

# Jersey Dairy Industry – a dynamic sector is part of the climate change **solution**

Submission to Jersey's Climate Conversation, March 2021

## Who are we?

The dairy industry is made up of 13 family run businesses supplying a farmer owned co-operative processor in Jersey Dairy.

- We employ 150 people in the dairy food chain and support many others in ancillary industries.
- We farm over 8,000 verges, some 25% of the island's farm land.
- We manage some 3,500 head of Jersey dairy cattle.
- We produce some 14 million litres of milk that provides for the island's fresh milk supply and with products exported to many countries around the world.
- We are all members of the LEAF (Linking Farming and Environment) farm assurance scheme.

## What have we achieved?

The dairy industry in Jersey is working to continue to reduce its environmental impact. The following initiatives, independently audited by LEAF, have been introduced to enhance environmental protection:

- ✓ Energy audits (resource saving)
- ✓ Waste management plans (manure use)
- ✓ Crop nutrient plans (fertiliser use)
- ✓ Biodiversity action plans (wildlife enhancement inc. tree planting)
- ✓ Cattle breeding plans (improving production efficiency)

An example of the effect of improving efficiency of production is that in the ten years between 2010 and 2019 our in-milk cattle population decreased by 20%, our yields per cow increased by 24%, and the industry output increased by 10%. Similar milk output from fewer cows leads to a reduction in GHG emissions per litre of production.

## What are we doing?

The industry has gone further and recently launched 'DEEP', *Dairy Environmental Enhancement Plan*, see **Appendix 1**. This has three strands each led by independent experts in their respective disciplines employing both Jersey and international resources.

- Greenhouse gas emissions
- Sequestering carbon
- Biodiversity enhancement

Domestically we have installed a solar array on the roof of Jersey Dairy which has the capacity to heat 75 homes in the island a year. All fresh milks are now packed into bio-based, low carbon cartons.

Internationally we are partnered with other organisations and governments to improve the efficiency of dairy cattle in a number of African countries which is increasing the production of food protein, building industries, providing livelihoods, and reducing the greenhouse gas emissions for thousands of small holder farmers. The importance of this is highlighted in the information links below.

## Why we believe the Jersey dairy industry has a positive role to play?

In some quarters the livestock industry has been singled out for criticism in the discourse about climate change although this is based on generic, and often out of date, science.

Research into systems such as regenerative agriculture shows the importance of livestock in the management of soils to increase organic matter capturing atmospheric carbon and locking it into soil to improve productivity. It is high time that more nuance is brought to the debate and credit is given

to how appropriate forms of livestock production can provide solutions to climate change whilst providing nutrition to a growing global population.

### What does the latest research show?

Some interesting myth busting information can be found here:

*(Dr Frank Mitloehner is Professor and Air Quality Extension Specialist at the University of California)*

- A short film (5 mins) **“Cows versus Cars”** (Dr Frank Mitloehner) that challenges a crude statement that ‘livestock farming is a major source of greenhouse gasses. – [Link here](#)
- A short film (5 mins) **“The 2050 Challenge”** (Dr Frank Mitloehner) illustrating how dairy cattle help to solve the conundrum of feeding a growing population. – [Link here](#)
- A longer film (44 mins) **“Livestock and Climate”** (Dr Frank Mitloehner) that considers these complex issues in more detail. – [Link here](#)
- A publication (15 pages) **“The facts about British red meat and milk”** (National Farmers Union) showing how northern European grass-based livestock production is different. - [Link here](#)

### What do we know about emissions from livestock in Jersey?

The answer is “not enough”. Most data quoted is extrapolated from research on systems that are different to ours and based on other livestock breeds in other jurisdictions. We need authentic locally researched data on Jersey cattle in Jersey. The Jersey breed has a lower environmental impact per unit of production than the global numerically dominant Holstein dairy cow. **“A comparison of the environmental impact of Jersey compared with Holstein milk for cheese production”** (Capper & Cady, 2012) American Dairy Science Association – [Link here](#)

In comparison, consider the recently published **“Guide to the Jersey Greenhouse Gas Inventory”**, (Aether Ltd, Nov 2020) – [Link here](#). This document declares, on page 20, that *‘Implied emission factors represent weighted averages based on values from the UK which it is assumed can be applied to Jersey because the activities in Jersey are similar to those in the UK. The use of implied emission factors is a common approach used in calculating emission estimates where local data cannot be sourced’*, however this does not recognise that the Jersey breed has a very different carbon footprint to the ‘average’ dairy cow.

### What do we want to do next?

We would like to commission appropriate research but we need financial sponsorship to do that. There are many eminent scientists who like to use the island as a research base due to its compact size, closed borders to livestock imports, and a herd which is 100% pedigree and thus about which so much is already known.

We would like to explore how resources to achieve our aims can be mobilised as part of societal efforts to meet a global challenge. This would include investment and research into how efficient modern Jersey dairy farms can produce nutritious protein for human consumption whilst not contributing to greenhouse gas emissions and providing a long-term carbon sequestration opportunity. Much has been achieved – see **Appendix 2, “Clean air and zero carbon”** (Penlington, July 2020) – although there is much to do.

We would welcome the opportunity to demonstrate to the Panel, and others, what we have achieved on our farms and at the dairy, and continue discussion on this important matter before recommendations are finalised.

Prepared by:

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Appendix 1:

## JMMB'S DAIRY ENVIRONMENTAL ENHANCEMENT PLAN ('DEEP')

### GREEN HOUSE GAS EMISSIONS

**Aims:** to reduce greenhouse gas emissions from Dairy Farms by following recommendations of NP

**Actions:** to re-evaluate slurry and manure management, storage and spreading as well as the use of artificial fertiliser requirements

To identify improvements to the cattle diets of the Island herd

**Implications:** to adopt modern independent measuring systems

To maintain links with Govt so as to justify funding required within Carbon Neutral Strategy

### SEQUESTERING CARBON

**Aims:** to understand the sequestration of carbon in our soils and identify practical ways of improving the process

**Actions:** to evaluate the benefits of long term grassland and optimum crop rotation

To understand the benefits of improved hedgerow and field margin management

**Implications:** to identify appropriate ways of measuring carbon through soil analysis and evaluate cost

### BIODIVERSITY ENHANCEMENT

**Aims:** to improve and enhance the management and biodiversity of the land farmed by Producers

**Actions:** to develop and prioritise action plans with PS so as to demonstrate targeted improvements and communicate these to consumers and school children

To involve local experts in measuring progress and promotion

**Implications:** to attract funding from reputable sources who understand the long term benefits of our aims to the Island as a whole

## Appendix 2:

### **‘Clean air and zero carbon: a review of dairy farming in the Island of Jersey’**

by [REDACTED] national advisor on livestock waste management, July 2020

#### **Summary**

The dual objectives of improving air quality and reducing greenhouse gas emissions are closely aligned. The States of Jersey Government has made a clear commitment to move the Island to become carbon neutral by 2030.

The Dairy Farmers of Jersey are already applying housing and slurry storage techniques that are recognised as delivering low ammonia emissions. There are other areas such as feeding strategies and the utilisation of manures and slurries where the exact position is less clear.

Existing Life Cycle Analysis (LCA) published information giving the carbon footprint of milk production in Jersey is not island specific. There are a number of unique features offered by this industry where better and more precise information could be of benefit for both addressing domestic legislation, but also for consumer facing messaging.

Baseline data is starting to be collected as part of the LEAF Marque scheme. This and LCA modelling will assist in confirming the areas where the best gains in reducing environmental emissions can be gained so that a strategy for improvement can be agreed.

Consolidation of the industry into larger herds, housed in modern buildings with efficient equipment places the sector in a strong position for it to be able to make LCA assessments with confidence, and possibly allow it to demonstrate strong environmental credentials.

The Jersey Carbon Neutral Strategy offers dairy farmers new opportunities which can further lower their footprint whilst strengthen businesses through adding new products to their portfolios. To exploit these, the development of skills and training needs to run in parallel to policy development and incentives to drive uptake.

Recommendations for action have been presented for consideration by the Dairy farmers of Jersey. Some may be of higher priority than others, some easy, others hard, some may be dismissed or left to a more appropriate time. Continuation of dialogue between farmers, government, policy makers and stakeholders is what matters. The best solutions for lowering greenhouse gas emissions and ammonia present opportunities for brand “Jersey Dairy” to promote its sustainability credentials.