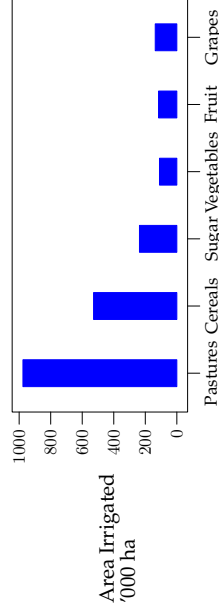


Modern Animal Production

Some meat eaters have a 'permaculture' inspired image of animal agriculture with animals grazing grasses and plants unsuitable for human use and efficiently turning them into food suitable for humans. They contrast this image with the environmental perils of monoculture grain production.

We have already seen how large grain production areas now support the chicken, beef and pork industries through feedlotting. The huge water inputs seen in the water chart on this leaflet are mainly through irrigated pastures. The graph below compares irrigation areas devoted to animal production compared with our food.



Wherever you find irrigation, you usually find fertiliser. Over half of the superphosphate used in Australia is used on pastures. While it is cost effective to use sprinkler and drip system on small fruit and vegetable growing areas, many pastures are still flood irrigated. The combination of flood irrigation and fertilisers causes nutrient run-off into nearby rivers leading to algal blooms and low oxygen levels.

The 2001 State of the Environment report found that: *"Phosphorus levels regularly exceed state and territory water quality objectives in all river systems of the Murray-Darling Basin (except the Condamine River) and some coastal river systems in western Victoria, Sydney, northern New South Wales, south-east Queensland, northern Queensland and Western Australia"*.

The increasing yields of both human food and animal feed over the past 40 years in Australia are dependent on increasing inputs of water, and fertiliser. Producing 1 tonne of nitrogen fertiliser uses more energy than a 3 person home uses per year and nitrogen fertiliser use doubled to 1,560,000 tonnes between 1996 and 2002.

The Protein Myth

The myth that animal protein is essential in the human diet was based on studies of rats. The World Health Organisation revised its protein scoring tables in 1991 after research on humans demonstrated that plant protein was perfectly adequate.

But not only is it adequate, decades of good research shows that eating a whole foods plant-based diet, minimising refined foods, salt and animal fat, avoiding meat, eggs and dairy products leads to the greatest health and the lowest incidence of heart disease, cancer and other western lifestyle induced diseases.

Why not change?

Reducing or eliminating the animal products in your diet is better for you *and* the environment. It is the most effective single way you have to reduce your environmental footprint on the planet. So lobby Governments to act on climate change and lobby companies to develop a sense of stewardship and ethics. But you don't have to wait for them to act, you can do something important right now.

For more information on the steps you can take to reduce, or eliminate your meat consumption, see:

<http://www.animalliberation.org.au/vego.html>

References

The critical information in this leaflet comes either from the CSIRO/Sydney University *Balancing Act* report 2005, the *Australian Greenhouse Inventory* 2002, or various Australian Bureau of Statistics Year Books. The Sydney University study mentioned is by Lenzen and Dey published in *Energy Economics* 2002.

Our website has numerous references to nutrition research and the recently published book *The China Study* by T. Colin Campbell is a readable summary not only of this remarkable study of nutrition in China, but of a great deal of the best research of the past 60 years.

Thanks to PETA for the front leaf graphic!

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Think you can be a meat-eating environmentalist?



Think again!

"There is no doubt that reducing consumption of meat, especially red meat, is one of the most effective things the individual can do to reduce their greenhouse gas pollution."

Professor Ian Lowe,

President, Australian Conservation Foundation.



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January 2006, Author: Geoff Russell

Meat is Costing the Earth

“There is no doubt that reducing consumption of meat, especially red meat, is one of the most effective things the individual can do to reduce their greenhouse gas pollution. Producing meat turns vegetable protein very inefficiently into animal protein, using large amounts of energy and water in the process. Secondly, meat production takes place a long way from the main population centres, so large amounts of fuel energy are needed to transport meat to urban consumers. Thirdly, meat products need to be cooked to be safe to eat, generating more greenhouse gas pollution. Ruminant animals also produce large amounts of methane, a much more potent greenhouse gas than carbon dioxide, in the process of digesting grass. So overall, meat production in general and beef production in particular is a serious contribution to greenhouse gas pollution and hence global warming.”

Professor Ian Lowe, 2005.

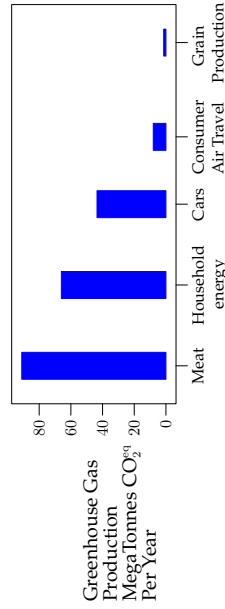
President, Australian Conservation Foundation

Author, *Living in the Hothouse*, Scribe Publications 2005

Meat and the Greenhouse Effect

The methane from 28 million cattle is 21 times more potent as a greenhouse gas than carbon dioxide.

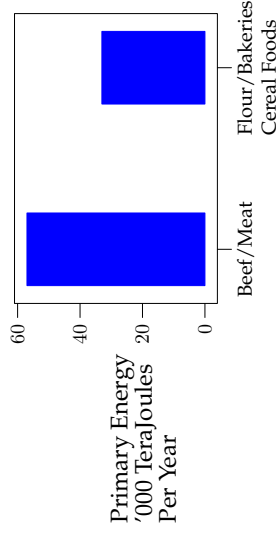
The following graph shows the production of greenhouse gases from meat products compared with grain production, household energy, car use and air travel in Australia.



A Sydney University study calculated that reducing your meat intake from the Australian average of 300gms per day to 150gms saves 1.4 tonnes of greenhouse emissions every year — about the same as reducing your annual car travel by 4,700 kms in a family automobile. The energy savings each year would power the average household for nearly a month.

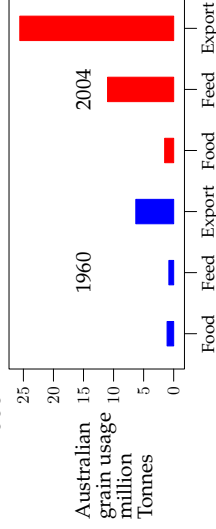
Energy Usage

It's not just methane that makes meat a heavy greenhouse emitter. There are also large amounts of fuel and electricity used in the production and distribution of meat *before* it is cooked. Cattle trucks use energy, slaughterhouses use energy, refrigeration uses energy. To get a realistic comparison we used figures from the CSIRO/Sydney University *Balancing Act* report to compare Australian production of beef cattle and meat products against wheat, flour and bakery products in the graph below.



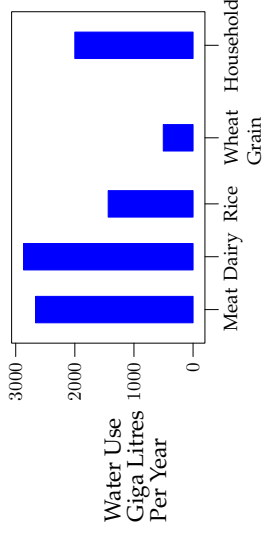
The energy used for meat is even higher if you consider that most bakery products do not need further cooking, but most meat products do. We produce and export about 10 times more wheat than meat, nevertheless meat production is a much larger user of energy — and you still have the cooking and refrigeration to add in.

As feedlotting of beef cattle increases and the grain fed chicken and pig industries expand, the energy used in meat production increases. Most of Australia's cattle today end their lives eating grain in feedlots, 75 days for the domestic market, and 145 days for the export market. Shipping grain around the country and refrigerated meat around the globe uses far more energy and generates more greenhouse emissions than shipping grain directly for human consumption. 8,000 square kms of land was used to grow livestock feed in Australia in 2000.



Water Usage

Meat production and dairy farming are not only major sources of greenhouse gas emissions, they are also massive users and polluters of water.



Many people are surprised at the above graph which shows that meat uses twice as much water as rice in Australia, they are even more surprised when they realise that the rice we grow and export provides more calories than the two million tonnes of beef produced annually.

Much of the water involved in the meat industry ends up seriously polluted and needs treatment. Abattoir waste water and piggery effluent is some of the most highly polluted water in the world, requiring extensive treatment before release or reuse.



The usual measure of the quality of water is the **BOD** (Biochemical Oxygen Demand — the amount of oxygen required by bacteria for the decomposition of organic matter in 5 days at a standard temperature). The **BOD** of human sewage is 300 to 500 mg per litre, piggery effluent has a **BOD** of more than 5,000 mg per litre.