

# THE WHITE PAPER 2011

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A report on the UK dairy industry

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**Dairy**  
UK



*Cover image: Team Milk design courtesy of the Make Mine Milk campaign, which is financed with Aid from the European Union.*

## TABLE OF CONTENTS

Foreword.....	4
Overview.....	5
The UK Consumer.....	6
Dairy and Nutrition.....	12
Greener Dairy.....	16
Dairy Farmers.....	22
Milk Purchasers and Processors.....	30
Retailers and Customers.....	34
Europe and the CAP.....	36
World Dairy Trade.....	41
Research & Development.....	45
A Bright Future?.....	47



## FOREWORD

Dairy UK is pleased to present the White Paper 2011, our annual report on the UK dairy industry.

The White Paper strives to present a comprehensive and authoritative account of the performance of our industry and addresses the many challenges we encounter throughout the dairy supply chain.

There is never any shortage of rhetoric in our industry and much of it is healthy debate. At Dairy UK, the body which represents cross industry interests, we regard The White Paper as an important component of this debate, both in setting out the facts and offering solutions.

In broad terms, the key focus for all in the industry should be to look forward to what we can achieve together.

The dairy industry is market driven and hugely competitive. Every link in the supply chain must be able to make a sustainable profit.

We recognise these are challenging times. That said, innovation, consolidation, efficiency and supply chain co-operation gain are the four key drivers of growth in the UK dairy industry.

In the following pages, Dairy UK sets out our vision of how the key industry issues can be addressed most effectively throughout the supply chain. If we rise to these challenges together our industry will enjoy the healthy future it deserves.

**Robert Wiseman**  
**Chairman**

## OVERVIEW

Dairy UK is publishing The White Paper 2011 against the background of a clear message from the UK Government that, going forward, the dairy industry must be responsible for its own prosperity.

This is not an abrogation by Government of its own responsibilities - simply a belief that a strategy of non-intervention will best allow the industry to fulfil its objectives of growth with sustainability and confidence.

The challenges the industry faces are formidable but by no means insurmountable. For instance, the volatility of the world market creates a fluctuating situation. Dairy market prices are currently at record levels but this has coincided with pressure on consumer spending, due to the recession, which has slowed down the rate of price rises in the UK. Farmers have also suffered a significant rise in input costs, which has had a clear impact on confidence. That said, it is widely acknowledged that the longer term prospects remain strongly positive for the sector due to rising global demand.

The industry is experiencing a new dynamism about the way it trades and markets products. New systems of engagement between our customers and our farmers are developing, combined with traditional routes to market. There are regular debates about the fairness of industry systems. Selling arrangements featuring futures, auctions and formulae are under active consideration. The ongoing deregulation of the CAP and the end of milk quotas will open up new production possibilities and, as the European Commission's Dairy Package works through to a conclusion, this may include new structures governing the buying and selling of milk. As nearly every household in the country consumes dairy products, the industry remains under constant consumer scrutiny over its production practices, approaches to animal welfare and environmental integrity. Unquestionably, milk remains the most dynamic of all agricultural sectors.

With change comes real opportunity. Rising world market prices and a recovery in UK milk production have raised possibilities for the industry to become more export-orientated – an area limited in the past by quota constraints and lack of self-sufficiency. It will take time for the industry to exploit new export opportunities, but many companies are dedicated to

doing so. Similarly, competitiveness in factories and on farms will encourage greater focus on import substitution and new innovative dairy products.

In each of these areas the UK dairy industry is happy to take on the responsibility for its own future and it shall do so with strong supply chain co-operation as its mantra. The Dairy 2020 project to map out a sustainable strategy for the industry exemplifies this attitude. However, the industry - in looking at the global dairy situation - does contend Government has to stand up and be counted and work as partners with industry in certain areas.

It is clear from the demand forecasts in this report, coupled with societal expectations on the environment and the nutritional output of food production, that an extensive programme of research and development will be necessary. Without this, on a global and even a regional scale, the industry will be unable to produce the food that will be required in future.

The priority areas are human nutrition, so that the beneficial role of dairy in the diet is fully understood; environment, so that more food can be produced from less resources in an environmentally sustainable way; and farm production systems, so that consumers can understand the benefits of what industry is doing and thereby deliver their acceptance.

And in each of these areas, aside from resources, the industry needs government and regulatory authorities to adopt a dispassionate evidence-based approach to the industry; to changes in its technology and production practices, and towards its products. This would assist the industry to realise its productive potential and maintain its competitiveness and lead to a recognition of the nutritional density of dairy products and the complex role dairy plays in a balanced diet. The Government then needs to be willing to engage positively with the public and stakeholders to explain and support the industry on these issues. The UK dairy industry is a major component of the UK food industry and has the potential to make a growing contribution to the UK economy and to global food security.

It is an industry the nation can be proud of.

## THE UK CONSUMER

### Consumption of Dairy Products

The overwhelming majority of people in the UK eat dairy products.

- 96% of people regularly eat or drink dairy products
- 94% of people regularly consume fresh milk
- 90% of people consume regularly consume cheese

(Source: 2010 telephone survey for The Dairy Council and DairyCo.)

This gives the dairy industry one of the highest degrees of market penetration of any consumer product and makes dairy foods extremely important to the wellbeing of the nation.

**Table 1** – Average dairy consumption per person per week (2009)

Product	Unit	Quantity	% change from 2008	% change 1999
Whole milk	ml	412	+0.3	-33.2
Semi-skimmed milk	ml	991	+0.4	+1.0
Skimmed milk	ml	165	+4.3	-2.0
Hard cheese – Cheddar	g	68	+8.8	+9.7
Hard cheese – other UK	g	10	-9.2	-4.8
Hard cheese – foreign	g	8	+16.6	+7.6
Cottage, soft natural or processed cheese	g	31	n.c.	+24.0
Cream	ml	23	+11.5	+12.3
Yogurt and Fromage Frais	ml	203	+0.6	+36.4
Condensed milk	ml	16	-4.7	-29.6
Long life milk	ml	10	+12.6	+24.0
Dairy desserts – fresh	ml	44	+10.6	+30.7
Butter	g	39	-3.6	+11.2

Source: Family Food Survey

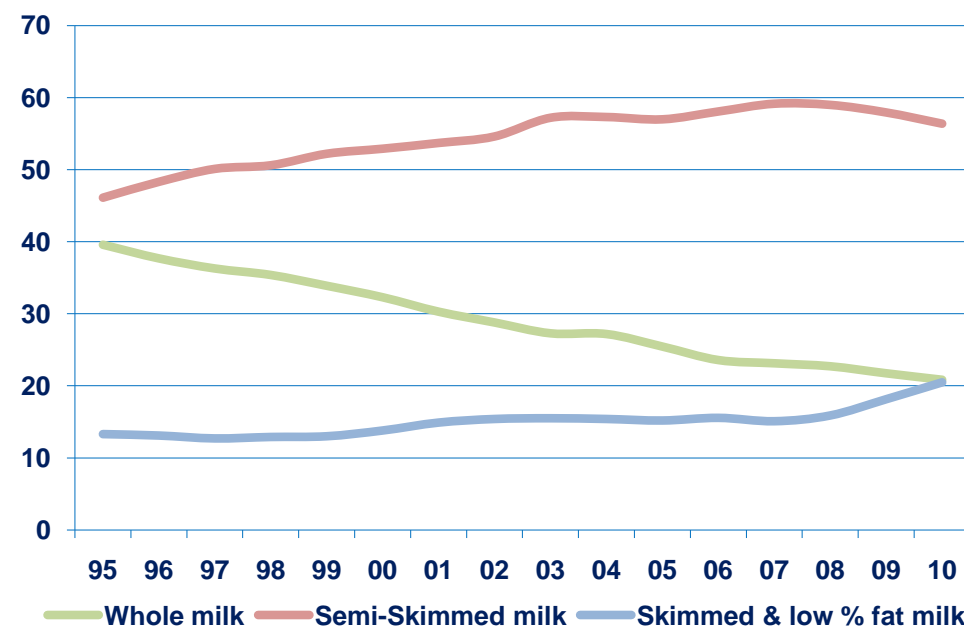
### Trends in Liquid Milk Consumption

Total consumption of liquid milk is rising. The latest market research data gives positive growth trends in the 52 weeks ending June 2011 of between 0.8% and 2.5%.

To some extent this is the result of price discounting by retailers, but it also reflects the consumer response to the generic advertising campaign being undertaken by the industry (see below).

Looking at milk type, the market share of skimmed and low % fat milk types now matches that of whole milk. This reflects consumer responses to the launch of new product types such as 1% fat milks.

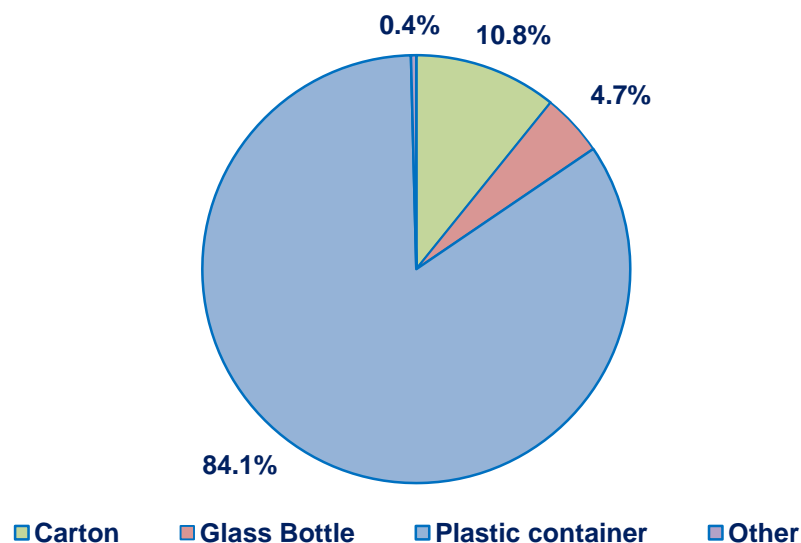
**Graph 1** – Sales of Milk by Type (% market share)



Source: DairyCo, Kantar Worldpanel

More than 84% of liquid milk is now sold by retailers in plastic containers, with less than 16% of milk sold in glass bottles or cartons.

**Graph 2 – Sales of Liquid Milk by Container Type 2010 (Retail)**



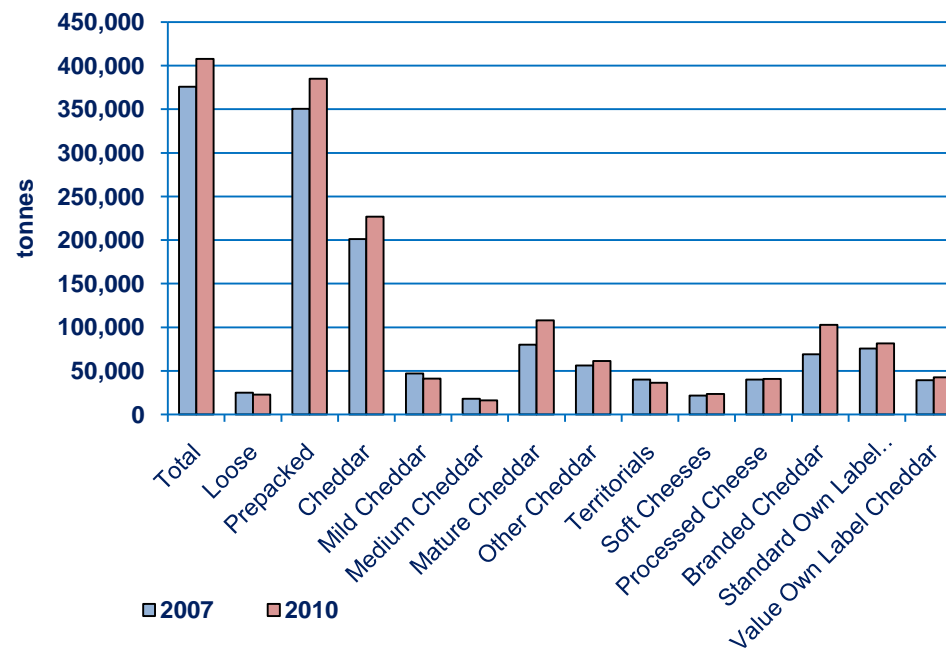
Source: DairyCo, Kantar Worldpanel

### Cheese

The UK cheese market has grown by a further 2% over the first half of 2011, with notable growth for mature Cheddar. Over the past four years the market has grown by 4%. Other major growth sectors are “Lighter” cheese and convenience formats e.g. sliced and grated.

Total sales to households (which include imported products) reached £2.5bn in 2010. Over the three years to 2010, growth was particularly strong in the packaged cheese market.

**Graph 3 – Sales of Cheese by Type in 2007 and 2010**



Source: DairyCo, Kantar Worldpanel

### Other Fresh Dairy Products

Fresh dairy products continue to grow strongly, particularly yogurts where consumption has risen 32% since 2000. The key driver of growth in dairy desserts has been the rise in consumption of functional foods, such as probiotic and prebiotic yogurts and yogurt drinks.

**Table 2 – UK Annual Consumption of Fresh Dairy Products**

('000 tonnes)	2004/05	2005/06	2006	2007	2008	2009
<b>Yogurt</b>	540	583	592	572	594	605
<b>Fromage Frais</b>	62	67	72	71	72	69
<b>Cream</b>	61	68	72	70	68	76
<b>Dairy desserts</b>	210	225	218	223	233	253

Source: Defra

Even though the rapid growth in the functional foods market has started to decrease over the past couple of years, sales of yogurt, yogurt drinks and chilled desserts continued to increase through the recession, with the market increasing by 6.2% in 2010 to £2.1bn. The trend towards healthier eating and promotional campaigns were major factors behind the growth.

### Healthy Eating and Dairy Products

The dairy industry has responded positively to changing consumer attitudes. Public concern about obesity and calorie intake has generated a comprehensive range of lower fat varieties of dairy product. The trend towards lower fat products began decades ago with semi-skimmed and skimmed milks, and it is still continuing for liquid milk with the development of 1% fat and below milks. Low fat and reduced fat “Lighter” cheeses have also seen positive growth.

### Drivers of Consumer Choice

Recession and pressure on incomes have affected the main drivers of consumer choice. Price has become the top driver for store choice and, once in the store, price is also the key factor in product choice, ahead of quality, taste and goods on promotion.

**Table 3 – Macro Drivers of Product Choice**

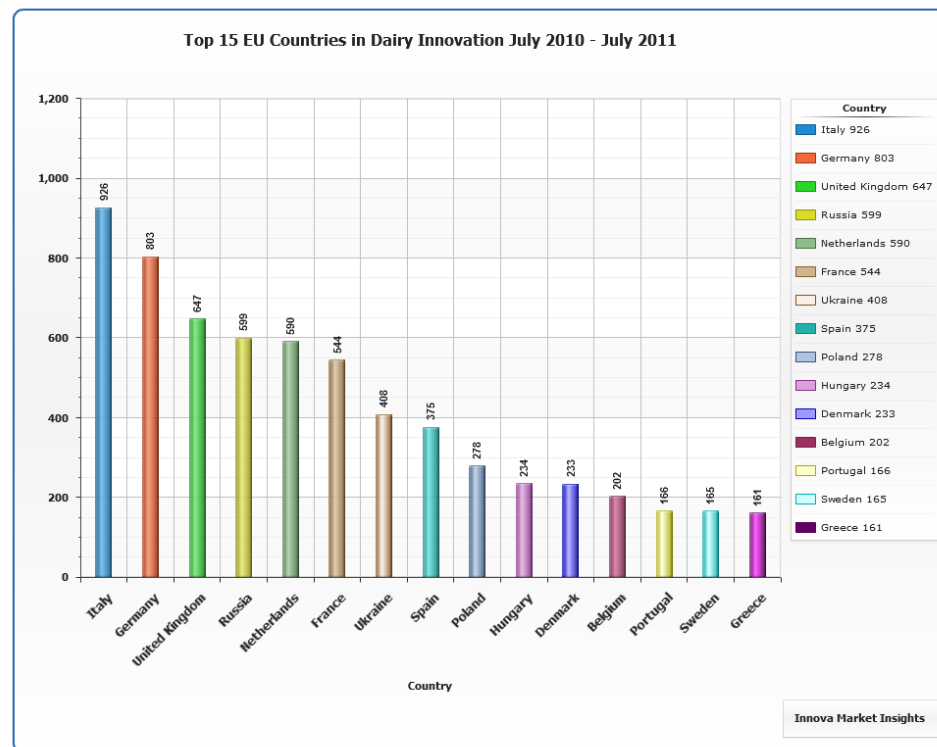
Drivers of Consumer Choice rankings, 2010	
1.	Price
2.	Quality
3.	Taste or Smell
4.	Promotions
5.	Healthy Options
6.	Familiarity
7.	Use or Sell By Date
8.	Brand
9.	Ethically produced or eco-friendly

Source: IGD

### Innovation and Brands

The UK dairy industry is investing heavily in product innovation and ranks alongside its major European competitors in its commitment to this area.

**Graph 4 – Total Number of Dairy Innovations in the EU Member States**



Source: Innova Market Insights

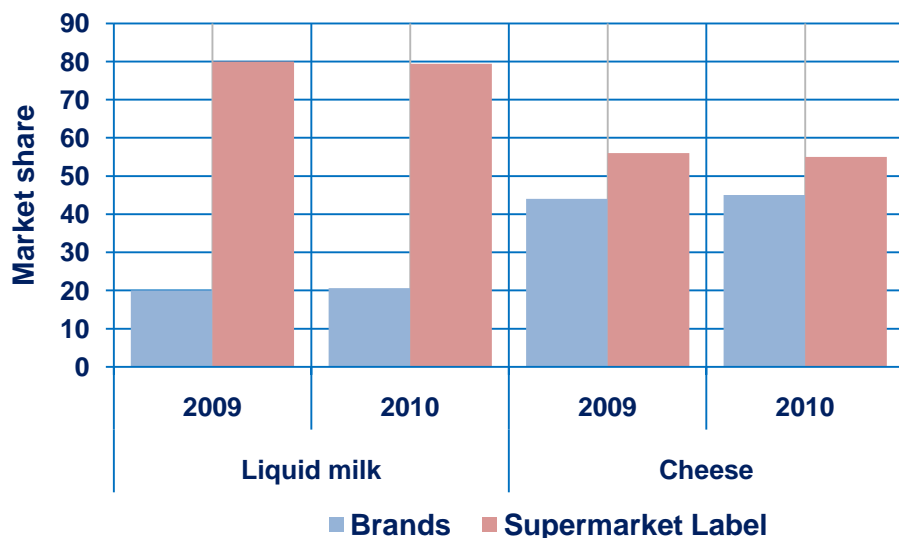
UK focuses for innovation include:

<b>Health concerns:</b>	<i>Functional and enriched foods</i>
<b>Lifestyle issues:</b>	<i>Convenience products</i>
<b>Ethical choices:</b>	<i>Organic products</i>
<b>Provenance:</b>	<i>Locally supplied products</i>
<b>Quality:</b>	<i>Premium products</i>



One of the major drivers of the value obtained from milk is the possession of brands. The UK dairy industry is working hard to increase the proportion of branded products in its portfolio. Despite the recession, the dairy industry has been successful in retaining the share of dairy products sold under dairy company brands.

**Graph 5 – Brands versus Supermarket Label in 2009 & 2010**



Source: Industry Estimates

### Country of Origin

The dairy industry in the UK has focused on developing products and packaging that respond to consumers' increasing sophistication. Thus a range of products has emerged to meet ethical and 'source of origin' criteria.

Chief amongst these has been emphasising the origin of dairy products. A significant number of products, particularly cheeses, are already marketed on the basis of their association with regions of the UK.

In 2010, Dairy UK participated in the development by the food industry of a voluntary code of practice on the country of origin labelling for meat and dairy products. The development of the code was facilitated by Defra.

Growing public interest in the origin of food and production methods has also led to the creation of world-leading traceability systems and direct relationships between retailers and dairy farmers. In addition, major retailers have made commitments to increase sourcing of British cheeses.

### Organic Milk and Dairy Products

Dairy products account for nearly one third of all sales of organic products. According to The Soil Association, milk and dairy products represented 30.5% of sales of organic food and drink in 2010, worth £528m.

The organic market is beginning to show signs of recovery from the effects of the recession. The decline in organic sales experienced in 2009 has slowed down significantly, and sales of a wide range of products, including yogurt and butter, have started growing again.

Organic milk production fell for the first time since 2004, due mainly to the steep rise in input costs. Output was down by 5% and sales down by 5.8% - production had previously grown by 50% between 2006 and 2009.

**Table 4 – Retail Sales of All Milk and Organic Milk**

(Million litres)	All Milk	Organic	Percentage of Total Sales
<b>2004</b>	4,726.6	71.0	1.50
<b>2005*</b>	4,858.5	135.4	2.79
<b>2006</b>	4,838.9	162.5	3.35
<b>2007</b>	4,940.1	166.5	3.37
<b>2008</b>	4,985.5	174.3	3.50
<b>2009</b>	5,006.3	168.1	3.35
<b>2010</b>	5,115.3	161.7	3.16

\* New series

Source: DairyCo Datum, Kantar Worldpanel

## Marketing – Make Mine Milk



*Make Mine Milk* is a £9m promotional campaign for liquid milk that is generating positive results with evidence of liquid milk sales increasing, campaign awareness levels of over 70% against the key target audiences, increasing levels of emotional engagement with milk, and a correlation between campaign awareness and product usage.

The campaign aims to convince consumers that milk is healthy and relevant to them, to re-engage them emotionally with milk, and to start improving consumer attitudes towards the dairy category.

The total budget is spread over three years, with £2.4m provided by the EU and the remainder coming from the industry. Launched in April 2010, *Make Mine Milk* focuses on young people aged 15 to 24 years in England, Scotland and Wales, with a secondary target of families with children and adolescents.

Celebrities are the core of the campaign, and *Make Mine Milk* has featured pop star Pixie Lott, TV chef Gordon Ramsay, the movie stars from *The A-Team*, R & B star Usher, F1 World Champion Jenson Button, super-model Elle McPherson, teen group “The Wanted”, TV personality Tess Daly, Hollywood star Ryan Reynolds as “The Green Lantern”, and Harry Potter star Rupert Grint, all sporting the milk moustache. The “Team Milk” activity also features ex-Olympian Denise Lewis, and Olympic medal hopefuls, Ed Clancy, Jazmin Carlin, Stef Reid and Andy Turner.



Industry funding for the campaign is being provided by major dairy companies. The campaign is being facilitated by the Milk Marketing Forum, a sub-committee of The Dairy Council, which is a wholly owned subsidiary of Dairy UK.

## Marketing - Milk it for All it's Worth

*Milk it for all it's worth* is a three-year campaign which aims to promote the benefits of milk and physical activity to young people and to inform health and fitness professionals about the latest science on milk and sport.

The campaign is a joint venture between The Dairy Council (GB), the Dairy Council for Northern Ireland and the National Dairy Council (ROI). It's co-financed by the EU.



The consumer side of the campaign has been supported by young British athletes passionate about the role of diet in their respective sports. Well known young athletes who have been involved with the campaign since its launch are World Champion Gymnast Beth Tweddle and World Champion BMX racer Liam Phillips. Tom Farquarhson, one half of the successful tennis partnership who won the Wimbledon Boys Doubles Championship in 2009 and GB wheelchair basket team players Judith Hamer and Billy Bridge have also supported the campaign in recent months.

A recent poll of young people aged 11-20 years showed that campaign messages and awareness was increasing. A recent evaluation amongst health and fitness professionals showed that 90% of those surveyed had been made more aware of the benefits of milk and sport by Dairy Council campaign materials.



## School Milk

Providing milk to nurseries, primary, and secondary schools offers significant nutritional benefits to children and encourages them to develop a lasting habit of consuming healthy dairy products. Free milk is available to under-fives in registered nurseries. Subsidised milk is available for pupils in primary and secondary education.

The EU School Milk Subsidy Scheme pays a modest subsidy on liquid milk and yogurt consumed by school children (the volume was 30,847 tonnes in the UK during 2009/10). The current subsidy rates are €0.187 per litre from the EU and a further 3.98p per litre “top-up” from the Government for children in primary education. In Northern Ireland, the 3.98p “top-up” is also payable on milk supplied to children in secondary education. In Wales, the Welsh Government funds an additional top-up to provide free milk to children in Key Stage 1 education and a small administrative allowance to claimants operating Key Stage 1 milk schemes.

The UK dairy industry actively promotes milk consumption in schools and the EU/UK Subsidy Scheme. From September 2007, School Food Trust Guidelines require that only semi-skimmed milk, fruit juice and water should be available in schools.

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## DAIRY UK AND CONSUMERS

**Dairy products are a profoundly important part of the nation’s diet and contribute to the quality of life in the UK.**

### The dairy industry:

- **will continue to address the needs of the value added domestic consumer market and invest in product innovation and development to meet changing consumer preferences**
- **undertake generic marketing campaigns to improve consumer appreciation of the merits of dairy products combining;**
  - **direct advertising to consumers**
  - **communication with health professionals**

### Dairy UK will:

- **continue to work proactively with the Government and its agencies to assist in the delivery of public dietary objectives.**
- **seek to ensure that an appropriate labelling framework is in place to enable the industry to address consumer interest in the provenance of food.**
- **continue to facilitate the development and execution of industry generic marketing campaigns.**
- **explore new ways for public support for school milk to be re-orientated towards the marketing of milk and dairy products in schools.**

# DAIRY AND NUTRITION

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## Nutrition and Health

Good nutrition has a profound impact on health because the human body needs a variety of nutrients to function correctly. As rates of obesity soar worldwide, it is important that the public is encouraged to base their diets on foods and drinks that provide a lot of nutrition per calorie. Such foods and drinks are known as nutrient-rich or nutrient-dense.



Milk, cheese and yogurt are nutrient-dense foods. In the UK, these foods make a major contribution to the nutrient needs of all age groups within the country providing: protein, fatty acids, carbohydrates and a range of vitamins and minerals as well as a number of bioactive compounds. Many population groups would find it difficult to meet their recommended nutrient needs without the contribution made to intakes by dairy foods.

## Trends in Public Health Nutrition – do they match the evidence?

Fifty years ago, public health nutrition was focused on making sure that people had enough food and enough nutrients to meet the needs of their bodies and prevent deficiency diseases. Today, information on public health nutrition tends to focus on telling people what they should cut down on, highlighting the effects of single nutrients in foods rather than whole foods.

Against a background of continually changing science, it is essential that public health information is adaptable and can encompass new ideas and learning.

For example, UK nutrition policy has focused on reducing intakes of saturated fat in the diet from around 13% to around 11%. This is because studies investigating saturated fat have shown that it increases Low Density Lipoprotein (LDL) cholesterol (so called 'bad' cholesterol) and this contributes to an increased risk of heart disease. However, a number of newer studies have shown the following:

- a) Saturated fat in food is not one entity. There are many saturated fatty acids and most foods contain a mixture. This is important because not all saturated fatty acids raise cholesterol. Some are neutral, some raise LDL cholesterol (bad) cholesterol and others raise High Density Lipoprotein (HDL) cholesterol (so called 'good' cholesterol). As a result, it is not scientifically valid for policy makers to suggest in their campaigns that all saturated fat is the same. This is a point that we have made to public health policy makers for a number of years. In March 2010, the French Food Standards Agency revised its advice on saturated fat, acknowledging the different effects of different fatty acids even increasing its recommendation for certain saturated fatty acids.
- b) When saturated fat is removed, it tends to be replaced in the diet with something else. From the 1970s onwards, the American public was encouraged to eat low-fat and to reduce saturated fat in particular. They did this by increasing their intake of refined carbohydrate. We now know that refined carbohydrates can cause similar changes in blood, which increase the risk of heart disease and stroke.

In the last two years alone, a number of papers have appeared in the scientific literature that have called into question public health advice on saturated fat - in particular, concerns have been raised about what saturated fat could be replaced with in the diet.

In 2010, an international symposium of leading nutritional experts was held in Copenhagen to debate the science around the impact of saturated fatty acids on the risk of developing diseases of the heart and blood vessels e.g. coronary heart disease and stroke. Following the symposium, a consensus paper was published by the attendees in the American Journal of Clinical Nutrition. Some of the conclusions were as follows:

- The entire make-up of a food, and not just the saturated fat, must be taken into account before drawing conclusions about its possible effect on heart disease. As an example, the paper highlights the fact that the protein, calcium and other nutrients within cheese, including certain of its fatty acids, may offset the effects of its saturated fat on blood fats and therefore the overall risk of diseases like heart disease and stroke.

- Cheese has high saturated fat content, yet studies which have investigated the effect of cheese on LDL cholesterol ('bad' cholesterol) have not supported a suggested detrimental effect of cheese.
- Not all fats are created equal. The source of the saturated fat and its specific nutritional merits has to be considered before conclusions can be drawn about the risk of these fats on overall health and well being.
- Caution must be taken when replacing saturated fatty acids in the diet with other foods. Reductions in saturated fatty acids will most likely result in an increase in the intake of refined carbohydrates which could be harmful instead of beneficial.



Beyond the Copenhagen symposium, a number of studies within the scientific literature surrounding the role of dairy in relation to stroke, heart disease, obesity, diabetes and the metabolic syndrome actually suggest a protective role for dairy in these conditions.

#### *Negative Versus Positive Messages to Affect Dietary Change*

In recent years, public health messages have been relatively negative. A conscious decision appears to have been made by those involved in public health to tell people about what nutrients and foods to reduce consumption of rather than reinforcing the positives in foods. However, a recent European survey of 4,828 members of the public would suggest that this is not what consumers want.

That survey showed that EU consumers consider the overall nutritional value of foods as important when selecting foods. They believe that knowing the level of beneficial nutrients such as vitamins, minerals and protein is more important in helping them make healthier choices than merely being told about energy, fat, salt and sugar.

This would suggest that if the aim of policy makers is to affect a change in consumer food choice, taking a more holistic approach in informing the public about what's in their foods by reinforcing the positive attributes rather

than focusing solely on the perceived negatives may be what the consumer wants and needs.

If we take this a step further and look outward at the United States, thirty years ago their policy makers adopted a public health strategy that told people what to cut down on and avoid. Today, the USA has more obesity than ever, rates of diabetes and other chronic conditions are high and the American public still don't understand nutrition. This should give our policy makers pause for thought.

#### **The Department of Health and the Responsibility Deal**

In the UK, the responsibility for nutrition policy recently moved from the Food Standards Agency to the Department of Health (DoH). That move has resulted in a shift away from large campaigns and into what is known as the Public Health Responsibility Deal.

The Responsibility Deal initiative is a Department of Health and industry partnership in which pledges are drawn up in areas such as food, physical activity and alcohol with companies being asked to sign up to these pledges and take actions will lead to improvements in public health.

To date, pledges on food have been related to: the removal of industrial *trans* fats from foods by the end of 2011, reducing the sodium content of foods and, calorie labelling on menus.

Dairy UK is currently is working with the DoH to investigate the possibility of dairy industry pledges.

#### **EU Regulation**

A number of recent EU regulations have come into force which impact on the dairy industry including a regulation on nutrition and health claims and a new food information regulation.

## *Nutrition and Health Claims*

In order to harmonise nutrition and health claims across Europe, and protect the consumer from misleading claims, regulation 1924/2006 was brought into force.

This regulation covers all commercial communications to the consumer, including programmes part funded by public money. It sets out criteria which must be met in order for a food to make a nutrition content claim (e.g. milk contains calcium), and health claims (e.g. calcium is good for teeth). In terms of health claims, only those which appear in an annex of the regulation can be made.

Whilst the spirit of the regulation, in wanting to protect the consumer, can't be reproached, the way in which it has been implemented is lacking in many respects.

Although the process by which claims are adjudicated is far too complex to work for foods, it will work for individual nutrients. The European Food Safety Authority (EFSA) has adopted an almost pharmaceutical approach to giving favourable opinions on claims. Under the current system, scientific evidence that was previously used to back up claims is no longer considered appropriate. For example, a researcher twenty years ago may have run a study on a particular food and a health outcome. His focus as a researcher would have been on the health outcome and why that might have occurred. It would not have been to list the components of the food he was working with in great detail in his paper. According to the characterisation criteria now in place for gaining a health claim, these sorts of studies which are recognised as perfectly valid within the scientific community are not acceptable for the purposes of gaining a health claim. This is a problem for all foods, not just dairy, but it does restrict us from giving perfectly legitimate information to the consumer about our products.

## *Food Labelling*

Growing demand for healthier foods, coupled with concerns about consumer understanding of the current information they are receiving on foods, has led to a number of initiatives to help consumers increase their understanding of nutrition and what's in the food they eat.

Most recently, the European Commission has adopted a proposal which aims to make information given to consumers on food labels clearer and more relevant to the needs of EU citizens

The new legislation lays down general principles on food labelling and will introduce:

- Minimum font size for mandatory information to improve legibility for consumers
- Mandatory nutrition information to help consumers identify foods that meet their personal preferences or dietary requirements
- Mandatory information on allergens on pre-packed foods, non-pre-packed foods and foods sold in restaurants to enable consumers to better protect their health
- Compulsory country-of-origin labelling for meat from pig, sheep, goat and poultry. The framing of voluntary origin indications will help prevent the risk of misleading consumers and will ensure a level playing field for food businesses.

The Commission had also proposed nutrition labelling front of pack, but this was not endorsed. Mandatory back of pack nutrition requirements are still in place. A framework for the voluntary inclusion of nutrition information on the front of pack is in place.

## **The Dairy Council**

The Dairy Council is a non-profit making organisation established in 1920. It provides evidence-based information on the nutritional benefits of dairy products as part of a healthy balanced diet ([www.milk.co.uk](http://www.milk.co.uk)).



*Dr Judith Bryans  
Director of The Dairy Council*

## DAIRY UK AND NUTRITION

The UK dairy industry will continue to:

- Produce a variety of nutritious dairy foods
- Inform consumers, health professionals and the media about the benefits of its products as part of a healthy balanced diet and lifestyle

Dairy UK will:

- Work within the European policy making arena to ensure that overly restrictive interpretations of the nutrition and health claims regulation does not prevent us from providing the scientific information about our products to health professionals and other opinion formers
- Work with the Department of Health to explore dairy-related responsibility deal pledges

## GREENER DAIRY

### The Dairy Industry and Environmental Policy

The dairy industry is dedicated to the continuous improvement of its environmental credentials, and has been at the forefront in recent years of the drive towards environmental excellence. Foremost of the industry's many initiatives to improve its environmental foot print is the Dairy Roadmap.

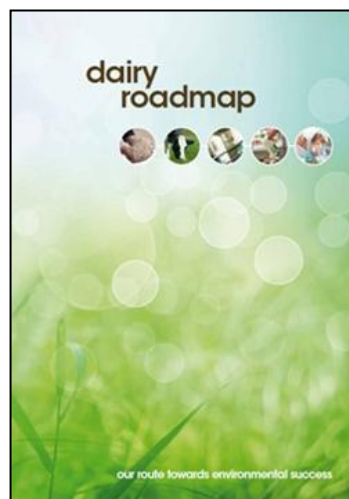
The Dairy Roadmap first saw light as the Milk Roadmap in 2008, which Defra intended to be the first of ten industry roadmaps. The Dairy Roadmap sets out a vision for an environmentally sustainable future through measures to reduce further the environmental impact of producing, processing and consuming liquid milk.

Following the early success of the Milk Roadmap, the industry challenged itself to go even further and in 2011 the Dairy Roadmap was launched, widening its scope to cover the entire dairy industry and introducing a range of challenging new measures and targets.

#### *Performance against the Roadmap targets*

For 2010, milk producers committed to 50% of dairy managed farmland being entered into an Environmental Stewardship Scheme. By the end of last year they easily surpassed this target, with 61% of farmland entered into a Scheme.

The production sector also committed itself to a 5 – 15% uptake amongst dairy farmers of water use efficiency measures by 2010, this



target was again surpassed with 58% of dairy farmers stating they have implemented measures to make better use of water. Producers are also making good progress against 2015 targets on carbon footprinting and trialling new technologies to reduce emissions from agriculture.

Milk processors have performed extremely well, meeting their 2010 targets on recycled plastic in milk bottles, environmental benchmarking and meeting government targets on carbon reductions and energy efficiency.

By the end of 2010 10% of the High Density Polyethylene (HDPE) plastic used to make milk bottles came from recycled sources and the sector is in an excellent position to continue increasing this. Expanding on this initiative will depend upon the growth in doorstep collection of recycled post-consumer waste from the home, which is being encouraged by Defra and the Waste Resource Action Programme (WRAP) and needs to be supported by initiatives from local and national government.

Performance against the targets for 2010 were:

Sector	Target	Result
Farmers	50% of dairy managed farmland entered into environmental stewardship schemes	Passed: 61% of farmers
	5-15% uptake of water use efficiency measures	Passed: 58% of farmers
	65% of dairy farmers to be actively nutrient management planning	To be achieved: still awaiting final data but it is anticipated this target has been achieved
	95% of dairy farmers to have a manure management plan	Passed: 96.6% of farmers
	95% of dairy farmers to have a farm health plan	Passed: 95% of farmers
	30 dairy farms to piloting on-farm anaerobic digestion	Not passed: 9 farms



	100% of dairy farmers, through DairyCo, supporting research into new technologies	Passed: 100% of famers
	20-30% of dairy farmers trialling new technologies to reduce emissions from agriculture	Passed: 39.4% of farmers
<b>Processors</b>	Minimum of 10% of recycled plastic used in milk bottles	Passed: 10% recycled plastic used in milk bottles
	All processors to achieve their CCA targets	Passed: 27% improvement in energy efficiency achieved across the sector.
	Environmental benchmarking and best practise programmes introduced	Passed: programmes ongoing and data collected annually
	Sustainability Report	Passed: Reports published in 2009 and 2010

### The Dairy Industry's Global Carbon Footprint

In April 2010 the United Nations Food and Agriculture Organisation (UN FAO) report "Greenhouse Gas Emissions from the Dairy Sector - A Life Cycle Analysis" showed that the emissions from global milk production, processing and transportation make up just 2.7% of global emissions.

Further to this, the study showed that efficient farming and processing in the EU, and particularly Western Europe, mean that while the EU produces around 25% of the total global production of milk, it accounts for only 15% of the emissions, with the second lowest emissions per kg of milk at about 1.5 kg CO2 eq. This study is in line with a report from CE Delft, published in 2009, which showed that the emissions from the dairy sector in developed countries such as the UK accounted for less than 2% of the total.

### UK Dairy Industry and International Environmental Commitments

The dairy industry, both in the UK and in other leading dairying countries, has united in its commitment to the continuous reduction of the

environmental impact of its products. At the forefront of this commitment is the Global Dairy Agenda for Action, signed in Berlin in September 2009, pledging the industry to reduce carbon emissions through the following five actions:

- Promote the development of a standard methodology framework for assessing the carbon footprint of milk and dairy products based on robust science
- Promote adoption of world's best practices within the global dairy sector
- Seek to advance the establishment of tools to facilitate measurement and monitoring of emissions both on-farm and in dairy manufacturing.
- Promote improved farmer understanding of agricultural emissions and opportunities to reduce greenhouse gas emissions on farm.
- Support sharing information and aligning research efforts to develop cost effective mitigation technologies for both on farm and manufacturing application.

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 <http://www.dairy-sustainability-initiative.org>,

### Measuring the Carbon Footprint

The UK dairy industry has committed to measuring, monitoring and reducing carbon in the dairy supply chain.

Dairy UK has worked in collaboration with DairyCo and the Carbon Trust to produce a common approach to carbon footprinting of dairy in the UK. The industry now has dairy sector-specific guidance on the application of PAS 2050 that sets out broad rules for Carbon Footprinting. The next stage of the project will be the development of a Dairy Footprint Expert, with accompanying training, to allow the accurate and robust calculation of individual dairy products carbon footprints.



## Dairy Farmers and the Environment

The industry is continuing to improve the environmental performance of dairy farmers, principally through the Dairy Roadmap. The main current targets for farmers are to adopt nutrient planning, register dairy land for the Entry Level Stewardship scheme and to adopt renewable energy to reduce the greenhouse gas balance from dairy farms.

Dairy farmers face increasing environmental restrictions and regulations, covering a number of topics:

- Control of Pollution (silage, slurry and agricultural fuel oil)
- Nitrate Vulnerable Zones and Action Programme of Measures
- Waste management licensing, Duty of Care and others
- Water resources: Discharge Consents, Anti-Pollution Works Notices
- Sludge (use in agriculture)
- Groundwater authorisations
- Water Abstraction Licences
- Protection of habitats and wildlife

These regulations can have serious implications on the cost efficiency of dairy farms and it is increasingly becoming apparent that a more sustainable farm is also a more cost efficient one.

## Dairy Farming and Greenhouse Gas (GHG) Emissions

The dairy industry is carrying out research to investigate cost effective ways of reducing GHG emissions from dairy farms.

The key GHG emission from dairy farming is methane, which is a by-product of the enteric fermentation of grass, forage and other feed in the cow's rumen, the largest of its four stomachs.

Over one year, methane emissions from the national dairy herd add up to 1% of the UK's emissions. To place this in context, transport contributes 24%. GHG emissions are also caused by energy used in field operations and farm buildings, and energy used in processing and distribution.

Opportunities exist for dairy farmers to improve their GHG emissions through, for example, the use of on-farm anaerobic digestion, use of biofuels in agricultural vehicles, increased energy efficiency, and increased feed efficiency.

Research into ways of reducing GHG from dairy farms, includes studies looking at:

- Improving the ratio of methane emissions per unit of product, by increasing cow longevity
- Increasing milk yield per cow, recognising that on many units yields may already be at optimum levels in terms of economic viability and animal welfare
- Enhancing the efficiency of rumen microbial action through changes in diet type, and the use of feed additives to reduce methane production
- Avoidance of low quality forage that stimulates methane production
- Increased take-up of anaerobic digestion (AD) to produce biogas and reduce uncontrolled methane emissions from stored manures and slurries. AD can also export low-carbon electricity and heat services, which should be given credit in any overall greenhouse gas balance
- Nutrient planning to ensure that the efficiency of nitrogen utilisation in plants and animals is optimised, thereby reducing the overall emissions of nitrous oxide and methane

## Climate Change

Dairy UK administers the industry's Climate Change Agreement. This saves the industry approximately £4.5m a year.

Since April 2001, the Government's Climate Change Levy (CCL) has added around 15% to the cost of energy used by dairy processors. However, in recognition of the damage this can do to the competitiveness of energy intensive industries, the Government introduced Climate Change Agreements (CCAs). In return for committing to challenging energy or GHG reduction targets, eligible companies could receive an 80% (since reduced to 65%) reduction on the CCL, thus encouraging companies to reduce their emissions without affecting their competitiveness.

The dairy industry's CCA is managed by Dairy Energy Savings Ltd, which is a subsidiary of Dairy UK. Since its creation, over 150 processing sites have joined the agreement, accounting for over 95% of the milk processed in the UK. The dairy CCA has contributed to a 28% increase in energy efficiency and a 28% reduction in carbon emissions over its lifetime.

The Government announced in this year's budget statement that CCAs would be extended to 2023, with all 54 current sectors remaining eligible and the level of CCL reduction on electricity to rise back to 80% from April 2013.

### Environmental Permitting Regulations

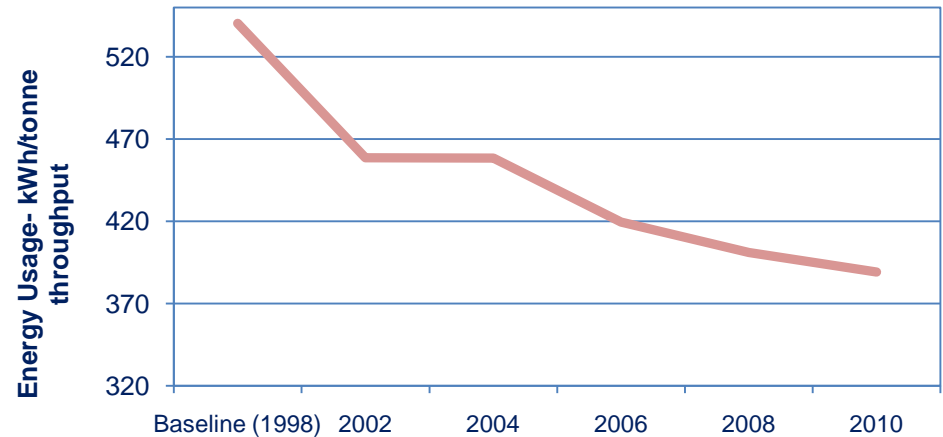
Dairy UK is working with the Environment Agency to help the industry meet environmental regulations. In April 2008, Defra introduced the Environmental Permitting Regulations which streamlined and combined separate waste and pollution control (PPC) systems into one single set of regulations: Environmental Permitting Regulations 2007. These regulations were superseded by the Environmental Permitting Regulations 2010, and are again due to be replaced by 2011 regulations.

All sites processing in excess of 200 tonnes of milk per day are required to obtain a permit from the Environment Agency which will contain a series of requirements, including monitoring and reporting, with which the site must comply. Permits will require that companies implement a robust Environmental Management System at each of its sites to minimise and reduce environmental impact. There is a substantial cost associated with an environmental permit, but this can be significantly reduced by those sites that take a proactive approach and have the best environmental management systems in place.

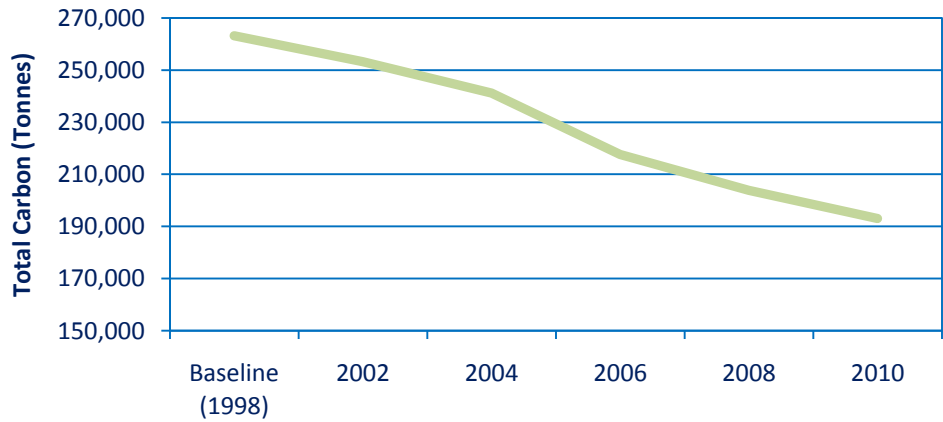
In 2009 Dairy UK worked with the Environment Agency and other food sector associations to develop a new Environmental Management toolkit designed to help smaller businesses to achieve improved sustainability, reduced costs and to cut the risk of pollution. This tool kit can be accessed here:

[http://www.environment-agency.gov.uk/static/documents/Business/Food\\_and\\_Drink\\_Manufacturing\\_Industry\\_toolkit\\_.pdf](http://www.environment-agency.gov.uk/static/documents/Business/Food_and_Drink_Manufacturing_Industry_toolkit_.pdf)

**Graph 6 – Energy usage at CCA Sites**

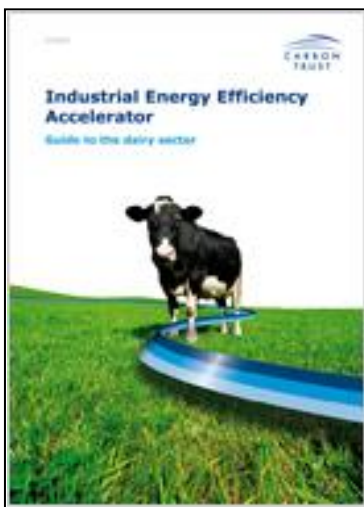


**Graph 7 – Carbon Emissions from CCA Sites**



## Environmental Benchmarking and Reporting

In 2010, Dairy UK received environmental benchmarking data from sites processing over 80% of milk in the UK and virtually 100% of the liquid milk. Progress to date is looking promising. Successes include a 12% increase in recycling rates across the board, a 3% increase in the amount of recycled material used in packaging and an impressive 10% improvement in water efficiency for the liquid milk sector since just 2008.



Dairy UK launched the environmental benchmarking tool in 2008 to help members monitor and improve their performance. The tool allows users to benchmark their performance with complete anonymity against others in the industry covering a number of environmental performance indicators on energy use, emissions, waste, water and recycling.

Benchmarking within and across sectors is seen as an increasingly important means of improving performance for individual sites. It

helps give operators the power to identify best practices and processes, and helps users to adapt and implement them.

Dairy UK collects the information annually and collates it to produce reports for member organisations and individual sites. Data submitted through the tool is also used to produce an annual 'sustainability report' for the dairy processing sector and track progress against Dairy Roadmap targets.

## Industrial Energy Efficiency Accelerator Programme

The industry is working to accelerate improvements in energy efficiency. Last year the dairy sector participated in the first phase of the Carbon Trust's Industrial Energy Efficiency Accelerator (IEEA) programme. The IEEA was designed to look in detail at the key energy-intensive processes in the industry and identify measures to increase efficiency. The programme was developed to go beyond conventional energy audits by looking in detail at production strategy, processes and equipment. In dairy, that means

looking at new technologies to reduce emissions in pasteurisation, cleaning in place (CIP) and considering overall energy use to find reductions for the next 20 years.

Following an in depth study of the energy efficiency potential of the dairy industry, in 2010 the Carbon Trust published its guide to the dairy industry, which concluded the two areas that could lead to significant energy and cost savings for the industry. These were adopting innovative technologies for CIP and using high-efficiency homogenisation technologies.

Stage two of the programme aims to provide the evidence needed for a wider roll-out of these technologies across the industry. In September last year the Carbon Trust asked companies to submit proposals for implementing and trialling these new technologies at dairy sites. Two projects, both using CIP technology, and three dairy sites were chosen for trials and will receive funding later this year to develop these opportunities.

Stage three of the project aims at the wider roll-out of the trialled technologies and the dissemination of information garnered from stage two. A steering group will be set up by the Carbon Trust to facilitate this as soon as the projects are underway.

## Food Waste

The dairy sector is working to reduce food waste. As highlighted by the government's Food 2030 report, household food wastage in the UK is a major issue. Eliminating household food waste would deliver major benefits, including a reduction in GHG emissions equivalent to taking one in five cars off UK roads.

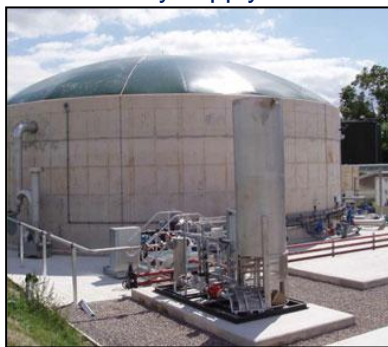
The dairy sector is working with key partners such as WRAP to help identify where food wastage occurs in the whole supply chain and in homes in the UK, how much and why it is wasted and to develop projects and programmes to help to reduce food wastage in the UK. This work includes the support of WRAP's "Love Food Hate Waste" campaign.

## Anaerobic Digestion

The dairy industry is investing in Anaerobic Digestion. The technology is a well-established and proven technology capable of converting low-value organic materials, such as food and agricultural waste, into high value renewable energy in the form of methane-rich biogas.

Given the great potential for AD to produce renewable energy, reduce carbon emissions and waste, the dairy industry is investigating the feasibility of large, centralised AD plants within the UK dairy supply chain.

In 2009, Dairy UK supported an application through WRAP's Environmental Transformation Fund to develop a digester at BV Dairies in Shaftesbury capable of producing 2 Megawatts of electricity; the plant officially opened in July of this year and it is hoped it can provide a successful model for others in the dairy industry to learn from.



*BV Dairies AD Plant*

## Dairy UK and International Engagement

Dairy UK is actively engaged at the international level on environmental issues. Dairy UK sits on the International Dairy Federation's Standing Committee on the Environment, which has recently produced a common international approach to the carbon footprinting of dairy products and is now working on Water Footprinting and Life Cycle Assessment Development.

The committee is also working with the IDF Standing Committee on Nutrition and Health, chaired by The Dairy Council's Dr Judith Bryans, on dairy nutrition and environmental sustainability. This work is designed to marry dairy nutrition with environmental impact to address calls for reductions in dairy consumption based on the high environmental impact of dairy products. Further to this, Dairy UK is also a regular contributor to the 'Green Paper,' which records progress under the Global Dairy Agenda for Action by submitting regular updates on UK industry initiatives aimed at cutting energy use and GHG emissions.

Dairy UK and its members also actively work through the European Dairy Association, which represents the interests of the European dairy processing industry in Brussels. Dairy UK plays a leading role in the work of the EDA's Sustainability Working Group, which is tasked with monitoring developments in EU environmental legislation and lobbying on behalf of the processing industry.

## DAIRY UK AND THE ENVIRONMENT

**The dairy industry recognises and is rising to its environmental challenges by measuring and improving its performance.**

**The UK dairy industry will:**

- **continue to use the Dairy Roadmap as its principle mechanism for addressing environmental challenges**
- **do its utmost to meet the targets set down in the Roadmap**
- **seek out new opportunities to improve its environmental performance**

**Dairy UK will:**

- **facilitate industry adherence to the Dairy Roadmap**
- **identify and provide the industry with opportunities for profitable improvement in environmental performance**
- **work closing with Government agencies, policy makers and stakeholders to ensure future regulation is informed by the needs of the industry**
- **argue for the retention of Climate Change Agreements as the most effective vehicle for encouraging energy efficiency amongst processors**

# DAIRY FARMERS

## UK Dairy Farming

UK dairy farmers are professional, dedicated, efficient, and competitive by international standards. The industry is in a strong position to expand to exploit growing export opportunities and to make a major contribution to global food security. The industry is undergoing a sustained process of rationalisation towards larger production units and concentration in certain regions of the UK. This process is central to the industry improving its efficiency and maintaining its competitiveness. The industry is strongly committed to ensuring high standards of animal health and welfare. Over 95% of UK milk production is covered by farm assurance standards. The industry requires a strong partnership with government for effective animal disease control measures, particularly for Bovine TB.

## Dairy Farmer Numbers

The number of dairy farms in the UK has been declining at a steady rate of between 2.8% and 6.3% per year since the latter part of the last century, with a deceleration seen in England over recent years. The number of animals in the national herd has also been falling, but the average farm size has been rising. At the same time, the average milk yield per cow in the UK has also been rising which has offset the decline in cow numbers.

Graph 8 – National Herd Size and Number of Holdings

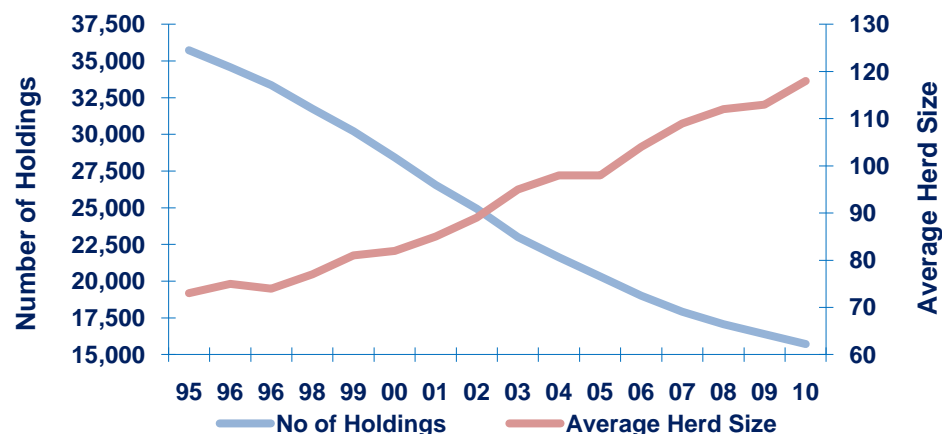


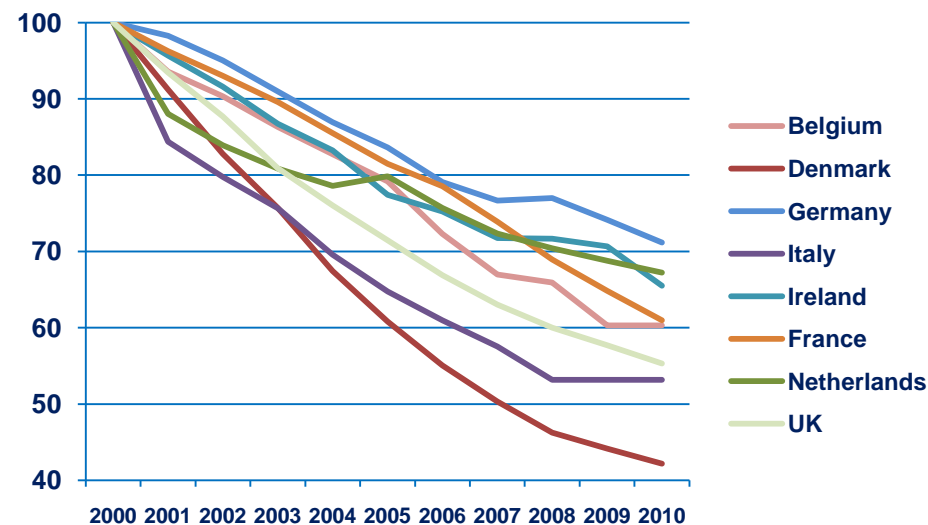
Table 5 - Average Herd Size in the UK

	Holdings	Dairy Herd (000 Head)	Average Herd Size
1995	35,741	2,603	73
2000	28,422	2,336	82
2005	20,313	1,998*	98
2006	19,011	1,979*	104
2007	17,915	1,954*	109
2008	17,060	1,909*	112
2009	16,404	1,857*	113
2010	15,716	1,847*	117

\* New series

The trend towards fewer, larger farms is almost universal throughout the developed world, but the rate of exit in the UK is comparably lower than some of our European counterparts.

Graph 9 – Decline in EU Producer Numbers (Index: Year 2000 = 100)

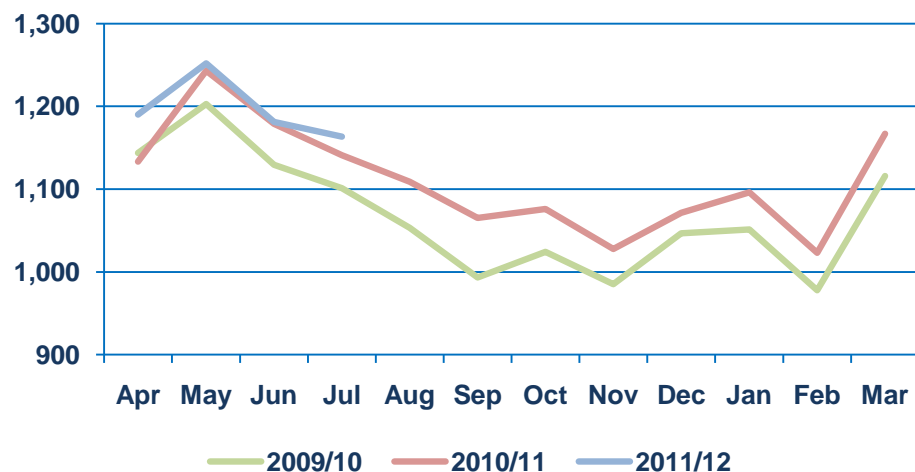


Source: Dairy UK

## Milk Output

UK milk production has been rising. Over the year to March 2011, milk production rose by 3.9%. Since the start of the current milk production year, output in the months April to July has been 1.9% above the same period last year.

Graph 10 – UK Wholesale Milk Deliveries (million litres)



Source: EU Commission

Farmer confidence, which is the most important determinant of milk production trends, is linked to milk prices and margins.

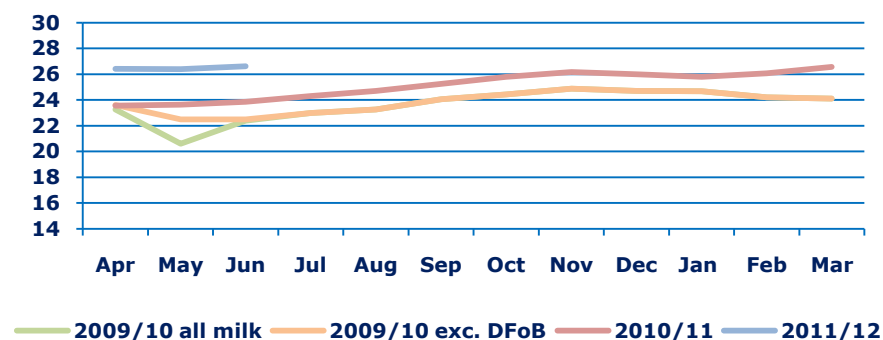
The 2011 DairyCo Farmer Intentions Survey, published in August, showed confidence slipping back slightly because of rising feed costs. However, 31% of GB dairy farmers planned to increase their milk production over the next two years. The profile of those seeking to grow their businesses tended to be in younger age groups in larger, solely dairy enterprises with a successor in place.

Prior to this year, the rise in farm gate prices in 2007 and 2008 brought a much needed boost to farmer confidence. A portion of this increase was then eroded by rises in input costs and the fall back in milk prices. Producer confidence then improved with the price rises of 2010.

## Milk Prices

Milk prices in the UK are on an upward trend. This is in response to a tightening of the global supply/demand balance for dairy products.

Graph 11 – UK farm gate price (pence per litre)



Source: Defra

## Currency and Commodities

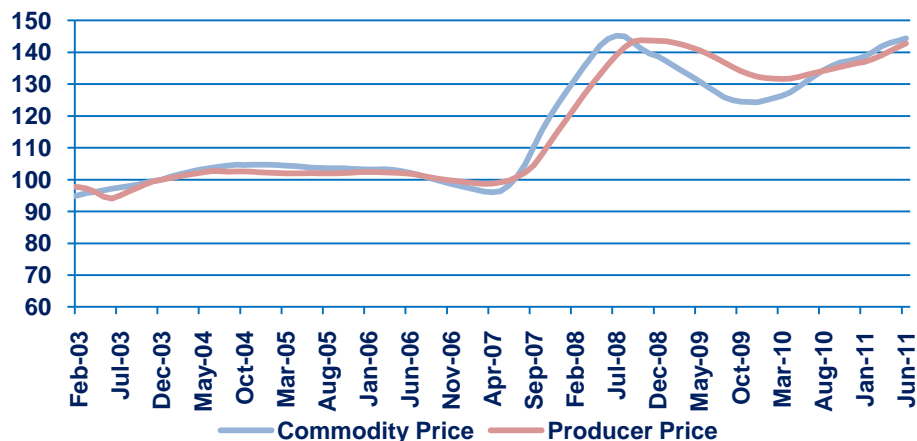
The deregulation of the raw milk market means that prices are now set by commercial negotiations between individuals and groups of farmers and milk buyers in a free and competitive market. This has given commodities a prominent role in the determination of milk prices, along with movements in the value of sterling.

Commodity products such as butter, powder, and mild Cheddar generally set the underlying trend in the farm gate price of raw milk. This is because most raw milk can be switched between different end uses.

When commodity prices fall, farmers selling raw milk for commodities have an incentive to offer this milk into higher returning markets, so the price of raw milk used in other products then falls to remain competitive.

Likewise, when commodity prices rise, milk buyers have to raise the premiums they pay over commodity milk in order to secure their supply of milk. The inherent volatility in milk supply means that commodity prices are cyclical. Short-term price cycles can mask the long term price trends upon which the industry needs to base investment decisions.

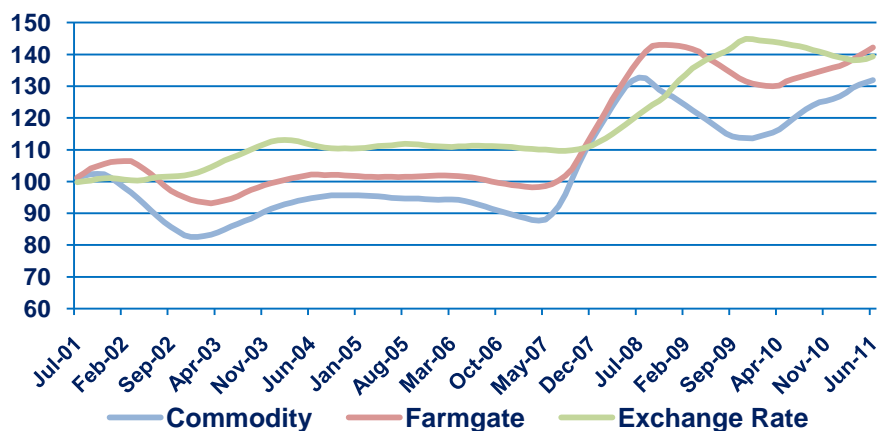
**Graph 12 – Farm Gate Price versus Commodity Price (Butter/SMP/Mild Cheddar) – Moving Annual Mean**



Source: Dairy UK

As currency has a major role in driving commodity prices, it is a significant factor in setting producer prices. This can be seen in the chart below.

**Graph 13 – Commodity and Farm Gate Prices with Exchange Rate**



Source: DairyCo Datum

## Variation in Individual Producer Prices

Whilst commodity products set the overall trend in raw milk prices, there is a considerable variation in the price paid to individual producers. These variations reflect:

- performance of specific markets in which the milk is used (both product sectors and specific customers)
- performance of the processor
- performance of the dairy farmer e.g. volume, level supply and quality payments
- premiums to ensure that milk is allocated to fresh product markets such as liquid milk
- short-term supply considerations
- the type of milk buyers operating in any particular area
- capital deduction levies put in place by purchasers
- integrated supply arrangements introduced by the retailers.

The spread between the highest and lowest farmer price has been as much as 7ppl, although generally prices are concentrated to within a few pence.

## Integrated Supply Arrangements

Over the past few years, several major retailers have put in place 'integrated supply arrangements'. Under these systems, a retailer obtains its supply of liquid milk exclusively from a specific group of farmers. The raw milk from these farms is processed under segregated arrangements and delivered as liquid drinking milk to the retailer.

Farmers generally receive a higher price under these arrangements, which vary from retailer to retailer (see table 6 below). As such, the farmers on supermarket contracts are partially insulated from the price trends in commodity markets. However, in the long run, the retailer has to ensure that they are competitive with their counterparts at the retail price level.

In exchange for participating in integrated supply arrangements, farmers may be required to deliver different welfare requirements, meet particular environmental standards set by the retailer, or share detailed information on farm performance data.

Because of the volume of milk purchased by Tesco, the farm gate price set by this retailer is seen by many as setting a benchmark for the industry.



**Table 6 – Integrated Supply Chain Relationships for the Liquid Market**

Retailer	No of Farmers	Pricing System
Marks & Spencer	60	Formula taking account of costs and market returns
Waitrose	60	Negotiation taking account of capital investment requirements
Sainsbury's	325	Premium over processor standard price
Asda	350	Premium over processor standard price
Co-op	350	Premium over processor standard price
Tesco	800	Formula taking account of costs and market return
Morrisons	-	Premium over processor standard prices shared over processor's total non-aligned supply pool

Source: Dairy UK

## Financial Position

Defra figures show that dairy farming is profitable, according to the Farm Business Survey. However, the rise in input costs has significantly squeezed margins in the past year. The average 2010/11 Farm Business Income for a dairy farm in England is forecast to be £42,700, which is down 24% on the year. Wales also shows a decline (13%) to £45,600 but Northern Ireland has recovered strongly to £39,800, more than double last year's figure, with higher milk prices outweighing the increase in costs.

**Table 7 – Average Farm Business Income per Dairy Farm (£)**

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
England	33,600	30,800	55,100	69,400	56,100	42,700
Wales	30,600	30,500	51,300	62,200	52,200	45,600
Scotland	n.a.	47,200	69,600	78,400	58,700	n.a.
N.Ireland	28,700	27,300	58,700	37,500	19,300	39,800

Source: Defra

## Range of Efficiency

There is a considerable divergence in the cost efficiency between the most efficient and the least efficient dairy farms.

**Table 8 – Analysis by Performance Quartiles**

	Lower Quartile	Upper Quartile
<i>Lowland Herds (£ per cow)</i>		
Total Dairy Output	1,237	2,052
Total Variable Costs	753	822
Total Gross Margin	484	1,230
<i>Less Favoured Areas (£ per cow)</i>		
Total Dairy Output	1,151	1,960
Total Variable Costs	805	873
Total Gross Margin	346	1,087

Source: "Farm Business Survey 2009/2010 – Dairy Farming in England"

This reflects the different motivation of farmers and a considerable spectrum of business types. At one end are business minded individuals who require a competitive rate of return on capital employed otherwise they will take their capital and expertise elsewhere. At the other end are individuals who are involved in dairying as a lifestyle choice and are prepared to use the capital of their business to maintain themselves. The proportion of the UK milk supply accounted for by this type of farmer is falling rapidly as they reach retirement.

## Restructuring and Efficiency

Dairy farmers need the opportunity to expand their businesses to continue to improve efficiency.

In the short and medium term, improvements in business efficiency can be achieved by improvements in farm management. In the longer term, cost efficiency requires fixed costs to be spread over a larger scale of operation. This means that there is a strong correlation between farm size and efficiency.

**Table 9 – Analysis of Efficiency by Herd Size**

Herd size (cows)	<80	80-130	>130
<i>Lowland Herds (£ per cow)</i>			
Total Dairy Output	1,371	1,671	1,824
Total Variable Costs	664	821	880
Total Gross Margin	707	850	944
<i>Less Favoured Areas (£ per cow)</i>			
Total Dairy Output	1,347	1,622	n.a.
Total Variable Costs	725	902	n.a.
Total Gross Margin	622	720	n.a.

Source: "Farm Business Survey 2009/2010 – Dairy Farming in England":

### International Competitiveness

UK dairy farms are amongst the most cost-efficient in the EU and stand comparison with non-EU countries such as the USA. This, in combination with the UK's natural climatic advantages, means that the UK is well suited to meet the growing global demand for dairy products.

**Table 10 – UK Production Costs Compared to Other Countries**

Cost of production US\$/100 kg	
India	16
New Zealand	20
Ireland	22
Australia	23
United Kingdom	31
United States	31
Spain	32
France	34
Germany	36
The Netherlands	37
Poland	39
Denmark	43

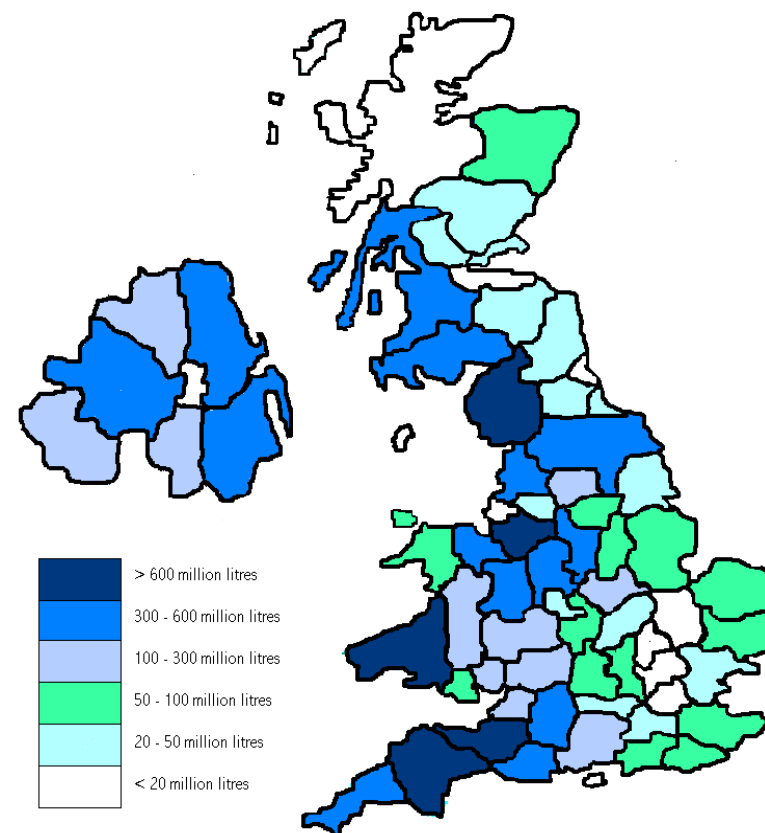
Source: International Farm Comparison Network

### Geographical Distribution of Dairy Farmers

The main relevance of milk quota now is as a means of indicating where in the country milk production is concentrated, since farmers must hold quota to cover the milk they produce. The cost of quota has now sunk close to zero.

Quota figures reveal that milk production is becoming increasingly concentrated in the southwest and northwest of England, mainly Devon, Somerset, Cheshire and Cumbria. There is also a significant movement in quota from England to Wales, Scotland and Northern Ireland, indicating increasing production in these countries.

**Figure 1 – Map of UK Milk Quota**

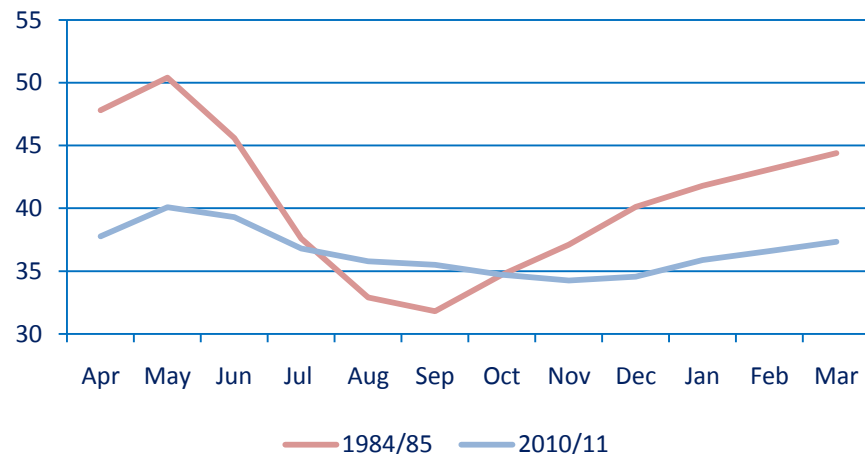


Source: Rural Payments Agency

## Seasonality of Milk Production

Milk production follows a seasonal trend, with a traditional peak production in May after the calving season and a trough in October/November as grass becomes poorer. Weather conditions can have a big impact, and the level of butterfat and protein in milk also varies seasonally.

Graph 14 – Seasonality of milk production (million litres per day)



Dairy UK has commissioned research by farm consultants Promar International to assess the impact on farm production costs of different patterns of seasonality. In conjunction with data to be collected from processors, this will enable an informed debate on the benefits to the entire supply chain of any changes in the pattern of milk production. Results should be available in autumn 2011.

## Animal Health and Welfare

Dairy farmers have a vested interest in maintaining the health and welfare of their dairy cows. There are powerful moral as well as economic reasons for keeping livestock productive for as long as possible.

The industry operates a farm assurance scheme to ensure dairy farmers meet benchmark standards of animal welfare and product quality. The



scheme is part of Assured Food Standards (AFS) who are responsible for the red tractor logo. Consequently the scheme is called the Red Tractor Assurance Dairy Scheme. It is overseen by a board nominated by Dairy UK, the NFU, the British Cattle Veterinary Association, the Scottish Board of Dairy UK and the British Retail Consortium.

Farmers are inspected every 17 months and the quality of the assessor is further verified by a system of random audits. Farm assurance standards aim to set a high bar for animal health so that consumers can be confident that their milk and dairy products are produced responsibly and respectfully. Some 95% of UK milk is farm assured, covering all the major brands and retailers.

The robustness of the scheme has been recognised by the Food Standards Agency. Under the EU Hygiene Regulation, the FSA is required to inspect dairy farms. From 1<sup>st</sup> July 2011 dairy farms in England, Wales and Northern Ireland which are farm assured will have the frequency of inspection by the FSA reduced from once a year to once every 10 years in recognition of the lower level of risk associated with farms complying with the farm assurance scheme.

The future development of welfare standards for dairy cows is set out in the industry's Dairy Cow Welfare Strategy which has been jointly developed by the National Farmers Union in conjunction with DairyCo, the Royal Association of British Dairy Farming, British Veterinary Association, British Cattle Veterinary Association and Dairy UK. The strategy, which is overseen by the Cattle Health and Welfare Group, requires a number of actions including the future evolution of farm assurance towards more outcome based standards which focus on directly assessing cow welfare.

The farm assurance scheme has been supplemented by an industry assurance scheme for the transport of raw milk and milk fractions called DTAS (Dairy Transport Assurance Scheme). This scheme was developed by Dairy UK members and formally launched in April 2011.

In conjunction with BRC standards used for the inspection of dairy processing plants, the overwhelming majority of dairy production is now covered by assurance schemes from farm to factory gate.

## Production systems

There are a range of different farm systems available for producing milk. They run from small scale, extensive units where animals are exclusively grazed, to more intensive units, where cows may be housed for all or part of their lactation. A farmer's choice of system will depend upon the resources and space available on the farm, the characteristics of the milk required by the purchaser and the capital available.

The choice of system is the farmer's, but whether the unit is large or small, fully grazed or indoor, animal health and welfare are key concerns.

Good husbandry, not farming system or scale of operation, determines animal health and welfare. Good stockmanship, farm management and adherence to farm assurance standards, can ensure that cows are well kept in any system; that is why there is nothing wrong in principle with planning applications such as the 8,000-cow unit that was proposed for Nocton. The industry must be given the opportunity to examine the potential of such systems and invest in them.

## Cloning and the Progeny of Clones

The marketing of products from clones is banned in the EU. There are no restrictions on the marketing of products from the progeny of clones. This is because EU authorities and the UK's Food Standards Agency have agreed that there are no food safety or animal welfare issues associated with the progeny of clones. The breeding technology used to produce progeny from clones is conventional.

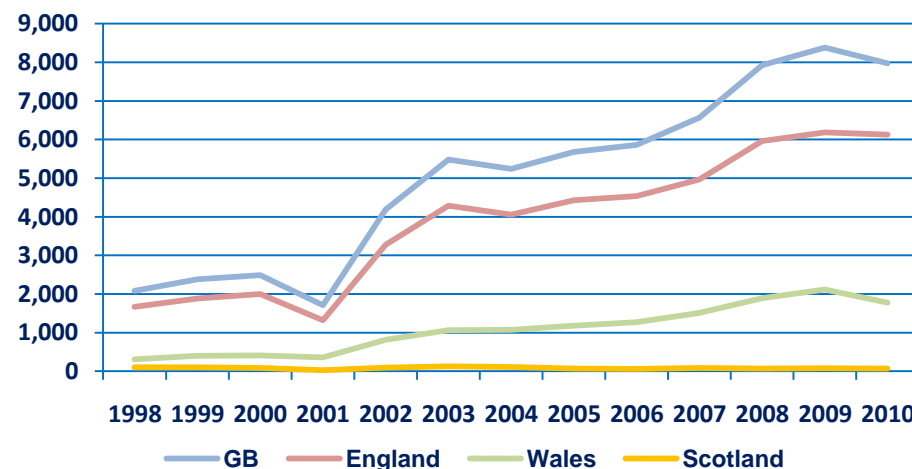
Labelling of products from the progeny of clones would only be possible on the back of a complicated and costly traceability framework covering animals, embryos and semen. The Government has stated that it will not be seeking to put such a traceability system in place.

The FSA investigated the prevalence of progeny of clones in the UK dairy herd during the course of 2010. The handful of dairy cows known to be progeny of clones were traced and no milk from these animals had entered the supply chain.

## Bovine Tuberculosis

Bovine Tuberculosis (TB) has been spreading in England. This has resulted in the imposition of movement orders on a growing number of farms and the slaughter of cattle.

Graph 15 - Number of Herds not Officially TB Free



Source: Defra

Animals slaughtered in England because of TB control amounted to more than 25,000 in 2010. The cost to the British taxpayer in compensation to farmers rose to more than £90m in 2010/11 in England.

The failure to address the disease in England is not matched in either Scotland or Wales. In September 2009, Scotland was officially granted TB-free status. In order to protect this status, livestock imported to Scotland from other parts of the UK must comply with enhanced TB control measures.

The eradication of bovine TB in Wales is a long term Welsh Government commitment. It will require the application of new technologies and scientific developments as they become available.

The Welsh Government is committed to monitor these new technologies and the continued evolution of the policy. A review has been commissioned of the scientific evidence base regarding the eradication of bovine TB in Wales.

The UK government has recently committed, as part of a package of measures, to develop affordable options for a carefully-managed and science-led policy of badger control in areas of England with high and persistent levels of bovine TB. These proposals are based on the best available scientific and veterinary evidence. Defra is now consulting on draft Guidance to Natural England. This guidance sets out in detail how Natural England would exercise its function to issue licences to allow the controlled culling and/or vaccination of badgers for the purposes of preventing the spread of bovine TB.

### **Johne's Disease**

Johne's disease is a chronic, debilitating disease of cattle resulting in reduced milk yield and infertility. The disease has been slowly spreading throughout Europe for many years and in December 2009, Defra published the results of a 2006 survey estimating the herd prevalence in the UK as 35%. Because Johne's is highly infectious, passing from dam to calf, most herds in the UK will eventually be infected unless action is taken.

Dairy UK's Farmers' Forum has set up an Action Group to increase awareness among industry leaders of the economic importance of the disease and best practice in tackling it. The group is exchanging experiences and advice to encourage milk producers and veterinarians to put in place appropriate control measures. Organisations including the British Cattle Veterinary Association (BCVA), the NFU and DairyCo are supporting this initiative.

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## **DAIRY UK AND FARMERS**

**UK Dairy farmers will continue to provide consumers with safe, wholesome, nutritious milk produced to high standards of animal health and welfare and rising standards of environmental compliance.**

**Dairy UK's engagement with farming matters is undertaken through Dairy UK's Farmers' Forum, which is chaired by Rex Ward, former farmer director of Milk Link.**

**Dairy UK will seek to:**

- **ensure an effective input by dairy farming into the operation of the new Animal Health and Welfare Board for England that is being established by Defra**
- **ensure that an effective strategy is put in place for the eradication of Bovine TB**
- **work towards minimising unnecessary regulatory burdens on farming**
- **ensure that the industry has the opportunity to continue restructuring toward larger operating units**
- **communicate with policy makers, stakeholders and NGOs on the needs of dairy farming and to challenge misconceptions about the animal health and welfare implications of farming systems**
- **encourage the evolution of the industry farm assurance scheme towards outcome based standards**
- **lobby in Brussels to ensure that UK farming is not discriminated against as a result of the further reform of the Common Agricultural Policy**
- **lobby government for continued support for long term research and development expenditure for the sector**
- **argue against unjustified regulatory barriers to the introduction of new farming technology**

# MILK PURCHASERS AND PROCESSORS

## Industry Organisations

Of the six major organisations leading the UK dairy industry:

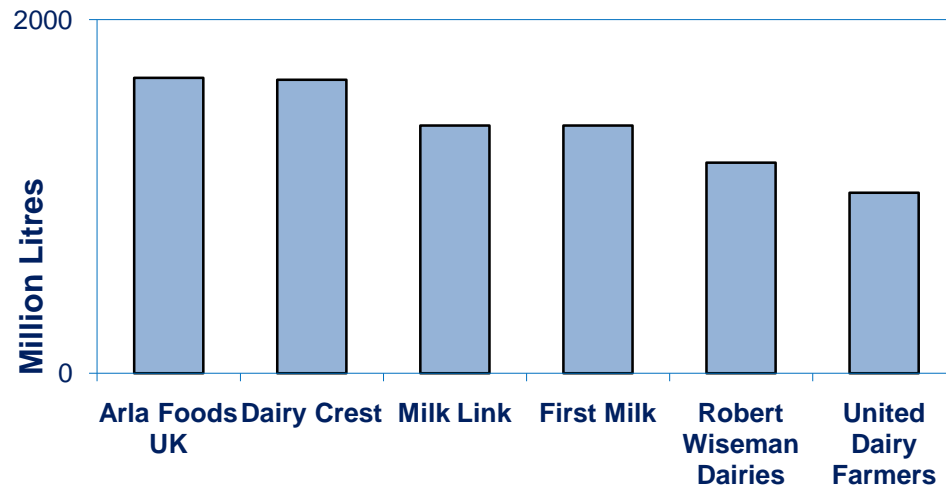
- Three of them are UK-based dairy farming co-operatives: First Milk, Milk Link and United Dairy Farmers
- Two are PLCs quoted on the stock market: Dairy Crest and Robert Wiseman Dairies
- The sixth is Arla Foods, which is now owned by the Scandinavian co-op Arla (Amba)

This relatively low level of industry concentration means that further opportunities for industry rationalisation and merger still exist.

## Milk Purchasers

The organisation that holds the contract with a farmer to purchase the milk produced from the farm can be a farmer co-operative, private dairy company or a PLC.

**Graph 16 – Volume of Milk by Purchaser (million litres)**



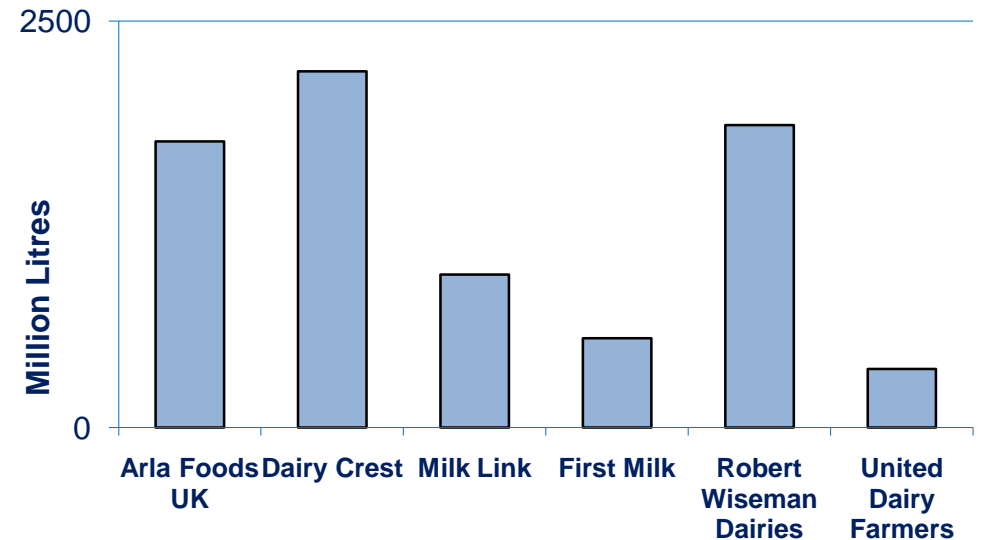
Source: Industry Figures and Dairy UK Estimates

Not all the milk bought by purchasers from farmers is dealt with in the processing operations owned by the purchaser. Consequently, a lot of the milk bought from farms by purchasers is sold on to other organisations for processing. That is why there is often a disparity between the volumes of milk purchased by a purchaser and the volumes of milk it processes.

## Milk Processors

Organisations that process milk can be a co-op, private dairy company or a PLC.

**Graph 17 – Volumes of Milk Processed (million litres)**



Source: Industry Figures and Dairy UK Estimates

Almost half of the milk produced on farms in the UK is processed into liquid milk. After liquid milk the key dairy products are cheese, powders, condensed milk, butter and cream.

Recent trends in the utilisation of milk in 2010 reflect increased milk production resulting in an increase in the production of all manufactured dairy products. In addition, liquid milk output has risen as a result of positive growth trends in that market.

**Table 11 – Utilisation of Raw Milk for the Manufacture of Dairy Products**

(Million litres)	2009	2010	% change 2009-2008
Availability of raw milk	12,978	13,304	+2.5
Imports	75	87	+16.0
Total available	13,053	13,390	+2.6
for liquid consumption	6,626	6,835	+3.2
for manufacture	5,699	6,089	+6.8
Butter	242	245	+1.2
Cheese	3,369	3,512	+4.2
Cream	248	256	+3.2
Condensed Milk	308	279	-9.4
Milk Powders	999	1,127	+12.8
Other	535	670	+25.2
Dairy wastage and stock change	293	49	-83.3
Exports	433	418	-3.5

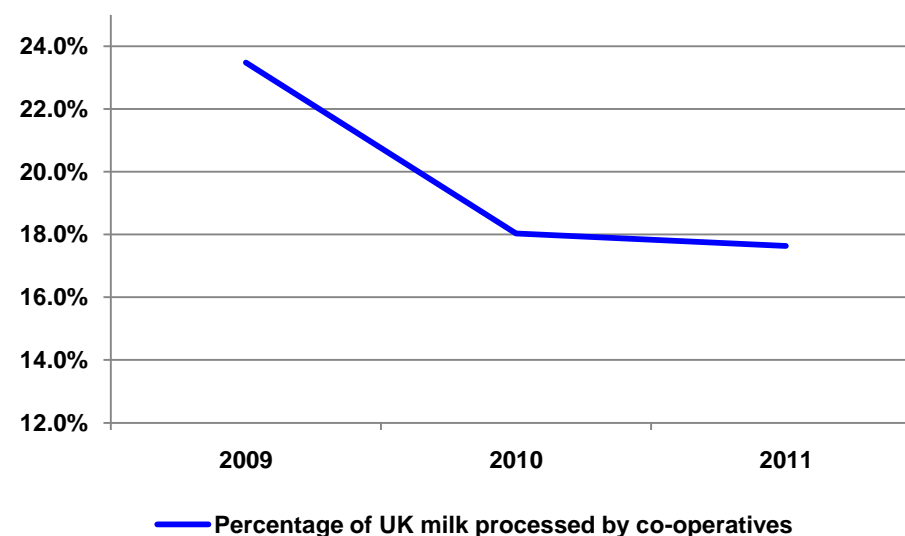
Source: Defra

### Ownership of Processing Capacity

Until 2009, co-operatives' share of milk processing capacity had been rising since de-regulation in 1994, when it stood at only 3% of milk production. The investment in processing by co-ops has enabled their dairy farmer members to obtain a greater share of the value added generated in the supply chain.

If the Scandinavian co-op Arla (Amba) is included through their ownership of Arla Foods UK, then nearly 31% of UK processing is owned by farmers of one nationality or another.

**Graph 18 – Evolution of Co-op Processing**



Source: Industry Figures and Dairy UK Estimates

There are ownership links between dairy farmers and dairy companies. In May 2008, UK farmers supplying milk to Arla Foods acquired a 7% stake in the company through a joint venture owned equally with Arla's Scandinavian parent co-op. First Milk also owns a 10% shareholding in Robert Wiseman Dairies.

### Structure of Milk Processing Sites

In the United Kingdom, dairy plants which process over 100 million litres of milk account for over 86% of the volume of milk processed. In particular, this reflects the industry's investment in large extremely efficient processing plants in the liquid milk sector.

**Table 12** – Distribution of UK Dairy Companies by Size (2009)\*

Size Band	Companies Processing Milk		Volume of annual intake		
	(litres)	Number	% of Total	Million Litres	% of Total
5 million and under		395	84.9	173.1	1.4
5 - 20 million		19	4.1	219.1	1.8
20 - 50 million		17	3.7	533.6	4.3
50 - 100 million		11	2.4	717.5	5.8
100 – 300 million		14	3.0	2 428.3	19.7
Over 300 million		9	1.9	8,242.5	66.9
<b>Total</b>		<b>465</b>	<b>100.0</b>	<b>12,314.1</b>	<b>100.0</b>

Source: DairyCo, Defra

**Table 13** – Distribution of UK Dairy Companies by Product (2009)\*

Size Band	Companies Processing Milk		Volume of annual intake
	(litres)	Number	'000 tonnes
Liquid Milk		324	5,536.6
Cheese		173	279.1
Butter		53	95.6
Condensed Milk		3	104.3
Milk Powders		8	106.2

Source: DairyCo, Defra

\* Some smaller companies do not participate in the survey

## Investment by Dairy Processors

Dairy processors, both co-op and private, are undertaking a sustained high level of investment in the UK. Annual capital investment by the top five dairy organisations in the UK has exceeded £100m for the past five years.

**Table 14** – Capital Investment by the Top Five UK Dairy Businesses

Year to March	Capital Investment (£m)
2006	104.5
2007	119.1
2008	139.2
2009	131.2
2010	126.9

Source: Dairy UK

The biggest single recent investment by the dairy industry has been by Robert Wiseman Dairies in a state-of-the-art £80m liquid milk processing plant in Bridgwater, Somerset. The plant has the capacity to meet 10% of the UK liquid milk processing needs and has been designed to meet exacting environmental standards.

In May this year, Arla Foods submitted a planning application to Aylesbury Vale District Council for a £150m investment to deliver the world's first zero carbon fresh milk dairy.

## Dairy Company Strategy Report

In early March 2011, DairyCo, the levy funded development body for dairy farmers, published its second annual 'Company Strategy and Performance Report' which reviewed the strategies and performance of the top seven milk processors in the UK.

The report reinforced the view of an industry developing in the right direction. The report showed that the industry was investing heavily in the future, increasing product innovation and product differentiation and adjusting to cope with the challenges and opportunities that lie ahead.



## Staff Training: Project Eden

In a robust response to particular challenges in recruiting and training staff in technical areas, the industry has created its own, world class, three-year degree course in Dairy Technology at Reaseheath College, known as Project Eden. Over 50 students have enrolled since the course was launched in September 2009.

The course was developed jointly by Dairy UK members in conjunction with Reaseheath College, and the National Skills Academy for Food and Drink and benefits greatly from the creation of a new, state of the art training dairy at Reaseheath College which opened for business in April 2010. The facility, which cost £5m, represents a massive investment in the future training of dairy industry personnel.

Project Eden is now expanding further to include a new engineering apprenticeship which the industry hopes to launch in 2012.



## DAIRY UK AND PROCESSORS

**UK dairy processors are efficient, dynamic and informed by a strong sense of corporate social responsibility. They are investing heavily in the industry and have the strength to deliver on commitments entered into in partnership with the Government.**

### Dairy processors will:

- **continue to examine opportunities for further consolidation**
- **invest in new and enlarged processing facilities to maximise efficiency**

### Dairy UK will:

- **pressure for the rebalancing of competition law to take account of the interests of the producing and processing sectors to allow them to become truly global in scale**
- **facilitate the provision of training programmes to help meet the industry's need for trained labour**

# RETAILERS AND CUSTOMERS

## Distribution of Dairy Products

Most UK dairy produce is ultimately intended for human consumption and over 70% is produced in consumer packs. The vast majority is sold to intermediaries, the most important of which are the major retailers. Only a small proportion of the industry's output is sold direct to the consumer by dairy companies via the doorstep delivery service or through local markets.

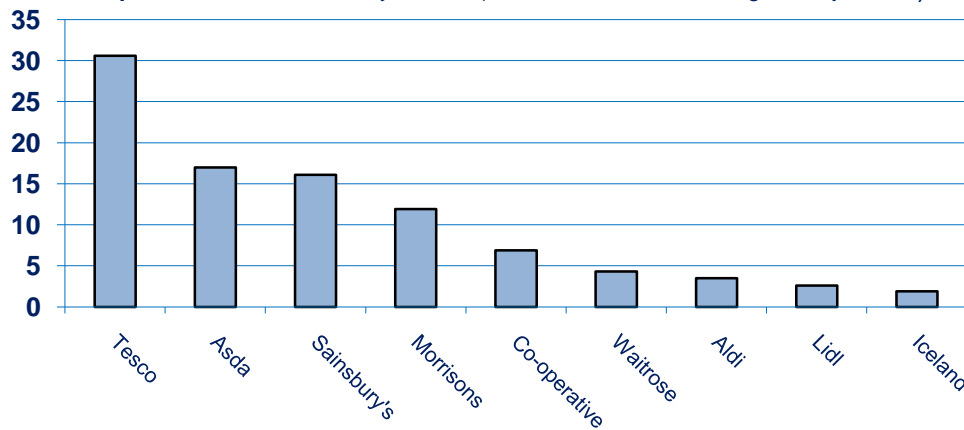
Other major customer segments include wholesale distributors, catering outlets, institutional customers (hospitals, schools, prisons), food processors, traders and export customers.

## Sales by Sector

### Retailers

The retail market is dominated by four major retailers, Tesco, Asda, Sainsbury's and Morrisons, accounting for 76% of all grocery sales in Great Britain. Tesco is by far the largest retailer with a grocery market share of 30.6%, followed by Asda (17.0%) and Sainsbury's (16.1%), but discounters, such as Aldi and Lidl, are increasing their market shares.

Graph 19 – Share of Grocery Market (% share 12 weeks ending 10 July 2011)



Source: Kantar Worldpanel

## Where Consumers Shop

The weekly shop is still a key feature of UK shopping habits, with an increasing number of adults (62%) using this as their main shopping trip, and fewer consumers, 20%, opting for multiple visiting.

As well as the growth in the supermarket sector, consumers are also using convenience stores on a more regular basis with more than 75% of adults using them at least once a week and 56% of the population visiting on average nearly four times a week. Convenience stores are often used for 'top up' shopping for products such as milk and bread.

## Doorstep Sales

The industry sells around 1 million pints of milk per day direct to the consumer in returnable glass bottles through the doorstep delivery service.

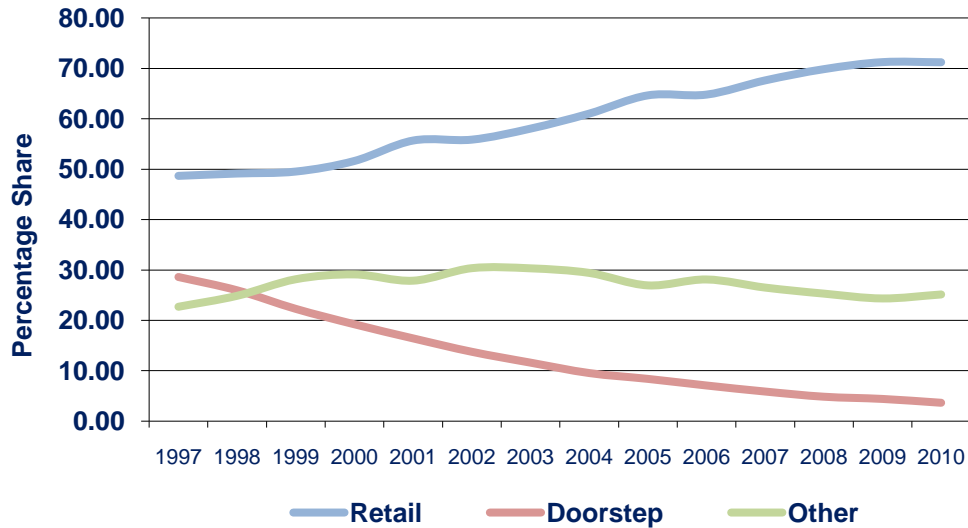
The much valued doorstep market, which stands at less than 10% of the liquid market, remains a favourite with millions of customers. The sector is being driven by an increasing demand for convenience amongst consumers and a significant degree of innovation in the type of services and products made available to the consumer.

Dairy UK's popular website [www.findmeamilkman.net](http://www.findmeamilkman.net) allows new customers to sign up online for a doorstep delivery online, and the public's tremendous support for doorstep delivery is celebrated annually through the Milkman of the Year Competition.

The average number of customers on a milk round is 475, with milkmen selling a range of around 240 products. Glass bottles make an average of 20 return trips, and 46% of deliveries are made on electric milk floats.

Twenty years ago, sales via the doorstep accounted for 27% of total milk production and 78% of household liquid milk sales. However, since retail prices for liquid milk were deregulated in 1984, doorstep deliveries have been in decline as shops could sell milk more cheaply. Despite this decline, doorstep delivery and the milkman remain national icons.

**Graph 20 – UK Milk Sales by Outlet (% share)**



Other: distribution to restaurants, schools, hospitals, etc

Source: Defra, DairyCo Datum, Kantar Worldpanel

### Out of Home Consumption

The sale of food and drink for consumption out of home is a growth market. Public sector use accounts for about 30% of this market, with private sector restaurants, pubs and hotels making up the rest. Although the growth in out-of-home consumption has slowed during the recession, the IGD forecasts that by 2025 consumers will spend as much on eating out as they do on food to eat at home (Source: IGD Research).

### Ingredients Sector

This covers the use of milk products as an ingredient in food processing. This can range from biscuits, cakes and confectionery to ready-made meals. It is an enormously diverse sector and the fragmented nature of this market means that little data is available. This sector is growing as consumers eat more processed or prepared foods.

## Market Regulation

The Government has published a draft bill for the creation of an Adjudicator to oversee the implementation of the Groceries Supply Code of Practice.

Under the proposals by the Department for Business, Innovation and Skills (BIS) the Adjudicator would:

- act as arbitrator, if a supplier refers a dispute to arbitration under the Code
- carry out an investigation of a suspected breach of the Code by a retailer
- publish a report of any investigation and, if there is a breach of the code, recommend steps be taken by the retailer to improve compliance with the Code
- require the retailer to publish information about the investigation and the breach
- publish guidance on investigations

The Bill has so far only been subject to pre-legislative scrutiny by the House of Commons BIS Committee which recommended that the powers of the Adjudicator should be strengthened.

## DAIRY UK AND THE INDUSTRY'S CUSTOMERS

**The industry's route to the final consumer relies on a range of intermediary distributors, principal among which are the retailers. Partnership between these distributors and the supply chain maximises benefits for consumers, retailers, processors and farmers.**

**Dairy UK will:**

- **support the creation of a Grocery Code Adjudicator**
- **argue for industry co-operation with retailers to maximise value from the market place.**

## EUROPE AND THE CAP

### Market Snapshot

There is an enormous range in scale of production, average farm size and producer price throughout the EU. The UK is the third largest producer of milk in the bloc and also has the third highest average herd size.

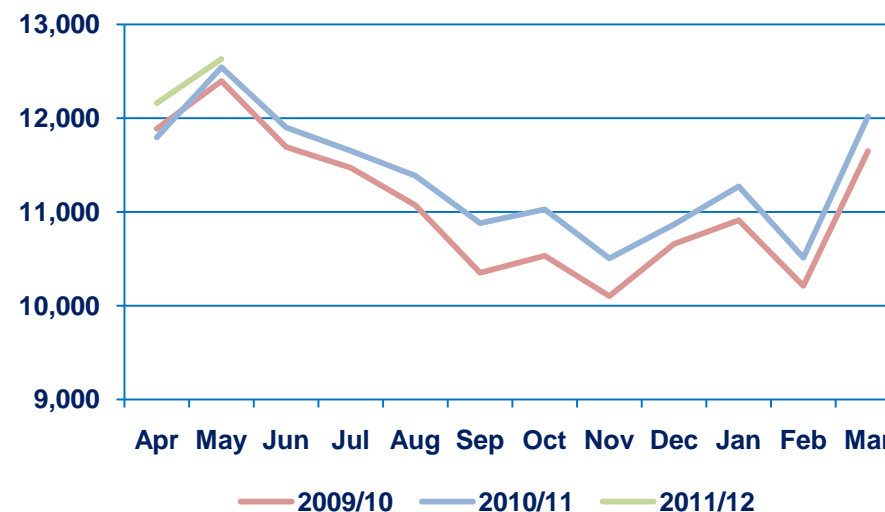
Table 15 – Europe Key Data for 2010

Country	Milk Deliveries (000t)	Farm Numbers	National Herd (000 head)	Average Herd Size	Average Producer Price (€/100kg)
EU-27	135,365	1,904,043	23,172	12	30.76
EU-15	117,339	371,589	17,627	47	31.74
New member states	16,591	595,649	4,063	7	29.45
Austria	2,781	39,600	533	13	31.78
Belgium	3,063	10,503	518	49	30.47
Denmark	4,818	4,900	573	117	31.94
Finland	2,289	11,516	284	25	37.15
France	23,462	77,038	3,641	47	30.96
Germany	28,659	91,900	4,182	46	30.97
Greece	688	4,400	144	33	37.30
Ireland	5,344	19,046	1,127	59	30.79
Italy	10,408	37,800	1,746	46	33.83
Portugal	1,825	8,900	275	31	28.65
Spain	5,832	23,013	845	37	29.38
Sweden	2,860	5,697	349	61	33.68
Netherlands	11,445	20,746	1,518	73	31.46
United Kingdom	13,584	15,716	1,847	118	27.90

Source: European Commission

### EU Milk Production

Graph 21 - EU Milk Production 2009/10, 2010/11 & 2011/12 (M. Tonnes)



Source: DairyCo Datum

Total EU milk production for the 2010/11 milk year was 2.6% above 2009/10, with April the only month to record a decrease, and production has continued to grow into the new milk year. All the major countries recorded increased levels (France +5.0%, Germany +2.5%, The Netherlands +3.3%, the UK +4.0% and, especially, Ireland +12.8%). The increase in production has largely been in response to higher EU farm gate prices experienced in 2010.

### Common Agricultural Policy (CAP)

The dairy sector CAP has undergone radical restructuring. The policy has moved away from active market management by the European Union to a system of income support provided to farmers principally through the single farm payment system.

The CAP for the dairy sector used to consist of a comprehensive suite of market management tools. The European Commission was able to manage the supply/demand balance to achieve 'acceptable' producer prices.

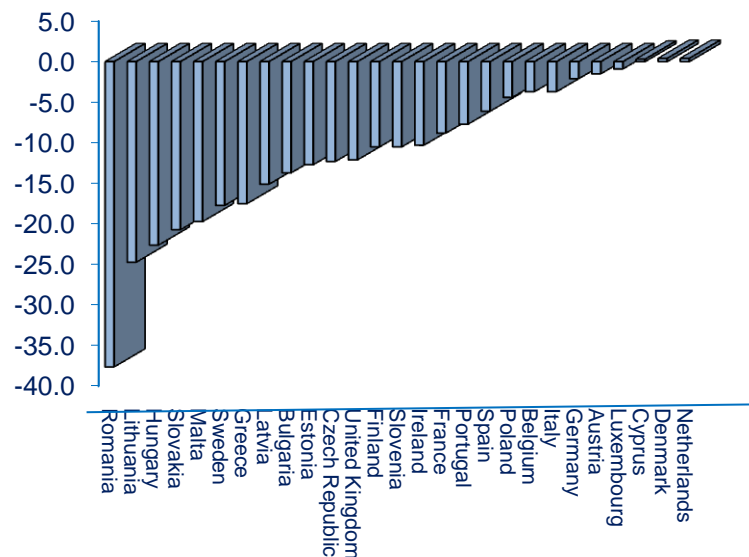
On the supply side, tools included quotas to restrict production, private storage aid to allow manufacturers to store peak production and tariffs to prevent imports. To manage demand, there was a range of consumption subsidies available, export refunds and intervention purchasing to place a floor in the market place.

This system is now of declining relevance to the determination of EU dairy market prices as the EU is no longer actively engaged in market management and quota constraints are being lifted.

### Milk Quotas and Milk Production

Quotas are increasingly of marginal importance to determining EU milk production. At the end of the 2009/10 milk quota year (April to March), the EU was under quota by 6.9%. Only Denmark, The Netherlands and Cyprus recorded very small excess production, whilst all other countries were under quota, with Eastern European countries recording some of the largest shortfalls.

**Graph 22** – Percentage Under/Over Quota by member state for 2009/10



Source: Eurostat

### The Health Check of the CAP

The reform of the CAP agreed as part of the Health Check in November 2008 by the Agriculture Council laid the foundations for scaling back dairy market management and phasing out milk quotas. The legal basis for the quota regime will lapse on 31 March, 2015.

Other key elements of the reform for dairy are:

- Quota increases of 1% each year for the five years from 2009/10, except for Italy, where the full 5% increase took place in 2009.
- A halving of the so-called 'butterfat co-efficient' used to measure milk production. This has resulted in one-off quota increases of:

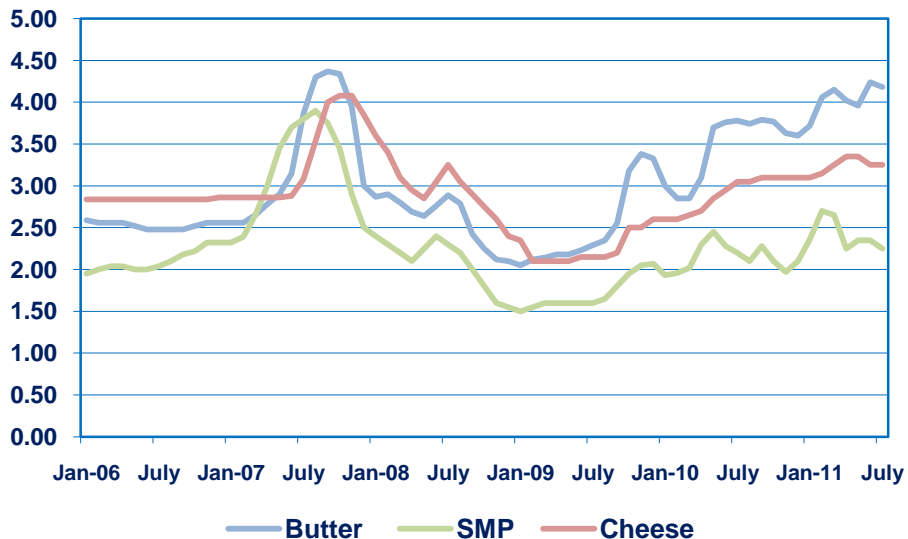
Belgium	3.4%
Denmark	2.3%
Germany	1.8%
France	0.9%
Ireland	2.0%
Netherlands	1.5%
Poland	1.1%
UK	1.0%

- Allowing member states to grant state aid to the dairy sector up to a specified ceiling.
- Abolition of the consumption subsidy scheme for butter.

### EU Product and Farm Gate Prices

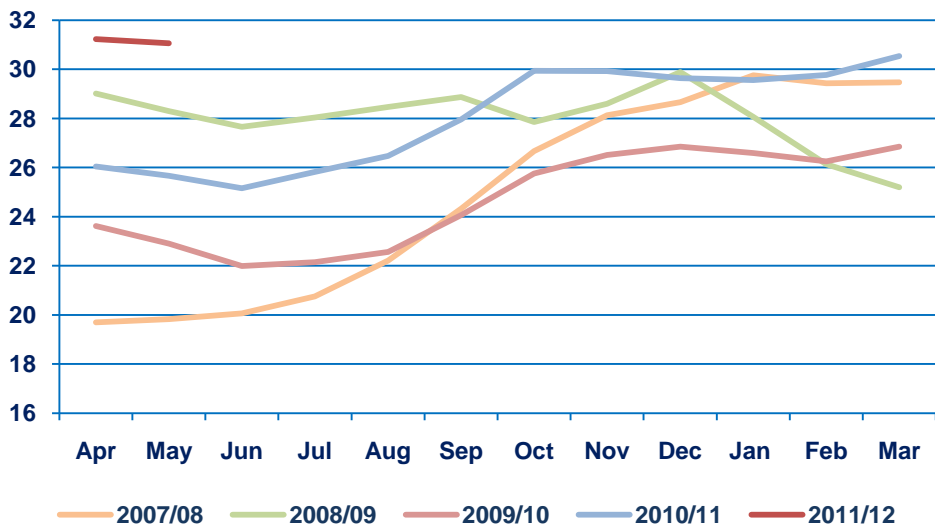
EU farm gate prices are on a rising trend. As with the world market, EU prices surged in 2007. Over 2008 they fell back, but have been demonstrating an upwards trend since then.

**Graph 23 - EU Butter, SMP and Cheese Prices (€ / kg)**



Source: DairyCo/DIN

**Graph 24 - Average EU Farm Gate Price (Euros/100kg)**



Source: DairyCo Datum

As product prices subsided from their peak, pressure mounted on farm gate prices which fell back to levels seen before 2007. Since then prices have recovered strongly.

### Dairy Sector CAP and Market Developments

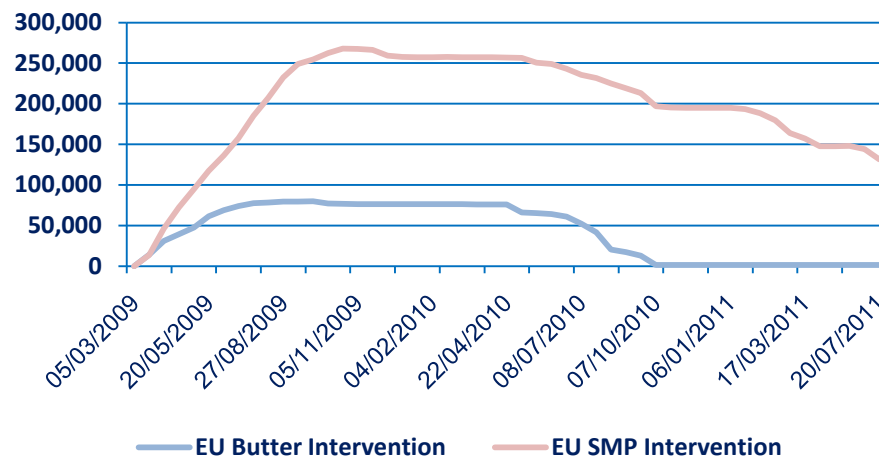
Currently the EU is providing no support to the EU dairy market, either in the form of export refunds or intervention purchasing.

The market support provided by the Commission has changed with the considerable variation in market prices seen in the EU over the past four years.

The current elimination of market support follows the recovery in prices since late 2009. This saw export refunds withdrawn in October and November 2009 and the sale of product from intervention resulting in the exhaustion of butter stocks.

Prior to that, the fall in prices in 2008 saw the European Commission reactivate export refunds, open up Private Storage Aid early, and keep intervention purchasing going for a full year, regardless of the volume tendered, resulting in a significant accumulation of stock.

**Graph 25 - EU Intervention Stocks (tonnes)**



Source: European Commission

In addition, a €300m dairy fund was also created by the Commission in Autumn 2009, which was paid directly to dairy farmers across the EU. The UK's share of this was £29.26m, which Defra decided (after consultation) to pay at the rate of 0.2p per litre of milk produced between October 2008 and September 2009. This equated to around £1,800 per dairy farmer.

Prior to the slump in 2008, the rollercoaster of price movements had seen a surge in prices in 2007 which had allowed the European Commission to cut all subsidy rates for domestic consumption and export refunds to zero and sell all stocks out of intervention. The European Commission also took the opportunity to expand milk quotas by 2% for the 2008/09 milk year to allow an increase in milk supply to meet the rise in prices.

## **The Dairy Package**

In December 2010, EU Agriculture Commissioner Dacian Cioloş presented his proposals for the Dairy Package. The proposals would:

- Provide for the operation of producer organisations in the dairy sector which would negotiate the price of raw milk without necessarily taking ownership of the milk
- Provide an exemption from competition law rules on market share to allow producer organisations to grow to up to 33% of national milk production
- Give member states the option of legislating a requirement for contracts between producers and milk buyers. If the option was taken up, contracts would have to address price, volume, timing of deliveries and duration
- Provide for the creation of 'Inter-Professional Organisations' in the dairy sector which could undertake a variety of functions ranging from market research to developing model contracts. However, they would not be exempt from competition law.

As the European Parliament now has powers of co-decision over agricultural policy, then these proposals are being considered by the Parliament as well. They have counter-proposed that:

- Contracts should be a mandatory requirement for all member states
- Prices should be fixed for a year
- The maximum percentage scale for producer organisations should be raised to 40%

The legislative process by which these two views would be reconciled could be very protracted and the outcome remains uncertain, consequently it is difficult to state what impact the Dairy Package will have on the UK industry.

The use of contracts is already a commercial norm in the UK but if there is a high degree of prescription in the final package on the content of contracts then the result could be unforeseen negative consequences. The emergence of large producer organisations could have a major impact on supply chain relationships in the industry.

The Dairy Package followed on from the recommendations of the High Level Experts Group on Milk which was set up in October 2009 in response to intense political pressure from European dairy farmers over the collapse in prices in that year. The group consisted of senior civil servants from each member state meeting under the chairmanship of the European Commission. Its remit was to discuss mid-term and long-term arrangements for the dairy sector given the abolition of quotas in 2015.

After holding a number of evidence gathering sessions, the group has presented recommendations in June 2010, which included inviting the Commission to:

- Consider guidelines or legislation to enhance the use of contracts
- Consider legislation to exempt producer organisations that only negotiate the price of milk for their members from competition law
- Examine further the introduction of inter-professional organisations using the model from the fruit and vegetable sector

These recommendations largely formed the basis of the Dairy Package put forward by Commissioner Cioloş.

## **Further Reform of the CAP**

In October 2010, after a period of public consultation, the Agriculture Commissioner published a communication which set out the Commissioner's ideas for the further reform of the CAP.

They included:

- Restructuring the single farm payment to include:
  - a greening component which would attach environmental criteria to the receipt of the payment
  - capping payments to larger farmers
  - additional support provision for smaller farmers
  - giving member states the option of providing coupled support for certain regions where particular types of farming are considered important for economic or social reasons
  - additional income support to farmers in areas with specific natural constraints
- Requiring some unspecified degree of re-distribution of funds to equalise single farm payments between member states
- Abolishing the option of allocating payments based on historic entitlements

The proposals also included the retention of a safety net mechanism, new expenditure priorities for Rural Development and the option of Member States providing risk management through subsidised insurance.

There are few concrete proposals on how the competitiveness of EU agriculture is to be improved. Formal legislative proposals are expected by the end of 2011.

### **EU budget**

The proposed EU budget for 2014 to 2020, unveiled in June 2010, would result in a fall in real terms in expenditure on agriculture. CAP spending would be frozen at 2013 levels, which would correspond to a significant reduction in real terms on the Commission's assumption of a default 2% inflation rate.

Total CAP expenditure would amount to €386.9bn over the seven years from 2014 to 2020. The basic two pillar structure would remain, with €281.8bn for Pillar I and €89.9bn for Pillar II.

Negotiations on the budget are not expected to be resolved until the end of 2012. Negotiations on the CAP reform package are then expected to be finalised shortly afterwards for implementation from early 2014.

## **DAIRY UK AND EU POLICY TOWARDS THE DAIRY SECTOR**

**Dairy UK supports the creation of a market led dairy industry. The abolition of quotas and the liberalisation of the CAP is an essential part of that process.**

**In its lobbying Dairy UK will argue that:**

### **EU Budget**

- **the CAP should remain 'common' and fully funded by the EU**

### **CAP**

- **the CAP should focus on making farming more competitive and ensure food security**
- **measures should be avoided which discriminate against the UK's larger more efficient farmers or which result in the creation of competitive distortions between Member States**
- **the EU should continue to play a role in minimising extreme price volatility**

### **The Dairy Package:**

- **dairy farmers should have contracts, but EU, national, or devolved authorities should not legislate their content.**
- **farmers should be given the opportunity to market product collectively and producer organisations will provide a new legal template for them to do so. However, they should not be exempt from competition law.**



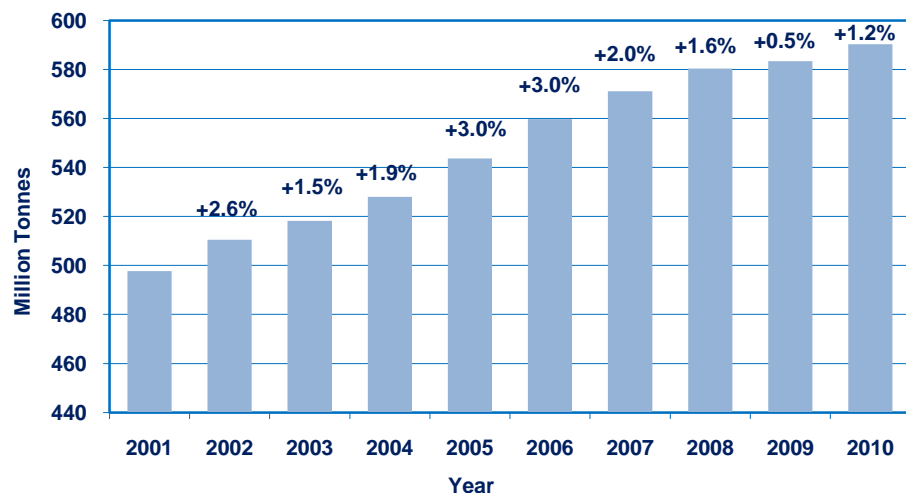
## WORLD DAIRY TRADE

### World Milk Production

World milk production is on an upward trend. Over the past nine years the average annual rate of growth has been 1.9%.

Compared to 2008, the growth in milk production in 2009 was slightly below trend at 0.5% (largely in response to the decline in prices seen over 2008 and early 2009), but production is forecast to have increased by 1.2% in 2010.

Graph 26 – World Milk Production (million tonnes)



Source: FAO

Around 30% of world milk output continues to be from the 'informal sector' where milk produced by very small farmers is either consumed on the farm or marketed locally. The shift away from the informal sector towards milk being delivered to dairies for processing is one of the main underlying trends in the global dairy industry.

### Milk Production by Country

Table 16 - Summary of Major Milk Production Forecasts for 2010 and 2011 (million metric tons)

	2008	2009	2010 forecast	% change 09/10	2011 forecast	% change 10/11
<b>Australia</b>	9,500	9,326	9,327	...	9,600	+3
<b>EU-27</b>	133,848	133,700	135,350	+1	136,600	+1
<b>China</b>	34,300	28,445	29,100	+2	30,500	+5
<b>New Zealand</b>	15,580	16,983	17,173	+1	18,049	+5
<b>United States</b>	86,174	85,881	87,461	+2	88,768	+1
<b>Total</b>	279,402	274,335	278,411		283,517	
<b>% change</b>		<b>-1.8</b>	<b>+1.5</b>		<b>+1.8</b>	

Source: USDA July 2011

The EU has remained the world's largest milk producing region accounting for 23% of global output. The US has remained the largest milk producing country, accounting for 15%. China continues to grow rapidly and now accounts for almost 5% of world output.

Australian output has contracted over recent years due to drought and now stands at 17% below the peak of 11.61 million tonnes achieved in 2001. New Zealand saw a surge in production at the end of the 2010/11 milk year.

### Structure of the World Market

#### Exports

Milk and dairy products are largely consumed in the region where they are produced. The tradable surplus for any country is generally a fraction of total production, with the exceptions of Australia and New Zealand. Consequently, the world market remains relatively small compared to total global production, accounting for only around 6% of world output.

**Table 17 - Pattern of World Trade 2010 (volume of product exported and % of milk production)**

	<b>Volume of Product Exported (million tons milk equivalent)</b>	<b>% of Domestic Production</b>
<b>New Zealand</b>	13.9	82
<b>EU</b>	11.6	7
<b>USA</b>	4.1	5
<b>Australia</b>	3.1	34
<b>Belarus</b>	2.4	36
<b>Argentina</b>	1.7	16
<b>World</b>	45.9	6

Source: FAO Food Outlook

### Imports

**Table 18 - Major Dairy Commodity Importing Countries in 2010**

	<b>Volume of Product Imported (Million Tons Milk Equivalent)</b>	<b>% of World Imports</b>
<b>China</b>	4.6	10
<b>Russia</b>	2.7	6
<b>Algeria</b>	2.2	5
<b>Mexico</b>	2.0	4
<b>Saudi Arabia</b>	2.0	4
<b>Indonesia</b>	1.5	3

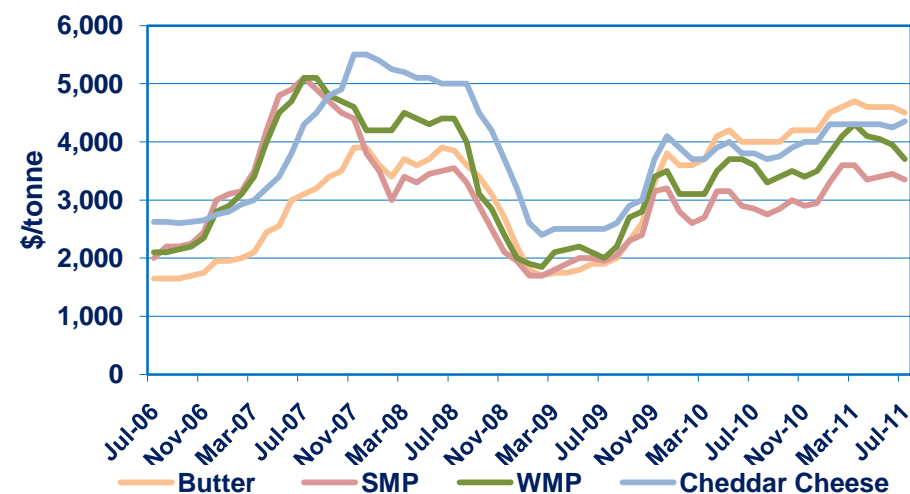
Source: FAO Food Outlook

The most significant changes since 2009 have been China becoming the largest importer of dairy products, with powder imports trebling since 2008 (and both butter and cheese doubling during the same period), following continuing uncertainty about the safety of domestic products, and New Zealand re-claiming top place as the world's largest exporter on the back of rising demand from Asia, especially China.

Price volatility has also become a major feature of the market, with prices surging to record levels in 2007, subsiding in late-2008, and recovering from late-2009.

Factors behind volatile prices include very small changes in production growth, the state of world food stocks and changes in demand caused by economic growth and population growth.

**Graph 27 - World Dairy Commodity Prices**



Recent recovery has been due to the recovery in demand as economies have come out of recession.

### Trade Policies

Historically, the world market has been heavily influenced by the trade policies of the major consuming countries and regions.

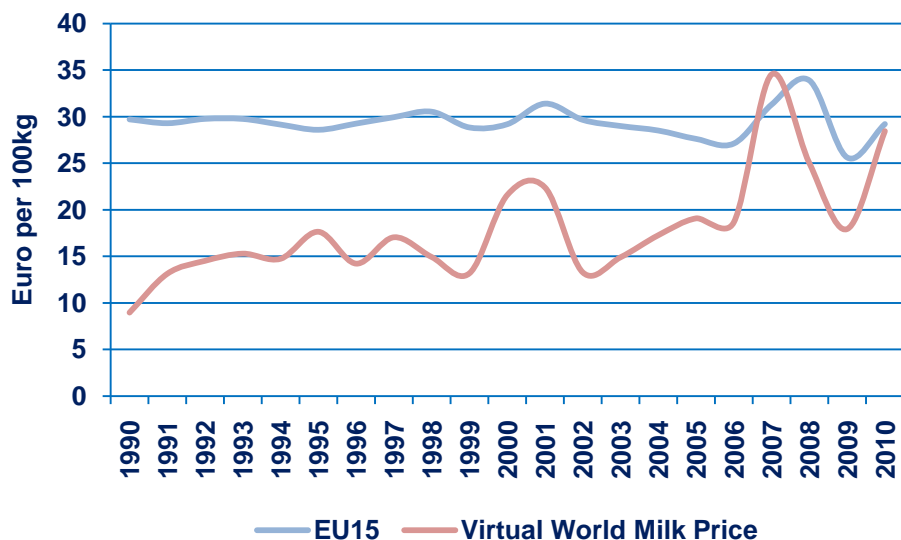
The EU, US and India have all maintained significant tariff barriers to protect their domestic markets. The US maintains a differential pricing system that effectively cross subsidises exports. As part of the Common Agricultural Policy (CAP) the EU has used export refunds to bridge the gap between prices on the domestic market and those prevailing on the world market.

A WTO agreement will go some way to reducing the importance of these trade policies and their impact on the world market. However, the talks have stalled and it is uncertain when they will resume, if ever.

## EU and the World Market

The EU used to rely heavily on export refunds to manage its relationship with the world market. The surge in world prices allowed the EU to cut back export refunds until they reached zero in mid-2007. They were reintroduced, though, after the subsequent collapse in world prices and pressure from member states. The subsequent recovery in world prices saw them withdrawn once again.

Graph 28 - EU and World Market Prices



Source: European Commission

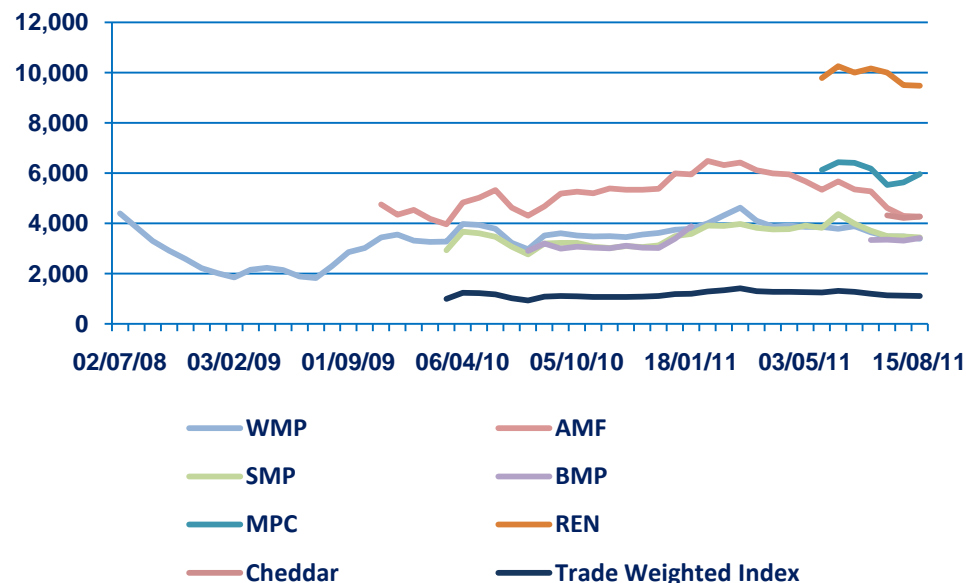
Longer term, the policy of the European Union is to reduce the dairy industry's reliance on all forms of market support, including export refunds. The EU's exportable surplus will have to be priced competitively with the world market, which will influence the price prevailing throughout the bloc. Greater exposure to the world market will bring with it greater price volatility compared to the stability created by the CAP.

Recent price volatility, and the reduced influence of the CAP on market prices, means there is growing interest in the development of a futures market for dairy products to help the industry manage its pricing risks. Two

European exchanges have launched such products, but none have achieved any significant degree of liquidity.

An electronic auction system for whole milk powder has been developed by New Zealand dairy co-op Fonterra, which brings greater price transparency to the world market. The range of products offered in the monthly auctions has been expanded with the addition of Anhydrous Milk Fat (AMF) in November 2009, Skim Milk Powder (SMP) in March 2010, Butter Milk Powder (BMP) in August 2010, Milk Protein Concentrate (MPC) and Rennet Casein (REN) in May 2011 and Cheddar Cheese (Cheddar) in July 2011.

Graph 29 - Fonterra Auction System Results (\$US/Mt, FAS)



Source: Fonterra globalDairyTrade

## UK Dairy Trade

Dairy companies in the UK export to the world market, and in particular the industry in Northern Ireland is heavily dependent on doing so. When there has been a significant divergence between the EU and world market then the competitiveness of UK exports has historically depended on the availability and value of export refunds.

The actual pattern of UK trade in dairy products is shaped by the following:

- UK milk production is insufficient to meet domestic consumption.
- Sales of high value dairy products in Great Britain are focused on the market for direct consumption by domestic shoppers.
- Butterfat generated from the manufacture of low fat milks is exported from the UK as bulk cream.
- Raw milk is exported from Northern Ireland to the Republic of Ireland, and a range of milk powders is exported to destinations within the EU and to third countries.

These structural factors mean that UK's limited exports tend to be of lower unit value than imports into the UK.

**Table 19 - UK Dairy Imports in 2010 – tonnes**

Product	EU	Non-EU	Total
Liquid milk	68,619	0	68,619
Cream	64,928	4	64,932
Skimmed milk powder	51,384	5	51,389
Whole milk powder	24,030	22	24,052
Evaporated and condensed milk	40,085	779	40,864
Yogurt	136,312	669	136,981
Butter	74,125	1	74,126
Cheese	422,235	12,386	434,621
of which processed cheese	51,226	55	51,281
of which Cheddar	109,831	10,707	120,538

Source: Dairy UK

**Table 20 - UK Dairy Exports in 2010 – tonnes**

Product	EU	Non-EU	Total	% of UK production
Liquid milk	83,178	883	84,061	1.2
Cream	71,650	384	72,034	27.3
SMP	20,307	8,905	29,212	44.3
Whole milk powder	27,247	34,554	61,801	140.5
Evaporated and condensed milk	5,457	246	5,703	5.8
Yogurt	23,190	617	23,807	7.1
Butter	9,595	2,561	12,156	10.2
Cheese	99,831	12,274	112,105	30.1
of which is Processed	22,316	180	22,496	62.5
of which is Cheddar	30,101	6,549	36,650	14.7

Source: Dairy UK

## DAIRY UK AND THE WORLD MARKET

The world market will increasingly shape the UK industry's commercial environment in the future. Population growth and rising incomes will ensure that the UK dairy industry operates in an environment of growing demand for the foreseeable future. This will keep the industry's long term commercial prospects positive and provide opportunities for expanding exports.

Dairy UK will:

- continue to support multi-lateral trade liberalisation that does not unfairly discriminate against the UK dairy industry
- argue for the retention of safety net measures to address extreme price volatility
- work with government to identify barriers to exports and to encourage UK dairy processors to take advantage of growing export market opportunities

## RESEARCH & DEVELOPMENT

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### Innovation in the Dairy Sector

The dairy industry is one of the most technologically complex and sophisticated of all the food sectors in the economy. The future of the industry rests on continuous technological progress. This requires sustained research and development to allow the industry to change and improve its operating methods.

There are a range of drivers and opportunities for innovation in the dairy sector. They include:

#### *Maintaining Product Safety*

The safety of dairy products is an absolute prerequisite to the future sustainability of the sector. The main threat is from zoonoses - animal diseases that can be transmitted to humans. It is important that the research capability exists to identify potential zoonotic hazards and deal with them rapidly.

#### *Improving Efficiency*

CAP reform will place an even greater requirement on the industry to be cost efficient in order to maintain competitiveness. This needs to be addressed at every level of the supply chain. Opportunity areas for progress include:

- Main feed inputs; improving the nutritional value to dairy cows of grass and other feed inputs
- Efficiency of the dairy cow; the ability of the cow to convert feed inputs into milk can still be improved through breeding
- Health and wellbeing of the dairy cow; mastitis, lameness, infertility and Johne's disease are the principle challenges to the productivity of dairy cows

- Energy efficiency; this can be addressed at both farm and processor level
- Processing innovation; further developments are possible in isolating and manipulating milk fractions
- Product innovation; developing new dairy products, including non-food uses for dairy fractions.
- Management capability and methods; higher levels of professionalism at all levels of the supply chain.
- Scale of operation; cost efficiency is usually attained by increasing the size of operation in order to achieve economies of scale through spreading fixed costs.

#### *Sustainability*

The industry is dedicated to the continuous reduction and minimisation of its environmental impact. In the long term the main challenge will be to respond to the climate change agenda through reducing greenhouse gas emissions from the sector. This means reducing methane emissions from cows and improving energy efficiency at all levels of the supply chain; as well as initiatives to reduce water use, waste and improve recycling rates and supporting biodiversity.

The dairy industry is currently investing heavily in research and development of more efficient means of producing its products. Be this trialling new Cleaning In Place technology through the Industrial Energy Efficiency Programme, working towards carbon footprinting individual dairy products through the Carbon Trusts Dairy Footprint Expert tool, DairyCo committing 39% of their annual levy fees to research and development (including genetics), or having 40% of dairy farmers now trialling new emissions reducing technology. The dairy industry is clearly committed to modernisation and reducing its impact.

A growing emphasis on the sustainable diet will also oblige the dairy industry to explain its nutritional benefits more clearly to consumers as they weigh up their consumption patterns against their environmental impact.

There is a compelling case to consider a food's sustainability as a combination of its nutritional efficiency and environmental impact. Many dairy foods are exceedingly efficient, because they contain high levels of many nutrients per calorie. At the same time, the environmental impact of dairy products in the UK is falling and is already among the lowest anywhere in the world.

#### *Global Nutrition Research*

Recent years have seen increasing collaboration amongst dairy organisations globally. The benefit from this sort of pre-competitive collaboration is that it allows the industry to leverage its limited funds to undertake some of the essential nutrition work needed to continue defending, developing, delivering and promoting nutritious dairy foods.

For example, over the last seven to eight years, the International Milk Genome Consortium has delivered advances in our understanding of the structure of milk.

International collaborations amongst dairy councils and research organisations remain instrumental in pushing the scientific understanding of the relationship between dairy fat and dairy foods and human health.

#### *Exploiting by-products*

The industry will need to find further opportunities for exploiting by-products or waste streams. This includes using anaerobic digestion technology both at farm and processing levels.

### **Research and Development Activity**

R&D activity for the sector is undertaken through a range of public and privately financed initiatives. The wide dispersal of R&D effort makes it hard to encompass the extent of activity relevant to the UK dairy industry.

However, it is clear that in the long-term the industry needs the partnership of Government, either at the UK or the EU level, to maintain its competitiveness. This can either be through the provision of funding or by undertaking a facilitating and co-ordinating role.

## **DAIRY UK AND RESEARCH AND DEVELOPMENT**

**The dairy industry is fundamentally a technologically led sector. The industry needs R&D to maintain its commercial competitiveness.**

**Dairy UK will argue that:**

- **the dairy industry, the UK Government, EU and member states need to maintain and increase their contribution to long term research and development to sustain the development of the EU dairy industry**
- **efforts must be made to create a framework that allows the industry at an EU level to determine research priorities and to share in the results of research**
- **if the UK or the EU is to restrict the adoption of new technologies by the dairy industry then it must take action to ensure the maintenance of a 'level playing field' with the EU's competitors.**

## A BRIGHT FUTURE?

### Vision for the Future

It is in everyone's interests that the UK dairy industry should be able to grow in size. A vibrant and thriving industry will provide more skilled jobs on farms and in manufacturing, it will drive innovation and quality and it will allow greater investment in efficiency and lowering carbon emissions.

### Growth

From a purely economic perspective, the two factors that drive growth in demand for dairy products are population size and economic growth. However, there is also a strong desire on the part of the dairy industry to move production into new and innovative products that respond to new consumer needs and grow value to the benefit of the whole supply chain.

#### Consumption Growth

**Table 21**– Consumption Forecasts ('000 tonnes)

	2011	2020	% change
<b>World</b>	<b>38,639</b>	<b>45,372</b>	<b>17.4</b>
<b>OECD</b>	20,541	22,845	11.2
<b>Non-OECD</b>	18,098	22,528	24.5
<b>EU-27</b>	11,377	12,000	5.5
<b>United States</b>	5,859	7,221	23.2
<b>Japan</b>	523	540	3.2
<b>China</b>	2,122	2,527	19.1
<b>India</b>	4,588	6,036	31.6
<b>Australia</b>	412	435	5.7
<b>Mexico</b>	713	833	16.8
<b>Sub-Saharan Africa</b>	678	910	34.3
<b>Algeria, Egypt</b>	1,288	1,602	24.4
<b>Brazil</b>	1,453	1,707	17.5
<b>Russia</b>	1,592	1,830	15.0
<b>Ukraine</b>	322	388	20.7

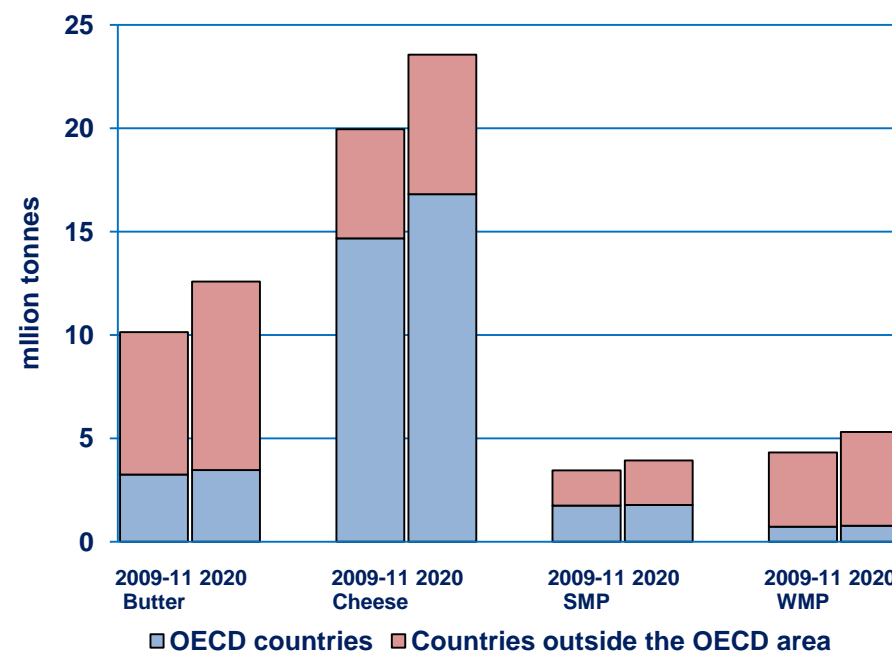
Source: OECD

Global demand for dairy products is predicted to grow by 17% between 2011 and 2020, equivalent to an annual growth rate of almost 2%.

Traditional markets such as the EU, Japan, and Oceania are expected to see lower annual growth of 1% or less. Demand in North and Central America is forecast for year-on-year growth of around 2% over the same period, while the Middle East, India and Sub-Saharan Africa are slated for even stronger increases of around 3% annually. Demand in China is also predicted to grow strongly, but not at the rapid rate of recent years.

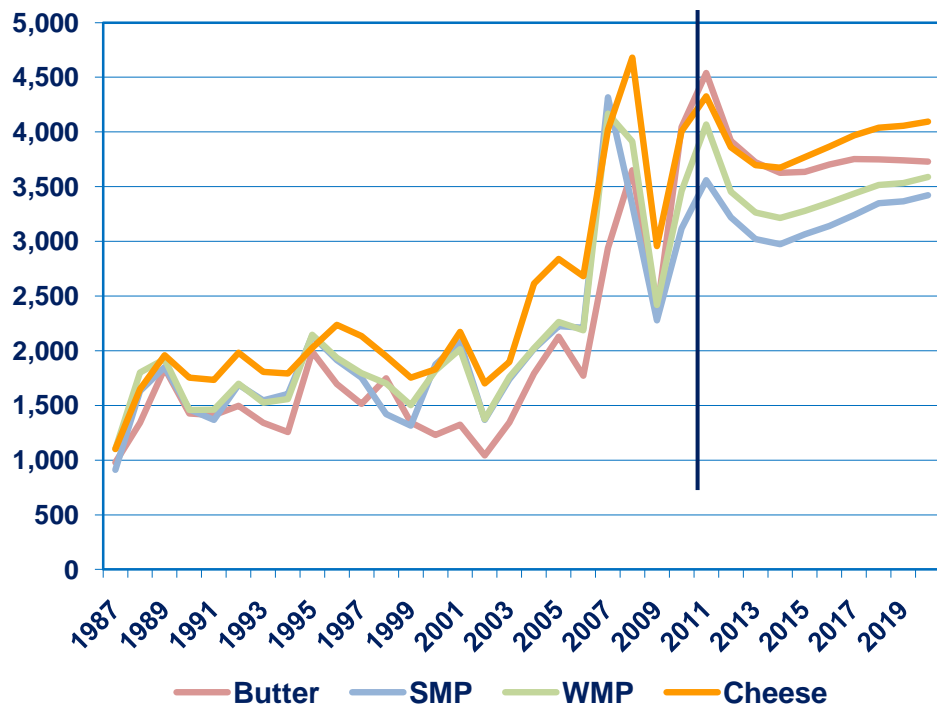
OECD countries are forecast to see consumption growth focused on cheese.

**Graph 30** – Outlook for Dairy Product Consumption



Source: OECD

**Graph 31 – Trends in World Dairy Prices (US\$ / tonne)**



According to the OECD Agricultural Outlook 2011 – 2020, growing global demand stimulated by rising population and income, especially in developing countries, will underline firmness in prices over the medium term. Over the forecast period, prices in real terms are expected to average between 10% (SMP) and 40% higher than the last decade.

*Supply Growth*

Dairy farming will present an opportunity for many regions around the world, but it will take time for this potential to be converted into reality. Whilst there is some possibility that growth from low cost countries could partially displace the EU from the world market, the willingness of these countries to engage in export-led growth will be tempered by the growing demand in their own domestic markets.

Growth will also be limited by competing demand for land from biofuels, and the increases in feed prices this will entail, which will affect the profitability of production systems that are not grass-based.

The UK and EU dairy industry will be well placed to serve the growing world demand for dairy products. Given the importance of EU production to meeting global demand, it can be stated with confidence that the future global price environment will be at a level that will reward efficient EU producers.

The complexity of milk as a raw material and the range of the processing technologies available to the industry mean that it is well placed to take advantage of the increasing sophistication of consumer demand. The UK dairy industry is working hard on innovation to develop the range of products to meet this demand. The future of the industry ultimately depends on achieving a closer relationship with the consumer based on trust and informed understanding.

**Supply Chain Development**

The trend in recent years for the supply chain has been efficiency gain and product innovation on one hand, and a growing sense of co-operation between different links in the chain on the other hand.

On farms and in factories, economies of scale are being pursued with the development of larger units and greater processing capacity. From planning applications for 8,000 cow plus farms to the commissioning of ‘super-dairies’ capable of processing more than 300 million litres of milk per year, this trend is vital if the industry is to remain competitive.

Arla Foods UK has announced plans to build the world’s largest liquid milk dairy just outside London. This massive vote of confidence in the UK dairy sector would see the creation of a dairy that could process one billion litres of milk per year.

The development of integrated supply arrangements, where retailers pay a premium to source milk from groups of dedicated farmers also looks set to intensify.



The retailers are using these groups to guarantee security of supply and to set up points of difference with other supermarkets in terms of production standards. It is likely that retailers will deepen their involvement with processors and groups of dairy farmers.

This is to the benefit of the whole dairy sector and helps supply the extra value that consumers say they want. Farmers reaped the benefits of these arrangements during the last downturn in world markets when UK milk prices remained relatively robust.

### **Addressing Future Challenges: Dairy 2020**

The industry is developing a sustainability strategy for the future. The initiative is being facilitated by Forum for the Future, a non-profit organisation which works with businesses and government. The project is being funded by a number of organisations, including Dairy UK, and is being supported by a comprehensive range of milk purchasers, retailers, farming unions, government agencies and industry supply organisations. The project will develop a vision for the industry and an action plan which could have far reaching implications for the operation of the sector. The final report is not expected until the late Autumn of 2011.

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## **DAIRY UK AND THE INDUSTRY'S COMMERCIAL FUTURE**

**Confidence in the future is vital for a successful dairy industry. The industry's mindset needs to be grounded on informed optimism.**

**Global population pressure should underpin sustained growth in demand for all food types and dairy in particular. In conjunction with a constructive partnership with Government, this should create a positive environment for the UK dairy industry to prosper.**

**The industry is located in a wealthy country where dairy products (and fresh products in particular) are deeply embedded in the food culture. Our farms are focused on efficiency; our processors are dynamic and investing for the future. There are multiple opportunities still to be explored by the industry to add value to milk. Our supply chain mechanics rival, and in many cases lead, the best in the world.**

**It is primarily for the industry to deliver on its potential. Dairy UK will work to assist the industry. Dairy UK looks to the Government to help facilitate the process.**

## ABOUT DAIRY UK

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Dairy UK represents the interests of the United Kingdom's dairy farmers, milk producer co-operatives, manufacturers of dairy products, processors and distributors of liquid milk. Between them, Dairy UK's members handle almost 85% of United Kingdom milk production.

Although principally focused on providing its membership with information and political representation, some of Dairy UK's other activities include:

- operating the dairy sector Climate Change Agreement (CCA) through its wholly owned subsidiary Dairy Energy Savings Ltd
- funding the activities of The Dairy Council
- operating a roll container repatriation scheme
- undertaking issues and crisis management on behalf of the industry
- running high profile, topical conferences and seminars that are open to non-members
- producing benchmark-setting industry reports and publications
- taking a lead within the European Dairy Association and International Dairy Federation

For an electronic version of this publication, and for further details on Dairy UK and its activities, please visit our website:

**[www.dairyUK.org](http://www.dairyUK.org)**

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