Dairy Australia

CLIMATE AND CARBON

ELISSA MCNAMARA NATIONAL LEAD CLIMATE & ENERGY

DRIVERS FOR DA ACTIONS



- Australian Dairy Industry Sustainability Framework Targets
- DA Strategic Portfolio 4 Thrive in a changing environment



Milk production (million litres)



Greenhouse gas emissions (kt CO2e/annum)

TARGETS AND STRATEGY ARE INFORMED BY



National and International Commitments:

- Paris Agreement: "countries to take ambitious climate actions that keep warming below 1.5 degrees Celsius"
- National Targets emissions reduction, Global Methane Pledge, sector plans

Market Pressures:

- Social license
- Climate Risk Disclosure
- Corporate responsibility
 - Westpac @ 2023 AFI Conference: "Westpac's agribusiness sector lead for Net Zero, Alison Osborne, said farmers should now be using a carbon calculator, putting data in and working out what their farm footprint was. "Work out whether you have a liability before you start selling your carbon or biodiversity assets"



AUSTRALIAN DAIRY FARM EMISSIONS REDUCTION ROADMAP (NEXT 8 YEARS)

Status

Dairy production and processing makes up 2% of national greenhouse gas emissions. Australian dairy farm emissions are low globally (at 103 CO2-e/kg Fat and Protein Corrected Mik) and farm emissions intensity has remained level over the past decade. Research suggests that biogenic methane intensity of milk declined by 40% between 1980 and 2016, reflecting advances in breeding and feeding adopted by Australian dairy farmers over the past forty years. 94% of dairy farmers already implement emissions reduction measures on farm.

Dairy's goal

30% reduction in emissions intensity by 2030 (from 2015 baseline) to contribute to Australian economy-wide net-zero by 2050 and the global dairy industry commitment to net-zero by 2050. Dairy is a core component of a healthy and sustainable dietary pattern and dietary health is a social goal. Achieving a healthy sustainable diet relies on a balance between nutrition and environmental goals.

Foundational work Tools in place end 2022	Short-med-term on-farm measure Actions farmers can take NOW-2027	Longer-term on-farm measu Action farmers can take 2027-2030	res 2030 And beyond
Invest in measurement, assessment and accounting tools; build knowledge	Know your number Develop farm emissions plan Implement 'low-hanging fruit' commercially available options*	Implement commercially viable and available options (where there are co-benefits)*	Towards net-zero 2050
 Industry carbon calculator (ADCC) Envirotracker to assess farm natural capital R&D to understand the marginal costs of abatement by 2030 (MACC) Climate and Enviro learning package Uplift in regional climate- focused extension capacity Open call for new solutions? 	 Calculate your profile using ADCC and benchmark against peers, understand contributing factors and opportunities for practice change Assess natural capital using Envirotracker Emissions avoidance solutions (energy efficiency and renewables, extended lactation, repro performance, genetic selection e.g. using the new Sustainability Index, Iow-N feed e.g. maize silage, legumes, grape marc, lipids/oils, nitrate in TMR systems e.g. SilvAir®, essential oils e.g. Agolin®, tannins, reduced N use, irrigation efficiency) Carbon storage solutions (trees) Potential ADIC 2035 goal set once 60% of milk pool has baseline profile (by 2024) e.g. methane and non-methane reduction targets 	 Emissions avoidance solutions (3NOP/Bovaer®, seaweed, high ME or high lipid ryegrass, vaccines, genetics for low methane animals)** Carbon storage solutions (trees) Transport transition to EVs Potential ADIC 2040 goal set once game- changing solutions such as feed supplements are commercially available to reduce methane 	 Potential for ADIC 2050 goat 80% of farms measuring emissions? 100% farms implementing emissions reduction measures?

Support and partnership required to drive adoption of solutions to scale: Processors, Banks, Governments, other RDCs and global academia

Measurement tools dairy farmers invest in for reporting dairy emissions reduction in the Australian Dairy Sustainability Framework: ADCC, Dairy Farm Monitor Project, Land Water Carbon farmer Survey DA farm extension resources (as at 2022): Fert\$mart, More Profit from N, Saving Energy on Farms booklet, InCalf, Adapting Farm Systems, Nutrition courses, Feeding Pasture For Profit, Repro Right, Australian Breeding Values, Future Forages and any other projects and extension aimed at increasing the probability of longer life within a herd.

We've developed a roadmap for how we're going to achieve the targets and goalsPROVIDING ADVICE TO SUPPORT BETTER DECISION MAKING



Refer DA website for to available tools, including...

Webinar for dairy farmers: https://youtu.be/V9Ayn3JSYSk

Australian Farm Institute "Carbon Opportunity Decision Support Tool"

 Assisting Australian land managers to understand carbon farming and other environmental crediting opportunities, and to identify which might be best suited for their enterprise.

AgriFutures' <u>"A farmer's handbook to on-farm carbon management</u>"

• Includes information about how carbon markets operate, things to consider for projects on your farm, and options manage your own project or to engage with external service providers or cooperatives.



Key steps in preparing for a carbon project on your farm:

- Use the ADCC to work out your baselines you can't measure progress unless you know where you're starting from.
- **Don't rush** into a project project opportunities are increasing and markets for carbon credits are still maturing.
- Make sure that you **clearly understand the project requirements** such as time commitments, participation costs, percentage of revenue/ACCUs and, risks such as farm access requirements and land title covenants/land valuation impacts.
- Consider whether you want to sell any credits you generate to earn income or save them to offset your own on-farm emissions. **You cannot do both**.
- **Communicate with your processor** to ensure you understand their plans for reducing supply chain emissions and any impacts this will have on your project.
- Check if your intermediary is a signatory to the industry Code of Conduct.

KEY THINGS IN THE NEXT 12 MONTHS...



ADCC roll-out (#1)

- 'Know your number' before you do anything else
- WA Pilot program to reach 80% of farmers
- Working out how to collate the data
- Explaining to farmers the value of doing this
- Data bonanza for policy and program development

Energy efficiency materials

Online climate modules

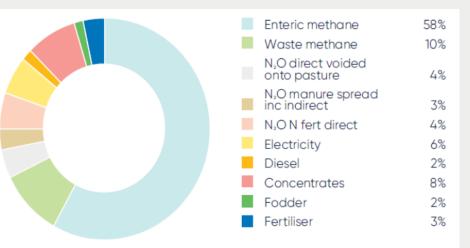
Carbon markets education

Watching the development of Biodiversity Markets

More supporting resources and easier website imminent.

Extension and train the trainer in development

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THE CALCULATOR INCLUDES



Herd dynamics **Milk production** Milkers diet **Fertilisers Energy use** Purchased feed **Tree plantings** Manure management Each element asks a number of questions with data and options to get an accurate answer.

Supporting resources help you gather your data ahead of time and understand WHY certain options may give a different emissions intensity or net emissions answer.



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