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Into the meat of the issue

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Drive less, use less water, sure. But cut back on beef or lamb? That's a different story, writes Steve Dow.

Hey, carnivore, think you can call yourself an environmentalist? Actually, while you might want to drop that hamburger, you might not need to completely swear off meat.

It's a dilemma that has exercised the best minds. The Canadian environmentalist David Suzuki challenges people to eat less meat for the future of the planet, and the Australian ethicist Peter Singer, based at Princeton University in the US, argues going vegetarian or even vegan - dumping dairy and eggs - will reduce your personal greenhouse gas emissions.

Meanwhile, in Australia, meat production is responsible for a massive 18 per cent of the country's CO2e emissions. CO2e is the measure of total greenhouse gas contribution.

Ian Lowe, the president of the Australian Conservation Foundation, eats chicken once a week. "Some people would be critical of that," he admits. "What I'd say is I've gradually reduced my consumption of meat. But I'm not pure."

Lowe grew up in the country, and his family's hens provided abundant eggs. A chook would be solemnly beheaded, plucked and roasted only on special occasions such as Christmas.

This year Australia will slaughter more than 430 million chickens, providing at least 36 kilograms of chicken meat per person, nine times what we ate in the 1940s.

We will also eat more than 37 kilograms of beef and veal per person this year, 15 kilograms of lamb and mutton, and 21 kilograms of pig meat, all record amounts. And the CSIRO and Sydney University in 2005 forecast continued substantial increases in domestic consumption of all meats over the next half century.

Arguments that eating meat is environmentally unfriendly, or even that intensive animal farming compromises human health and ethics, might eventually make more of us ponder a vegetarian diet, but these rallying cries have barely penetrated the national psyche like, say, the cholesterol bogymen - our egg consumption has fallen from 250 to 150 per person over the past 60 years.

Yet as environmentalists and vegetarians will tell you, most Australians take the suggestion they should also give up meat as a personal or even patriotic slight, as though meat protein built a nation.

Tapping into this jingoism, the Australian Meat and Livestock Corporation had the former Australian rules footballer Sam Kekovich front its satirical TV ads launched on Australia Day in 2005, in which Kekovich called vegetarians "un-Australian" and urged viewers to eat more lamb.

In the coming decades, too, the export demand for Australian meat is forecast to leap, particularly among increasingly affluent South-East Asian countries, according to the joint CSIRO-Sydney University report *Balancing Act*. Small wonder that against such a carnivorous public appetite, many environmentalist voices are advocating a realistic approach of eating less meat, rather than cutting it out.

So does the Australian Conservation Foundation's Lowe believe you can eat meat and call yourself green?

"Strictly, you probably can't," he concedes. "The process of converting vegetable protein into animal protein is very inefficient, and the method of meat production isn't particularly flash in its impact on the land."

Yet Lowe's meat eating is as pragmatic as his attitude to motoring: he took up driving a car when he recently moved from Brisbane to the Sunshine Coast because public transport was poor.

Eating meat, it seems, cannot be considered in isolation when assessing your own green credibility.

"I'd say nature doesn't care how you emit, but how much," physicist Manfred Lenzen, of Sydney University's Centre for Integrated Sustainability Analysis, suggests.

"It's a trade-off between emissions for domestic energy, transport, food, leisure and so on.

"Someone with many flights around the world may easily emit more than a non-travelling meat eater," Lenzen says.

Nevertheless, Lenzen and his colleague Christopher Dey published a paper in the journal *Energy Economics* in 2002 recognising the meat we produce has a big impact on land and water use, greenhouse gas emissions, soil erosion and logging. However, if the average Australian reduced their fat, dairy and sugar intake, Lanzen and Dey showed the greenhouse gases generated by that person from their food would drop from six to 3.8 tonnes a year, a saving of 2.2 tonnes. Most of this saving - 1.4 tonnes - would come just from halving our daily average meat intake, from 305 to 155 grams.

But it may be a little disingenuous to lump the ecological impact of all meats together. When it comes to reducing your environmental footprint - and especially if you love chicken - then giving up beef might be your smartest option.

The *Balancing Act* report found 86 per cent of greenhouse gas emissions from the meat sector come from beef cattle production, of which two-thirds are attributable to land clearing in northern Australia - particularly in Queensland - and one-third due to methane emissions from gut fermentation; from the animals' burping more so than farting.

The report also shows Australia's meat-products industry all up accounts for 91 megatonnes of greenhouse gas emissions a year. By comparison, an Australian Greenhouse Office 2005 figure shows the Australian transport industry produces 80.4 megatonnes.

While there are differences in methodology between the reports, Geoff Russell of Animal Liberation Australia argues the CSIRO report, although "brilliant", underestimates the full greenhouse cost of meat, only counting emissions up to the point of retail sale, but not including emissions from cooking or washing greasy grillers.

Still, what's the point of giving up hamburgers, steaks and chops to help the environment if the land has already been cleared?

"If there was less demand for beef, then farmers would return grazing land to native vegetation," Lowe insists. "It would send a signal if people ate less meat; it would discourage its production."

Yet meat is "one of the most environmentally sound foods available", David Thomason, the general manager of marketing at the Australian Meat and Livestock Corporation, says. "We don't dig up the soil like other industries do. We don't destroy or divert rivers. We use resources which are naturally available, such as rain and grass and sunshine."

That may be true, but the *Balancing Act* report found meat production tears through such natural resources: every dollar's worth of beef at the farm gate not only causes 26.7 kilograms of greenhouse gas emissions, it also guzzles 731 litres of water, and contributes to the ongoing disturbance of 187 square metres of land. What, then, is the meat industry doing about reducing its water usage, given the scarcity of water, or the old culture of stripping grazing land bare?

Thomason says graziers are being encouraged to plant perennial, deep-rooted grasses, which are able to capture more of the rainfall and divert it into the soil, rather than the greater run-off that occurs when annual grasses are planted. Australian farmers also plant more than 20 million trees a year for conservation purposes, according to figures from the Australian Bureau of Statistics.

And since the Kyoto benchmark year of 1990, Thomason says, quoting data from the Australian Greenhouse Office, Australia's livestock industry has reduced methane emissions by 6 per cent, due to improvements in what animals are fed.

Research is under way to improve genetic breeding stock.

"In terms of genetically modifying the animal, the industry would not be doing that," Thomason says.

"But with genetic selection the question is whether some animals in the population produce less burping than others, and if we can identify those, we will use more of those for breeding purposes."

Have you found them? "It's research work in progress."

At the Co-operative Research Centre for Beef Genetic Technologies at the University of New England in Armidale, scientists are experimenting with three species of methane-inhibiting gut bacteria found in kangaroos that, if introduced in cattle, might reduce emissions. And at the CSIRO laboratories in Brisbane, microbiologists are attempting to understand the genetics of methane-producing micro-organisms in cattle. It's a puzzle with many pieces.

For now, the pragmatic approach might be to reduce meat or dairy. The Democrat senator Andrew Bartlett became a vegetarian at 19, and says he has only been stopped from becoming vegan because a politician's busily travelling life makes it hard to filter his food for egg and dairy products.

"It's not about putting on the hair shirt and trying to be 100 per cent purist," Bartlett explains. His initial motivation was animal cruelty, but he gradually became aware of the environmental implications.

He considers that any attempt to make people feel guilty or "sledgehammer them" won't work, though he notes people are so resistant to vegetarianism that many "interpret any mention of it as being guilted into it". Australians are more likely to acknowledge the environmental issues around plane travel and the use of private cars than with meat, he says, adding that he gets frustrated that environmentalists don't focus on meat production as an issue as often as they would, say, deforestation.

"Obviously I'm personally committed as a vegetarian, and my raising those things doesn't equate me to lecturing everyone else and saying they must become a vegetarian, but I do think we must at least educate ourselves, because [the greenhouse gas figures from meat production] are hugely significant.

"There is a genuine widespread concern about climate change in the community now, and it's not all going to be fixed by everybody else. It's going to be fixed in part by our own behaviour."

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