

# Agriculture's greenhouse gas emissions: a policy perspective

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Climate Change Mitigation for Agriculture and the Food Chain

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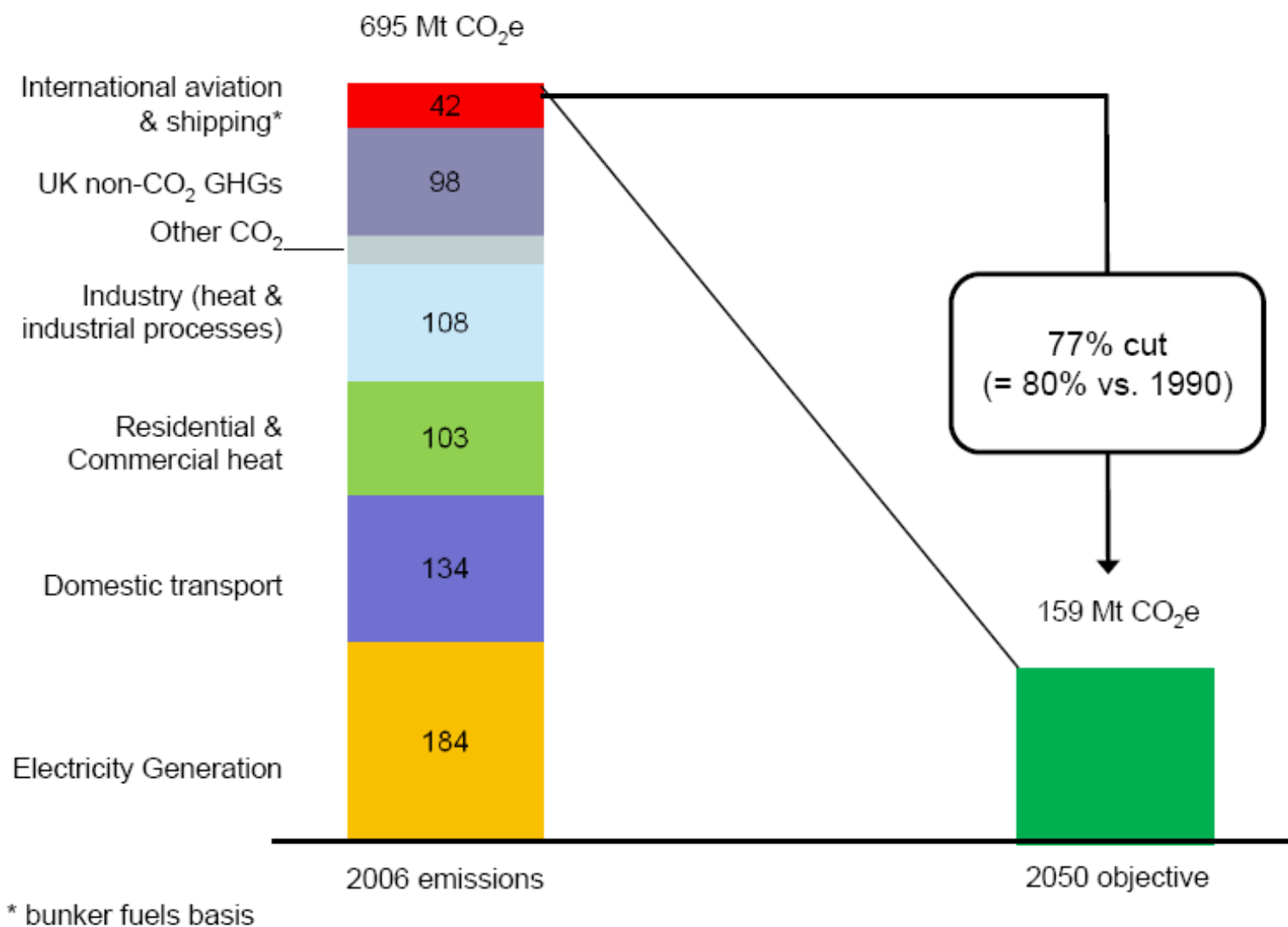
# Overview

1. Policy overview
2. What can farmers do
3. Government support

# Carbon budgets: the UK's framework for action on climate change

- Climate Change Act 2008 commits us to 80% reduction in all GHG emissions by 2050
  - First three carbon budgets announced April 2009:
    - **22% reductions in 2008-12**
    - **28% reductions in 2013-17**
    - **34% reductions in 2018-22**
- Below 1990 levels
- Action will be needed across all sectors of the economy, including the agriculture sector

# UK 2050 perspective



- Agriculture currently represents about 8% of UK emissions
  - Of which 76% are N<sub>2</sub>O and 38% are CH<sub>4</sub>

## Global warming potential

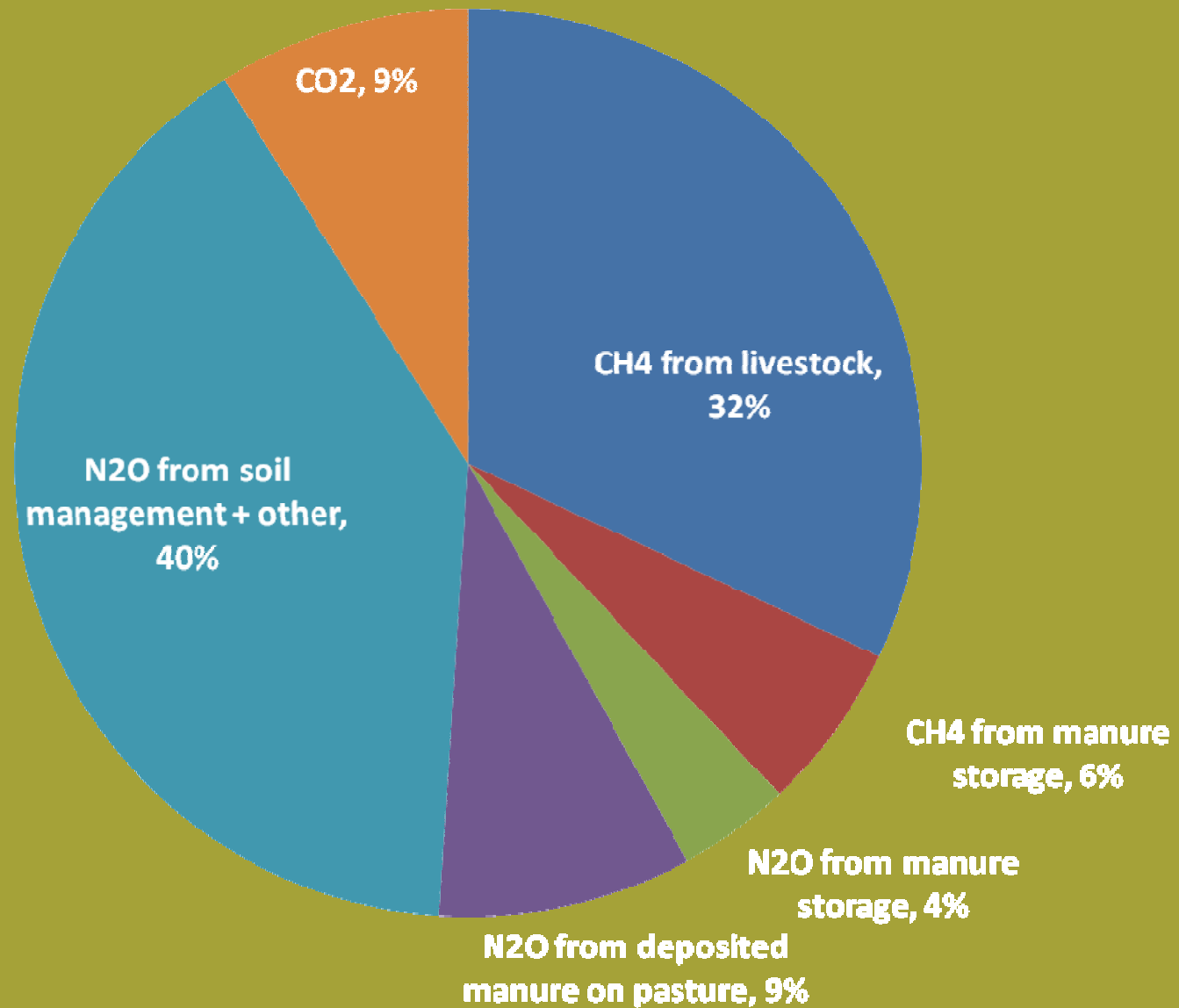
**CH<sub>4</sub> ~ 25 x CO<sub>2</sub>**

**N<sub>2</sub>O ~ 300 x CO<sub>2</sub>**

- Setting targets for agriculture needs to take account of:
  - Emissions reduction potential
  - Costs
  - Whether we have policies available which can help deliver them
  - The risk we penalise UK production and simply export the problem
  - Ability to measure and validate emissions and emissions reductions

# Background: Where do agriculture emissions come from?

Breakdown of UK agriculture emissions, 2008



## The aim

Encouraging English farmers and land managers to take action themselves to reduce emissions from livestock and fertiliser

- reduction of 3Mt of CO<sub>2</sub>e a year by 2020; about 11% from today's levels

## The challenge

Reducing emissions; Safeguarding the environment; Producing food sustainably

# What can farmers do?

## Efficient use of resources

- **Nutrient (fertiliser and manure) management**
  - Amount + application method + timing
- **Livestock management**
  - Match nutrition to needs; Healthy animals; improved breeding
- **Manure storage**
  - Reduce emissions from slurry stores and manure storage in an anaerobic digester
- **Carbon Sequestration**
  - Protect soils (especially carbon rich peaty soils)
  - Woodland creation to store carbon in soils and trees



# What can farmers do?

## Other Opportunities

- **Energy efficiency**
  - Use energy carefully; think about how you use electricity, insulate buildings and invest in energy efficient equipment
  
- **Renewable energy generation**
  - Biomass crops for energy and heat production
  - Manure, slurry and crop waste to anaerobic digesters
  - Micro-renewables
  - Wind

# What will Government do to support farmers?

- Awareness raising: ongoing (Farming Futures)
- Carbon Trust interest-free loans: Feb 2010
- Anaerobic Digestion Implementation Plan: Mar 2010

***Proposed way forward*** (outlined in Climate Change Plan, Mar 2010, yet to be confirmed by new administration):

- Advisory Service: by 2011
- Review voluntary progress (2012)
- Improved inventory: by 2014+

# Useful links for more information:

- Agriculture and Climate Change:  
<http://www.defra.gov.uk/foodfarm/landmanage/climate/index.htm>
- Food and Farming : <http://www.defra.gov.uk/foodfarm/index.htm>
- Carbon Trust agriculture and horticulture pages:  
[http://www.carbontrust.co.uk/energy/startsaving/sectorselector/agricultureandhorticulture\\_2\\_1.htm?compsize=1](http://www.carbontrust.co.uk/energy/startsaving/sectorselector/agricultureandhorticulture_2_1.htm?compsize=1) (NFU briefing: <http://www.nfuonline.com/Our-work/Environment/Climate-change/Energy-Efficiency---NFU-briefing-on-Carbon-Trust-interest-free-loan-scheme/>)
- Farming Futures: <http://www.farmingfutures.org.uk/>
- England Forestry Strategy: <http://www.forestry.gov.uk/forestry/hcou-4ucf8j>
- UK Climate Impacts Programme : <http://www.ukcip.org.uk/>
- National Farmers' Union Climate Change pages: <http://www.nfuonline.com/our-work/environment/climate-change/>
- Country Land and Business Association Climate Change pages:  
[http://www.cla.org.uk/Policy\\_Work/Climate\\_Change/](http://www.cla.org.uk/Policy_Work/Climate_Change/)

# Advisory Service – discussion at lunch (12.40-1.30pm)

- 1) What additional advice would be helpful in assisting you to reduce your farm's GHG emissions?
- 2) Who would you want to receive that advice from (and why)?
- 3) What would encourage you to take up advice on reducing your farms emissions?
- 4) What might prevent you from taking action to reduce your emissions and what might encourage you to take action?