

Product Carbon Footprinting: the International Dairy Federations' standardised industry-specific approach

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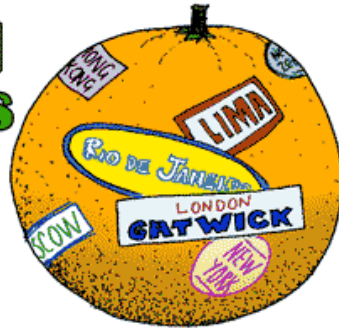
Context: growing consumer interest in the origin and footprint of their food

ANCHOR'S FROM NEW ZEALAND!



Food Miles

How well travelled is your dinner?



...and the dangers of a new generation of protectionism...



Leading supermarket chains are moving towards carbon labelling



In response NZ has been doing its homework

- UK: PAS 2050 methodology established based on LCA and ISO 14040, 14044
- Government
 - MAF programme on carbon footprinting of primary sectors
 - Develop methodology
 - Work with sectors
- Fonterra research
 - Cradle-to-farm-gate by AgResearch
 - Processing /distribution UNSW, Scion



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The NZ dairy industry adopted an established international LCA approach



- Various global methods
 - System boundaries
 - Deforestation, soil carbon
 - Allocation to meat
- Fonterra chose to base analysis on PAS2050 and ISO standards;
 - LCA until destination port
 - Include deforestation
 - Biophysical allocation
 - Used latest GWPs (IPCC AR4)

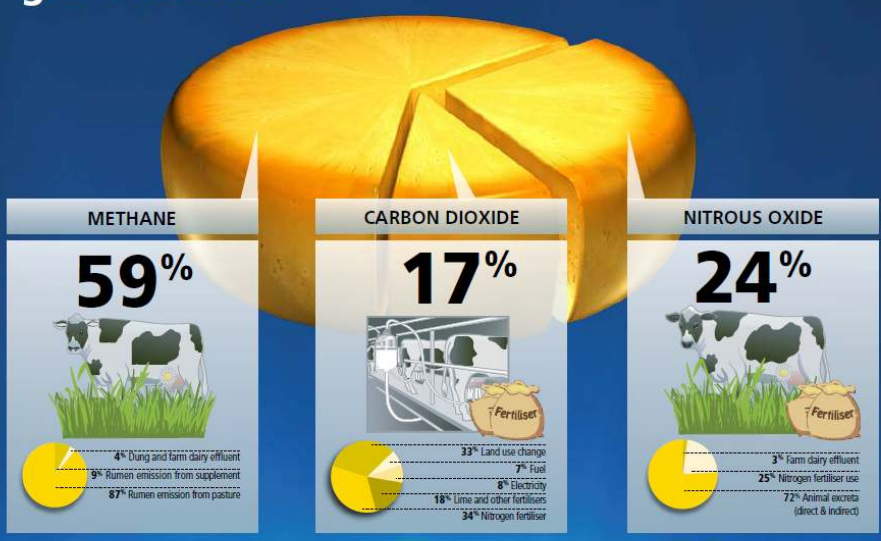
The result gives an accurate carbon footprint of a litre of NZ milk

940 grams of carbon dioxide equivalent in one litre of milk at the farm gate

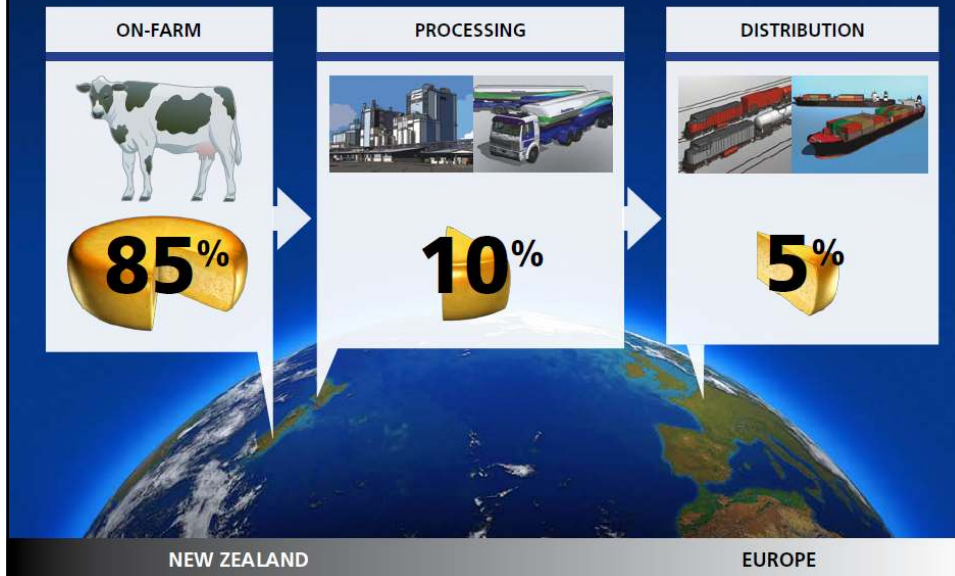


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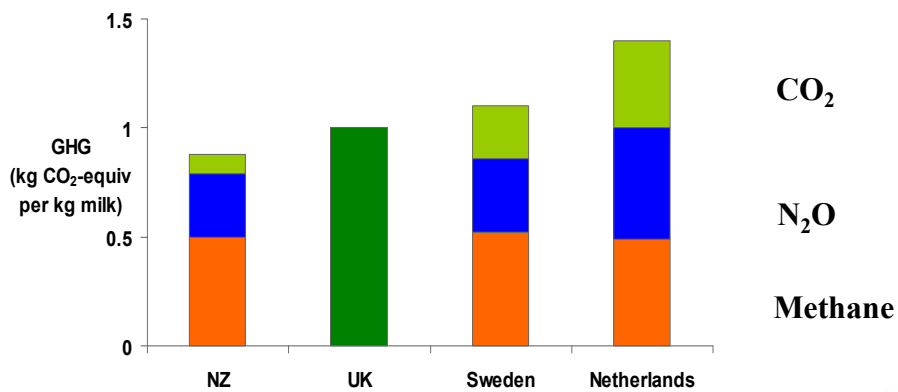
Origin of on-farm greenhouse gas emissions



The carbon footprint lifecycle



Comparisons to other studies



Ledgard et al. (2008)



Pursuit of a common international approach through the IDF

- Opportunity to show our comparative efficiency
- Risk of incorrect comparisons to different methodologies
- Key areas of contention were:
 - System boundaries (feed deforestation)
 - Deforestation
 - Soil carbon
 - Allocation between meat and milk
 - Functional unit (kg fat and protein corrected milk)



The IDF approach built on established international thinking



The IDF method is based on a full life cycle assessment

- Full LCA until factory gate
- Deforestation mandatory (direct and feed)
- Soil carbon optional (separate line item)
- Bio-physical allocation of emissions between milk and meat
- Standard kg fat and protein corrected milk



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However issues still remain...



940g CO₂e



280g CO₂e



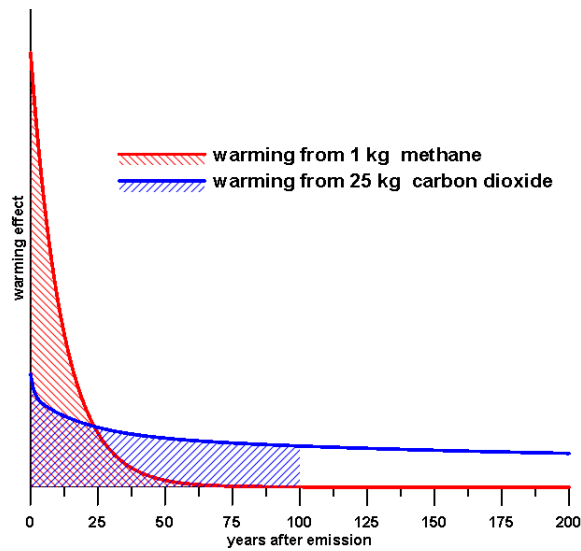
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... and are all carbon footprints equal?



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Special interest groups will use simplistic carbon footprints to push their own agenda



Heather Mills billboards



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Our thoughts for future research are therefore...

- Work on footprints that compare emissions between different food sources accurately – *emissions / nutrient density*
- Carbon Footprints need to better inform consumers of the *effect of the product* based on the gases involved,
 - Do we need more sophisticated metrics – eg carbon footprint based on life of gas?



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Thank you



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