

Beef farmers bristle but methanane's hard to ignore

Green practices are paying off for pioneers

SUE NEALES

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When high-flying global entrepreneur Richard Branson announced in 2014 he was giving up beef for the good of the planet, Australian Farm Institute director Mick Keogh couldn't resist having a dig at his integrity and mental competence.

"Is Mr Branson a knave or a fool?" asked Keogh, now deputy commissioner of the Australian Competition & Consumer Commission, wondering whether the Virgin Airlines founder was perhaps deliberately deflecting public attention away from his own commercial activities by demonising meat and cattle production.

"If Mr Branson is truly concerned about this issue and not just seeking publicity, he should look at his own business first rather than pointing a finger at beef," Keogh said.

Branson said he had been forced into vegetarianism by his concern that meat consumption — and so livestock farming — was causing global warming, environmental degradation, Amazonian jungle deforestation and water wastage. He also said keeping cattle in barns and intensive systems such as feedlots where they are fed grain were wasteful and worsening global warming.

Keogh pointed out that greenhouse gas emissions from global livestock production contribute between 5 per cent and 10 per cent of total human-related carbon emissions, which are leading to harmful global warming and climate change.

In contrast, the latest report from the Intergovernmental Panel on Climate Change found the transport sector worldwide — planes, cars and trucks combined — contributes a massive 22 per cent of carbon dioxide emissions (second only to power generation), a figure growing at the rate of 2.5 per cent a year.

Keogh also noted that a one-way flight between London and Sydney added 3500kg of carbon dioxide-equivalent greenhouse gases per person to the atmosphere, while CO₂-equivalent emissions associated with producing a 100g beef hamburger were 1kg.

"The IPCC itself has stated that reducing travel distances, moving to energy-efficient vehicles and non-fossil fuels and avoiding unnecessary travel are (among) the most promising mitigation strategies to reduce global greenhouse gas emissions," said Keogh, querying why Branson's evangelism for reducing greenhouse gases did not extend this far.

This week, when the latest IPCC report came out on how the world could limit damaging global temperature increases to less than an average 1.5C — a target that needs to be achieved by 2050 if irreparable and lasting climate change is to be prevented — aban-



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Mark Wootton on his Victorian sheep and cattle farm, which he says is well on its way to becoming carbon-neutral

doning or limiting meat consumption was again listed as a top-10 mitigation strategy.

It is also, worryingly for Australia's \$18.5 billion red meat industry and 82,500 sheep and cattle farmers, becoming a refrain that is accepted without question within the wider community: that eating meat is damaging the environment.

To western Victoria cattle and sheep farmer Mark Wootton, it doesn't have to be this way.

Together with his partner Eve Kantor, Wootton farms 3500ha of lush green pastures in the western foothills of the Grampians north of Hamilton, where they run more than 25,000 merino sheep for their wool and meat lambs, and 800 cattle.

The couple, together with Kantor's family, helped found the Climate Institute think tank and policy group — credited with encouraging changed business and community attitudes towards the urgent need to limit greenhouse gas emissions — and they believe climate change remains the biggest threat to their own, and Australia's, agricultural activities.

"But that doesn't mean you can't do something about it," says Wootton. "For us, that meant testing the theory that Australian farmers can run their properties and businesses in a way that is carbon neutral — or even positive — in terms of greenhouse gas emissions, but that is still about normal farming practices and highly productive."

Since 2001, Wootton and Kantor have set about boosting the carbon stored on their jigsaw farms properties, while also working with Melbourne University professor Richard Eckard to measure — and endeavour to reduce — all the carbon emissions associated with their farming operations to the point where they became a zero carbon business.

For the couple, that meant planting thousands of trees on

their farms while also investing in solar power, to offset the carbon emitted as methane by their livestock and their heavy use of pasture fertilisers and fuel.

Against expectations, Wootton says livestock-carrying capacity and returns have actually increased, while more than 37,000 tonnes of carbon was sequestered in their growing trees in 14 years, putting the business well on the way to becoming carbon-neutral.

Such stories are music to the ears of Richard Norton, chief executive of Meat & Livestock Australia.

Rare among nations, industries or even agricultural producer groups, the MLA ambitiously decided more than a decade ago that it would commit Australia's

global greenhouse gas emissions, and therefore a key driver of global warming.

The latest report by the IPCC attributes 14 per cent of all emissions to agriculture. The bulk — contributing 10 per cent of harmful emissions — come from livestock production, mostly dairy and beef cattle belching and farting methane (a harmful greenhouse gas, like carbon dioxide).

While figures vary depending on farming systems and feed, numerous studies have shown beef cattle emit 50-90kg of methane a year, dairy cows 100-150kg a year and sheep about 8kg.

On the positive side, methane is a short-lived pollutant; it lasts in the atmosphere for 12 years after production while a kilogram of CO₂ will linger for more than a century. But the harmful effect of 1kg of methane emissions on potential warming is 36 times worse than CO₂ over a 100-year period.

Eckard, an animal production professor and director of the Primary Industries Climate Challenges Centre, says the magnified impact of methane on short-term global warming is the reason the IPCC report suggests cutting meat intake would be one of the biggest and best changes individuals and society can make.

"It's low-hanging fruit — a get-out-of-jail card free, if you like, as far as the IPCC report goes," he says. "Livestock is the biggest single easiest way to reduce methane emissions; each kilogram of methane produced now has 86 times the impact of a kilogram of carbon dioxide on global warming, so if you immediately start to cut methane emissions from one major source, it's going to have a quicker impact on the IPCC aim of limiting global temperature increases to below 1.5 degrees by 2050."

The big impact of animal farming on the warming atmosphere is made worse because, with esti-

mates the world's population will grow by nearly three billion by 2050, red meat consumption and demand is set to take off. Global meat production is projected to double from 229 million tonnes in 2000 to 465 million tonnes in 2050 to meet the new demand for red meat while annual milk and dairy output is set to climb from 580 million to 1043 million tonnes.

The number of cattle needed to meet beef and dairy demand is expected to balloon from the present 1.5 billion to three billion, increasing calls for red meat consumption to be slashed to reduce the pace of climate change.

But Eckard argues that animal farming is being unfairly targeted. "If as an individual, you want to have an impact on climate change, do it in balance: there is no point in stopping eating red meat if you still drive a gas-guzzling 4WD and don't have solar panels on your roof, because switching to a hybrid Prius and solar power will have just as big a benefit for the environment and world climate as turning vegetarian."

Recent studies by Virginia Tech University also question whether plant-based diets equal sustainability and are the only route to reducing agriculture's heavy global warming footprint.

As researcher Doug Lobe told this week's BeetEx conference in Brisbane, it is easy for the impact of removing animals from the human food chain to be oversimplified and twisted.

The Virginia Tech studies show that if all animals were taken out of agricultural production — with the grain they had been fed — the US could produce 23 per cent more human food. But the overall impact on greenhouse gas emissions would be significantly less — cutting US emissions by just 2.6 per cent — because animal-produced fertilisers used in farming would need to be replaced by synthetic ones.

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RICHARD ECKARD
MELBOURNE UNIVERSITY

red meat industry to being carbon-neutral by 2030: a big ask given the large amounts of methane emitted daily by Australia's 28 million cattle and 70 million sheep because of their rumen digestive systems.

"No one thought it was feasible but already we have reduced total emissions by the red meat industry by 45 per cent between 2005 and 2015, according to CSIRO, mainly by genetic improvements that mean the animals we farm today grow quicker and are more efficient converters of grass to meat," Norton says.

There is no dispute in the academic and climate change world that livestock is one of the biggest contributors to carbon gas build-up in the atmosphere and total