



# **Sustainability Report**

## **November 2009**

***Dairy***  
**UK**





**Fergus McReynolds**  
**Dairy UK Environment Manager**

## **Foreword**

Dairy products contribute to the quality of life of millions of consumers around the world. They are a profoundly important part of the nation's diet and are safe and nutrient rich.

As an industry that relies heavily on the health of the land for its prosperity, dairy has long been at the forefront of food industry action to reduce the environmental impact of food consumption and production. Dairy UK and its members backed the recent Global Declaration on Climate Change, signed in Berlin with the pledge to reduce dairy's environmental footprint. As part of this significant step, a green paper detailing dozens of dairy initiatives under way all over the world.

In the UK, dairy companies and farmers alike have been quick to adopt strategies that reduce their greenhouse gas emissions, such as the Milk Roadmap. Now, despite dairy's major role in the nation's diet, less than 2% of UK emissions come from the dairy sector. Our participation in emissions trading and carbon reduction schemes, as well as work on carbon footprinting, look set to help reduce that further.

Our aim in publishing this annual Sustainability Report is to set out the environmental progress being made by dairy processors in the UK. Using proprietary benchmarking data gathered by Dairy UK, we will track companies' improvements, and report on the work of our environment team.

We believe that we are already leading the UK food sector on sustainability. Over the coming years, we hope to maintain that record.

## Introduction

Environment? Sustainability? In a recession!

Dairy UK has recently enlarged its environment team and will continue to put a lot of resource into sustainability in the dairy chain.

This publication is just one part of that work. At its heart is the data collected through our Environmental Benchmarking Tool (p.6). And though all of the UK's major liquid milk producers and much of the capacity dedicated to other dairy products is already captured, we would expect the proportion to increase in coming years.

Dairy UK's Sustainability Report will be a regular annual publication. Sustainability reporting is also a major processor commitment under the Milk Roadmap (read more on p.4). So don't be surprised if absolute values for energy use, water use and waste change year-on-year.

We would, of course, welcome your feedback on this report. If you have any comments, please contact Fergus McReynolds on 020 7486 7244.

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## Global context



Signatories of the Agenda for Action (l to r): Toon van Hooijdonk (GDP), Richard Doyle (IDF), Bertus de Jongh (ESADA), Alfonso Moncada (FEPALE), Wesley Judd (IFAP), Hans Johr (SAI Platform), Werner Buck (EDA) and Brian Weech (WWF)

Dairy is determined to play its full part in the fight against climate change. In a globalised world, it couldn't be any other way.

At home in the UK and in the world's other key dairying countries, the industry has committed to reducing the environmental impact of production and consumption. That's why the dairy industry united in September to sign the Agenda for Action in Berlin, pledging to reduce carbon emissions through the following five actions:

- Develop a standard carbon footprinting methodology for dairy products
- Promote the adoption of global best practice in the dairy sector
- Help establish tools to measure and monitor emissions from farms and factories
- Promote farmer's understanding of agricultural emissions and opportunities for reduction
- Align research to develop cost effective mitigation technology

Signatories have agreed to develop a standard method of measuring the carbon footprint of milk and dairy products. And by sharing and adopting best environmental practice, they have also committed to reduce the greenhouse gas emissions associated with production. Crucially, companies and co-ops will work with dairy farmers to help them reduce their impact.

This ambitious document is a first in the global food industry, and will be taken forward to climate talks in Copenhagen this winter. The 192 countries that meet to agree a successor to the Kyoto Protocol will be left in no doubt that the dairy sector is taking its responsibilities seriously.

Both the Agenda for Action and a supporting 'Green Paper' that catalogues some of the many initiatives already under way can be viewed online at [www.dairy-sustainability-initiative.org](http://www.dairy-sustainability-initiative.org).



## The Milk Roadmap

Dairy farmers, processors and retailers in the UK have long recognised the need to address sustainability. In a move which has been emulated elsewhere in the world, the dairy industry and Defra published the Milk Roadmap in May 2008, setting out ambitious environmental targets for the whole chain.

Milestones in 2010, 2015 and 2020 have been set to deliver an industry vision where environmental and economic sustainability go hand-in-hand – and support the supply of safe, healthy and nutritious dairy foods. Now, one year on, the first results of that work are emerging.

Milk processors are on target to meet their 2010 goals:

- using 10% recycled plastic in milk bottles
- environmental benchmarking
- meeting government targets on carbon reductions and energy efficiency.

Already one in every four milk bottles meets the target of including 10% recycled material, saving 3,000 tonnes of virgin plastic. By the middle of next year, that saving will equate to 12,000 tonnes.

Major processors are also nearing some of their more distant milestones, including sending no ex-factory waste to landfill. There are a number of sites that have already achieved this. And in a first for the UK dairy sector, an inline anaerobic digestion plant capable of turning dairy waste into energy has been installed in Dorset, with Dairy UK support.

But it is the farm sector that makes the greatest contribution to emissions. So it is very encouraging that dairy farmers are set to beat their 2010 goals for the number involved in environmental stewardship schemes, in nutrient planning to reduce nitrogen run-off and in manure management plans.



*“ The aim of both the Environmental Plan for Dairy Farming and the Milk Roadmap is dairy farmers taking ownership of environmental challenges and adopting a voluntary approach to improvement. Both have been successful because they offer simple, win-win solutions to environmental challenges*

**Hayley Campbell-Gibbons, NFU Chief Dairy Adviser and Chair of the EPDF Steering Group**



**Figure 1: Roadmap targets**

<b>Sector</b>	<b>Target</b>	<b>Status</b>
<b>Farmers</b>	50% of dairy managed farmland entered into Environmental Stewardship Scheme	On target: 45% of farmers so far
	5-15% reduction in water use	First report due in 2010
	65% of dairy farmers actively nutrient planning and therefore reducing nitrogen runoff	On target: 47% of dairy farmers had an up-to-date nutrient plan
	30 farms piloting on-farm anaerobic digestion for improved sustainability & generation of energy from renewable sources	Unknown: gathering data
	95% dairy farmers have a manure management plan	On target: 94.8% of farmers to date
	95% have farm health plans	On target: 95.1% of farmers
	Dairy farmers to improve energy efficiency by 15%	Unknown: gathering data
	<b>Processors</b>	All processors to meet or beat energy and CO2 reductions of the climate change agreements
10% recycled plastics in packaging materials		On target: Should reach 10% incorporation rate for milk bottles by end of 2010
Environmental benchmarking and best practice programme.		On target: Dairy UK has launched a Benchmarking tool and will be developing a best practice programme in 2009 and 2010.
Annual sustainability report (will evaluate success with targets)		Published 2009

## Dairy UK Environmental Benchmarking

Dairy UK has worked hard over the past year to develop an environmental benchmarking 'tool' for the dairy sector. This allows processing sites in the UK to compare their performance with complete anonymity against others in the industry.

By capturing data relating to key environmental metrics, the tool has the power to identify the best practices and processes, and help users to adapt and implement them. Metrics include energy use, greenhouse gas emissions, packaging and waste.

To date, Dairy UK has received data on well over 60% of the total milk processed in the UK and almost 100% of the liquid milk processed in the UK. We will collect and publish the information annually to track the industry's improvement.

### i. Energy

Primary energy use by the sector is down over 5% since 2000 while production has risen by 20% resulting in an efficiency saving of 21.5%. Electricity and natural gas dominate the energy mix, accounting for 85% of use. Processors have achieved a net carbon saving of more than 129,000 tonnes.

**Figure 2: Energy use**

	Energy consumption (kWh/tonne product)	CO <sub>2</sub> emissions (kg/tonne product)	CO <sub>2</sub> emissions per unit energy (kg/kWh)
Average	246.43	175.59	0.26

Total delivered energy (MWh):	Total primary energy (MWh):
1,282,620	2,011,066

“ Up to 13,000 tonnes of virgin plastic could be saved each year by using recycled plastic in new milk bottles



**Richard Pryor, Innovation Controller, Dairy Crest**



**Case study: Dairy Crest has been at the forefront of efforts to use the plastic from recycled milk bottles to make new milk bottles. In partnership with bottle manufacturer Nampak Plastics and recycler Greenstar WES, the company developed the UK's first milk bottle containing 10% recycled material. The familiar 1, 2, 4 and 6 pint bottles, which now contain the recycled material, are being used at Dairy Crest's dairy in Chadwell Heath, Dagenham, with its facility at Severnside near Stroud, Gloucestershire following suit by the end of the year.**

## ii. Water

Cleaning is the main consumer of water in dairies. But with new plant, water recycling and better effluent treatment, major milk processors reduced water consumption by 20%. Across the whole industry, 840 million litres of water were saved in 2008, equivalent to 9% of consumption.

**Figure 3: Ratio of milk to water for subsectors**

Specific Water Consumption (m <sup>3</sup> /tonne):	Industry	Liquid Milk	Cheese	Mixed Dairy
Milk:Water	1.18	1.03	1.25	1.54

Total water used 10,282 million litres (10,281,815 cu. metres)



*We have worked hard to reduce packaging weight on our private label cheeses – saving on plastic film and on waste*



**Diana Brydson, Technical Specialist, First Milk**



**Case study: First Milk has made great strides in cutting energy consumption, carbon emissions and water use at its creameries in recent years. In 2009, the co-operative has been working in partnership with retailer Tesco to reduce the packaging weight of private label cheese. By replacing adhesive labels with printing on film, and by using thinner film, a 15% reduction in packaging weight was delivered.**

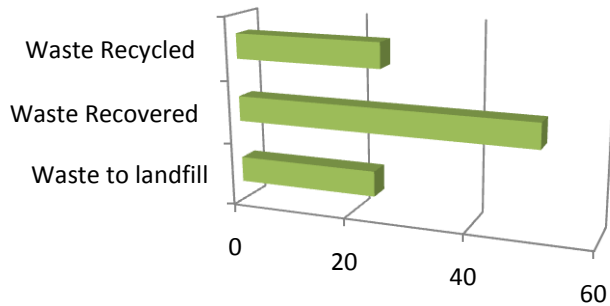


### iii. Waste



Major dairies have targeted zero waste to landfill by 2015, ensuring that all solid waste will either be reused, recycled or recovered. In 2008 dairy companies were already diverting 76% of the solid waste produced on site from landfill into either recovery or recycling. And some of the biggest sites are close to 100%.

**Figure 4: What happens to waste**



**Figure 5: Factory waste (tonnes)**

Total waste	34,613
Recovered / recycled	26,299
To landfill	8,314

“ We are committed to the target of sending zero waste to landfill across our business and the changes implemented to date have made a significant difference. To be truly sustainable and minimise our environmental impact we must eliminate waste to landfill entirely

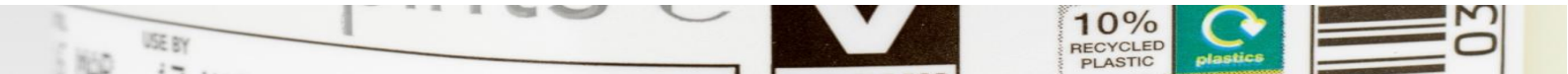


**Julie Walker, Supply Chain Director, Robert Wiseman Dairies**



**Case study: Robert Wiseman Dairies processes and delivers more than one in four litres of the liquid milk consumed in Britain every day. The company’s seven dairies and 14 other sites have managed to raise recycling levels from 37% of solid waste in 2007 to 92% in 2009. Landfill and transport emissions have fallen as a result, from 979 tonnes in 2007 to a projected 250 tonnes this year. Composting staff food waste and replacing disposable hand towels with dryers have been key parts of this achievement.**

## iv. Packaging Use



Packaging in the dairy sector is dominated by plastic and cardboard, which each account for over 40% of total packaging weight. Both are eminently recyclable, and the industry is at the forefront of moves to put recycled plastic back into milk bottles. The table below sets quantities of different materials used by the sector in packaging.

Beyond liquid milk, there are major efforts under way to raise the proportion of recylcate in packaging for cheese and other dairy products. The average across the industry is around 3%, but some sites have gone as high as 54%, demonstrating the potential for improvement.

**Figure 6: Packaging use in dairy**

Packaging Material	Tonnes
Plastic	54,460
Glass	476
Carton	3,481
Metal	807
Paper	8,009
Foil	635
Cardboard	47,210
Other	1,486
<b>Total Packaging Material</b>	<b>116,564</b>
Recycled Plastic	139
Recycled Material Other	3,230
<b>Total Recycled Material</b>	<b>3,369</b>



We work constantly on improving the packaging of our products. Our success with lightweighting shows what you can achieve without affecting the consumer appeal of your products.

*Maryann Denfhy, Head of CSR, PR and Nutrition, Müller*



**Case study: Müller's Vitality Drink has had its packaging re-designed with the aim of reducing its weight and increasing its recyclability. The changes that have been implemented since its launch in 2003 mean that each year, Müller now supplies 396 tonnes less packaging to the market and that all of the component parts are 100% recyclable.**

## v. Carbon footprinting

Carbon footprinting is on lips around the world and again, Dairy UK is taking a leading role on the issue.

We are working with the Carbon Trust on an industry-wide carbon footprinting guide in the UK, that has strong support from dairy companies and other industry stakeholders. The intention is to build on general work completed last year under Publicly Available Specification 2050 to provide a definitive guide to producing carbon footprints for dairy products.

When the project is completed early in 2010, the guidelines should become the standard for the sector. They will allow true comparisons between different businesses and make it easier to identify potential carbon savings.

Of course, we're not alone in our belief that carbon footprinting provides industry with an important tool for identifying waste and inefficiency in the supply chain – although, we are further advanced than many other countries.

On the global stage, Dairy UK is engaging in an international 'carbon footprinting' project led by the International Dairy Federation. Lessons learned from the UK will help to create a common life cycle analysis methodology that aligns with schemes such as the Dairy UK – Carbon Trust.



*Stimulating cross-sector innovation to encourage business-to-business collaboration represents an important step forward in achieving sustainability in the UK*



**Richard Laxton, Work & Environment Compliance Adviser, Arla Foods**



***Case study: Arla adopts a symbiotic approach to its business – particularly on the environmental side. One idea that has turned into a commercial reality sees Arla Foods working with Biogen, supplying rejected milk as a feedstock into one of the UK's most advanced anaerobic digesters to generate biogas. The liquid waste, classed as a category 2 animal by-product, was previously sent for incineration. So this initiative has cut pollution, and generated cost savings for both companies.***

## vi. Climate Change Agreements

Reducing energy consumption and improving efficiency is at the core of the processing sector's efforts to improve sustainability. There are compelling economic and environmental reasons for this. Since 2000, the Climate Change Agreement has been the main vehicle for efficiency gains and is considered central to further progress in the future.

Energy use targets for four milestones have already been successfully passed, saving at least 129,000 tonnes of carbon in total. The last in 2008 saw over two thirds of the processing sites reduce energy use to hit the target - accounting for over 80% of dairy throughput. All of the remaining sites met their CCA target through the purchase of carbon allowances.

**Figure 7: Carbon emissions in milestone years ('000 tonnes)**



Dairy UK's subsidiary, Dairy Energy Savings, administers the CCA for the dairy sector. Each year, this activity helps reduce emissions and save the sector £4m in rebate on the Climate Change Levy

Ministers have recently tightened the 2010 target for the dairy sector by 7.25%, which has the potential to deliver an additional carbon saving of about 20,000 tonnes. Dairy UK is engaged in the consultation for the Climate Change Agreements beyond 2010.

Dairies are also engaging with government over the future Carbon Reduction Commitment.

And further reductions in energy use will probably be required to help meet the 34% overall cut in carbon emissions by 2020. This is the figure foreseen in the UK Low Carbon Transition Plan. The sector is determined to play a full and fair role.

## vii. Other environmental projects

### Anaerobic Digestion

Dairy UK has been investigating the commercial and technical feasibility of exploiting anaerobic digestion technology to turn dairy and food waste into energy.

With grant funding from the Department of Rural Affairs of the Welsh Assembly Government, we commissioned an in-depth study to identify suitable sites for large-scale centralised AD plants in the dairy supply chain.



Our environment team has also provided critical support for a number of AD projects within the dairy industry over the last 12 months. The furthest advanced of these has seen a £2m liquid anaerobic digester piloted at a dairy in Dorset, through Defra's Environment Transformation Fund.

### Environmental Plan for Dairy Farming Conference

Getting the message about environmental improvements out to farmers is another focus of Dairy UK's work. Every year, we host a conference for farm advisers highlighting the key messages and initiatives to help dairy farmers reduce their environmental footprint.

Our "Farming and the Environment" conference in June 2009 covered slurry reduction and management, anaerobic digestion, environmental stewardship and funding and support from Regional Development Agencies.

The event always draws a good audience of industry advisers and is part of our contribution to the Environmental Plan for Dairy Farming, which was set up in 2006 by government and industry.

“ The design of this particular anaerobic digester plant is innovative but anaerobic digesters are a well proven technology. Advantages to introducing the plant, one is a significant reduction in our carbon footprint and another is a reduction in lorry movements from the site.



Alan McInnes, Technical Director, BV Dairy

**BVdairy** Case study: BV Dairy has been involved in a pilot project with government to build a demonstration anaerobic digestion plant. The technology turns by-products from dairy processing into biogas, which can produce enough energy to supply a significant part of the site's requirements. Up to 30,000 kWh of heat and 45,000 kWh of electricity can be generated each week from the system.



**Jim Begg**  
**Dairy UK Director General**

## Dairy UK Environment Policy

As well as helping the dairy industry to improve its environmental impact, Dairy UK is also committed to reducing its own footprint. We have beefed up our recycling, cut travel and introduced an office Environment Policy, which will shape the way in which the organisation operates in coming years.

### Dairy UK is committed to:

- Working towards a sustainable dairy industry.
- Promoting environmental best practice at Dairy UK offices.
- Working with our members to achieve environmental excellence.
- Working with our members and other stakeholders in the supply chain including dairy farmers, retailers and the government to improve the environmental footprint of the dairy industry.
- Integrating environmental issues in decision making and financial planning.
- Continuous improvement and leadership in the management of environmental issues and industry commitments.
- Communicating this policy and encouraging our employees to be involved in environmental matters at all levels through communication and training.
- Complying with all applicable environmental legislation.



*“A sustainable dairy industry that meets the needs of the present without compromising future generations”*

## About Dairy UK

**Dairy UK** is the 'Voice of the Dairy Industry'

As the sector's trade association, we represent the whole supply chain, bringing together farmer representatives, dairy co-operatives, dairy manufacturers, bottled milk buyers and milkmen.

We act to promote our members' interests in the political sphere. We are a highly effective lobbyist, ensuring that our members' views are heard where they have the greatest impact. At the same time, members get an unparalleled source of key information from the heart of government.

Through a network of regional and national staff, we also provide valuable training and advice to members across the country.

Dairy UK does not receive any income from statutory levies. Two thirds of our income comes from member subscriptions. The remainder comes from investment income or commercial activities.



# Dairy UK

For further details or to find out more about what we do,  
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