

Dairy
UK



UK DAIRY:

MORE NUTRITION

WITH FEWER EMISSIONS

About Us

Proudly Championing Dairy for a Healthier and More Sustainable Future.

At Dairy UK, we're passionate about all things dairy. Our commitment is simple: to support healthy people, strong communities, and a sustainable planet for generations to come.

As a processor-led organisation, we proudly represent a diverse group: from farmer-owned cooperatives to private dairy companies and milk buyers across the UK. Together, we work to bring nutritious dairy products to tables throughout the nation and beyond.

Our members don't just process milk, they play a vital role in the UK economy. By providing jobs, ensuring food security and supporting local communities, they help deliver the high-quality dairy products that domestic and international consumers know and love.

In the UK, Dairy UK partners closely with government bodies, farmers and stakeholders along the supply chain. Our shared goal: to drive the dairy industry forward as a force for nutritious, sustainable, safe and responsible food production.

Globally, Dairy UK strengthens the UK dairy sector's voice through active roles in international forums like the International Dairy Federation and the European Dairy Association. Our close collaboration with the Global Dairy Platform, the Dairy Sustainability Framework and national trade associations worldwide, reinforces our commitment to collaborating on best practices and sustainable progress.



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Foreword



Paul Vernon

**Chair
Dairy UK**

The dairy sector stands at a unique intersection of nutrition, economic vitality and environmental stewardship.

As one of the world's most essential agricultural sectors, dairy provides a steady source of affordable and nutrient-rich food for billions of people, creates livelihoods for millions, and is a significant contributor to rural and national economies. The industry's reach and impact are vast and its potential to drive positive change is undeniable.

In this rapidly changing world marked by large population growth, increasing urbanisation, health disparities and climate change, the dairy sector is committed to playing its part in continuous sustainable improvement, whilst still providing high quality nutrition.

It is my hope that this report will offer you valuable insights into the important role the global and UK dairy sector plays in making sure the world can enjoy more dairy nutrition with fewer emissions.

Addressing Global Challenges: The Role of Dairy in Sustainable Food Systems

As the world faces unprecedented challenges, the need for nutrient-rich, and accessible food sources produced using environmentally sustainable practices is more critical than ever.

The United Nations Department for Economic and Social Affairs (UN DESA) predicts the world's population will rise to 9.7 billion by 2050 and could peak at nearly 10.4 billion in the mid-2080s. This will be accompanied by significant movement of people from rural to urban areas, with 68% of the world's population living in urban areas by 2050.

At the same time, the world is undergoing a demographic shift in terms of ageing. The World Population Prospects Report highlights that people aged 65 years and over comprise the world's fastest growing age group.

In 2018 older persons outnumbered children under the age of five for the first time, and by 2050, older persons will outnumber adolescents and youth (those aged 15 to 24).

Irrespective of where people live or their age, we all have a right to safe, nutritious, culturally acceptable and affordable foods, that are produced in a responsible and sustainable way.

In 2020, the UN Food Systems Summit reinforced the need for a rapid transformation of global food systems to make them more resilient and ensure they are able to address the challenges mentioned above.

Defining Sustainable Food Systems

To be sustainable, food systems need to generate positive value along three dimensions simultaneously: economic, social and environmental.

From an economic perspective, a food system is considered sustainable if the activities conducted by food system actors and support service providers are commercially or fiscally viable. Essentially, the food system needs to provide economic value for all categories of stakeholders. This includes decent wages for workers, taxes for governments, profits for enterprises, and food supply improvements for consumers.

When it comes to the social aspect of food systems, the Food and Agriculture Organisation's view on what it considers sustainable is that there is equity in the distribution of economic value. Food system activities need to contribute to the advancement of important outcomes, such as nutrition and health, poverty reduction, decent labour conditions, and animal welfare to name but a few. Otherwise, the food system is not sustainable.

From an environmental perspective, actors within food systems must strive to make their impacts on the surrounding natural environment neutral or positive. There must be consideration of biodiversity, water, soil, animal and plant health, carbon and water footprints, food loss and waste.

This report focuses on the role of UK and global dairy in food systems transformation.

Chapter 1

The Value of the Global Dairy Sector

The role the dairy sector can play in helping to feed the world, in an increasingly sustainable way, as well as provide livelihoods and contribute to economies, is substantial and often underappreciated.

Globally, the dairy sector supports the livelihoods of around one billion people, with 600 million people living on 133 million dairy farms all across the world. Furthermore, 400 million people have jobs in processing, retail, feed and fertiliser companies and a raft of support sectors.

As well as being important in the lives of individuals, dairy is one of the top traded agricultural commodities worldwide by value and by volume, making it important to national and world economies (Source: FAO).

According to the OECD-FAO Agricultural Outlook 2022-2031, there are “buoyant prospects for the dairy sector”. The same Outlook states that: “as incomes and population increase, more dairy products are expected to be consumed over the medium term.”

With the support of the Global Agenda for Sustainable Livestock (GASL), the Food and Agriculture Organization of the United Nations (FAO), the International Farm Comparison Network (IFCN), the International Fund for Agricultural Development (IFAD) and the Global Dairy Platform (GDP) conducted an analysis of the performance of the dairy sectors in over 180 countries. The analysis provides new evidence that a sustainable transformation of the dairy sector can improve farmers’ livelihoods, generate employment along dairy value chains, ensure the availability of affordably priced nutrients for consumers, and improves governments’ capacities to provide public goods and services. The report states:

“The dairy cattle sector can contribute to achieving the UN’s ‘people-centred’ or ‘social’ Sustainable Development Goals (SDGs), including no poverty (SDG1), zero hunger (SDG2), healthy lives and wellbeing (SDG3), quality education (SDG4) and decent work and economic growth (SDG8).”

The analysis, published in ‘Dairy and Socio-Economic Development: What evidence does the data hold?’ concluded with the comment that “in aggregate, society is expected largely to benefit from the development of the dairy sector, whose growth and transformation can contribute considerably to achieving the 2030 Agenda for Sustainable Development”.

Global Dairy and Sustainable Food Production

Six billion people consume dairy products on a daily basis. In doing so, they benefit from the essential nutrition that dairy foods naturally provide. Dairy products are one of the fundamental building blocks of sustainable diets, and are embedded into the dietary guidelines of most countries.

The global food challenge isn’t just about providing more food – it’s also about providing access to the essential nutrients that help the body and mind reach full potential.

Dairy provides balanced nutrition that contributes significantly to meeting the body’s need for energy, quality protein, and micronutrients. From pregnancy to healthy childhood, well-nourished families, to ageing adults – dairy’s nutrient-rich composition delivers health benefits throughout all life stages.

The role of the dairy matrix in nutrition, obesity, healthy ageing and health policies – particularly those of relevance to the UK – will be discussed in the upcoming chapters.

When it comes to food systems and environmental sustainability, the reality is that all food production comes at some environmental cost. There is no food that doesn’t use any resources, but how much a sector uses, what it gives back, and its evolution are all part of its environmental credentials and journey.

The steps the global dairy sector is taking on its environmental journey are set out in the upcoming chapters.

Chapter 1

The Significance of UK Dairy

The UK dairy industry is a vibrant sector and plays an integral role in increasing the sustainability of food supply here in the UK and as part of the larger global dairy story.

Our sector is a cornerstone of rural life, forms an important part of agriculture's contribution to the national economy, provides jobs up and down stream of the farm, and, despite some overly sensational headlines, is still very much loved by the British public.

We take our role in the nation's food security very seriously and we are committed to continuing to provide a wide variety of safe, high quality dairy foods and ingredients to UK and international consumers.

We also recognise the fact that, like every sector, there are environmental challenges we need to address around our carbon footprint, our water usage, biodiversity and more.

We are committed to meeting those challenges head on, and are already on a transformative journey to do so.

In the coming pages you will be able to read about the targets we have set, what we're doing to meet those targets and our ambition for the longer term. We will address how we are working to meet government and society's need to achieve Net Zero.

We'll also address how the work of the UK dairy sector on sustainability fits with global initiatives such as Pathways to Dairy Net Zero and the Paris Dairy Declaration.

What we want is a world where there is more nutrition, with fewer emissions, and not a world in which there are fewer emissions but less nutrition – an important distinction.

Nutrition: The Bedrock of a Sustainable Diet



It's a given and can often be easily taken for granted: we all need food to live and the food we eat has a profound impact on our lives. The human body needs a wide range of nutrients, each in varying amounts, to maintain our health and help us thrive throughout life.

Unfortunately, malnutrition - in all its forms - including undernutrition (wasting, stunting, underweight), inadequate vitamin or mineral intake, overweight and obesity, is all too prevalent in the UK and results in diet-related noncommunicable diseases.

Recent statistics from the National Child Measurement Programme show that overweight and obesity is becoming more common among young children in reception year, with 12.4% overweight and 9.6% obese. For children in year six, around 13.8% are overweight and 22.1% are obese, and the rates are nearly double in the most disadvantaged areas compared to the least. Sadly, underweight has also increased slightly in this age group.

About 64% of adults in England were estimated to be living with overweight or obesity in 2022/23, with 26% specifically living with obesity in 2022-2023.

The British Association for Parenteral and Enteral Nutrition's (BAPEN) 2022 Malnutrition and Nutritional Care Survey found that 45% of adults screened in UK health and care settings were at risk of malnutrition, marking the highest rate since screening began in 2019.

The highest malnutrition rates were seen in adults with cancer (62%), gastrointestinal issues (50%), respiratory conditions (48%), frailty (45%), and neurological diseases (43%). Risk was especially high among those living at home (56%) and in care home residents (55%), while 44% of hospital patients were also at risk.

As well as placing a huge burden on health care systems, malnutrition has a major impact on affected individuals as well as their families and communities. Malnutrition also includes what the medical profession refers to as "hidden hunger." A person can be eating enough or too many calories, or even be classed as obese, but are still not getting enough of the right nutrients to be healthy. When this happens to very young children it interrupts the normal growth and development of their bodies and brains. When it happens in adults and older people it increases their risk of chronic disease, can cause muscle weakness and decreased bone mineral density and reduces their overall wellbeing. No country is immune from hidden hunger.

The easiest and most affordable way for people to meet their requirements for energy and other nutrients is to eat a varied and balanced diet. We all know that we should get the nutrients we need without consuming an excess of calories, but most people are not nutrition experts and dietary messages in the media can be confusing. One day something is being hailed as a superfood and the next people are being told it's bad for them; too often the focus is on what not to eat rather than on what we can and should be eating. That can make it hard for people to know what to eat and which nutrients are in the foods they choose to consume.

Chapter 2

Dietary Guidelines: Cutting Through the Confusion

Dairy foods are part of dietary guidelines in most countries around the world and for good reason. They are simply some of the most nutrient rich foods around.

Nutrient rich foods, such as milk, cheese, yogurt, lean meat, poultry, seafood, eggs, beans, nuts, most colourful fruits and vegetables, and whole grains provide many of the nutrients and fibre our bodies need, relative to the amount of energy they provide.

Most people know that milk, cheese and yogurt contain calcium and, in fact, dairy is a major source of calcium in diets worldwide. However, dairy foods don't just provide calcium, they also provide high quality protein, a range of essential fatty acids, a number of vitamins such as vitamin B12 and riboflavin, and minerals such as potassium, magnesium and iodine.

Dairy's Contribution to Nutrients in the UK Diet

In the UK, milk and dairy foods are an important source of nutrients for all age groups and many people would find it difficult to meet their daily nutritional needs without them.

Young Children

Childhood is a time of rapid growth and brain development. The early years are also for developing good dietary habits and laying down the foundations of a healthy relationship with food.

School and Nursery Milk Schemes can help provide children with free or subsidised milk to encourage healthy snacking and improve diet diversity.

In the UK, milk and dairy foods are an important source of nutrition for very young children (1.5 to 3-year-olds). The latest National Diet and Nutrition Survey (NDNS 2020) shows that milk and milk products contribute more protein (31%), calcium (59%), iodine (64%), vitamin B2 (54%), potassium (30%), vitamin A (35%), vitamin D (30%), and zinc (35%)

to their nutritional intakes than any other food group and are the second largest contributor to magnesium (25%) and folate (20%) intakes.

Older Children and Teens

The teenage years represent the transition from childhood to adulthood, and it is important to eat well to support this phase of growth and development. This is a particularly important time for increasing bone mineral density – something that will stand teens in good stead as they grow older.

Milk and milk products contribute more calcium, iodine and vitamin B2 to our nutrient intakes than other food groups across all age groups, except for 11–18-year-olds, where they contribute the largest amount of iodine (40%) and the second largest amounts of vitamin B2 (29%) and calcium (34%).

Children aged 11-to-18 years old are particularly at risk of not getting enough nutrients from their food. Some research suggests this age group is more likely to cut out food groups such as dairy from their diet.

The NDNS shows around 15% of this age group don't consume enough calcium, 18% consume enough vitamin B2, vitamin A or zinc, 24% don't consume enough iodine, and 30% don't consume enough potassium. Dairy foods such as milk, cheese and yogurt can help address these nutrient shortfalls – for instance a 250ml glass of semi skimmed milk provides 48% of a teens' recommendation for iodine, 31% of calcium, 69% of vitamin B12, 36% of vitamin B2, 11% of potassium and 31% of phosphorous.

Adults

Eating a healthy diet and thinking about good nutrition is just as important for adults as it is for children. Whether someone is in their 20's, middle years, heading towards retirement, or older, a healthy lifestyle is important for good health. Eating a nutritious, balanced diet is an essential part of this. As well as helping to lower our risk of becoming overweight and developing health problems such as heart disease, type 2 diabetes and high blood pressure, enjoying healthy meals and snacks makes it more likely that we will get all the nutrients we need to stay well.

Chapter 2

This is even more important at certain times when the need for some nutrients can change. For example, protein, calcium, phosphorus and other nutrient requirements increase while breastfeeding. Low iodine intake during pregnancy can impact the baby's brain development. Concerningly, more than one in ten adult women do not get enough iodine from food sources, and studies have found mild iodine deficiency is present in some pregnant women in the UK.

Many UK adults are not consuming enough of several other key nutrients including calcium (7%), vitamin A (10%), vitamin B2 (9%), selenium (36%), and potassium (17%), which puts them at risk of nutrient deficiencies. Milk and dairy provide all these nutrients contributing 32% of iodine, 34% of calcium, 15% of vitamin A, 27% of vitamin B2, 6% of selenium and 11% of potassium to adult intakes in the UK.

A 200ml glass of semi skimmed milk provides 38% of the UK's recommendation for iodine, 31% of calcium, 55% of vitamin B12, 29% of vitamin B2, 23% of vitamin B5, 16% of potassium and 28% of phosphorous.

Individual Nutrients Don't Tell the Full Story of a Food's Impact on the Body

So far, we've focused on single nutrients. For many years, nutrition focused on single nutrients to understand their health effects. However, there is something else that needs to be considered.

Recent scientific insights emphasise the importance of the 'food matrix', which considers the interactions between nutrients, food structure, and digestion. This holistic view adds an extra dimension to how foods impact health.

Milk and dairy products are more than just a mix of proteins, fats, vitamins and minerals; together they form complex food structures, or 'matrices', that provide a range of health benefits. Recent research has shown that dairy contains bioactive compounds such as peptides, oligosaccharides and milkfat globules, which can positively impact health. These elements may interact to have a greater, more positive effect on health.

One example of this 'dairy matrix effect' is how the saturated fats in milk don't seem to have the same negative impact on heart health as saturated fats from other sources. This unique structure of dairy fat, the 'milk fat globule membrane', may help explain why dairy fats act differently in the body compared to other types of saturated fatty acids. While there's still more to learn, it's clear that milk and dairy products offer benefits that go beyond their basic nutrients.

The more we learn about the structure of foods, or the 'food matrix', the more we realise just how complex and fascinating our food truly is. Often, food labels and messages like "eat this nutrient, avoid that one" make it seem like foods are simply "good" or "bad" based on individual nutrients. But healthy eating isn't just about hitting daily nutrient targets – its about understanding how different foods, in their natural forms and in combinations, work positively together in our bodies.

The Malnourished Elephant in the Room: Recommendations to Reduce Dairy Consumption

As you read through this Chapter, we hope that you have gained an understanding of how important dairy is in providing good nutrition to people in the UK.

However, it's likely you may have also seen many media headlines and reports around the benefits of plant-based diets. Many years ago, the term plant-based diet simply meant a diet based around fruit, vegetables, wholegrains, cereals and beans pulses, to which animal-based foods were added to improve the nutritional value of the overall diet and bring balance.

Today, the term plant-based has been changed into something more politically charged and, in some cases, it completely excludes animal-based products.

In many cases individuals and organisations make blanket recommendations to reduce dairy consumption, in an effort to find ways to reduce greenhouse gas emissions. In doing so, they fail to consider how those reductions in dairy would impact the macro and micronutrients intakes of the population. There may be fewer emissions, but there would also be far less nutrition.



To highlight one such example: the high profile EAT-Lancet Commission constructed a diet it claimed was capable of sustaining health and protecting the planet – the Planetary Health Diet.

This diet proposes significantly restricting consumption of animal sourced food, claiming that this would not affect nutrient intakes. Subsequently, this hypothetical diet was analysed by scientists who found that in fact, the EAT-Lancet Comissions proposals could result in diets that fell short for multiple micronutrients. Deficiencies in these micronutrients would contribute to a substantial public health burden over the long term, creating a range of unfortunate and unintended health consequences.

In addition, the EAT-Lancet Commission's Planetary Health Diet was analysed for cost and affordability, and it was estimated that the cost of an EAT-Lancet diet exceeded household per capita income for at least 1.58 billion people.

One concern with hypothetical diets that suggest reducing animal-based foods is the potential risk of negatively affecting diet quality and nutritional adequacy.

Although we have mentioned EAT-Lancet above, it is by no means the only report that suggests reducing dairy consumption without adequately considering the impact on nutrition and health.

The idea that sustainable goals are dictated primarily, or exclusively, by environmental outcomes is not appropriate. Recommendations must meaningfully consider nutritional adequacy, the environment, and cultural acceptability. Furthermore, they should be diets people can afford, cost per nutrient is important when thinking about food.

From Science to Policy

Dairy can – and must – play a part in achieving positive outcomes for the health of the population. The UK dairy sector has worked hard to create effective change and ensure that it is at the forefront of positive innovation.

Testament to this is our work on sugar reduction. The yogurt category has achieved one of the largest reductions in sugar content within the UK Government's voluntary sugar reduction programme, and the sugar content of milk-based drinks has been reduced by 30% against a 20% target.

However, we do believe that dairy products should be rightly acknowledged as nutrient-rich foods which play an important role in a healthy balanced diet. They should not be treated in the same way as junk foods. Unfortunately, over-simplistic policies often follow a blanket approach, resulting in this unintended consequence.

A nuanced and targeted approach to health policy is needed – one which adequately considers the benefits of dairy consumption. This should apply to all areas of diet-related policy, such as nutrient profiling models, front of pack nutrition labelling schemes, and any restrictions targeting "less healthy" foods.

Due consideration should also be given to the fact that the majority of dairy products are wholesome foods, produced according to traditional manufacturing processes, and that their nutritional content cannot be manipulated as easily as in other foods.

The dairy sector will continue producing high quality foods that are nutritious and fit into the wider health agenda. Dairy products can and should be part of the solution to good nutritional health and wellbeing.



Dairy and the Environment

All food production has a significant environmental impact.

Globally, food production represents about one quarter of greenhouse gas (GHG) emissions. Within that, livestock and fisheries are responsible for one third of those emissions.

In the UK, the production of milk accounts for 2.8% of total greenhouse gas emissions. Farm level emissions from cows and the production of feed are the most challenging to deal with but dairy farmers and processors are working hard together to lower our emissions as we work to reach Net Zero.”

Water is a critical requirement in the production of milk. The sector recognises that high water usage can impact in areas with water stress, and that nutrients released from both farmland and processing sites can contribute to water pollution. This is an issue we’re working hard to address.

Half the world’s land is used for agriculture and the loss of natural habitats to make way for farmland reduces biodiversity and can contribute towards climate change through a loss of carbon sinks. Poor land management can cause significant issues. However, good management of farmland can avoid the degradation of soils and increase the capacity of the land to regulate water and nutrient flow. Good farmland management is therefore important in addressing issues around biodiversity.

The entire dairy value chain in the UK therefore recognises its responsibility for continuous environmental improvement to ensure that dairy products can remain a vital part of the nation’s diet.

The sector has led the wider agri-food industry in terms of environmental commitment and action and will continue to ensure that it retains this leadership position. The industry undertakes a myriad of environmental and sustainability initiatives, foremost of which is the Dairy Roadmap.

The Dairy Roadmap

The Roadmap began in 2008 focusing only on liquid milk and has since expanded to encompass all dairy products. Along this journey, we’ve achieved remarkable successes and reached significant milestones – including notable reductions in water and energy usage, alongside the implementation of carbon management plans at all major processing companies.

Overseen by Dairy UK, the Agriculture and Horticulture Development Board (AHDB) and the National Farmers’ Union (NFU), the Dairy Roadmap brings together dairy farmers, milk processors and wider industry, and has gone from strength to strength as one of the industry’s most collaborative and successful initiatives.

The strategic aims of the Dairy Roadmap are to:

1. Improve the environmental footprint of the entire dairy supply chain,
2. To strive for environmental best practice, innovation, and compliance,
3. Maximise the social and economic benefits for the UK dairy sector from these improvements,
4. Support both the global goal to limit temperature rise to 1.5°C, and the UK Government’s commitment to Net Zero.

Chapter 3

The Roadmap works by setting targets for both dairy farmers and processors, helping them to achieve those targets and reporting back on progress. Historically, targets have been set at five-yearly intervals. New targets are designed towards the following end goals:

Water

No serious pollution incidents, compliance with Farming Rules for Water, sustainable water usage and best treatment/use of wastewater including reuse where possible.

Climate Change and Energy

Limit global warming to 1.5°C. Zero contribution from the dairy sector towards global warming by 2050.

Waste & Recycling

All non-natural waste to be reused or recycled, with zero waste to landfill.

Soils

Farmers know and actively manage their soils, resulting in increased soil organic matter content, good NPK balance and living roots and ground cover whenever possible.

Biodiversity

Improved biodiversity on dairy farms.

Air Quality

Minimise emissions, dust and secondary particulates resulting from agricultural and processing activities to reduce wider environmental and human health impacts.

Packaging

Eliminate unnecessary single use plastic, maximise recycled content, and improve recyclability, while minimising carbon impact.

Along this journey, we've achieved remarkable successes and reached significant milestones including notable reductions in water and energy usage, alongside the implementation of carbon management plans at all major processing companies.

How the Roadmap Fits With Other Initiatives

The Courtauld Commitment 2030

Dairy UK is a signatory of The Courtauld Commitment 2030. This is a voluntary agreement across the UK food chain, led by WRAP (The Waste and Resources Action Programme), aimed at reducing food waste, cutting carbon and protecting critical water resources. The following targets have been set:

- 50% per capita reduction in food waste by 2030 vs the UK 2007 baseline,
- 50% absolute reduction in GHG emissions associated with food and drink consumed in the UK by 2030 vs a 2015 baseline,
- 50% of fresh food sourced from areas with sustainable water management by 2030.

Dairy UK is working with WRAP to identify actions that can be taken within dairy supply chains and to incorporate measures to reach these targets into the Dairy Roadmap.

The UK Soy Manifesto

The UK Soy Manifesto launched on 9th November 2021, supported by Dairy UK, with industry leaders committing to deforestation and conversion free soy by 2025 at the latest. It launched with 27 signatories representing 60% of UK soy imports (circa two million tonnes).

A combined effort throughout the supply chain will promote the sustainable soy agenda, with signatories committed to ensure all shipments of soy to the UK are deforestation and conversion-free with a cut-off date of January 2020 or earlier.

The Manifesto commitment has been integrated into the Dairy Roadmap. Dairy UK is currently working with Efeca, the Manifesto Secretariat, and other organisations within the Manifesto and feed sector, to develop a traceability system to ensure soya and other commodities fed to livestock can be certified as conversion and deforestation free.

The UK Plastics Pact

The UK Plastics Pact, supported by Dairy UK, brings together businesses from across the plastics value chain with UK governments and NGOs to tackle plastic waste. It aims to create a circular economy for plastics, capturing their value by keeping them in the economy and out of the natural environment.

Pact members commit to eliminate problematic plastics, reduce the total amount of packaging on supermarket shelves, stimulate innovation and new business models and help build a stronger recycling system in the UK.

Dairy UK is working with WRAP to develop a successor to the Pact, which ends in 2025.

How the Roadmap is Working to Ensure Accurate and Consistent Data

Ensuring that we can collect consistent and comparable environmental data is critically important. Data from milk processors is available, but the same isn't true at farm level. It is important to standardise and collate farm data to track industry progress.

One of the ways the Roadmap is helping to ensure this happens is through its work with carbon footprint tool providers. It is well understood that farms with a low carbon footprint are generally more profitable; a loss of carbon is an inefficiency in the system. Reliable information and benchmarking across the sector will help reduce GHG emissions and improve profitability.

Removing barriers to farmers obtaining accurate data is key to this process. Many dairy farmers are currently collecting and inputting data into a number of different carbon calculating tools and have questions about what carbon reports mean for farmers, whether their results can be compared and how carbon footprints can be used to support the drive to Net Zero.

In an industry first, the output from this Dairy Roadmap Carbon Footprint Working Group will standardise metrics and reporting across tools, resulting in the development of a UK-wide carbon footprint estimate. This will be used to track

progress, support discussion with policymakers and provide evidence of the great work being undertaken within the dairy sector to reduce our environmental footprint.

The Working Group is standardising emissions reporting and will go on to investigate the calculation of carbon sequestration and its value to the dairy sector.

We are also working with Chirrup to find innovative new ways for farmers to assess biodiversity on farm. Chirrup have developed an automated system that uses recorded birdsong to calculate a robust proxy measure of biodiversity, and the Roadmap is in year two of a three-year trial on ten dairy farms. This forms part of a Biodiversity Working Group, who are looking at ways to improve the abundance of flora and fauna on dairy farms whilst regenerating habitats and soils.

This is just one example of how the Dairy Roadmap is looking to find solutions that remove barriers to data collection.

Processor Environmental Benchmarking

Dairy UK conducts annual environmental benchmarking to help members monitor and improve their performance against Dairy Roadmap targets. Since 2008 UK dairy processors have demonstrated continuous environmental improvement including:

- 87% reduction in packaging materials, achieved through lightweighting and removing unnecessary materials.
- 20% increase in energy efficiency at processing plants, achieved by optimising production to reduce energy requirements.
- 17% decrease in the energy-related carbon emissions per kilo of milk, achieved as a result of improvements to processing efficiency and increasing use of renewable energy throughout the supply chain.
- 20% increase in water efficiency, achieved by optimising water requirements and reusing water where possible.
- Only 1.3% of inputs are lost as food waste, with dairy processors working hard to use every nutrient available within milk.

Animal Welfare Data and Sustainability

The UK dairy sector operates to high and rising standards of animal health and welfare.

Improving animal health and welfare is an objective in its own right. It is central to the industry's social licence to produce. Aside from their own natural disposition to care for animals, dairy farmers also have a vested interest in ensuring the well being of their cattle. Healthy animals are productive animals.

There are a panoply of initiatives undertaken by a range of industry bodies to help farmers improve animal welfare, capped by UK Dairy Cattle Welfare Strategy and supplemented by the Dairy Calf Welfare Strategy.

Improving animal health and welfare has a direct link to environmental sustainability. More productive animals produce milk with a lower carbon footprint. The Roadmap is working with Milk Recording Organisations and other organisations to collate national data on genetic merit and animal health.

The Roadmap's Baseline Data Working Group has collated a database of animal health and welfare and genetic merit data from >5,000 farms and can evidence continual improvement over the past five years, including:

- 0.5-point improvement in Envirocow genetic index through selective breeding. One point improvement in Envirocow has been shown to reduce feed intake by 10%, increase lifetime milk fat and protein yield by 33% and reduce greenhouse gas emissions by 10%. This 0.5 point increase therefore represents significant environmental improvement.
- Steady increase in average age of the milking herd from 2.67 to 2.71 lactations through improvements to animal robustness. Healthier, longer living cows produce more milk and require fewer unproductive followers, reducing emissions, feed requirements and slurry.
- >30-day reduction to age at first calving by improving youngstock management. Earlier calving reduces the environmental impact of replacement animals and evidence shows a good start results in a better cow with higher lifetime yield.

Beyond The Dairy Roadmap

The Sector's Engagement with Climate Change Agreements

Since April 2001, the Climate Change Levy (CCL) has been added to the cost of non-domestic energy as an incentive to improve energy efficiency and reduce carbon emissions. In recognition of the challenge that this added cost poses to the competitiveness of energy intensive industries, Climate Change Agreements were introduced by the Government of the time.

In return for signing up to these voluntary agreements and committing to meet challenging energy and carbon reduction targets, eligible companies are entitled to a discount on the CCL, encouraging companies to improve energy efficiency.

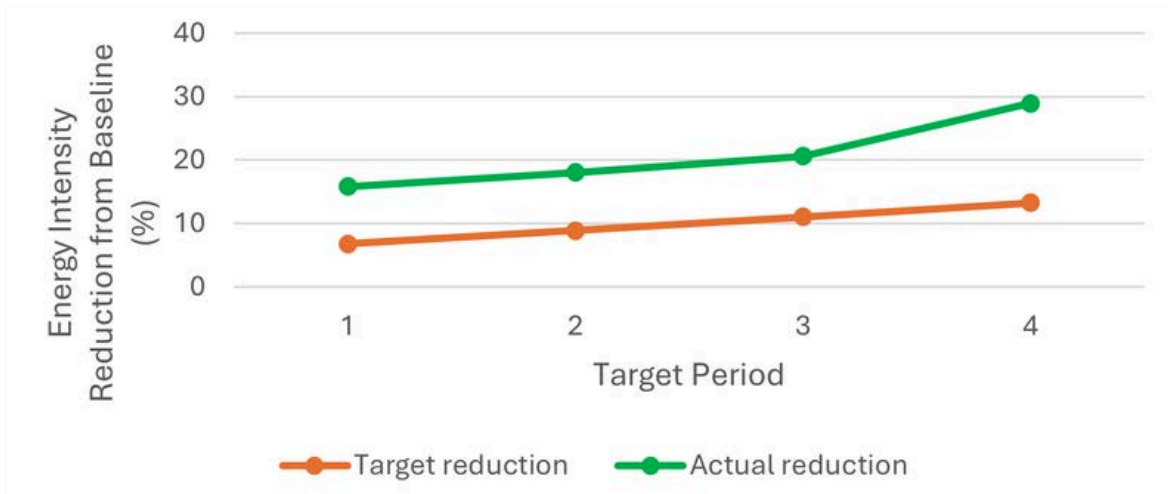
Dairy Energy Savings Ltd, a subsidiary of Dairy UK, administers the industry's Climate Change Agreements for the dairy sector. During the first phase of the CCA, which ended in 2015, the dairy sector exceeded the target of a 22.5% reduction to energy intensity, with an impressive 27.9% improvement. In absolute terms that equated to a reduction in CO₂ of 257,337 tonnes.

The current Climate Change Agreement scheme started on 1 April 2013, with targets ending 31st December 2024 and reduced CCL rates available until March 2027.

In October 2024, the Department for Energy Security and Net Zero (DESNZ) set out a proposal for a new 6-year CCA scheme that continues the incentive of access to reduced CCL rates for eligible businesses in return for delivery of negotiated energy efficiency or carbon targets.

The extension of the Climate Change Agreement scheme for a further six years is critical to provide the support companies need to reduce energy use and emissions and provides long term certainty to the sector. This is especially important for those planning and investing in energy efficiency and decarbonisation projects to help them maintain their competitiveness.

Percentage Energy Intensity Reductions in the Dairy Sector (2013 - 2022)



Source: Environment Agency

From National to Global Aspirations

The work that UK dairy is conducting under the umbrella of the Dairy Roadmap helps to meet global dairy's commitments to sustainability.

We are proud supporters of [Pathways to Net Zero](#) and an aggregating member of the [Dairy Sustainability Framework \(DSF\)](#).

The DSF is a pre-competitive and collaborative framework which connects and aligns the whole value chain around 11 sustainability criteria. It reports annually against a number of sustainability criteria.

We are also proud supporters of the Paris Dairy Declaration on Sustainability signed between the International Dairy Federation and the Food and Agriculture Organisation on the 18 of October 2024 in Paris.

Supporting the Journey to a Sustainable Future

The work of the UK dairy sector in the environmental arena encompasses initiatives from farm to fork, to enhance the sector's environmental performance.

Environmental sustainability is complex and comes at a financial cost. It is not a linear trajectory.

However, the UK dairy sector has already made significant strides forward and we are working to find ways to move faster and collaboratively in transforming the industry, improving our environmental credential and playing our part in UK and international goals.

Under the umbrella of the Dairy Roadmap we are committed to continuous environmental improvement.

Learn more about the Dairy Roadmap here:

<https://dairyroadmap.co.uk/>

Conclusion

The UK dairy industry plays a vital role in a thriving global sector. Collectively, dairy delivers livelihoods, economic growth and vitally important nutrition to billions across the globe. Together, the global industry supports the UN Sustainable Development Goals, and will continue to help to deliver better nutrition, better livelihoods and better health to populations across the world, whilst working towards continual environmental improvement.

The UK dairy industry, through both the Dairy Roadmap and other domestic initiatives, has shown its dedication to better environmental outcomes and to becoming the sustainable industry of the future.

We are proud of the achievements we have made so far but we know we need to go further, and we are continuing to work collaboratively across the entire supply chain to find ways to deliver environmental gains year-on-year.

No dietary pattern can be considered sustainable without guaranteeing access to the nutrition our bodies need. Calls to reduce dairy consumption in favour of prioritising emissions reductions, without adequate and transparent consideration of what has gone into the modelling, pose a real threat to the long-term health of our nation and can ultimately undermine the very notion of a sustainable diet.

Dairy foods are unique and nutrient rich and should not be treated like junk food. It would be incredibly difficult for most people in the UK to meet their nutritional needs without dairy foods.

The UK dairy industry, through its innovations and investment, can provide more nutrition with fewer emissions and is a key lynchpin in a truly sustainable food system.

We call upon all in government to recognise that:

- **Milk and dairy products are nutrient rich foods and offer a benefit to the diets of the UK population,**
- **The UK dairy sector is on a transformative environmental journey, has already made strides to improving its environmental performance and will continue to do so,**
- **The most efficient way for the industry to achieve its goals, as well as those of government, is for us to work collaboratively and with understanding that this is not an easy journey. There are hurdles we all need to overcome, and we will need to face those together.**

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