Why carbon neutrality matters

The Australian red meat and livestock industry has set the ambitious target to be carbon neutral by 2030 (CN30).

This means Australia's beef, lamb and goat industries – including production, lot feeding and meat processing are aiming for no 'net release' of greenhouse gas (GHG) emissions into the atmosphere in 10 years' time.

But what does this really mean on-farm and what can producers do to reach this goal?

Here, MLA Manager – Sustainability Innovation, Doug McNicholl, shares what producers need to know about CN30 and the part MLA is playing to reach this target.

"The industry has created an opportunity to turn today's pressures into tomorrow's opportunities," Doug said.

MLA's approach to achieving CN30 is focused on delivering multiple benefits to industry, customers, consumers and the community.

"The CN30 target sends a clear signal to government and consumers that the red meat industry is proactively addressing emissions."

Staying ahead of current and future consumer, customer and community expectations regarding environmental credentials allows red meat producers to stamp their mark in a competitive global protein market.

"Demonstrated commitment to environmental stewardship, through initiatives such as CN30, enables ongoing trust and support for our industry. It underpins our position as a responsible producer of high-value, clean, safe and natural protein," Doug said.

What's in it for producers?

The big wins for producers from CN30 activities include:

- novel animal supplements and legumes which can increase live weight gains and dramatically reduce methane emissions
- increased soil organic matter from deep-rooted pastures and legumes, which improves soil health, feedbase productivity and drought resilience (see story page 32)
- improvements in genetics and herd management which can reduce methane emissions per kilogram of live weight produced, enabling productivity improvements alongside reductions in emissions intensity.

"Whether it's reducing net emissions, boosting productivity or developing new markets, these CN30 activities deliver multiple benefits to producers and the community," Doug said.

Is CN30 actually achievable?

Doug said CN30 is achievable with industry commitment, the right policy settings and new investment in research, development and adoption.

CSIRO has presented some theoretical pathways for the Australian red meat industry to achieve CN30; however, the support of producers will be crucial to the initiative's success.

Australian red meat producers have a long and proud history of adapting to environmental and market conditions. As custodians of around half of Australia's land mass, an enormous opportunity exists to be the prime example of a productive, profitable, carbon neutral industry.

What will this mean for Australia's national herd in 2030?

According to Doug, carbon neutrality doesn't need to come at the cost of livestock numbers.

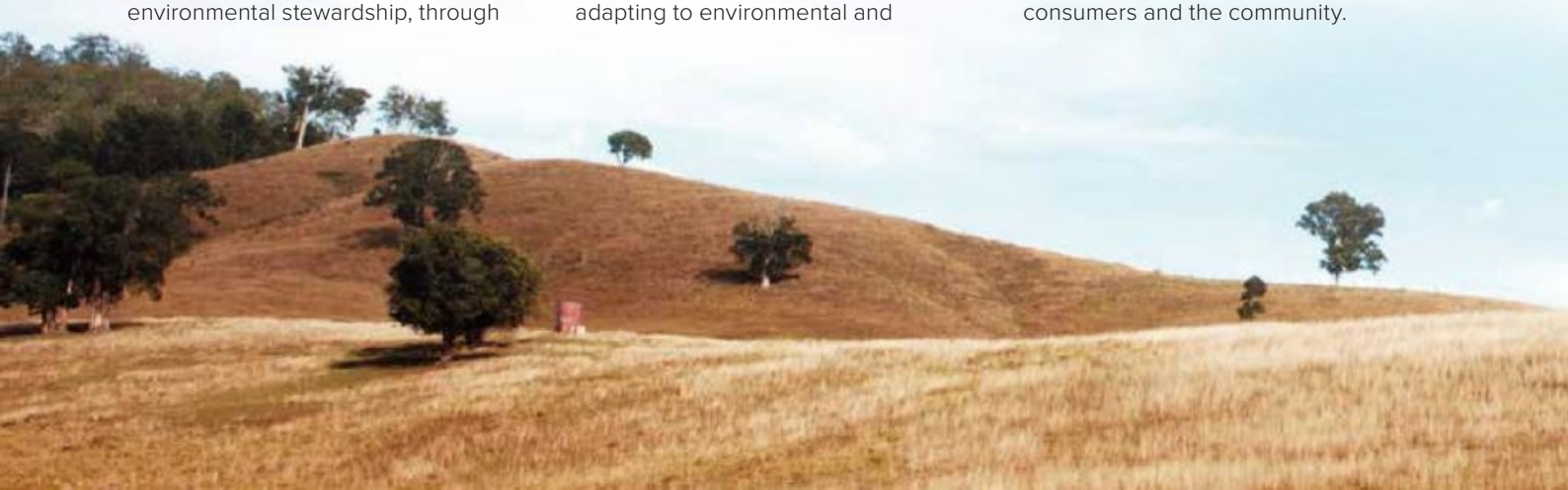
CSIRO analysis shows it's possible to achieve CN30 without reducing herd numbers below the rolling 10-year average (25 million cattle, 70 million sheep and 0.5 million goats).

By 2030, producers will be even more attuned to the influence of genetic, environmental, technological and market factors on red meat production, and will be able to:

- access the best information, enabling selection of livestock with multiple attributes to increase productivity and reduce methane emissions per kilogram produced
- select supplements, pastures, legumes and trees with multiple attributes, enabling livestock to thrive in more extreme weather and climate conditions
- access more established markets for low and zero carbon red meat and co-products.

What's in the CN30 pipeline?

MLA is working on a range of tools and technologies for producers to cost-effectively reduce emissions and boost the value of red meat sales by demonstrating environmental stewardship credentials to customers, consumers and the community.



These include the following tools and technologies:

Carbon accounting tool and training packages

"An important first step is providing producers with a carbon accounting tool so they can determine their net GHG emissions position, identify strategies to reduce these emissions and improve carbon storage on-farm," Doug said.

"MLA's CN30 Manager, Margaret Jewell, has been working with producers across the country to develop a next generation farm-level accounting tool."

A carbon accounting training manual is also being developed to help producers get on the front foot and maintain or improve productivity while reducing emissions.

New supplements and feedbase options

More than three-quarters of emissions from enteric fermentation (digestion) are from beef cattle on pasture. Approximately half these emissions are from cows aged more than two years.

"This is why MLA and its research partners are investing in new feedbase options and supplements which reduce methane emissions from livestock and improve animal growth rates and reproduction," Doug said.

"Legumes such as leucaena and desmanthus can raise animal productivity, reduce methane emissions and offer additional soil health benefits by fixing nitrogen."

Several supplements have been identified which provide reductions in enteric methane and improvements in animal productivity, including the following:

- 3-Nitrooxypropanol (3-NOP) is likely to be available to producers within the next few years and can reduce enteric methane emissions in cattle fed grain-based diets
- marine macroalgae such as *Asparagopsis app* has been shown to substantially reduce enteric methane emissions when incorporated into feedlot rations. ■

Learn more about CN30 at **mla.com.au/cn30**

Get your business CN30-ready

Here are seven ways to be on the front foot towards carbon neutrality.

Now

1. Arm yourself with the right knowledge. Identify your emission sources, know what carbon storage options are available and document these in your carbon account.

   mla.com.au/carbon-account

2. Consider herd or flock management practices to improve livestock diet, breeding efficiency or structure to reduce methane emissions per kilogram of live weight produced.

   mla.com.au/erf-fact-sheet
   mla.com.au/reduce-methane-emissions

3. Identify shade and shelter options on your property. Integrate trees and shrubs to grazing systems for improved carbon storage and animal health and biodiversity benefits. Your local Landcare group can help you choose the right tree and vegetation species for your region.

   mla.com.au/tree-grass-balance

Within three years

4. Plan for delivery and distribution of new feeds and supplements which reduce methane emissions from livestock and improve animal growth rates. This will enable more red meat to be produced for the same or reduced methane emissions.
5. Establish deep-rooted, palatable pastures and legumes to improve soil carbon levels and lift animal productivity.

Longer term

6. Consider what mix of pastures, legumes and trees is suitable to maintain livestock productivity in future weather and climate scenarios.
7. Look at collaborative supply chain arrangements to mitigate financial, environmental and market risks as well as the impact on business inputs and output.