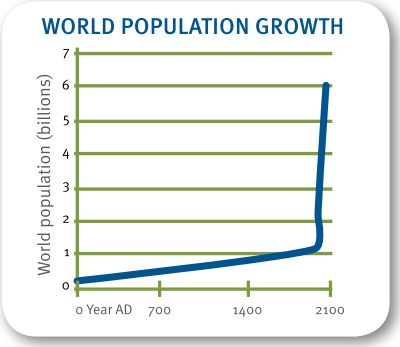
Greenhouse Gases —International Agreements

Introduction

This info sheet gives the background to international agreements on climate change.

Background

The activities of humans, particularly over the 150 years since the industrial revolution began, have produced an unnatural rate of warming in the atmosphere. Human activity has increased the concentration of greenhouse gases (GHG) that trap the sun's heat. The main greenhouse gases, apart from water vapour, are carbon dioxide (CO_2) methane (CH_4) and nitrous oxide (N_20). Carbon dioxide from the burning of fossil fuels and deforestation[1] are the main drivers of human-induced global warming. Increases in methane and nitrous oxide have occurred with expansion of agriculture. These changes are coupled to the rapidly increasing human population (see figure).



1. Inter.governmental Panel on Climate Change, 4th Assessment 2007, Summary for policymakers http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

International Agreements

The UNFCCC

In 1992, governments of the world adopted the United Nations Framework Convention on Climate Change (UNFCCC). This recognises the linkage between the effects of climate change and a country's level of development. Adverse effects threaten developing nations more than developed nations, which have more technological, economic and institutional capacity to respond to the changes.

The Kyoto Protocol

The Kyoto Protocol is an international agreement which provides mechanisms to reduce greenhouse gas emissions. New Zealand ratified the Kyoto Protocol in 2002 and agreed to limit greenhouse gas emissions to 1990 levels. NZ must achieve this initial target by 2012 or purchase carbon credits internationally for emissions above this level. The Kyoto Protocol has recently been ratified by Australia and is now supported by the United States[2] (the US alone accounts for 36% of emissions from industrialised countries).

2. Obama brings US in from the cold http://www.independent.co.uk/environment/climate-change/obama-brings-us-in-from-the-cold-1026303.html

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Sustainable Farming Fund
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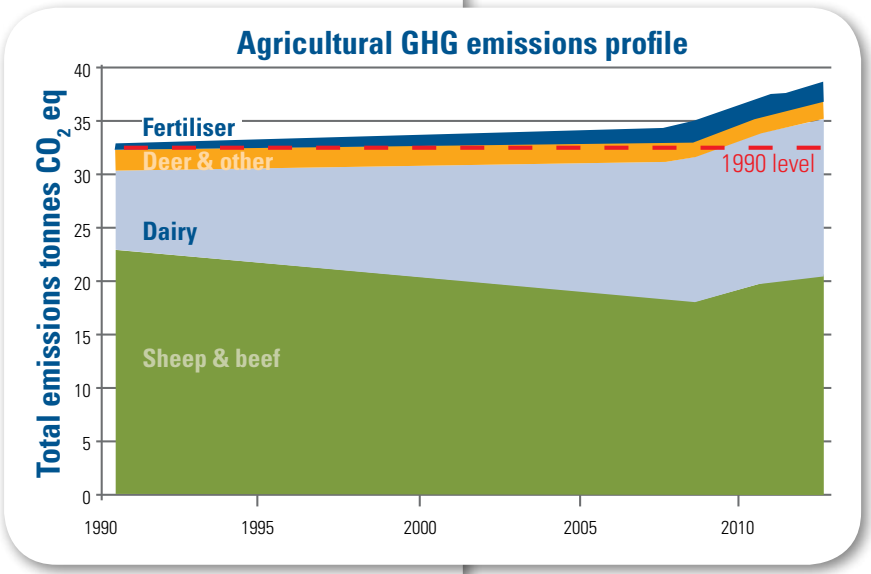
New Zealand

Between 1990 and 2007 NZ's greenhouse gas emissions increased by 22%. During that time emissions from NZ agriculture rose by 7%. NZ's greenhouse gas emissions are dominated by methane and nitrous oxide from agricultural livestock (46% of the total). In all other developed countries agricultural emissions are currently much less prominent, typically around 12%. Our increased agricultural emissions result primarily from methane produced by our increasing dairy herd and nitrous oxide emissions from animal waste and an increase in nitrogen fertiliser use between 1990 and 2007.

Given the large proportion of emissions from agriculture, which supports the overall national economic stability and growth of NZ, we face a significant challenge to balance environmental responsibilities with our economic opportunities. The NZ government has introduced various legislation and initiatives to address climate change.



New Zealand's Response

Legislation and initiatives have been introduced by the NZ government to address climate change and meet responsibilities as signatories of the Kyoto Protocol. Three programmes in particular provide opportunities and responsibilities to the agricultural industry.

Outline of NZ programmes

Emissions Trading Scheme (ETS)
- Mechanism for trading
- Credits tradable in NZ
- No restriction on species or harvest regime

Afforestation Grant Scheme (AGS)
- Cash for new plantings
- Government own first 10 years credits
- Aim is to increase forest area and NZ carbon sink

Permanent Forest Sink Initiative (PFSI)
- Credits tradable in NZ and overseas
- 50 year covenant
- Suits natural reversion and long term species

Info sheet 4 details these programmes and how you might get involved.

Info sheets 8 to 11 detail implications to individual farm businesses.

Further Reading

Carbon Farming Information Report at
www.carbonfarming.org.nz
http://www.maf.govt.nz/climatechange/
http://www.mfe.govt.nz/publications/climate

Go to www.carbonfarming.org.nz for other Info Sheets on: Greenhouse Gases and Livestock Farming · Soil Carbon · Carbon Trading · NZ Government Initiatives · Managing Emissions from Livestock · Practical Case Studies · Carbon Forest Management · Co-Benefits of Managing Carbon · Voluntary Carbon Market