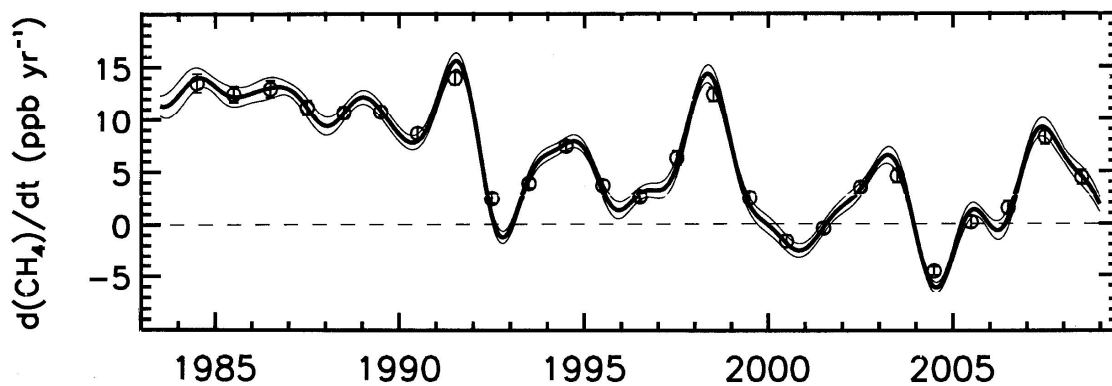


## OPINION

It has been widely promoted that livestock are a significant contributor to atmospheric methane and that global methane levels are rising.

However, there is no evidence to suggest that methane emissions from ruminant sources are increasing. Indeed, it would seem there has been **no clear trend to changes in global methane levels, from any source, over recent decades.**

The increase in global methane levels from 1930 to 1970 have been attributed to emissions from the production, transmission and distribution of natural gas (Quirk, 2010). The use of natural gas expanded by a factor of ten through the 1960s and 1970s. The source of many of the natural gas emissions, such as leakages from the Trans-Siberian pipeline, have since been rectified. Measurements over the last 20 years show atmospheric methane levels are merely exhibiting natural variation, with no significant trends in any direction (see graph).



*Variations in methane from 1983 to 2009, from Dlugokencky et al (2009). Measurements are in parts per billion per year.*

There would therefore appear to be no scientific basis for selectively targeting ruminants for a 'methane tax' - or worse, interfering with this natural process. Water vapour is the greenhouse gas that has increased to the greatest extent since the industrial revolution, accounting for over 90% (by volume) of radiative forcing

A complete life-cycle analysis would reveal that appropriately managed rotationally grazed perennial grasslands and shrublands 'complete the carbon cycle', ensuring more carbon is sequestered than emitted, easily compensating for the methane produced by livestock.

When the carbon footprint of fuel, fertiliser, herbicides and pesticides are factored in, plus erosion, water-quality decline and the carbon dioxide, water vapour and nitrous oxide losses from soil, conventionally produced soybeans (or other sources of non-animal protein) would be less environmentally friendly than well-managed livestock grazing. Indeed, the fastest and most economical way to restore soils that have been degraded by annual cropping is through the use of rotationally grazed perennial pastures.

When the ecosystem services of clean air and clean water are taken into consideration, it becomes obvious that perennial groundcover provides benefits for all sectors of society, including urban dwellers. The sooner the completely illogical 'eat vegan' and 'natural methane is a problem' issues are resolved, the better. The evolution of the rumen as an efficient way of digesting plant material evolved around 90 million years ago. It seems extraordinarily inappropriate to interfere with this natural process.

Perennial groundcover, the biomass it produces and the livestock it feeds are all extremely beneficial (if

not fundamental) to the planet, provided they are appropriately managed.

#### References

Dlugokencky, E. J. et al. (2009). Observational constraints on recent increases in the atmospheric CH<sub>4</sub> burden, *Geophysical Research Letters*. 36, L18803, doi:10.1029/2009GL039780.

Quirk T. W. (2010) Twentieth Century Sources of Methane in the Atmosphere. *Energy & Environment*, in press.

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