



# **BENEFITS OF MEASURING FARM EMISSIONS**



South  
West  
**NRM**

# Background

Farmers are wary of pressure to reduce their greenhouse gas emissions.<sup>1</sup> Farming groups have voiced concerns around the need to balance emissions reduction with food security<sup>2</sup>, and to avoid “carrying the can” for other sectors.<sup>3</sup>

Nevertheless, agricultural supply chains are moving towards a low emissions future. The world’s biggest food manufacturers have set (and reset) targets<sup>4</sup> and begun to offer incentives for low emissions produce.<sup>5</sup> Retailers like Coles and Woolworths have also set targets to “mitigate the social impacts of climate change”<sup>6</sup> and “source responsibly”.<sup>7</sup>

In 2023, a leading voice on agricultural emissions Professor Richard Eckard<sup>8</sup>, encouraged growers to focus on the supply chain.

“What is coming for growers is an increased importance on carbon audits, because corporates will look at a range of farms across Australia and select the lower-emissions operations as suppliers,”<sup>9</sup> he said.

At the recent GRDC Updates, advisors were urged to focus on helping growers measure their emissions intensity so they understood their individual performance and could inform their supply chain. Rather than aiming for net-zero, producers should be encouraged to reduce emissions intensity, which indicates the per-unit efficiency of a product.<sup>10</sup>



## Case Study



### Cloverdale Farm, Capel WA

Luke Norton operates a beef and cow-calf enterprise at Cloverdale Farm in Capel, selling vealers and grain-fed beef to supermarkets. He first measured his farm emissions in 2020 and, with support from South West NRM, did his second measurement using data from the 2024 growing season.

Property size	850 hectares
Mean Annual Rainfall	665 mm
Cattle head (annual average)	1,114
Bioregion	Swan Coastal Plain
Climate	Hot, dry summers, cool wet winters

<sup>1</sup> <https://www.agriculture.gov.au/agriculture-land/farm-food-drought/climatechange/ag-and-land-sectoral-plan>  
<sup>2</sup> [https://haveyoursay.agriculture.gov.au/agriculture-and-land-sectoral-plan-Respondents N-Z - WAFarmers.pdf](https://haveyoursay.agriculture.gov.au/agriculture-and-land-sectoral-plan-Respondents-N-Z-WAFarmers.pdf)  
<sup>3</sup> <https://www.afr.com/policy/energy-and-climate/farmers-warn-don-t-make-us-carry-the-can-on-emissions-20250521-p5m0y>  
<sup>4</sup> <https://www.just-food.com/features/the-road-to-net-zero-big-foods-emission-pledges/?cf-view>  
<sup>5</sup> <https://www.fonterra.com/nz/en/our-stories/media/fonterra-announces-new-incentives-for-farmers-to-reduce-emissions.html>  
<sup>6</sup> <https://www.coles.com.au/about/sustainability/environment/emissions>  
<sup>7</sup> <https://www.woolworths.com.au/shop/discover/sustainability?srltid=AfmBOopDhbFJ2Sa5P01pqRApB1AJoL4N6He4LNwBmZQoLS0pbOmB-pLc>  
<sup>8</sup> <https://findanexpert.unimelb.edu.au/profile/2680-richard-eckard>  
<sup>9</sup> <https://www.graincentral.com/carbon/eckard-says-exporting-australia-should-heed-corporate-targets/>  
<sup>10</sup> <https://grdc.com.au/resources-and-publications/grdc-update-papers/tab-content/grdc-update-papers/2025/02/on-farm-greenhouse-gas-emissions-why-advisors-should-know-about-them>



**Luke's primary motivation was to understand whether he was heading in the right direction or needed to make significant changes. The process provided clarity and confirmation that his management adjustments were delivering results.**



*Luke Norton,  
Cloverdale Farm.*

In 2020, his emissions intensity (EI) was 9.1 kilograms of carbon dioxide equivalent (CO<sub>2</sub>-e) per kilogram of beef produced. His latest test shows a reduction to 8.54 per kilogram of beef.

"One of the reasons why I decided to do it again was to see if I had reduced my emissions, and it's good to see that I have," Luke said.

He believes the reduction in his emissions was likely due to several changes.

"I've reduced the time for my calves to get to market," he said.

"In 2020 we had a dairy herd and I wasn't selling any vealers. I was also feed-lotting older friesland steers out to about 18 months.

"We're not in the dairy industry anymore, so I have younger calves going to the market at 9 months of age off their mums, and also the yearling grain-fed cattle market, and I'm not doing the friesland steer market anymore."

Luke has also been transitioning his nitrogen program over the past five years.

"I have been doing quite a bit of work with nitrogen buffering and I feel I'm reducing the amount of nitrogen I'm putting out but probably maintaining my level of production," he said.

Luke's 2025 Farm Emissions profile

was conducted by Nutrien Ag Solutions Sustainability Field Manager Reid Seaby, who said the first step should be to focus on production efficiencies.

"Improving reproductive performance and reducing the time to market will ultimately reduce their emissions intensity," Reid said.

"If nothing else, (measuring emissions) offers another lens to view your farm's efficiency."

There are also products on the market that can reduce the amount of methane that animals produce, but these are only just emerging.

"They can be considered expensive in the current market, but should become cheaper in the future," Reid said.

While there are currently no legal requirements to measure emissions, the benefits lie in potential premiums farmers could receive for a low emissions product.

"If you're selling a product to Coles or Woolies, or any member of the supply chain who are chasing a low-carbon product, and you can give them evidence that yours is a low emissions product, you'll be more attractive as a purchasing option," he said.



*Reid Seaby,  
Nutrien Ag Solutions*



# How to measure emissions

Part of measuring farm emissions is understanding what data is required. Luke has been through the process and says growers already collect some of the information.

"I didn't find it too difficult," he said.

"Your LPA livestock records will carry most of the data as well as your sale sheets to the abattoir or sale yards. There's good information there about weights. Same with cull cows, your processor data will carry all that information."

However, Luke said he would make a few changes to his data recording to smooth out the process.

"The calculator needed fuel separated between, like feeding of livestock, seeding pastures – so I'll look at putting a flow meter on the diesel tank, so every time you fuel up for seeding you can put the volume of fuel down, because you have to separate all the private use, family and that," he said.

Nutrien Ag Solutions use the University of Melbourne's GAF (Greenhouse Gas Accounting Framework) calculators. They are publicly available and free to use. However, Reid warns they can be very difficult to use and navigate.

"If growers don't input the correct data, the output from the calculator is worthless," Reid said.

Nutrien have developed a data collection process that enables growers to intuitively follow and input the

information that is required to accurately complete the GAF tool."

Calculators are constantly improving and adapting to research, such as when the Australian Government revises an industry's contribution to emissions. But Reid says old data can be re-run through updated calculators.

While Luke has measured his emissions twice in five years, Reid recommends measuring farm emissions every year if possible.

"I would propose they do it annually to see what different seasonal conditions, inputs and practices do to their emissions intensity so they can then adjust their decision-making accordingly," he said.

"It's not a costly exercise and it may bring to your attention an area of your operation that (is inefficient and) requires improvement."

For Luke, it's about being prepared for questions and opportunities.

"If I get questions around where my emissions are at by the processor, I've got the information, I can say I'm heading in the right direction," he said.

"And if there's opportunities in the marketplace, such as the supermarket offering an extra 10 cents per kilo for emissions under 10 (kg of CO<sub>2</sub>-e per kg of beef), I'm ready to meet that premium."

## Conclusion

Luke Norton's case highlights how emissions testing can be a practical and valuable management tool, even for producers who may be initially hesitant. By making targeted changes and staying proactive, he's positioned Cloverdale Farm to respond to market shifts, improve sustainability, and maintain profitability in an evolving agricultural landscape.

*Note: While Nutrien Ag Solutions assisted with this case study, other service providers are available.*

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