

## Fact sheet #5

# Climate, Clearing & Cows

Labor's jobs in land carbon opportunity

logging



### FACT SHEET 5: What should we do about this?

## 3 Halving methane emissions from agriculture – cows; their burps and farts

Methane is less well known than carbon dioxide, but it is a much more potent greenhouse gas. It is 72 times more potent than CO2, but only lasts 12 years in the atmosphere, compared to centuries for CO2. Methane is responsible for about 30% of all global warming.

### Methane from agriculture - stopping the cow burps

#### Key messages

- The facts: Methane is a much more potent greenhouse gas than carbon dioxide. It is 26% of Australia's emissions. Half of Australia's methane emissions come from the agriculture sector, primarily burping and farting of cows.
- The need to reduce methane in ag and the target of half by 2030: The Government must work with the states and territories and the agriculture sector to reduce methane emissions. If we can halve agricultural methane by 2030, we will be a long way towards meeting our international pledge to reduce methane by 30% by 2030.
- Australian innovation in feed (like seaweed) and other ways to reduce methane production in livestock will be essential.
- Export future depends on this: Australian meat exporters understand that their access to important markets and their continued international competitiveness will depend on their ability to meet their own net zero emissions targets.

#### Methane - the killer greenhouse gas

Methane is at least 72 times more potent in terms of its global warming effect than CO<sub>2</sub>, although not so long lasting. Methane only lasts about 12 years in the atmosphere - as opposed to centuries for carbon dioxide - but absorbs much more energy while it is there. The International Energy Agency estimates that methane is responsible for about 30% of all global warming.<sup>1</sup>

- 26% of Australia's emissions are methane.

<sup>1</sup> International Energy Agency, Methane and climate, <https://www.iea.org/reports/global-methane-tracker-2022/methane-and-climate-change>

- 27% of the methane emissions in Australia are from fossil fuels
- 51% are from agriculture, mainly cows and sheep burping.

The Albanese Government has signed the Global Methane Pledge and committed to reducing methane emissions by 30% by 2030. The Global Methane Pledge, which has been signed by 150 countries, was launched by the European Union and United States at the 26th Conference of Parties to the UN Framework Convention on Climate Change (COP26), held in Glasgow in 2021. If we reduce agricultural methane emissions, combined by reductions in fossil fuel methane emissions through the Safeguard Mechanism, we will smash this target!

In case you are interested in how the guts of cows work to make killer burps

Ruminant livestock – cattle, sheep, buffalo, goats, deer and camels – have a fore-stomach (or rumen) containing microbes called methanogens, which are capable of digesting coarse plant material and which produce methane as a by-product of digestion (enteric fermentation): this methane is released to the atmosphere by the animal burping.<sup>2</sup>



Australia can be a global leader in technology to reduce methane from agriculture.

Australian agricultural producers understand the importance to their export markets of strong climate action. Meat and Livestock Australia has already announced its own commitment to achieving net zero emissions by 2030.<sup>3</sup>

As a leading global beef producer, Australian innovation in this area will have a real impact on global methane emissions. A key solution to reducing methane is the longer term game of shifting global eating habits away from red meat therefore reducing the number of cows and sheep and the climate change impacts they create - both methane and land use.

Some smart Aussie innovation

Australian scientists and companies are already developing new types of feed that reduce methane from livestock. Some state government agriculture and primary industries departments also provide information to producers on how to reduce methane from cattle, using methods such as selective breeding and culling of unhealthy animals (to maximise efficiency), ensuring

<sup>2</sup> WA Government, Department of Primary Industries and Regional Development, *Carbon farming: reducing methane emissions from cattle using feed additives*, <https://www.agric.wa.gov.au/climate-change/carbon-farming-reducing-methane-emissions-cattle-using-feed-additives>

<sup>3</sup> Meat and Livestock Australia Sustainability Hub, <https://www.mla.com.au/extension-training-and-tools/sustainability-page/>

stock health,<sup>4</sup> and providing feed additives, including nitrates - although with a caution that excessive nitrate consumption can harm animals.<sup>5</sup>

### **Helping cows digest better - a good feeling in their gut<sup>6</sup>**

Meat and Livestock Australia is funding a collaboration between the University of Queensland and the Queensland Government to develop a biopolymer device that can be swallowed by cows and then slowly degrade in their guts, releasing a bioactive chemical that will reduce methane production. This device can be used in cattle that range over large areas of pasture. The device will degrade harmlessly inside the cow over several months, and new devices can be inserted when the cattle are rounded up for their six monthly or annual weighing and assessments.

### **Seaweed - super food for cows?<sup>7</sup>**

Seaweed, when added to the food cows eat, can reduce production of methane within an animal's digestive system. There is an active ingredient in asparagopsis seaweed that disrupts the enzymes of gut microbes living in animals' stomachs that produce methane gas as waste during digestion. Of course this solution has limited application for much of the Australian cattle herd, that feed on pasture and are not hand fed.

Developing seaweed forests for feed production can also help to revive and restore blue carbon ecosystems. Many of our seaweed forests are under pressure because of warming water caused by climate change. Seaweed is a very good carbon dioxide drawdown technology so seaweed farming, if done right, has the potential to deliver multiple outcomes at once.

When in Australia in January 2023 Bill Gates invested in an Australian company producing a synthetic version of the active ingredient from seaweed.<sup>8</sup> Even the big fish are getting in on seaweed innovation! Another Australian startup is already creating jobs through seaweed farming on the east coast of Tasmania. Sadly however, demand for these products is lower than production capability. We need policy to shift uptake on addressing methane from our burping friends, the cows.

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<sup>4</sup> NSW Department of Primary Industries, Managing livestock to reduce emissions, 3 March 2022, [https://www.dpi.nsw.gov.au/dpi/climate/Carbon-and-emissions/emissions-reduction-pathways/livestock-industries/methane\\_emission](https://www.dpi.nsw.gov.au/dpi/climate/Carbon-and-emissions/emissions-reduction-pathways/livestock-industries/methane_emission)

<sup>5</sup> WA Department of Primary Industries and Regional Development, Carbon farming: reducing methane emissions from cattle using feed additives, 1 February 2022, <https://www.agric.wa.gov.au/climate-change/carbon-farming-reducing-methane-emissions-cattle-using-feed-additives>

<sup>6</sup> University of Queensland, Biotechnology to reduce methane emissions from cattle, 25 October 2022, <https://www.uq.edu.au/news/article/2022/10/biotechnology-reduce-methane-emissions-cattle>

<sup>7</sup> Meat and Livestock Australia, Asparagopsis now commercially available to beef producers, 30 June 2022, <https://www.mla.com.au/news-and-events/industry-news/asparagopsis-now-commercially-available-to-beef-producers/>

<sup>8</sup> <https://edition.cnn.com/2023/01/24/world/cows-methane-emissions-seaweed-bill-gates-climate-intl/index.html>