



Energy, Water and Carbon Nexus in ABP Food Group

**John Durkan, Barry O'Donovan, Thomas Farrell,
David O'Halloran and Annabel White
ABP Food Group EWS Team.**



Food Group

Company Overview



£2.5bn
Turnover

10,000
Employees

45
Production Sites

1.2 Million
Cattle

2 Million
Lambs



Ireland
9 operational sites;
Processing >400,000
cattle and 1m sheep per
annum.

Poland
3 operational sites;
Processing >200,000
cattle.

UK
14 operational sites;
Processing >600,000
cattle & 1m sheep per
annum; Retail packing
>2,000t per week.



One of Europe's leading
manufacturers of private label
pet food, producing 570,000t
every year from 9 facilities
including pouch, alutray, canned
& dry formats.



The largest collector of used
cooking oil in the UK and
Ireland. Collecting 100,000t
UCO and 70,000t Food Waste
from over 50,000 customers for
conversion into renewable
energy.



Proteins

Processing the by-products from
ABP's beef processing business
into functional ingredients,
organic fertilizer, pet food
proteins, alternative fuel and a
range of other products.

Award Winning Beef

Our patented approach to maturation, our attentive care towards animal welfare and our unwavering dedication to quality have earned us plaudits from every corner of the globe.

Our award winning meat is available in over 200 Michelin starred restaurants globally.

Through our patented Ultra Tender® process, we can consistently supply all our customers with award winning beef.

For ABP, and all of our stakeholders, it's all about consistent, unbeatable, quality.



MICHELIN



T. +353 (0) 41 6850 200
E. info@abpireland.com
www.abpfoodgroup.com

ABP Food Group

DOING **MORE**
WITH LESS

abp
Food Group

Our Presence

We export our award winning beef to premium Retailers, Foodservice Operators & Manufacturers across 4 Continents...

... all with a keen focus on Sustainability - ABP Food Group is the first food company in the world to achieve quadruple Carbon Trust Certification Standards.



Musgrave



axfood



Sainsbury's



CONTINENTE
madele

王品集團 wowprime



TESCO

Ahold
Delhaize



Carrefour

brakes

AubreyAllen
the chef's butcher

ESSELUNGA
S

Systeme U

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Corporate Sustainability Targets

2020 aims

40% less electricity

30% CO₂ reductions

50% less water consumption

30% less specific energy consumption

waste to landfill

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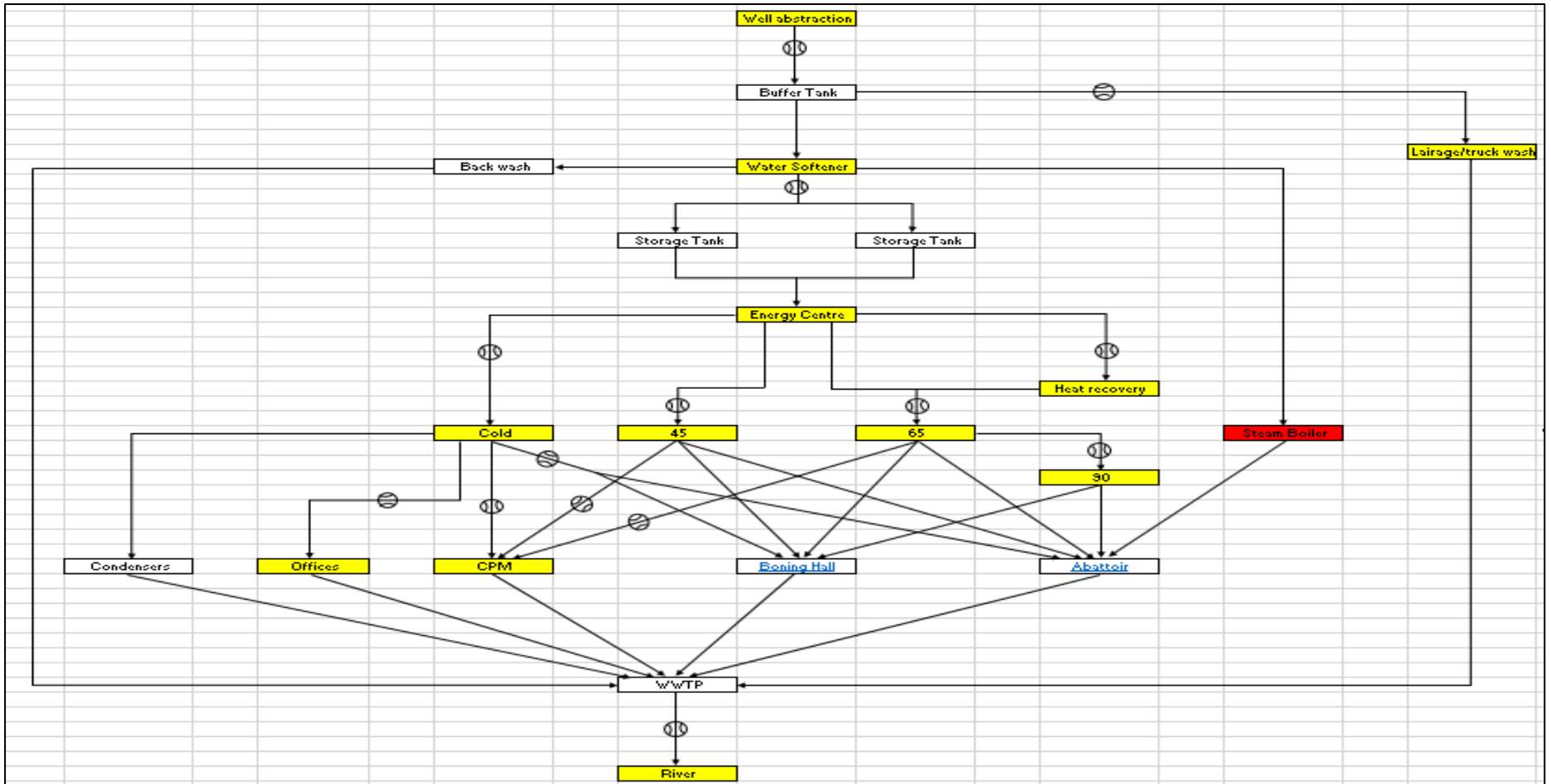
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Project Background

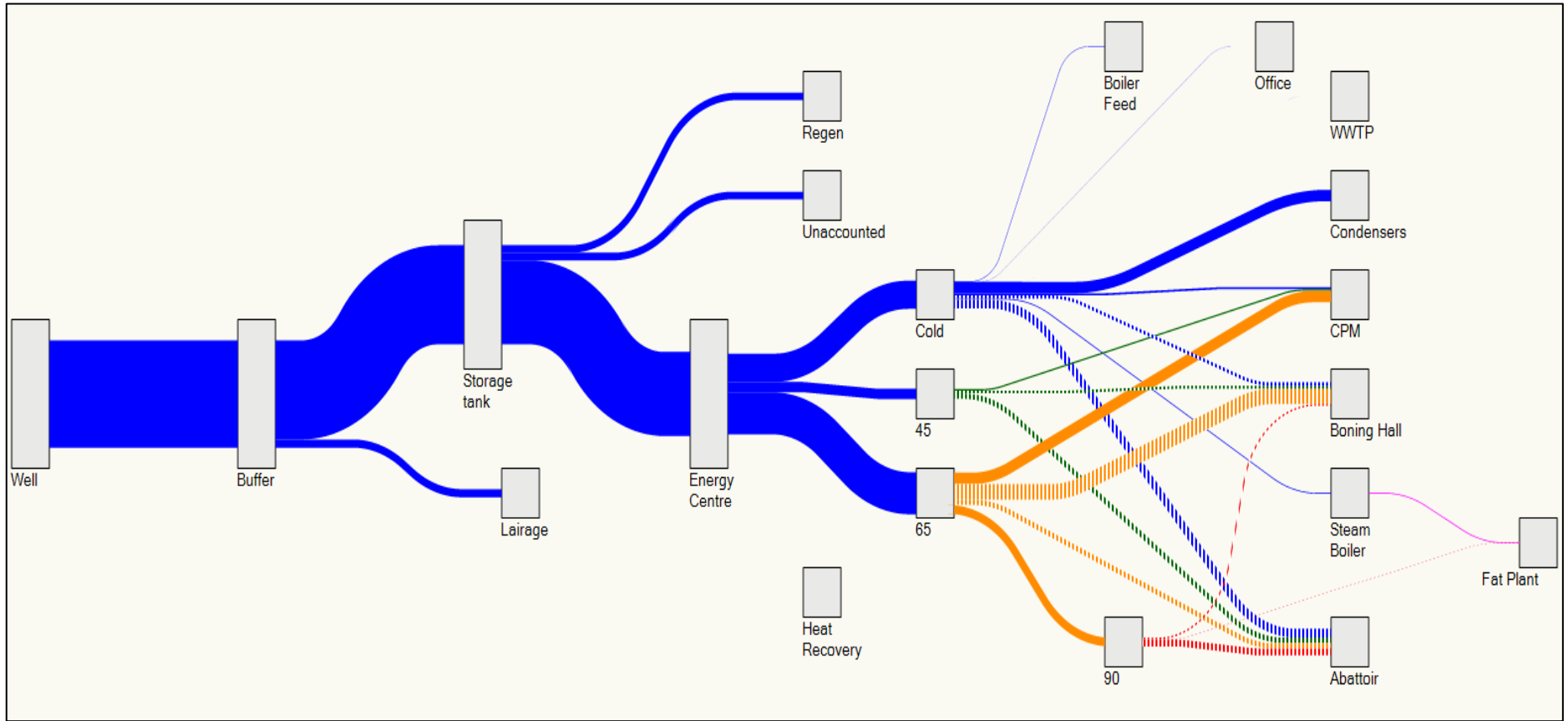
- A significant water reduction program was launched in late 2013
- Extensive sub metering was installed
- A cost analysis was carried out to highlight the “true cost” of water
- Good housekeeping provided initial water reductions
- Innovative technology contributed to further reductions
- The project has prepared the site for European Water Stewardship

Meter Plan



Sankey Diagram (Flow)

Blue = cold Green = 45 Orange = 65 Red = 90 Pink = Steam



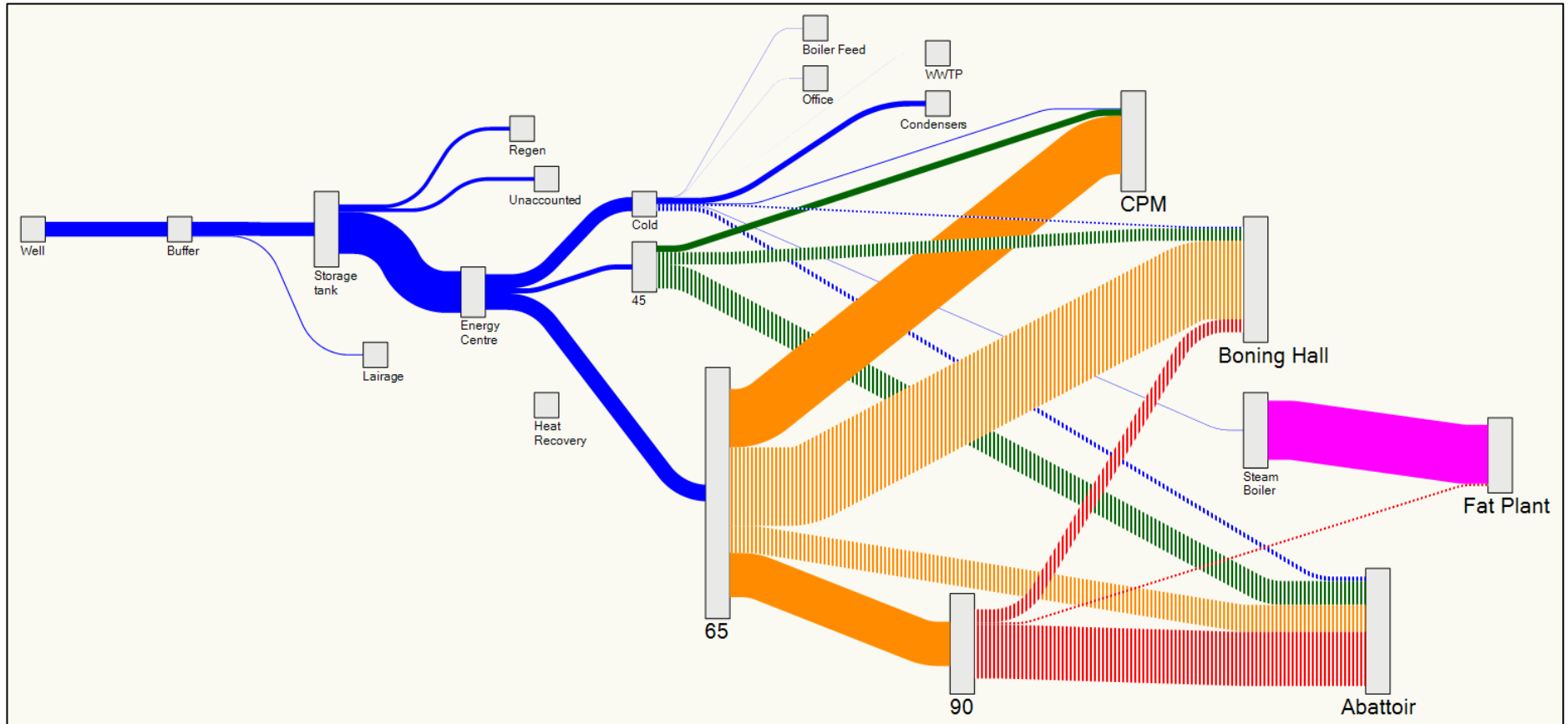
True Cost

- Cost analysis was carried out
 - Abstraction
 - Treatment
 - Distribution
 - Heating
 - Waste water treatment
- Accurate info allows for a more detailed assessment of investment and payback period

Water	Cost/m3
Hard	€ 0.11
Soft	€ 0.27
45°	€ 2.90
65°	€ 3.45
90°	€ 5.38
Treated	€ 0.90
	Cost/kg
Steam	€ 0.05
	Cost/m3
Steam	€ 49.31

Sankey Diagram (SMTM)

Blue = cold Green = 45 Orange = 65 Red = 90 Pink = Steam

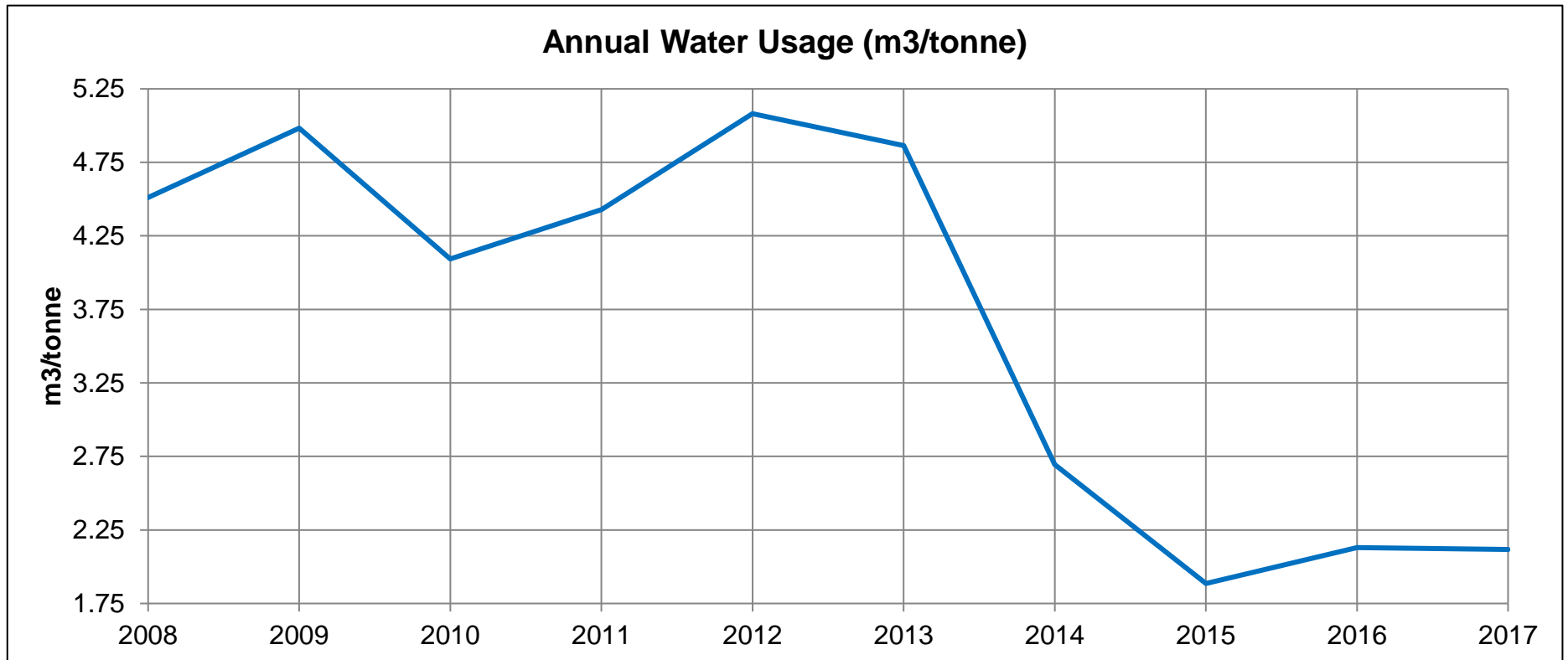


Innovative Technology

- Sensor operated knife and saw sterilisers and hand washers
- Improved wash down efficiency, including pressure and nozzle optimisation
- Optimised 5th Quarter processing with fully automated temperature control system
- Tray wash optimisation
- Heat recovery from renewable sources - refrigeration
- Water reuse through reverse osmosis and ultrafiltration

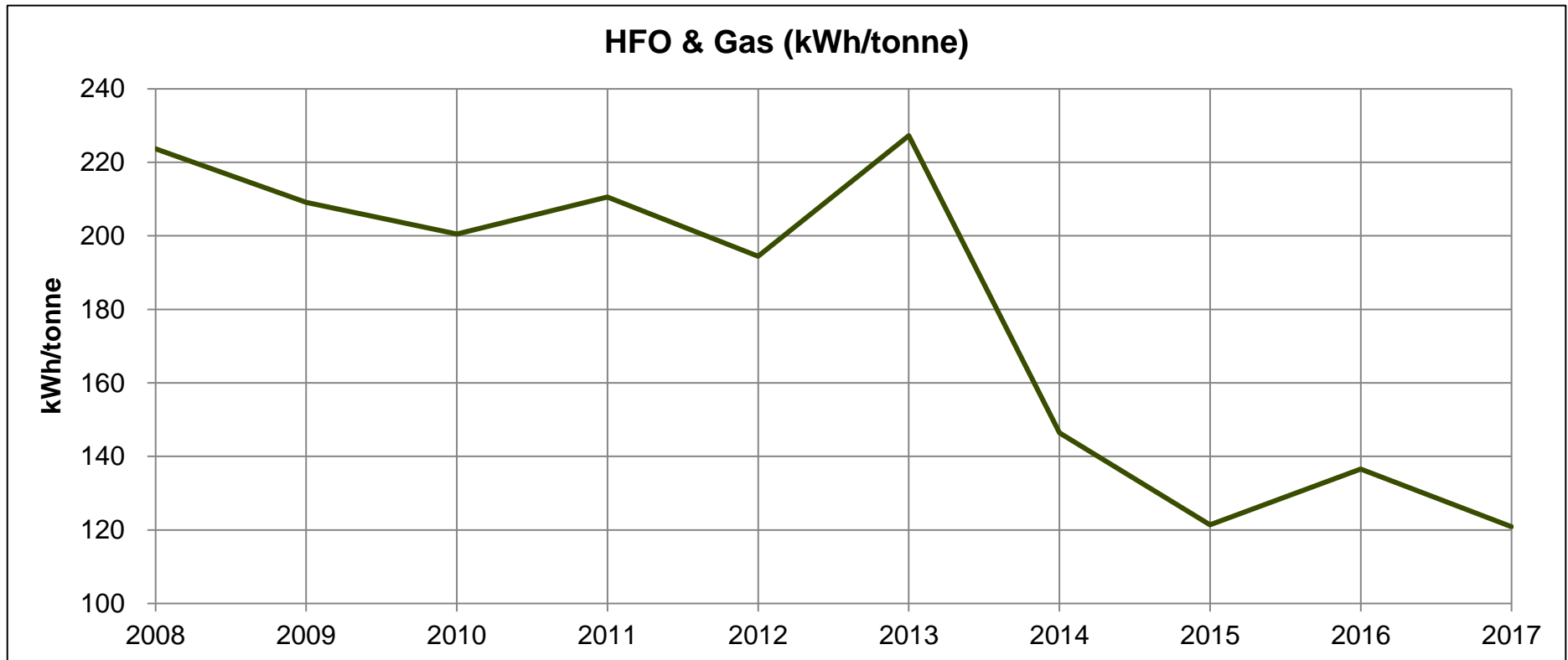
ABP Cahir example

Relative water reductions at ABP Cahir



Water / carbon Nexus

Relative fossil fuel reductions at ABP Cahir

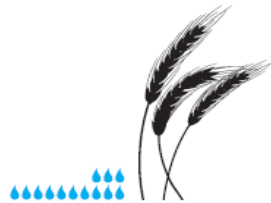


Benefits of Water Reduction

- Significant reductions in water usage and fossil fuel consumption
- Improved business performance through reduced costs
- Staff behavioural changes – respect water and save
- Further sub metering required to set KPI's, benchmarks and targets to fully optimise water usage



Water Footprint



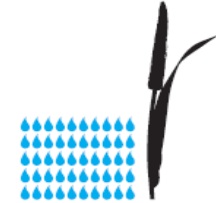
650 Barley
litres of water for one pound (500 g)



650 Wheat
litres of water for one pound (500 g)



1400 Sorghum
litres of water for one pound (500 g)



2500 Millet
litres of water for one pound (500 g)



650 Toast
litres of water for one package (500 g)



750 Cane Sugar
litres of water for one package (500 g)



90 Tea
litres of water for one pot (750 ml)



840 Coffee
litres of water for one pot (750 ml)



2500 Burger
litres of water for one burger (150 g beef)



4650 Beef
litres of water for one steak (300 g)



1000 Milk
litres of water for one litre



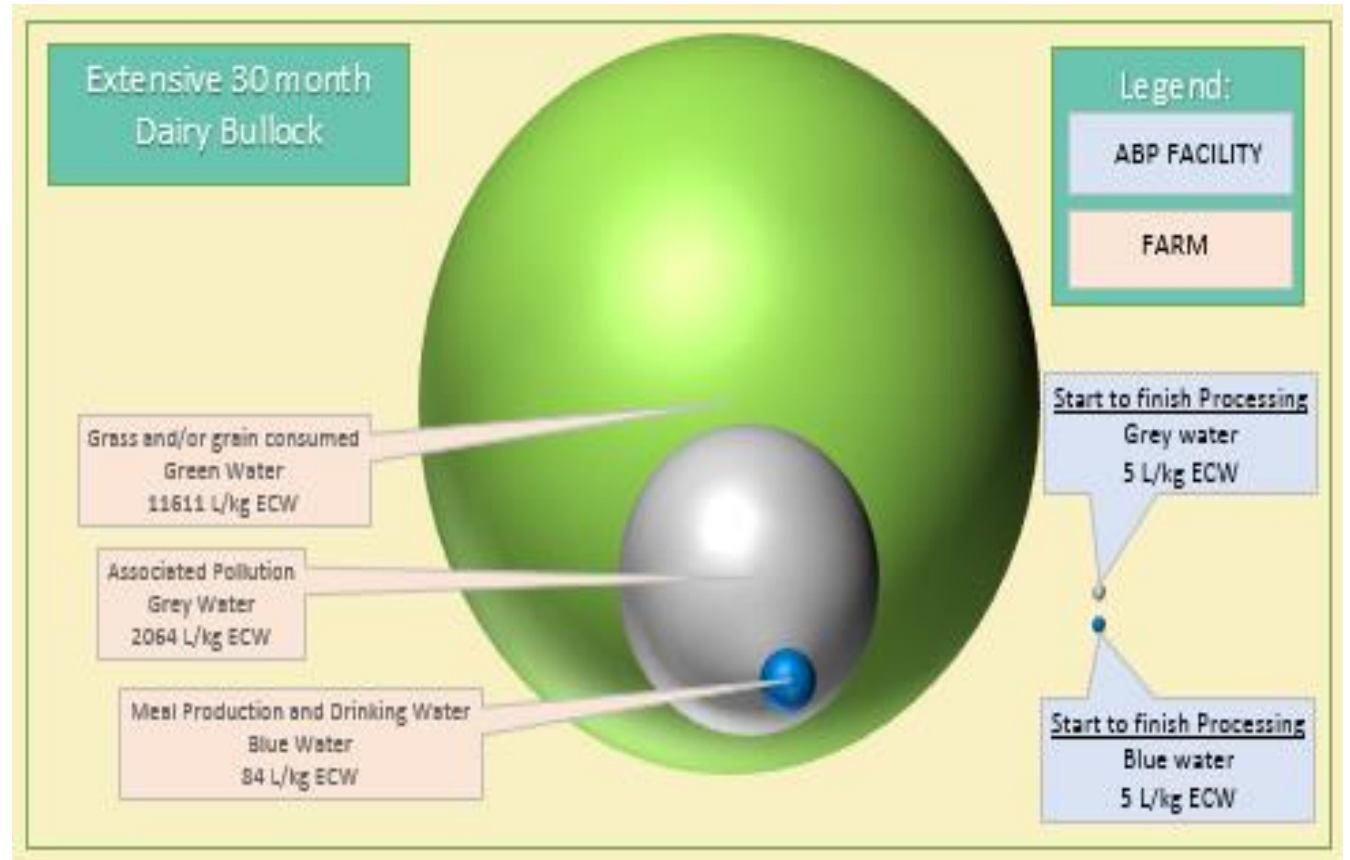
2500 Cheese
litres of water for one big piece (500 g)

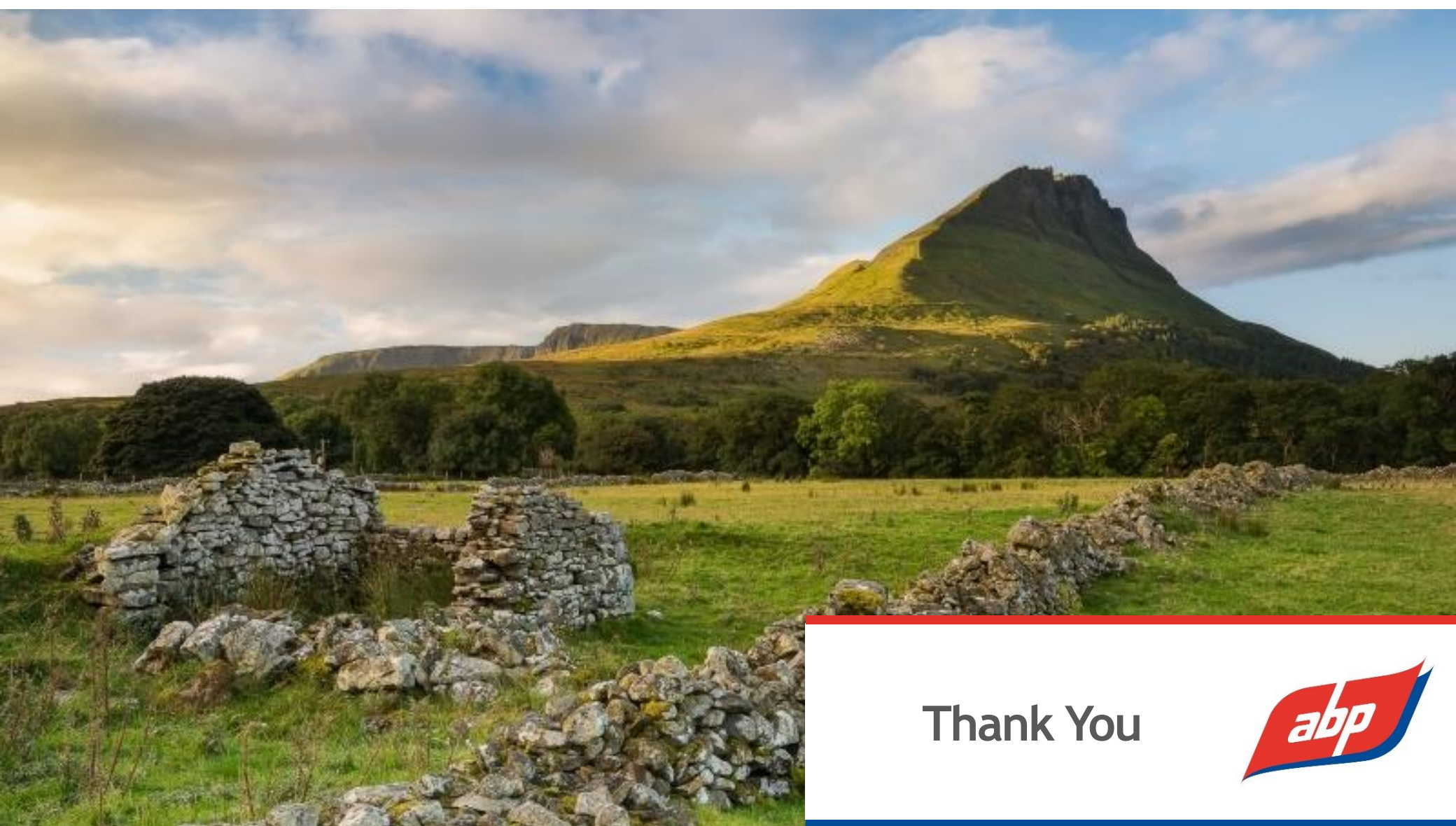
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Supply Chain Water Analysis

Farm		Factory	
	(L/kg ECW)		(L/kg ECW)
Blue	84.15	Blue	5.03
Green	11611.30	Green	0.00
Grey	2063.90	Grey	5.03

Combined	
Blue	89.18
Green	11611.30
Grey	2068.93
TOTAL	13769.42





Thank You



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