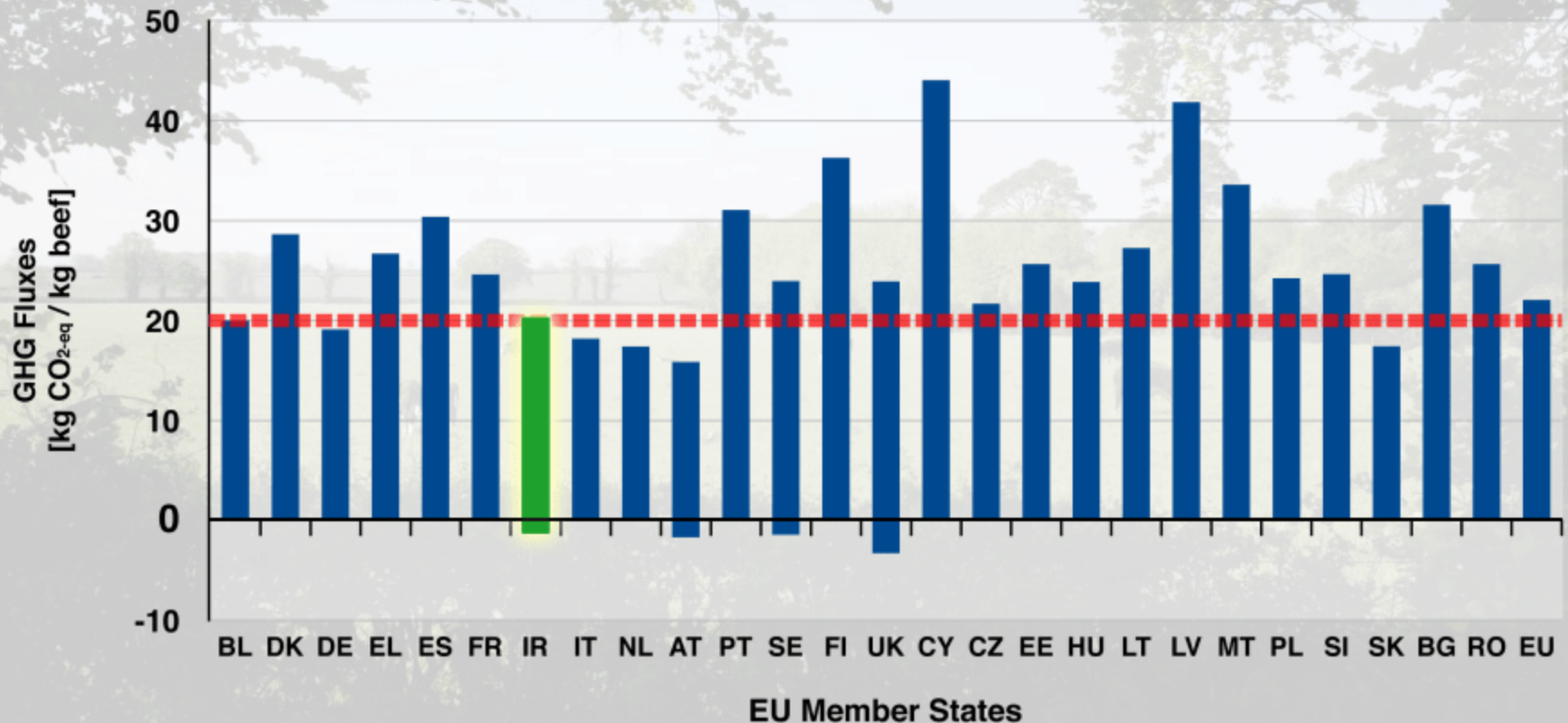
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Ireland's Natural Attributes

Greenhouse Gas Emissions

EU Beef GHG Emmissions



Source: EU JRC Evaluation of the livestock sector's contribution to the EU greenhouse gas emissions (GGELS)



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A World Leader in Sustainability

Everyone on the journey...every farm & food manufacturing business signs up to the sustainability agenda...

Measuring what matters...

International Standards...accreditation, independent verification...

Continuous Improvement...performance based on science, innovation and best practice...

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Department of
**Agriculture,
Food and the Marine**
An Roinn
**Talmhaíochta,
Bia agus Mara**

LOCAL ROOTS GLOBAL REACH
Food Wise 2025
A 10-year vision for the Irish agri-food industry

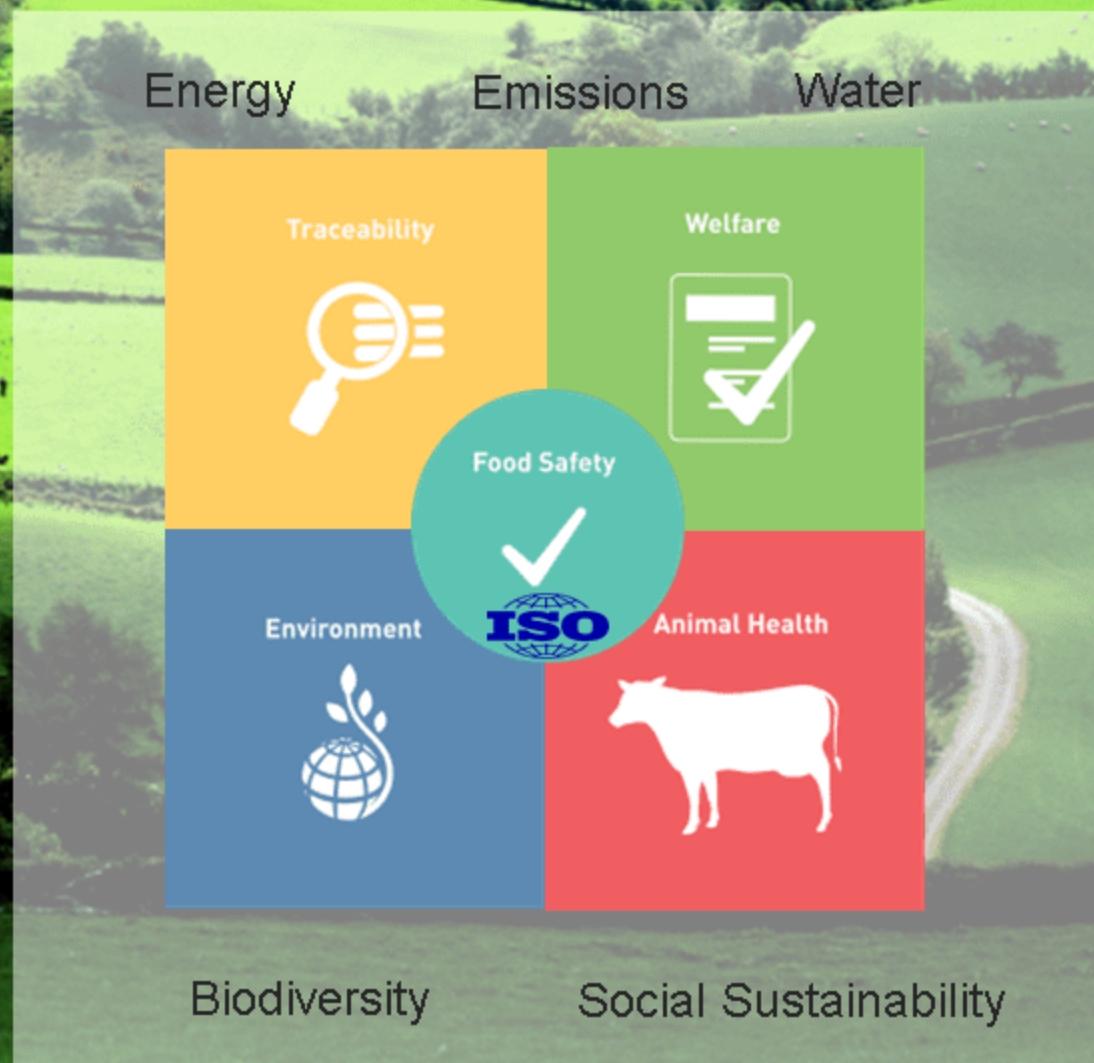
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Carbon Trust
PAS 2050

The farm audit



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Farm Quality & Sustainability Audits



46,000 Beef Farms

90% of Beef Exports, Audited & Carbon Footprinted

18,000 Dairy Farms

100% Milk production, participants entering audit cycle

Pigmeat, Poultry, Lamb, Eggs, Horticulture, Grain

Sustainability measures being implemented

Over 110,000 carbon assessments on farms to date

Farm Sustainability Assessments



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Using data collected on farm in carbon footprint model

Grazing Days, Turnout By Day To Full Housing (Original survey 4.1)				
	Jan	Feb	Mar	Apr
Dairy Cows (days)	0	0	15	30
Housing Days, Turnout By Day To Full Housing (Original survey 4.1)				
	Jan	Feb	Mar	Apr
Days in month	31	28	31	30
Dairy Cows (days)	31.00	28.00	16.00	0.00
Grazing Days Full Turnout To Full Housing (Original survey 4.1)				
	Jan	Feb	Mar	Apr
Dairy Cows (days)	0	0	15	30
Replacements 0-12mths (days)	0	0	0	30
Replacements 12-24 mths (days)	0	0	0	30

Sample herd AIM profile gathered

Audit Id	Tag	Origin	Sex	DOB	Breed	Dam Breed	Sire Breed	Date In	Date Out	Date Disposed	Move Type	Days On Farm For Year
1	IE111064410204	Dairy	F	08/03/2004	FR	FR	FR		26/01/2013			26
1	IE111064410253	Dairy	F	18/02/2005	FR	FR	FR					365
1	IE111064410344	Dairy	F	28/01/2007	FR	FR	FR					365
1	IE111064410360	Dairy	F	18/03/2007	FR	FR	FR					365
1	IE111064410410	Dairy	F	20/03/2008	FR	FR	FR		15/02/2013			46
1	IE111064410526	Dairy	F	02/03/2010	FR	FR	FR					365
1	IE111064410550	Dairy	F	05/02/2011	FR	FR	FR					365
1	IE111064410559	Dairy	M	08/02/2011	FR	FR	FR		15/02/2013			46
1	IE111064410567	Dairy	F	13/02/2011	FR	FR	FR					365
1	IE111064410575	Dairy	M	19/02/2011	FR	FR	FR		15/02/2013			46
1	IE111064410583	Dairy	F	07/03/2011	FR	FR	FR					365
1	IE111064410591	Dairy	F	23/03/2011	FR	FR	FR					365
1	IE111064410600	Dairy	F	26/01/2012	FR	FR	FR					365
1	IE111064410609	Dairy	M	30/01/2012	FR	FR	FR		30/12/2013			364
1	IE111064410617	Dairy	F	04/02/2012	FR	FR	FR					365
1	IE111064410625	Dairy	F	10/02/2012	FR	FR	FR					365
1	IE111064410633	Dairy	M	15/02/2012	FR	FR	FR		30/12/2013			364
1	IE111064410641	Dairy	M	18/02/2012	FR	FR	FR		21/05/2013		I	141
1	IE111064410666	Suckler	F	11/05/2012	AAX	FR	AA					365
1	IE111064410674	Dairy	M	31/01/2013	FR	FR	FR	31/01/2010	27/02/2013		OD	27
1	IE111064410682	Dairy	F	03/02/2013	FR	FR	FR	03/02/2010				331
1	IE111064410690	Dairy	F	08/02/2013	FR	FR	FR	08/02/2010				326
1	IE111064410699	Dairy	M	17/02/2013	FR	FR	FR	17/02/2010	05/03/2013		OD	16
1	IE111064410708	Dairy	F	21/02/2013	FR	FR	FR	21/02/2010				313
1	IE111064410716	Dairy	M	27/02/2013	FR	FR	FR	27/02/2010	15/03/2013		OD	16
1	IE111064410724	Dairy	M	06/03/2013	FR	FR	FR	06/03/2010				300
1	IE111064410732	Suckler	F	24/03/2013	AAX	FR	AA	24/03/2010	14/06/2013		HK	82
1	IE111064410740	Suckler	M	01/05/2013	AAX	FR	AA	01/05/2010	11/06/2013		HK	41

Information accessed from Dept. of Agriculture with farmers permission

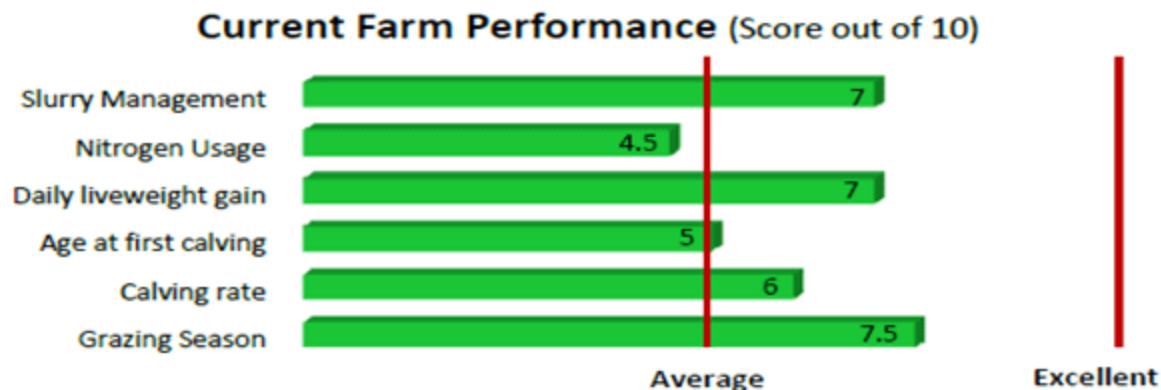
Feedback to farmers

Improving you performance

There are a number of practical steps that farmers can take to optimise their footprint performance while at the same time helping to boost profitability as sustainable and efficient production tend to go hand in hand.

To help with the Teagasc/Bord Bia Farm Carbon Navigator Tool has been developed to help you work with your farm advisor to optimise the environmental and economic performance of your beef enterprise. The information provided at the time of our visit allows us to show how your farm currently performs - relative to similar farms in the same part of the country - under the following six areas:

- Grazing season length
- Calving interval
- Age at first calving
- Daily liveweight gain
- Nitrogen fertiliser usage
- Slurry Spreading



Improving your score by one point in the areas above where you currently at 6 or less could help boost your farms financial performance by €2,000 and reduce the greenhouse gas emissions from your beef enterprise by 5%.

Using Data to Drive Performance



GHG
Emissions



Farm
Financial
Performance



Sustainable = Efficient

The Carbon Navigator



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Carbon Navigator tool


Looks at practical measures on farm

1. Grazing season length
2. Age @ first calving
3. Calving interval
4. Daily live weight gain
5. Nitrogen fertiliser efficiency
6. Manure management

Set targets
with Advisor

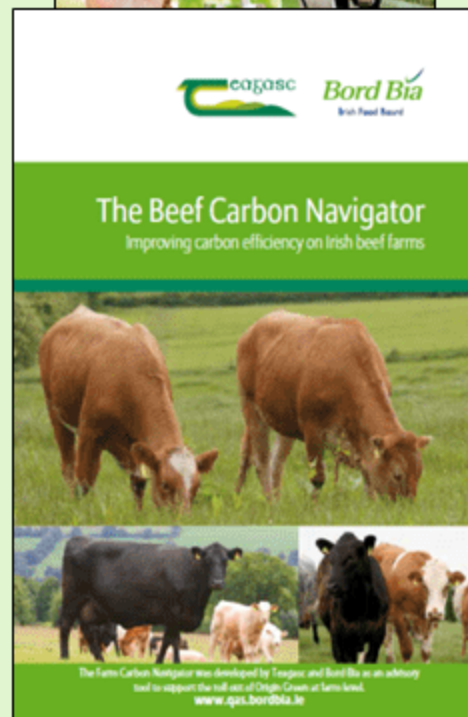
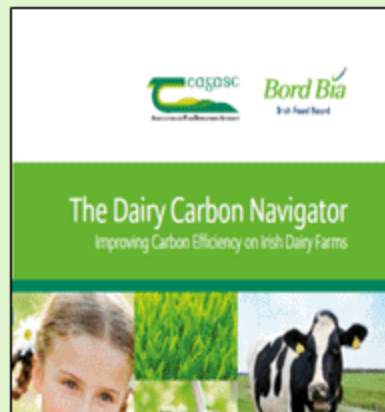
Review current & potential
performance

Identify Potential
GHG & € Benefits

Efficiency Measure	Current	Target	Chart	GHG Change	€ Benefit
Age at first calving	28 mths	27 mths	<p>Age At First Calving</p> 	-0.6%	+502

Roll out of Carbon Navigator

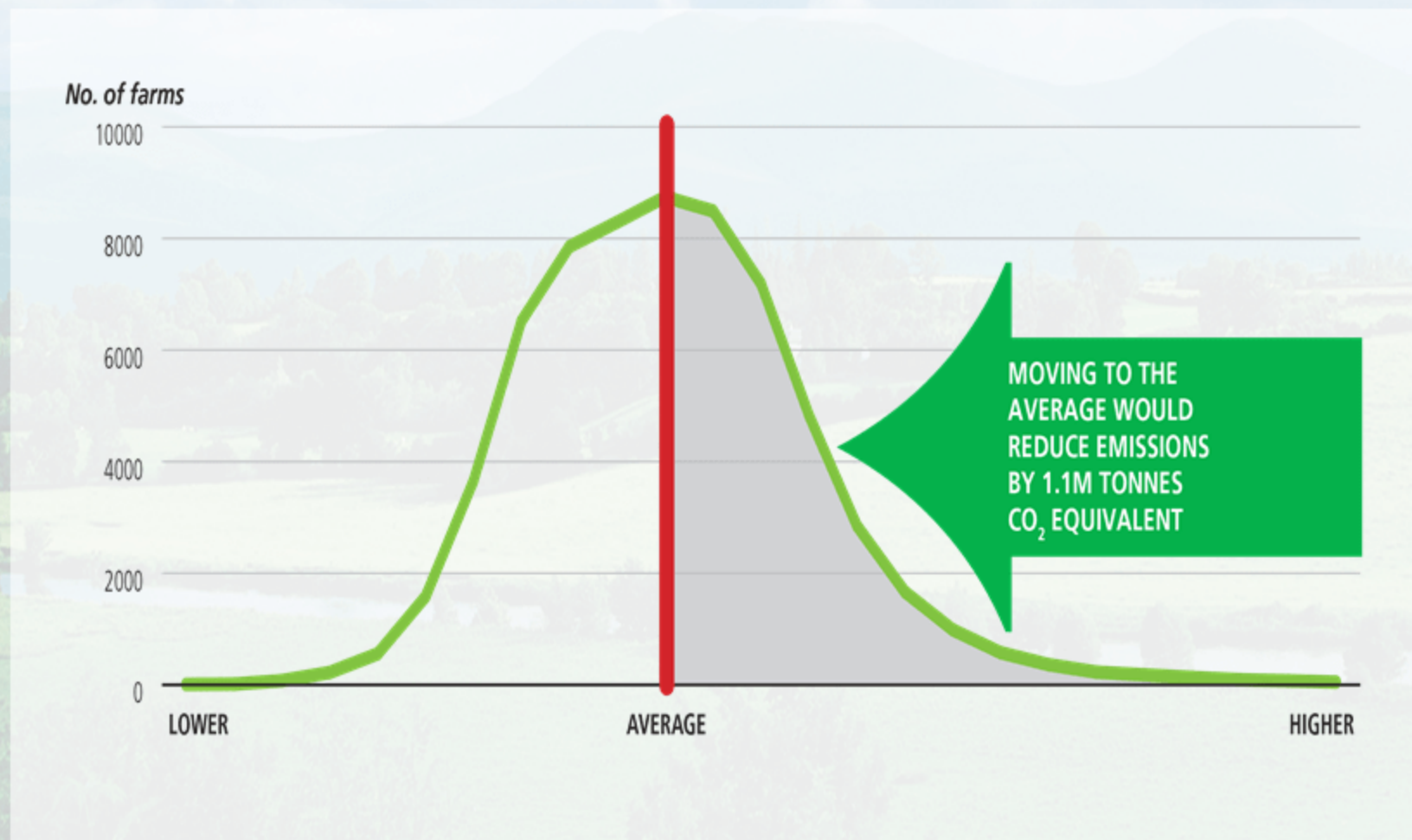
Rural Development Programme: 40,000 Farmers



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RANGE OF CARBON FOOTPRINT RESULTS ACROSS BEEF AND DAIRY FARMS



FARM CASE STUDIES

William Morrow, Co. Donegal



Bord Bia Sustainable Beef Producer Winner,
2014: Dairy Calf to Beef

Pat Murray, Co. Wexford



Bord Bia Sustainable Beef Producer Winner,
2014: Weanling/Store to Beef

Tim Joyce, Co. Galway



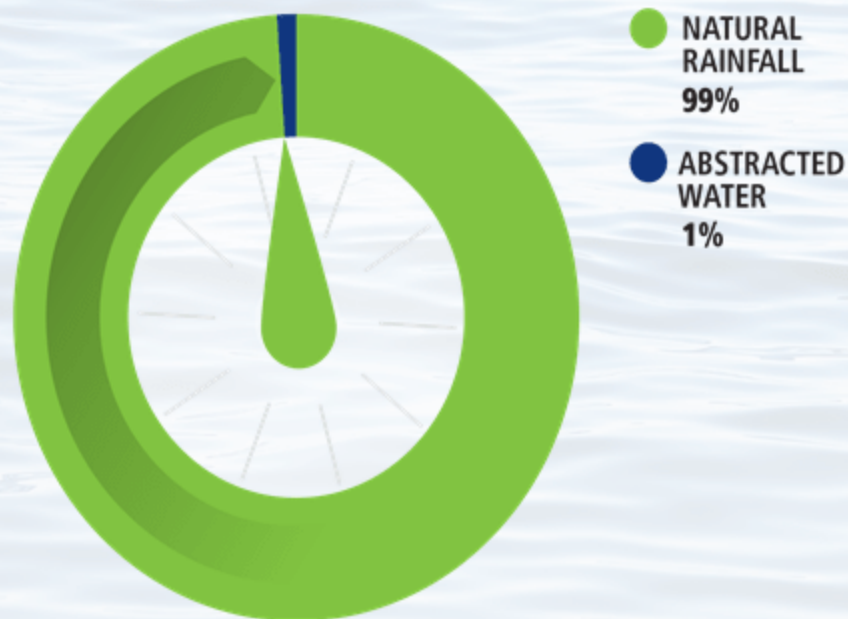
Bord Bia Sustainable Beef Producer Winner,
2014: Suckler to Weanling/Store

Jonathan Greene, Co. Kildare



Bord Bia Sustainable Beef Producer Winner,
2014: Suckler to Beef

WATER CONSUMPTION OF IRISH BEEF & DAIRY SYSTEMS



99%

99% of water consumption comes from natural rainfall.

Environmental
Scheme
Participation

Habitats/
Areas of
Conservation

Biodiversity

Tree
Planting

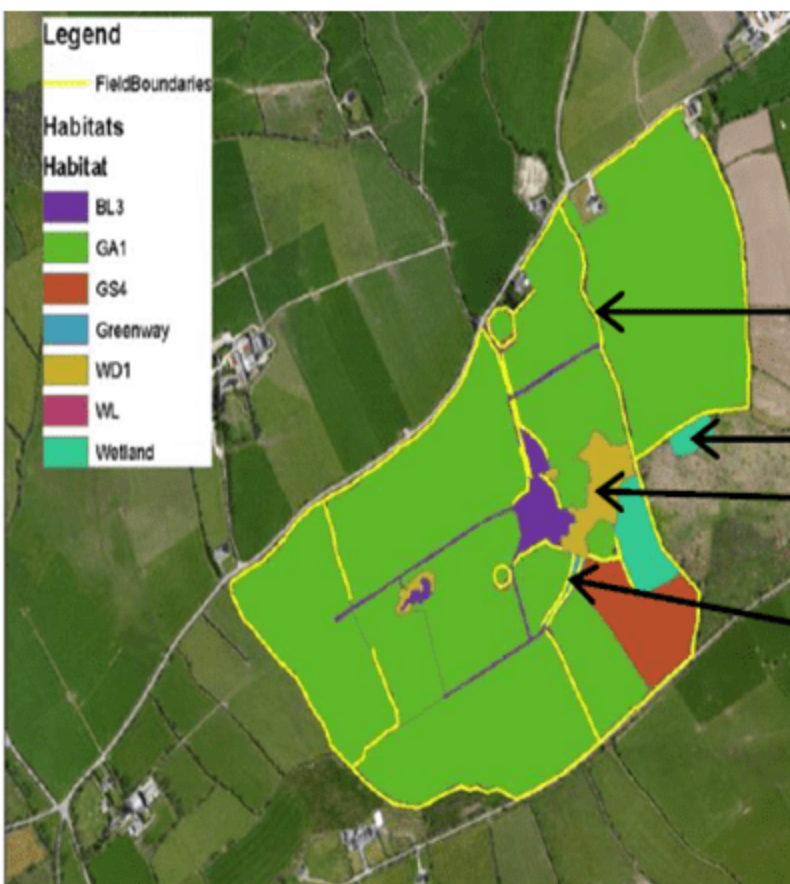
Hedgerow
Management



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Remote Assessment of Wildlife Habitats



1. The area of habitats on the farm is greater than 25%, and represents a substantial contribution to farmland habitats for wildlife. No further habitat enhancement or creation is required. However, the farmer might consider the following suggested actions to benefit wildlife on small areas of the improved agricultural grasslands.	
2. Hedgerow cutting can be more wildlife-friendly by leaving uncut for two to three years, and by cutting in rotation (rather than all at once).	<input type="checkbox"/>
3. Consider creating or extending small areas of woodland through the Native Woodland Scheme	<input type="checkbox"/>
4. Widen existing field margins or headland areas that have native wildflowers.	<input type="checkbox"/>
5. If there are no existing field margins with native wildflowers, create some field margins by sowing pollen and nectar-rich plant species (see website for details)	<input type="checkbox"/>
6. Control and eradicate non-native invasive species that threaten native habitats and wildlife e.g. Himalayan balsam, Japanese knotweed, <i>Gunnera</i> and <i>Rhododendron</i> (see website for details)	<input type="checkbox"/>
7. Create a farmland pond	<input type="checkbox"/>
8. See website* for other suggestions.	<input type="checkbox"/>

Pilot on 200 farms in 2016



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Raw Material Sourcing

Supplier Certification | Sustainability Initiatives



Manufacturing Processes

Energy | Emissions | Waste | Water | Biodiversity

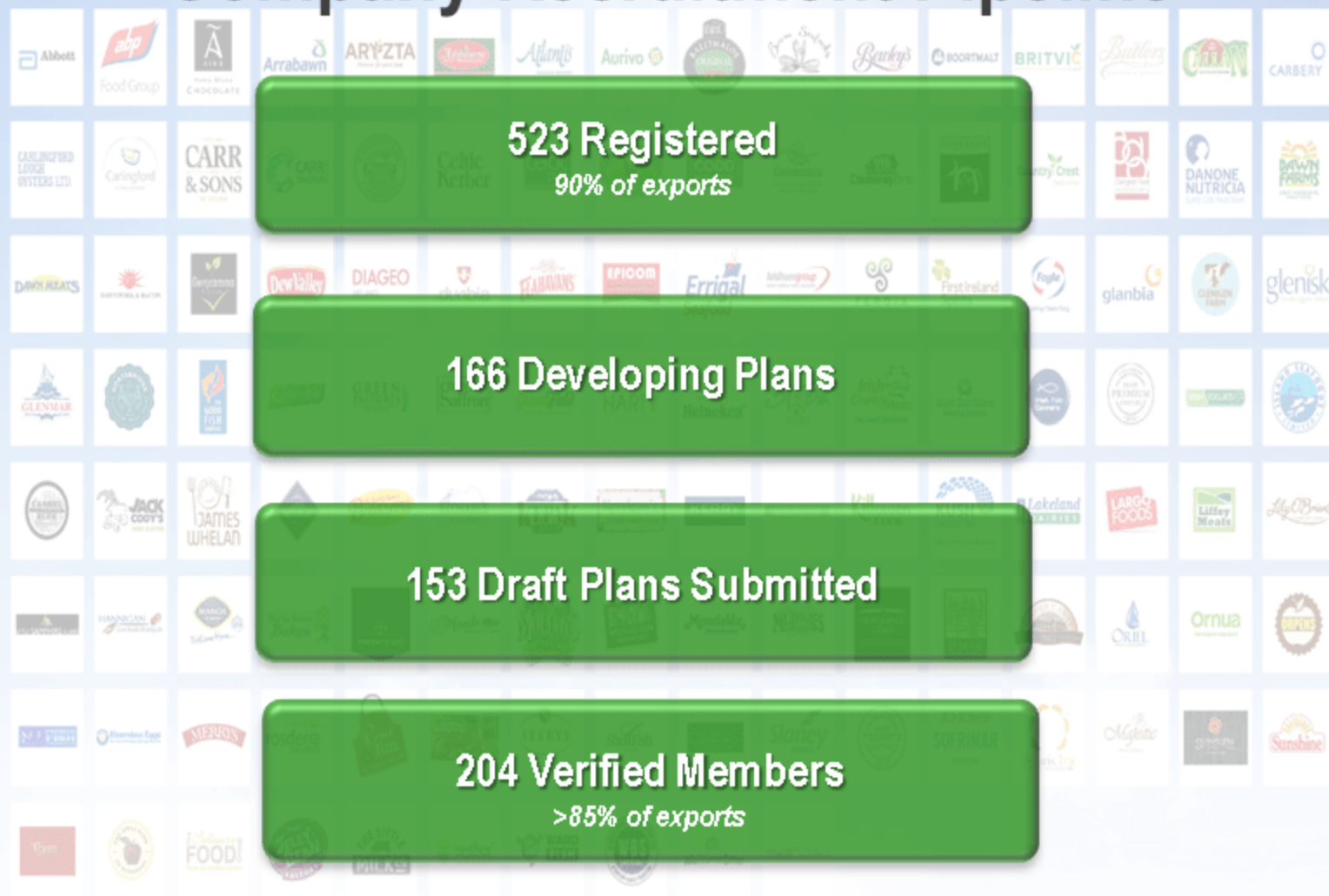


Social Sustainability

Health & Nutrition | Community Initiatives | Employee Wellbeing

Origin Green Verified Members

Company Recruitment Pipeline



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ORIGIN GREEN PLATFORM

Welcome to our new members Gareth Wescott (*The Food Tap*), Jenny Synnott (*The Dublin Cookie Company*) & Sinead Ryan (*Bulmers Ireland*).

Welcome to the Origin Green Platform [READ MORE](#)



EXPLORE

What are you interested in?

HIGHLIGHTS



Reducing natural gas and water use at
Marine Harvest Ireland



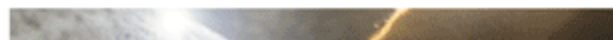
ASK

Looking for an answer?

ACTIVE DISCUSSIONS

Is there a method for calculating energy savings on automatic fast closing chill doors?

PLAN DEVELOPMENT



Community Manager

Andrew Mullins

[Send message](#)

60 Workshops



SHARE

Proud of your achievements?

15 hours one to one support

ACTIVE MEMBERS



Barry O'Donovan

Environmental Officer, ABP Food

150+ companies took

online course

Elizabeth Nagel
Environmental Consultant, Flanne
Environmental Ltd



Eamonn Diver

Engineering Manager, Bewleys Ltd

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SUSTAINABILITY REPORT 2015

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PERCENTAGE OF EXPORTS FROM ORIGIN GREEN VERIFIED MEMBERS



KEY FACTS



€12m

Reduction in energy usage by 2017.



14,000 tonnes

Less general waste by 2017



24%

Water usage reduction per unit output by 2017

Raw Material
Sourcing

Social
Sustainability

**Origin
Green**
IRELAND

Manufacturing
Process

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Origin Green: The Road Ahead



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THE WORLD WILDLIFE FUND

RETHINKING FOOD

TODAY ONE OF THE BIGGEST THREATS TO OUR PLANET COMES FROM THE PRODUCTION OF FOOD. IF WE DON'T GET THE WHERE AND HOW OF FOOD PRODUCTION RIGHT OVER THE NEXT 40 YEARS, **WE'RE TOAST**.

**AND WE'VE SEEN
A FEW MAJOR WINS**

IRELAND BECAME THE FIRST COUNTRY TO COMMIT TO THIRD-PARTY VERIFIED, 100% SUSTAINABLE FOOD EXPORTS BY 2016



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THE SUSTAINABILITY IMPERATIVE

NEW INSIGHTS ON CONSUMER EXPECTATIONS
OCTOBER 2015

nielsen

AN UNCOMMON SENSE
OF THE CONSUMER®

CONSUMER BRANDS THAT DEMONSTRATE COMMITMENT TO SUSTAINABILITY **OUTPERFORM** THOSE THAT DON'T

Sixty-six percent of consumers say they are willing to pay more for sustainable brands—up from 55% in 2014 and 50% in 2013.

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