

# Dairy Forward



*Timothy Hearsom/AgStock*

How Smart Dairy Companies are  
Innovating to Drive Sustainable  
Growth (and How You Can Too)

A new report by Food Fw



As each day passes, businesses that operate with large volumes of waste and emissions have an increasingly pressing problem to solve.

In the UK, new initiatives like the Courtauld 2025 agreement and RE100 have emerged, uniting large and small businesses in a shared group, intent on finding solutions.

Such schemes are ambitious. For instance, the Courtauld 2025 agreement aims to '[cut the waste and greenhouse gas emissions associated with food and drink by at least one-fifth per person](#)' by 2025. Associated British Foods, Arla, M&S, Unilever, Morrisons and Sainsbury's are all signed up.

The RE100 companies, committed to 100% renewable energy, range from giants like Danone through to emerging players like Califia Farms.

This report, published by Food Forward Ltd (Food Fw) spotlights three dairy businesses that are adjusting to this new and demanding environment. Each business profiled operates multiple programs to cut waste and emissions, and view their sustainable practices as a way to drive down costs and provide a reliable return on investment in the years ahead.

This report is about them, but has been written for all food businesses aspiring to develop their sustainability strategies.



**Food Fw** specialises in matching innovative waste and emissions solutions, tailored to food and drink businesses at any stage of their journey.

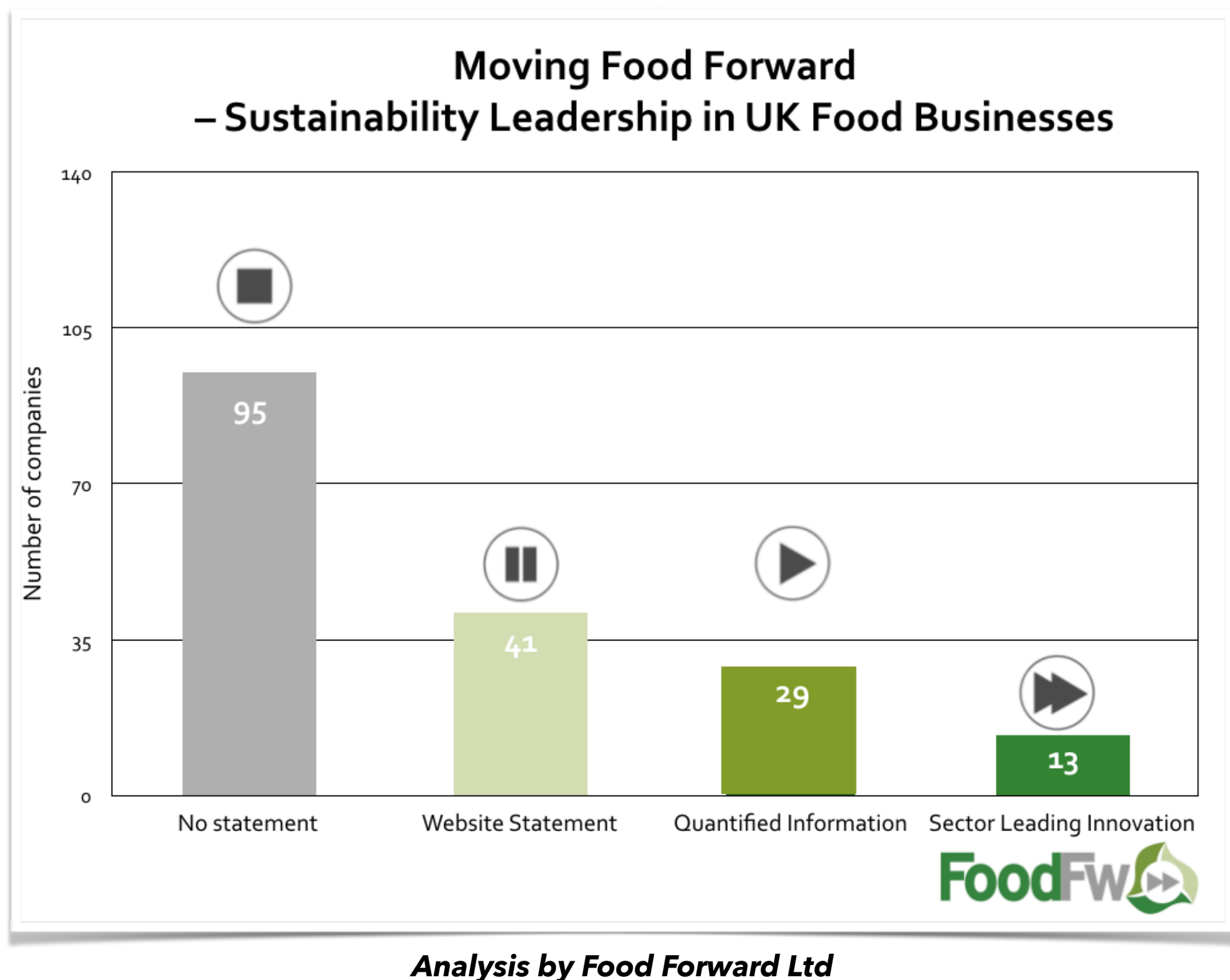
The three authors: Conrad Young, Rory McCann, and Rupert Hill have over 40 years' experience in the food and sustainability sectors, and each share a passion for delivering financially and environmentally sustainable solutions.

[Read more about the authors.](#)



To get an indication of where the UK food and drink industry is on the journey to sustainability, Food Fw analysed publicly available information from 178 companies within the Food and Drink Federation in 2018.

We evaluated the level of progress towards sustainability described on the company website. This centred on environmental practices but also included sourcing, staff engagement, and relationship with key bodies, such as WRAP and The Roundtable on Sustainable Palm Oil (RSPO).



The first group (left) are food and drink companies not disclosing any form of sustainability information online. Over half of the 178 companies analysed do not issue a statement on their sustainability efforts.

For the 47% of companies that were disclosing some information, we analysed the level of detail they were providing. These were segmented into three further groups:

- ▶▶ **General website statements**, without specific targets or figures
- ▶▶ **Quantified website information.** This included all the companies that have taken the time to set targets or measured their own operations e.g. for emissions, water, waste.
- ▶▶ **Sector leading innovation.** This was the group of companies with an extensive set of policies, demonstrably tackling a range of sustainability issues.



Becoming a sector leader can start with aspirational statements. But only a fifth of companies have gone on to measure their performance against aspirations. Beyond this, the 7% of companies leading the sector in sustainability investment have done so by picking the right solution and using their achievements as a springboard for a strong, future-focused brand message.

Across the majority of businesses, the most tangible, and cost-effective ways to improve sustainability are in the areas of energy and waste management. In the next section we'll look at the dairy industry, and three examples of sector-leading innovation.



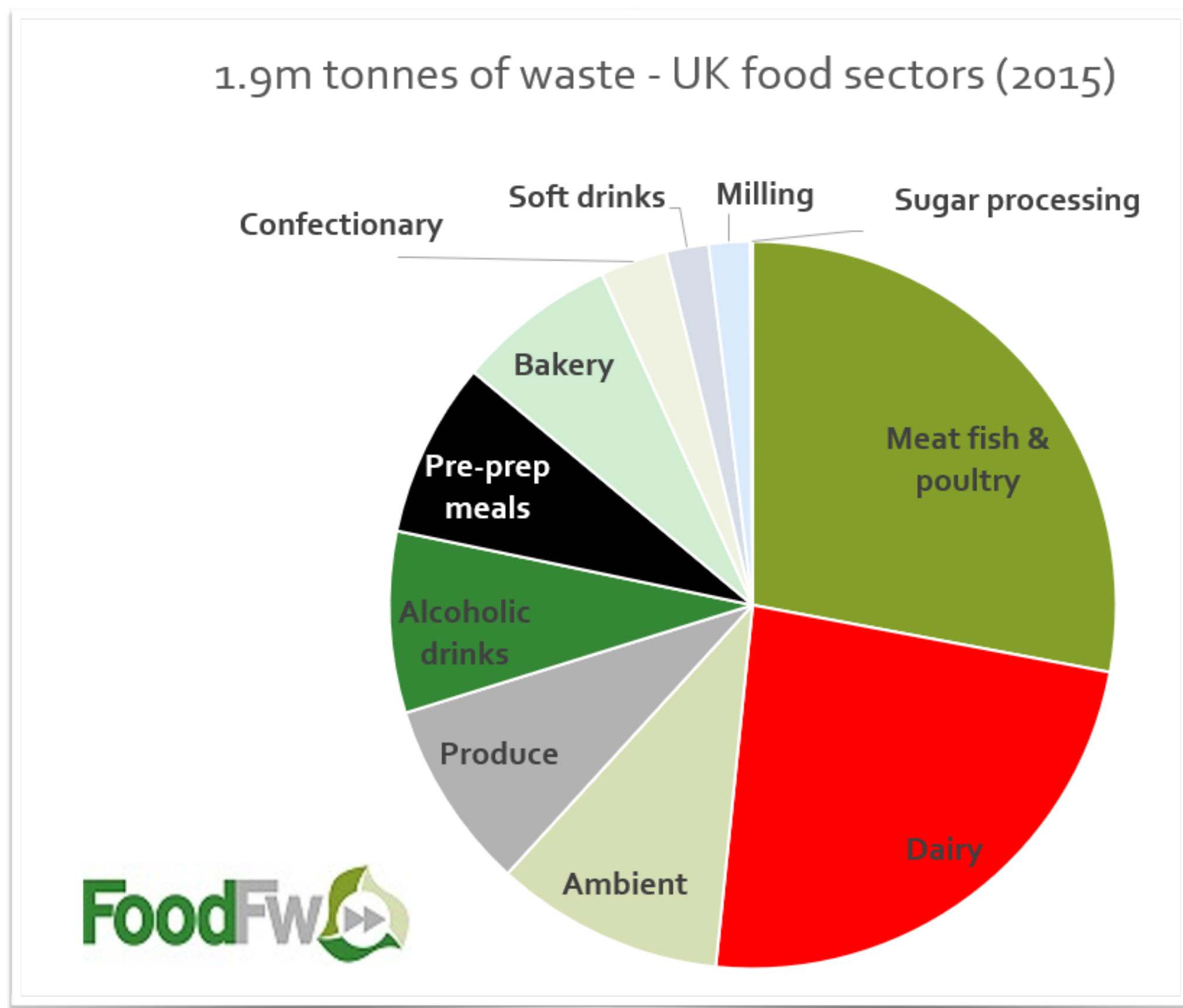


# Why Solve Waste & Emissions Issues?

[Fluctuating milk prices](#) in recent years have put dairy farmers on the back foot and a raft of alternative milk products have entered the market. The myriad of options available on supermarket shelves is ample evidence of changing consumer appetite, and intense competition.

The competitive pressure coincides with greater scrutiny of environmental impacts in the food industry, by retailers and the ultimate consumer.

[The Courtauld Report](#) shows that, of all food sectors, dairy is the second biggest waste producer, which includes generating the highest quantities, across all sectors, of effluent sludges (350,000 tonnes) and edible oils (48,000 tonnes).



And the latest sectoral energy consumption data from the [Department for Business, Energy and Industrial Strategy](#) shows that the dairy sector is the fourth largest consumer.

Meanwhile UK dairy operations are seeking ways to better utilise the nearly 1 million hectares of land - after cereal production, this is the sector with the biggest land footprint in the UK.



## Why Solve Waste & Emissions Issues?

This creates a perfect storm for the dairy industry: from farm, through processing and on to retail. All operational leaders who are close to the P&L know that they will fail if they do not invest in cutting costs. How is it best to simultaneously attain environmental credentials that the ultimate consumers demand?

Food Fw's team have worked with a wide range of businesses on sustainability, innovation and investment. The following three case studies explored in this report show the signs of being "gold standard" examples within the dairy sector for tackling waste and emissions issues.

Their strategic investment has been rewarded by:

- ▶▶ Alignment with retailer and other customer demands when contracts are tendered
- ▶▶ A brand boost which can translate to easier recruitment and better stakeholder relations.
- ▶▶ Hard P&L benefit

In this time of added scrutiny, these businesses set themselves up to thrive. Is there any alternative?



**Wyke Farm, the UK's largest independent cheese producer, is 100% powered by green energy.**

Wyke Farm's focus on carbon emissions, as well as waste and water performance, has led to Wyke becoming the first British dairy farm to hold a Carbon Trust Standard triple certification. The rooftop solar panels fixed on the farm rooftops save over 1 million kilos of CO2 each year - a good marker towards their 20 million target.

***'We are proud to say that our award winning cheese and butter is 100% Green in terms of energy'***

They have electric vehicles on site - Nissan Leafs - that also deliver cheese to the local town of Bruton. A new anaerobic digestion (AD) plant converts 75,000 tonnes of waste into energy each year. And this helped secure another strand in their customer relationship when Sainsbury's become a buyer of their biogas, alongside their cheese and butter.

Carefully planned systems mean that over 90% of the water in cheese-production is re-used.

The equipment on site is all fitted with low energy inverters, and LED lights are set on timers to conserve energy where possible.

The variety of solutions at Wyke Farm that tackle waste and emissions issues is laudable - and this runs throughout the business. As example, last year Wyke Farm partnered with a renewable energy firm to leverage the marketing benefits of their environmental credentials.



## Case Study One: Wyke Farm



*Becca Eccles and her family win the prize worth £22,000*

Promoting their shared commitment to green energy, on cheese packs, the campaign secured 19,000 responses yielding valuable market data, more people trying the product for the first time, and one very happy end customer.



## Case Study Two: First Milk

***First Milk is a farmer owned cooperative headquartered in Glasgow - the UK's only major dairy company which is 100% owned by British farmers.***



First Milk's newly opened anaerobic digestion (AD) plant is now the largest in the dairy sector in Europe, converting the creamery's cheese waste into bio-methane for use by the factory and local grid.

AD is a great way for the dairy industry to get rid of cheese waste and animal manure and turn it into renewable energy. There is a lot of merit to using waste in this way.

Some of the animal manure and slurry produced on UK farms is dumped in rivers, which can be a major cause of water pollution.

The process of AD involves microbes that thrive without oxygen converting biodegradable waste into usable biogas. The process cleanses the water. In First Milk's case, this means clean water can be released into the local River Ellen.



***First Milk's Lake District Creamery site***



***“With funding from outside the business and by outsourcing the plant’s operation and maintenance to Clearfleau, First Milk can focus on its core cheese production activity.”<sup>1</sup>***

Installing the AD plan cost around £10m, and yields returns of £3m per annum.<sup>2</sup> The plant also supplies up to a quarter of the creamery’s energy.

Additionally, First Milk have set other projects in motion. They updated traditional boilers with clean burn gas technology, reducing the carbon footprint of their Lake District site by 35%.

They reduced their need for natural resources further at their Haverfordwest creamery through an investment in membrane technology, reducing mains water use by half. First Milk are able to recover water from milk and use it to clean the site.

### **Leading environmental journalist, George Monbiot, on AD:**

“Biogas from anaerobic digestion could solve several problems at once. As well as a couple of million tonnes of sewage sludge, the UK produces between 16 and 18 million tonnes of food waste, much of which still goes into landfill.”<sup>3</sup>

However, the model is not infallible. Monbiot is critical of AD when plants are grown specifically to increase yields: “Because the anaerobic digestion of waste food and slurry makes sense, I don’t want to see a biogas moratorium imposed. But I would like to see a ban on the use of all purpose-grown feedstocks.”

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<sup>1</sup> Press release, [edie.net](http://edie.net)

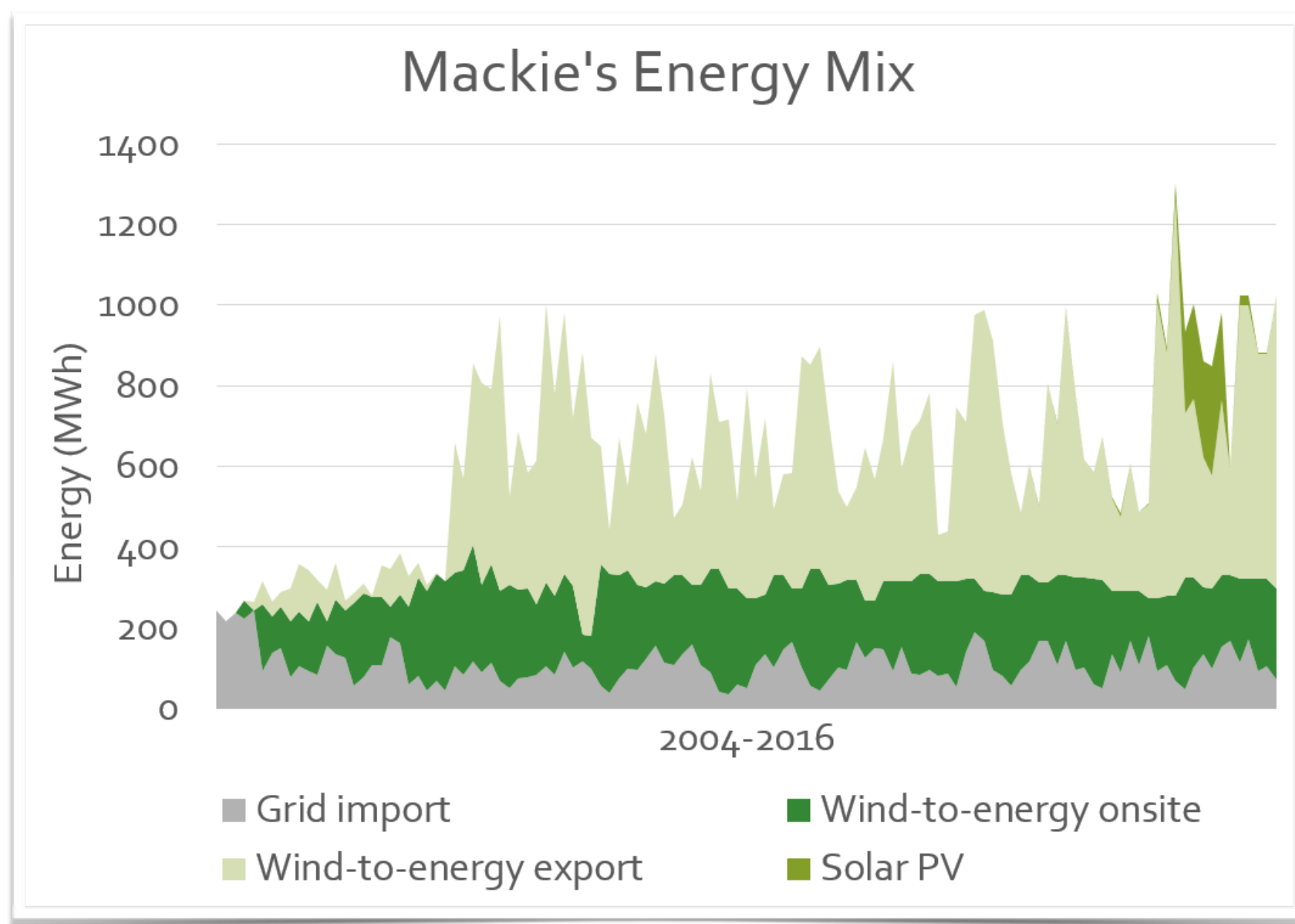
<sup>2</sup> <http://clearfleau.com>

<sup>3</sup> <http://www.monbiot.com>



## Case Study Three: Mackie's

**Mackie's is a Scottish ice cream and confectionery manufacturer based in Aberdeenshire, on a 650 hectare farm site.**



**Mackie's renewable energy production 2004-2016**

As the graphic above demonstrates, Mackie's has been adopting renewable energy since 2004. This is most significantly driven by the four wind turbines on the farm. The light green area of the chart shows the energy exported to the grid is more than they purchase.

Energy has been further boosted in recent months by the 4 hectare solar panel site, generating an estimated 37% of site needs.

*"A mix of different types of renewable energy makes sense - because they can produce peaks at different times. For example the wind turbines may produce most power on a dark and windy night while the solar panels will work best on sunny spring and summer days."*

In terms of waste, the slurry produced by the cows is mixed with the waste water and spread over the fields as fertiliser. This reduces Mackie's fertiliser needs, and as they rightly point out on their website, reduces the carbon emissions in their supply chain.

**Mackie's spreading the message of their renewable energy supply on Twitter, March 2018.**






## What This Means For You

If you're reading this report as a member of the dairy industry - or a food producer more broadly - you may be wondering how it can help you.

Through the dairy case studies in this report, we've seen how investment in sustainability can build a strong brand and sector leadership, strong customer relationship and, crucially, bottom line P&L benefits.

How many of the reasons below are preventing your company from making sustainable, long term changes?

- 
- Focus on operating day-to-day pushes out long term planning and execution.
  - Confusing range of possible green suppliers, partners and innovations
  - Limited in-house innovation skills
  - Limited balance sheets to invest
  - Reactive / short term investments taking priority
  - Uncertainty about the credentials and guarantees of third parties
  - Difficulty linking investment to customer-facing brand benefit

At Food Fw, we are uniquely positioned to help you accelerate through your barriers. We bring extensive food industry experience, inspiration from a network of highly talented, sustainable ventures, and options to help make the investment stack up.

We also know how to get the message of your success to the stakeholders that matter.

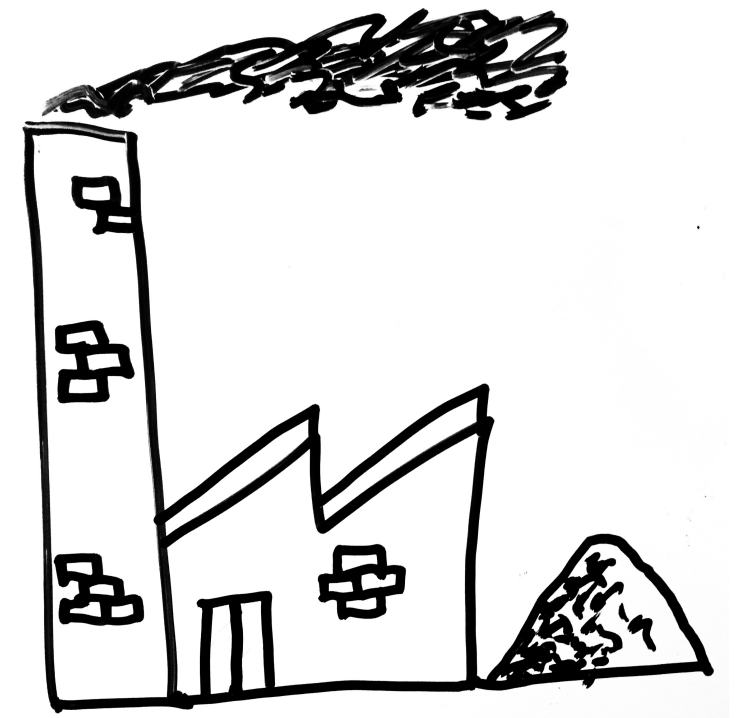
The model is simple and practical, no matter where your company is.

[Get In Touch](#)



## ■ Stop: You don't know where to begin

We'll give you a free consultation.



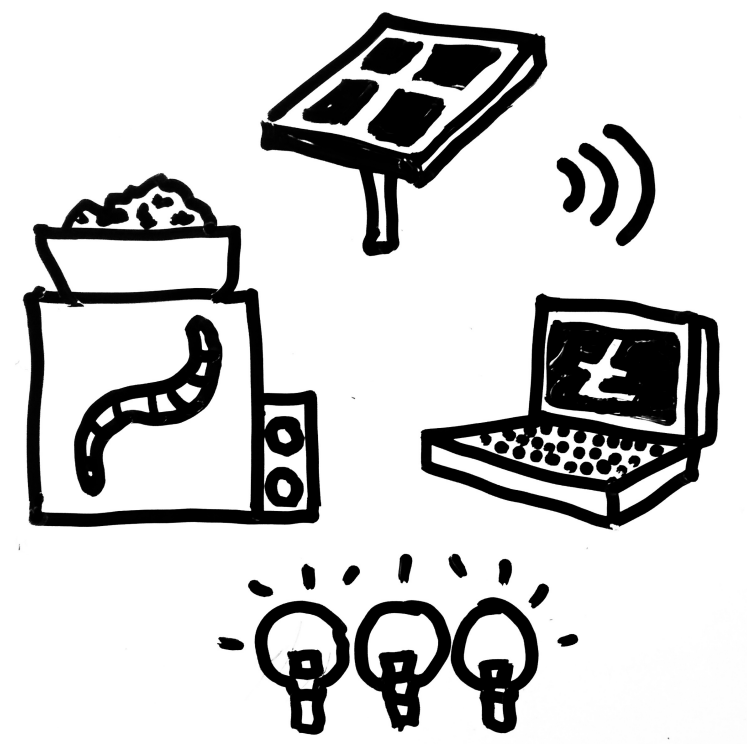
## ■ Pause: You still need to think before you start to play in this area

We make an assessment of your needs. This may include one or more sites, a distribution network, or some other aspect of your extended operations. You develop achievable targets, balancing commercial, operational and sustainability issues.



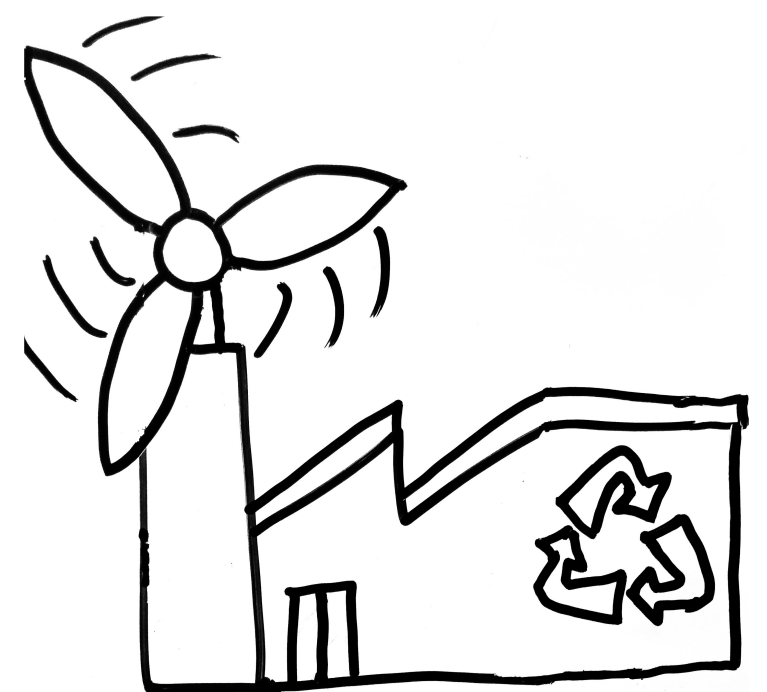
## ► Play: You want to try out different possible solutions

We select and bundle a set of passionate companies that have solutions to one or more of your waste and emissions issues. We're not restricted by our commercial model, or obligations to any particular supplier. We draw from both mature and a very wide range of earlier stage, innovative businesses, to suit your needs, and show what targets can be achieved.



## ►► Fast Fw: You know what new technology or service you want

We ensure that it's properly planned and then get it delivered, quickly. If needed, we draw on our network for additional finance, insurance, PR and other support. You pay us directly, or through your contract with the providers.





## Food Fw's Results

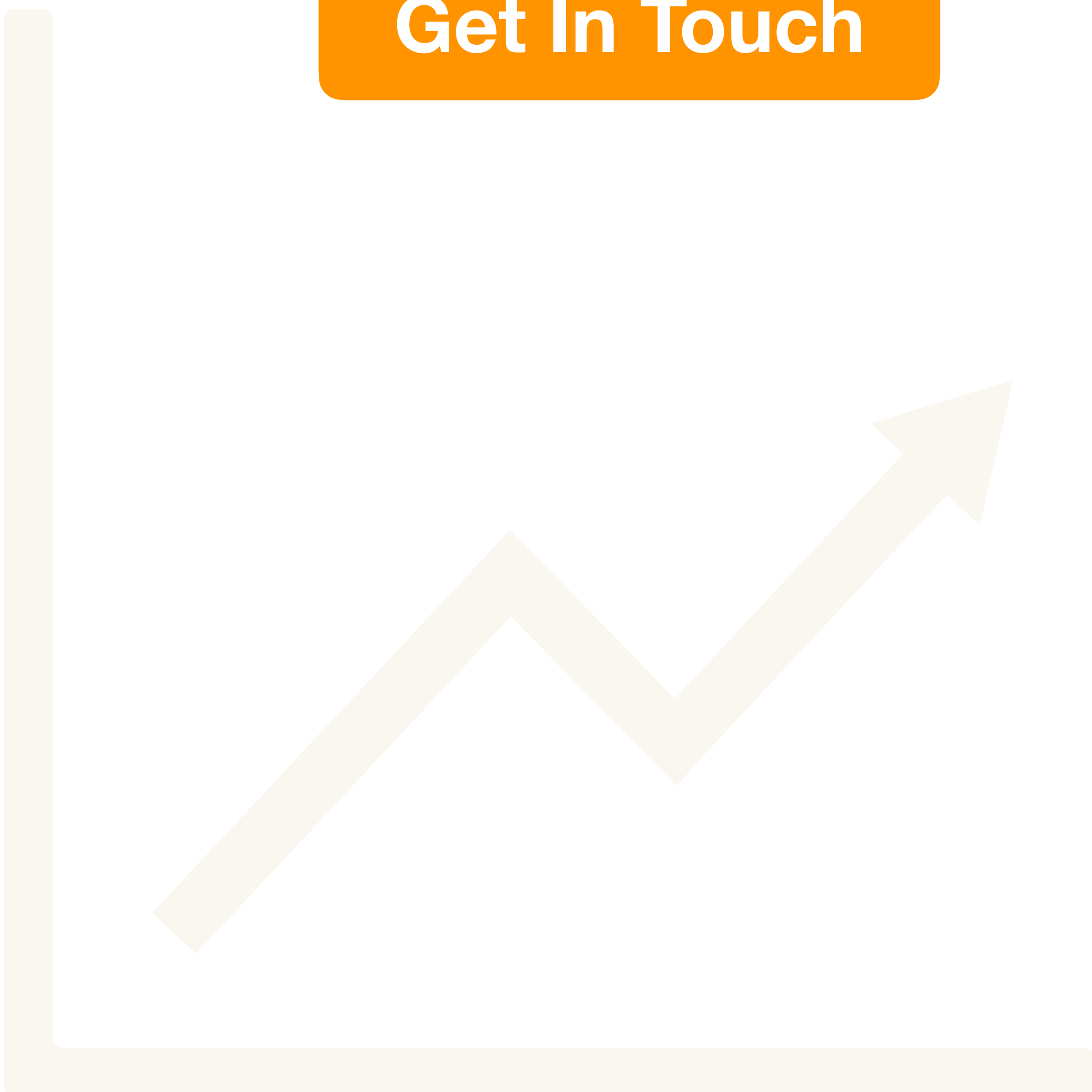
Throughout, we offer:

- market leading environmental credentials
- maximising brand messaging
- compliance with retailer sustainability standards
- market beating margin and share growth
- financing and structuring for maximum cost effectiveness

So if you want to keep up with change, Food Fw is here to help you move forward, faster than you thought possible.

To learn more drop us a message and the team will be in touch.

[Get In Touch](#)





# Global Supply Chains

Food Fw is based in the UK, but works with the global challenges of sustainable supply for dairy, fresh produce and other food sectors. The following videos include sector experts and insights across Europe, the USA, Asia and Africa.

1. Listen to the views of Nestlé and The Closed Loop Fund on the \$940 billion economic [opportunity in food waste](#).



2. See Food Fw's [Story of the Fruit Yoghurt](#) for an illustration of the financial impact of food waste along one dairy supply chain.



**Conrad Young** is founder and Managing Director of Food Forward Ltd. He has led energy, waste, and sustainability insight-sharing projects and programs with partners including Tesco, Asda/Walmart, Typhoo, G's, Nestlé, Asahi & M&S. He is a mentor and judge at investment programs including the SDG Challenge, London Business School Launchpad & Rebel Bio.



**Rory McCann** has over 20 years experience working with the world's leading food and drink corporations. Most recently, Rory led Kerry's development and sales to some of the top dairy, snack, meat and chilled food manufacturers in the UK and Ireland. His speciality is helping deliver both hard cost savings and impeccable green credentials through smart food waste and energy management.



**Rupert Hill** works with the hard metrics which drive cost savings and the stories which change hearts and minds among business partners, consumers and investors. Most recently he managed communications at Datamaran, a platform that provides insight on strategic sustainability issues.



***Photo Credit: Ingrid Howard***



Thanks for reading  
**Dairy Forward: Sustainable  
Innovations Driving Success**

We hope you found it useful,  
and we look forward to hearing  
your thoughts and questions.

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