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GHG emissions – the facts

Claims about cattle and climate change often make headlines, from their methane burps to the impact of farming on global temperatures. Let's take a look at the facts.

It's true that cattle, sheep and other ruminants emit methane, a greenhouse gas (GHG). In fact, methane from livestock is the largest source of greenhouse gas in the agriculture sector and make up around 10 per cent of Australia's total annual emissions.

Methane is a potent Greenhouse Gas (GHG) but relatively short lived in comparison to other GHGs.

When methane is emitted, it contributes to additional warming as it's a more potent GHG than CO2. Over 20 years, methane is 80 times more potent at warming the atmosphere than CO2 but has a half-life of 10-12 years compared to centuries of other GHGs. This means methane is responsible more for near-term climate change, but it also means that strategies that reduce methane, like improving efficiency and low methane additives, can give us faster climate mitigation in the short term.

Biogenic methane is produced from plant and animal sources – including livestock - that have recently converted from carbon dioxide (CO2) in the atmosphere.

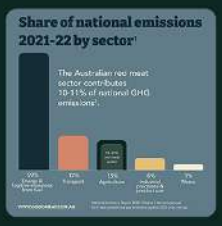
Over time methane produced from biogenic sources decay back to CO2 without adding to the concentration of CO2 in the long term. Fossil methane emissions on the other hand return geological carbon to the atmosphere that has typically been stored underground for millions of years, adding to atmospheric pool of carbon dioxide.

Does red meat contribute to global warming?

When looking at the share of national emissions the red meat industry contributes 10-11% of national GHG emissions.

According to the Australian Government National Inventory Report 2022, the major sources of national emissions (excl Land Use, Land-Use Change and Forestry (LULUCF)) are energy (58.9%), transport (17.2%), and agriculture (14.9%).

If red meat were its own category, it would contribute 10-11% of national greenhouse gas emissions.



While methane is a natural byproduct of digestion for livestock, it is nonetheless a powerful greenhouse gas. The red meat industry is investing in ways to reduce methane produced by cows. Grazing farms also have much potential to manage their landscapes to draw down or 'store' carbon out of the atmosphere in vegetation, trees and soils.

What's the industry doing about reducing GHG emissions?

In Australia, net GHG emissions from the red meat industry are falling. In fact, the Australian beef, sheep and goat industries reduced net GHG emissions by 78.56%[1] in the period from 2005 to 2021.

With investment in innovative emissions reduction practices and technologies, the red meat and livestock industry aims to be carbon neutral by 2030 (CN30) and play a key role in the climate solution.

On-farm, Australian red meat producers are reducing net emissions through:

- Improvements in feeding practices (better pastures, new types of food, more grains)
- Improved ways of handling manure
- Improved genetics and animal management
- Sequestering (storing) carbon in the land and trees
- Incorporating renewable energy sources

Processing plants are also investigating the potential of re-using methane and biogas as a renewable energy source.

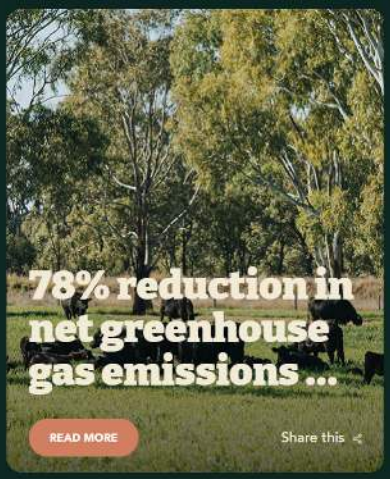
Did you know?

- Feed additives such as red seaweed or Bovaer® can significantly reduce methane emissions from cattle. In Australian feedlot research trials, Asparagopsis taxiformis (red seaweed) and Bovaer®10 have reduced methane between 15 - 90% when fed daily to cattle. Research is underway to understand their potential for grazing cattle[2].
- Farmers looking after the land and biodiversity can also increase the amount of carbon sequestered in soils and vegetation on property.

[1]Data analysed from 2021 Australian National Greenhouse Gas Inventory and 2021 Greenhouse gas footprint of the red meat industry

[2] Meat & Livestock Australia 2021. *The feed additive reducing methane emissions by up to 90%*, and Meat & Livestock Australia 2023. P.PSH.1351 - *Efficacy and safety of Asparagopsis extract in a canola oil carrier for feedlot cattle*

More about red meat and global warming



Further reading

- 2022 National Inventory Report, Volume 1
- The Australian Beef Sustainability Framework
- Sheep Sustainability Framework
- Cows and farmers are part of the solution to climate change (Washington Examiner)
- Red meat greenhouse gas emissions update 2021
- Greenhouse Gas mitigation potential of the Australian red meat production and processing sectors
- Climate neutral livestock production – A radiative forcing-based climate footprint approach
- Asparagopsis feedlot feeding trial
- Methane and other major greenhouse gases (New Zealand Ministry for the Environment)
- Global Methane Tracker 2022 (iea.org)
- Methane emissions are at new highs (CSIRO)
- Bovaer®10: Your questions answered

Explore further