EMISSIONS INFORMATION PACK

RUMINATI

EMISSIONS 101

About Ruminati

Built by producers and backed by experts, Ruminati makes emissions tracking quick and straightforward.

But it's more than just a tracking tool, it's about making your data work for you.

Ruminati gives you a clear breakdown of where your emissions are coming from and how they change over time, so you can make informed decisions that align with your business goals. With enterprise specific intensity metrics, a reduction planner to model different strategies, and the option to share your data securely with supply chain partners, Ruminati turns emissions tracking into a valuable business tool, not just another box to tick.

Ready to get started?

1. **Create your FREE Ruminati account** using the QR code, visiting ruminati.com.au, or by clicking HERE.

2. **Review the data-sharing guide** to understand how your data is used and kept secure.

3. **Watch the walkthrough video** by clicking HERE to complete your report.

Want to know more about emissions tracking and what's going on in the industry (including why you're being asked for emissions data by your supply chain)? Read on to stay informed!

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Ruminati Emissions 101: The Basics Part 1

Why everyone's talking about emissions

From banks to retailers, **new regulations** mean every link in the value chain is under pressure to report their emissions. For producers, that means being asked for more data, but also being part of the solution.

Click here to listen: New Government Regulation and Compliance

Australia has passed new mandatory emissions reporting laws, and they're set to impact businesses across the supply chain. So, what does this mean for you? Listen to this explainer to understand why you're being asked to report on your emissions by the supply chain.

DEADLINE	FULFILL 2/3 THRESHOLDS	Y1	Y2
1 July 2025	• Over 500 employees • $1B + consolidated gross assets • $500M+ consolidated annual revenue	SCOPE 1 SCOPE 2	SCOPE 1 SCOPE 2 **SCOPE 3**
1 July 2026	• Over 250 employees • $500M+ consolidated gross assets • $200M+ consolidated annual revenue	SCOPE 1 SCOPE 2	SCOPE 1 SCOPE 2 **SCOPE 3**
1 July 2027	• Over 100 employees • $25M+ consolidated gross assets • $50M+ consolidated annual revenue	SCOPE 1 SCOPE 2	SCOPE 1 SCOPE 2 **SCOPE 3**

Clearing the confusion: It's not about carbon credits

Creating an emissions report is about understanding your operational footprint (the day-to-day emissions of running your business) so you can manage, reduce, and plan with confidence.

	OPERATIONAL REPORTING	ACCU REPORTING
FOCUS	Efficiency, productivity, and business improvement.	Carbon sequestration and offset generation.
DATA SCOPE	Measures emissions from on-farm operations, e.g.: livestock, fuel, fertiliser, energy, cropping.	Tracks changes in vegetation, soil carbon, or avoided emissions from specific activities.
REPORTING REQUIREMENT	Currently voluntary but increasingly expected by banks, processors, and retailers.	Mandatory for participation in accredited carbon projects.
TIMEFRAME	Annually for management and benchmarking.	5–25 years, with ongoing monitoring and audits.

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Ruminati Emissions 101: The Basics Part 2

Understanding emissions: Scopes

Scopes refer to the three categories (Scope 1, 2, and 3) used to classify and report greenhouse gas emissions related to an agricultural operation.

Scope 1
(Build)

Emissions from the sources owned or controlled by your. farm enterprise, e.g. methane from livestock.

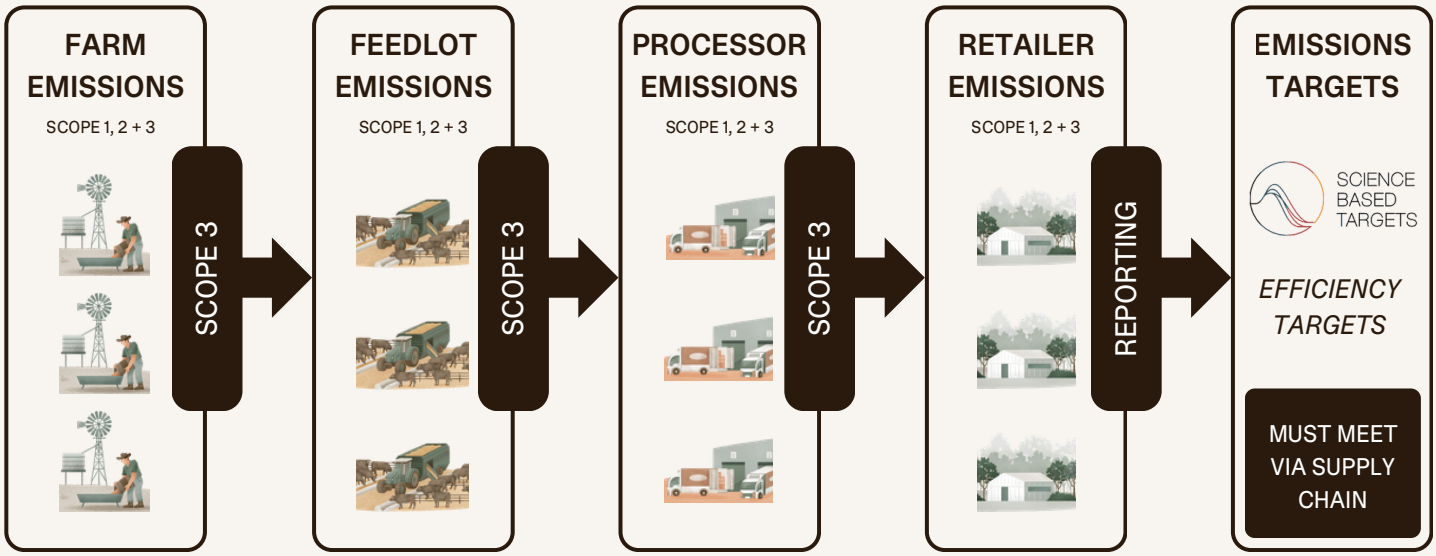
Scope 2
(Burn)

Energy emissions from the generation of purchased electricity, e.g. power for farm buildings or irrigating crops.

Scope 3
(Buy)

Indirect pre-farm emissions, e.g. transport emissions from livestock before purchase.

All of these emissions compound up the supply chain - so for example, your total emissions footprint will contribute to the Scope 3 emissions of the feedlot, processor and retailer you supply to. This goes for banks too - if they finance your property, your emissions contribute to their 'Scope 3'.



For some businesses who are part of voluntary programs like the Science Based Targets Initiative (SBTi), they have to reduce their emissions through their supply chain (insetting) and not through external projects (offsetting), which is why they need to track emissions all the way back to the producer. You can read more about this on page 6.

Click here to listen: What is CO2-e?

Seen CO2-e on your emissions report and wonder what it means? Dive into this quick breakdown to better understand how CO2-e is calculated and why we use it to measure emissions.

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Ruminati Emissions 101: Tracking Over Time

Why emissions tracking matters

Tracking your enterprise's emissions over time, instead of just doing a one-off baseline, is like keeping a close eye on the pulse of your operation—it's about understanding what's really happening and using that insight to make smarter decisions.

Here's why: Emissions fluctuate naturally, and capturing those changes gives you a clearer picture of your farm's performance. For instance, restructuring your enterprise and selling off stock might temporarily lower your emissions. But that doesn't reflect the full story of your operation because when you restock, your emissions might spike. Regular tracking helps smooth out these ups and downs, showing the bigger picture rather than just one moment in time.



In this example you can see how emissions can fluctuate over time:

During their second year of recording emissions, this producer has entered a drought year and had to destock their cattle.

This has significantly reduced their net emissions for that year (2023), however the following year their emissions have increased to pre-drought levels as they restock again

Tracking your emissions over time is also a useful way to measure how changes you've made on the property—like testing a new grazing system, reducing fertiliser use, or adopting feed additives—are working. You'll know what's driving reductions and where there's room to improve.

Beyond the farm gate, ongoing tracking can help you meet growing market and compliance demands for sustainability. Buyers and partners want to see progress over time—not just a one-off number—which puts you ahead in accessing premium markets. And as new tools and practices emerge, regular monitoring keeps you ready to adapt and take advantage of innovations. Plus, it accounts for the natural variability of farming, like how changing rainfall affects pasture growth or stocking rates.

Tracking emissions over time isn't just ticking a box—it's setting yourself up for long-term resilience and productivity, while staying in control of your sustainability journey.

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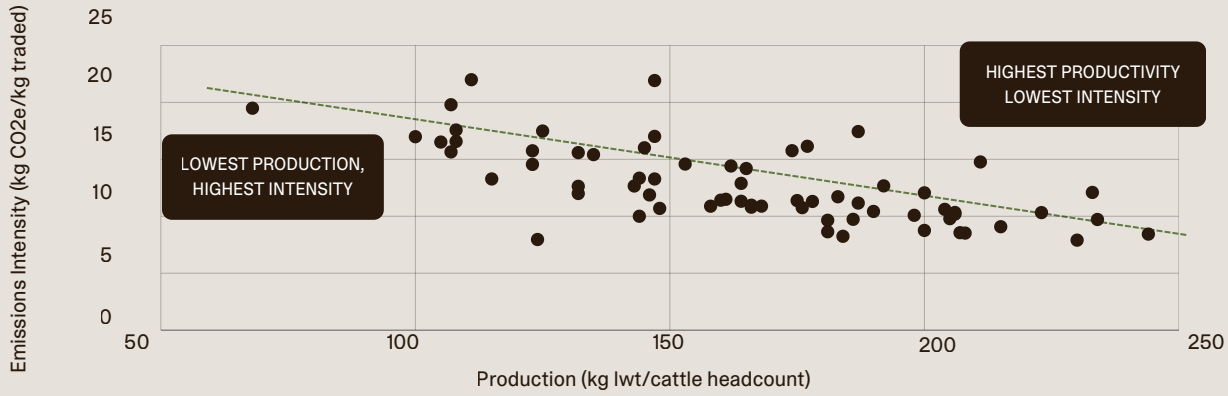
Ruminati Emissions 101: Why Intensity?

Click here to listen: What Does Emissions Intensity Mean?

Curious about what that emissions intensity number on your report actually means, and want to know how it's used? Listen to this short summary to understand why emissions intensity is a useful metric for tracking both emissions and productivity for your enterprise.

The most profitable businesses have the lowest emissions intensity

Your emissions report is a business tool that helps identify areas for improvement and boost efficiency. Use the Ruminati reduction planner to help frame your management plan.



Why is this?

The logic behind improving productivity and reducing emissions intensity is the same: reducing inputs and increasing outputs.

PRODUCTIVITY = INPUT / OUTPUT

EMISSIONS INTENSITY = INPUT / OUTPUT

Click here to watch: Charting Pathways to Beef Emissions Efficiency

Gain valuable insights from Agrista Consultant Tanisha Shields as she explores the impact of reproductive rate, average daily gain, liveweight, calving time, and mortality on net emissions and emissions intensity in beef operations.

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Ruminati Emissions 101: Insetting vs Offsetting

Insetting or Offsetting: What You Need to Know

When it comes to managing carbon emissions, the choice between insetting and offsetting matters—and **as a producer, you're at the heart of insetting initiatives**. Here's how they work, and why insetting could benefit both you and the supply chain.

Click here to listen to the audio summary

Insetting

Insetting focuses on reducing emissions within a company's own value chain. That means improving practices directly tied to the goods and services they produce or buy, including the farming operations of their suppliers. It's about looking at everyday processes and making changes to reduce emissions directly linked to production.

- Improvements within the supply chain
- Long-term, strategic approach
- Requires commitment, collaboration & planning
- Builds resilience within your operation
- Directly reduces operational emissions

Offsetting

Offsetting involves funding external projects that reduce or absorb greenhouse gas (GHG) emissions to compensate for unavoidable emissions. For example, a company might fund a reforestation project or invest in renewable energy initiatives. Each offset credit typically represents one metric tonne of CO_2 (or its equivalent in GHGs).

- Investments in external projects
- Immediate external impact
- Easier, faster implementation
- Reputational risks without due diligence
- Doesn't reduce operational emissions directly

For many companies, including those committed to the Science-Based Targets Initiative (SBTi), offsetting alone isn't enough. They're required to reduce emissions within their supply chain—making **insetting** their only path forward. Here's how you can benefit:

Support for Sustainable Practices

Companies may invest in sustainable farming practices or provide tools and resources to help you reduce emissions.

Long-Term Resilience

Insetting projects often improve operational efficiency and productivity, making your farm more competitive and adaptable to future challenges.

Collaborative Innovation

You're part of shaping new industry standards, as companies rely on you to achieve their sustainability goals.

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Ruminati Emissions 101: Carbon Neutral Ag

What does “carbon neutral agriculture” actually mean?

Carbon neutral agriculture means balancing the amount of greenhouse gas emissions your farm produces with the amount you absorb or remove from the atmosphere. Think of it as a way of saying that any emissions you generate-whether from livestock, machinery, or fertilisers- are being offset by actions that sequester an equivalent amount of carbon, such as through planting trees or improving soil health.

It’s important to keep in mind that carbon neutral agriculture is not just a one-size-fits-all approach. Carbon neutral targets can be set at different levels: from individual enterprises, to industries, or even entire countries.

Click here to listen to the audio summary

How can you achieve carbon neutrality?

Sequestration: You can sequester carbon by taking actions like planting native forests, improving soil health to increase plant biomass, and managing their land more sustainably. While these actions are important, it’s crucial to remember that the amount of carbon that can be stored in the land is limited, which means emissions reduction is equally important.

Emissions Reduction: This is where you can make the most impact. Reducing methane emissions from livestock, improving animal productivity, cutting down fertiliser-related emissions, and better manure management are just a few ways to reduce on-farm emissions.

Achieving carbon neutrality doesn’t require jumping into the carbon market. While some producers may choose to participate in carbon farming projects, it’s entirely possible to manage carbon emissions on your farm without selling credits.

A couple of things to remember:

- Carbon credits can be sold, but once they’re sold, they can't count toward your carbon-neutral goal.
- You can be a carbon-neutral producer and still contribute to the larger fight against climate change without selling carbon credits.

In the end, it’s about **reducing emissions** and **sequestering carbon** in a way that makes sense for your enterprise, your goals, and your land. And by taking these steps, you can play a key role in helping create a more sustainable, climate-conscious future.

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Ruminati Emissions 101: FAQs

Q: Are there any upcoming changes to emissions reporting I need to look out for?

Yes! As of 2025 measurement standards are being developed for all commodities so everyone is working off the same page. That means clearer reporting, fairer comparisons, and less confusion across the value chain.

COMMODITY SPECIFIC & RESEARCH-BASED TOOLS

METHODOLOGIES INCLUDE:

- GAF Tools (UniMelb)
- ADCC (Dairy)
- ICC (Irrigated Cotton)
- AWCC (Horticulture - Grapes)

VOLUNTARY ACCOUNTING STANDARDS IN DEVELOPMENT

DEVELOPED WITH SUPPORT OF GHG STANDARDS REFERENCE GROUP, DAFF, DCCEEW AND DR CARLY GREEN

Available for feedback during 2025

NATIONAL AGRICULTURAL EMISSIONS REPORTING STANDARDS

DUE LATE 2026

- Reduced reporting burden
- Improved consistency

Q: What should I look for in an emissions calculator or platform?

When choosing an emissions calculator, look for something simple to use, secure, and built to keep you in control of your data. A good sign is adherence to the NFF Farm Data Code, which ensures strong standards for privacy and security.

We recommend using a platform like Ruminati that keeps all your information in one place and makes data sharing transparent — you always know who you're sharing with, what they can access, and for how long. Emailing reports offers none of that control, and once it's sent, you can't track where your data goes.

Q: What are the national emissions intensity averages?

Beef (breeding, growing, finishing)*	9–18 kg CO2-e /kg liveweight
Beef (traded cattle excluding scope 3 livestock emissions)	5–9 kg CO2-e /kg liveweight gain
Sheep meat (breeding, growing, finishing)	6–10 kg CO2-e /kg liveweight
Wool	20–35 kg CO2-e /kg greasy wool
Cropping	0.11-0.40 kg CO2-e/kg grain

** For beef, Ruminati uses a national intensity figure of 12.6. This figure encompasses all greenhouse gases, including carbon dioxide, nitrous oxide, and methane, rather than focusing solely on methane.*

Sources:

Beef (MLA) - HERE, Sheep meat and wool (MLA) - HERE, Crops (CSIRO) - HERE.

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Ruminati Emissions 101: FAQs

Q: What are Australia's emissions targets for agriculture?

Australia hasn't set a separate mandatory target just for agriculture, but the sector is expected to contribute to the country's overall climate goals. Nationally, Australia is aiming for net zero emissions by 2050, a 62–70% reduction by 2035, and a 43% reduction by 2030 (all against 2005 levels).

Agriculture sits within the government's Agriculture and Land Sector Plan, which focuses on supporting low-emissions food and fibre production, balancing productivity with carbon storage and nature repair, and delivering benefits for regional communities.

Industry targets are also shifting. In June 2025, the MLA has moved its carbon-neutral target from 2030 to 2050, aligning with national goals. The NFF also supports an economy-wide 2050 ambition, but emphasises this can't come at the cost of food and fibre security, meaning the focus is on practical efficiency gains and lower-emissions production rather than strict, sector-specific caps.

Q: Where do most of Australia's agricultural emissions come from?

In Australia, agriculture accounts for about 18% of the nation's total greenhouse gas emissions (DCCEEW 2023), with nearly 80% of those agricultural emissions coming from methane (ABARES 2024). Livestock, particularly sheep and cattle, are the primary sources, contributing roughly 11% of Australia's total emissions through processes like enteric fermentation (digestion) and manure management.

Q: What's an "emissions factor" and what is it used for?

An emissions factor is a measure of how much methane or other greenhouse gases a specific activity or input produces, usually given as an average per animal or kilogram of weight.

An emissions factor acts as a standard measure, helping to convert farming activities into comparable emissions data, making it easier to track, report, and plan for reductions.

Q: Why does the emissions factor vary for cattle across Australia?

The emissions factor for cattle in Australia varies by region due to differences in climate and pasture quality. Cattle grazing in cooler, wetter areas typically have access to lush, nutrient-rich pastures, which are easier to digest and result in lower methane emissions. In contrast, cattle in drier regions often rely on coarse, fibrous feed, which takes more energy to break down and leads to higher emissions.

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Ruminati Emissions 101: FAQs

Q: What are the GHG emissions targets for key export markets of red meat?

European Union (EU)	• Reduce CO2 emissions by 55% on 1990 levels by 2030 • Achieve net zero emissions by 2050
United States	• Reduce CO2 emissions by 26–28% on 2005 levels by 2030 • Achieve net zero emissions by 2065
Canada	• Reduce GHG emissions to 40–45% below 2005 levels by 2030
China	• Achieve net zero emissions by 2060
South Korea	• Reduce CO2 emissions by 40% on 1990 levels by 2030 • Achieve net zero emissions by 2050
Japan	• Reduce GHG emissions by 26% by 2030 compared to 2013

Accurate as of May 2025

- ENDS -

For any further questions

For any further questions about emissions tracking and the Ruminati platform, please reach out to the team at **hello@ruminati.com.au**.

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