Carbon Neutral by 2030 roadmap for the Australian red meat industry

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Abstract: *The Australian red meat industry carbon neutral initiative is an aspirational target for the amount of greenhouse gasses released by the industry to be equivalent or less than the amount of additional carbon stored in grazing land. Emission sources include animals, fertiliser, land management and waste management. There will be multiple benefits to stakeholders including improved genetics and nutrition, legumes in pasture systems, stored soil organic carbon and more trees in the environment. The red meat industry have already made great progress with 53% reductions in emissions since 2005.*

Key words: Carbon neutral, net zero greenhouse gas, emissions reduction

What does carbon neutral mean?

Under the Australian red meat industry's CN30 initiative, carbon neutral means net zero greenhouse gas (GHG) emissions on an annual basis. This means that the amount of GHGs released to the atmosphere by industry is equivalent or less than the amount of additional carbon stored in soils or vegetation in grazing lands in a given reporting year.

The three most relevant GHGs from the Australian red meat industry are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O) (Figure 1).

Emission sources from the Australian red meat industry include:

- Cattle, sheep and goats (enteric methane, methane and nitrous oxide from waste management)
- Fertiliser use in production of livestock feed (nitrous oxide emissions from fertiliser use in some pasture and crop production)
- Land management practices (deforestation, savanna burning)
- Waste management in meat processing and energy use (including transport)

Land management practices (revegetation, avoided deforestation) also represent a carbon sink, or store.

Work areas paving the way to carbon neutrality

There are four work areas that provide a framework for MLA's CN30 research, development, and adoption activities. These are:

1. Leadership building – Building leadership capability and competency across industry is vital to enabling the transition to a carbon neutral position by 2030. By investing in our people, industry will develop the skills and knowledge to adopt the technologies presented in the CN30 Roadmap.
2. GHG emissions avoidance - Involves research, development and adoption of technologies that avoid carbon dioxide (CO_2), nitrous oxide (N_2O) and methane (CH_4) emissions from grazing management, lot feeding and processing.
3. Carbon storage – To achieve CN30, technologies that avoid GHG emissions and increase carbon storage in grazing lands are required. Increasing carbon storage can provide multiple benefits, including increased land and animal productivity, land remediation, increased biodiversity and improved water quality through reduced sediment run off into waterways.
4. Integrated management systems – Involves activities that enable environmental, economic and social impact measurement, accounting and reporting (MAR) throughout the red meat value chain.

Stakeholder action plan

Achieving CN30 will require the effort of many industry stakeholders. The CN30 Roadmap is built with the following stakeholders in mind:

- Industry (peak industry councils, state farming organisations, producers, feedlots, processors and retailers)
- Customers, consumers and communities
- Governments
- Partners (such as other agricultural research and development corporation, research organisation and private sector solution providers)

Industry's approach to achieving the CN30 target is focused on delivering multiple benefits to stakeholders:

- Herd/flock management practices, genetic technologies and novel animal feeds/ supplements can both increase productivity and reduce enteric methane emissions.
- Legumes can raise animal and soil productivity and reduce enteric methane emissions.
- Increases in organic carbon storage in soils improves soil health and drought resilience and removes carbon dioxide from the atmosphere.
- Appropriate integration of trees and shrubs into grazing management can improve carbon storage, animal health and welfare, and biodiversity.

Progress to date

We have already made great progress towards CN30 since the 2005 baseline year. Greenhouse gas emissions from the Australian red meat industry have fallen 53% since 2005, and red meat and manufacturing are the only major sectors in the Australian economy to reduce emissions since 1990, with red meat making by far the greatest reduction.

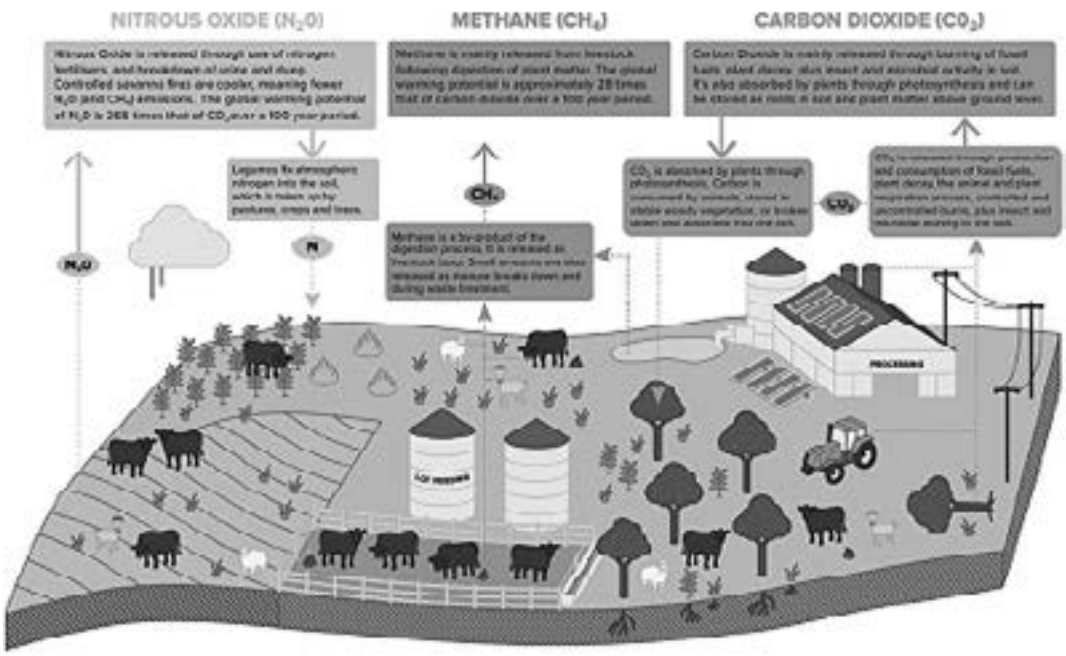

Figure 1: Greenhouse gas emissions sources and sinks in the Australian red meat and livestock industry