

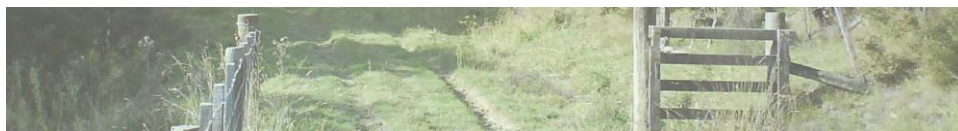


On-Farm Emission Management Issues and Strategies

Australia / New Zealand Climate Change &
Business Conference

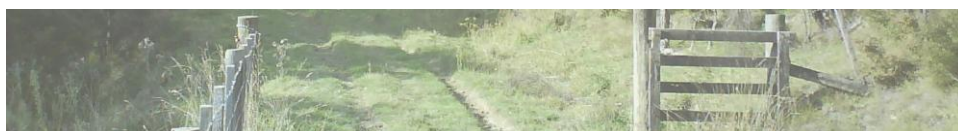
12th August 2010

By Clayton Wallwork
Trustee – NZ Carbon Farming Group



Overview

- About the NZ Carbon Farming Group
- Agricultural emissions and NZ ETS
- Management Strategies
- Management Issues



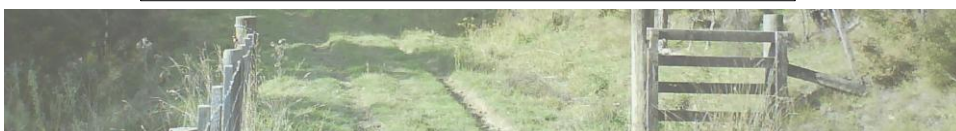
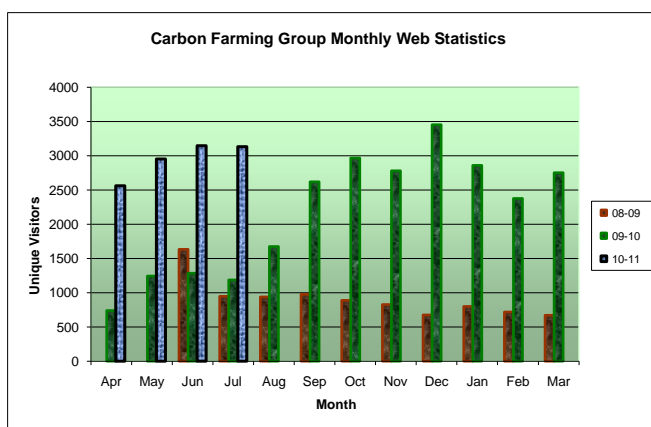


NZ Carbon Farming Group

- Not-for-profit entity funded by philanthropic organisation The Tindall Foundation
- Provide independent “plain English” information around NZ Emissions Trading Scheme and climate change issues to rural New Zealand
- Based around website www.carbonfarming.org.nz
- Online calculator for assessing on-farm emissions
- Info Sheets covering a variety of topics such as, carbon trading, farm ETS case studies, insurance, forest carbon management, soil carbon



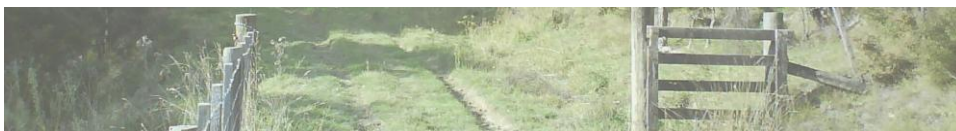
NZ CFG Web Visits



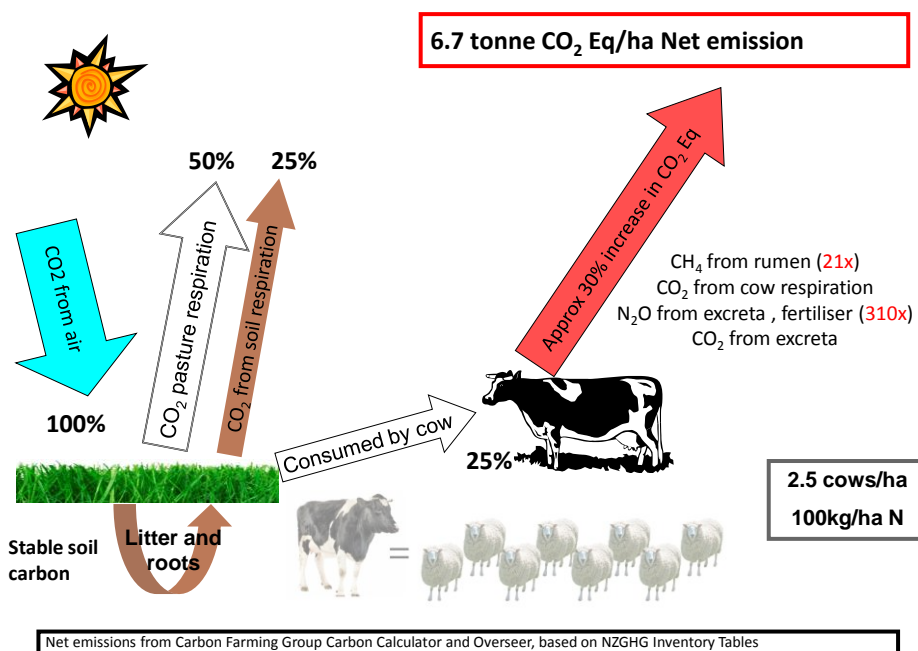


NZ ETS - Summary

- NZ target 50% reduction by 2050
- All sectors, all gasses
- Agriculture not commencing until 2015 (90% subsidy)
- Subsidy reduced by 1.3% per annum from 2016
- Forestry started 2008, liabilities at harvest
- Fixed price option for emitters at \$25/ton until 2012
- 50% subsidy for liquid and solid fuels, industrial processes, stationery energy from 1 July 2010, 0% subsidy after 2012.



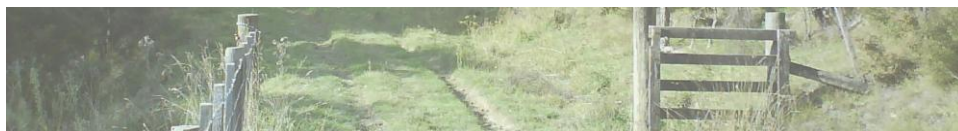
Agricultural greenhouse gas emissions





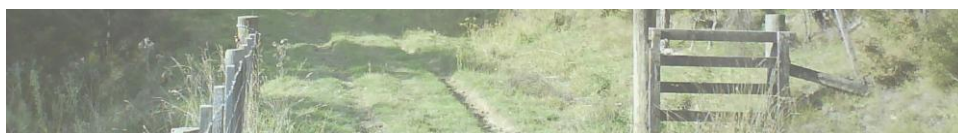
On-Farm Emission Strategies

- Offsetting
- Clean tech
- Research



On-Farm Emission Strategies

- Offsetting
 - Afforestation to sequester CO₂ to offset farm emissions
 - Example from “Info Sheet 9”, 535 cow dairy farm, S. Waikato
 - Total farm emissions from 2015 to 2040 – 15,500 NZU’s
 - At \$NZ20 per NZU this will cost \$310,000
 - 40ha of radiata pine forest to offset this amount (total cost of around \$75,000 to establish)





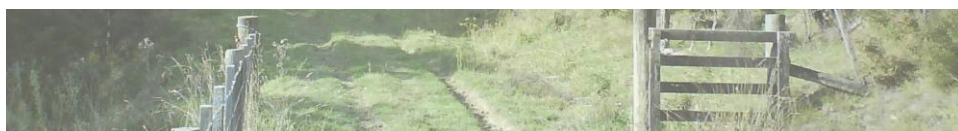
On-Farm Emission Strategies

- Clean tech
 - Fertiliser application (nitrification inhibitors, accuracy)
 - Water management (accurate irrigation)
 - Effluent management (carbon source, biogas)
 - Electricity (heat recovery, alternative on-farm sources, multi speed pumps)
- Many clean tech strategies promote “good farming” with reduced GHG emissions as a co- benefit.



On-Farm Emission Strategies

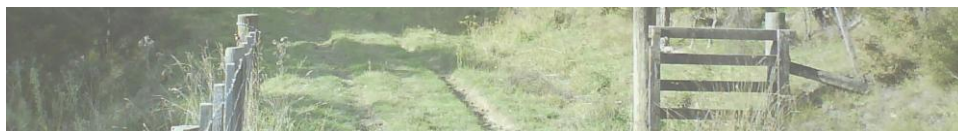
- Research
 - NZ Pastoral Greenhouse Gas Research Consortium
 - Current areas of interest :
 - » Vaccine to suppress methane production
 - » Animal selection that naturally produce less GHG
 - » Forage crops
 - » Nitrification inhibitors
 - BioChar (may reduce CO₂ and N₂O emissions)
 - Improved soil condition
 - Global agriculture research alliance





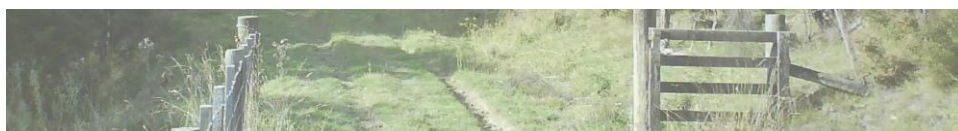
On-Farm Emission Issues

- Political
- Carrot and Stick



On-Farm Emission Issues

- Political
 - ETS review in 2009
 - Was 2013 now 2015
 - Minority party pushing to scrap ETS
 - NZ federated farmers fighting ETS
 - Reviews in 2011 and 2014
 - Post Kyoto?

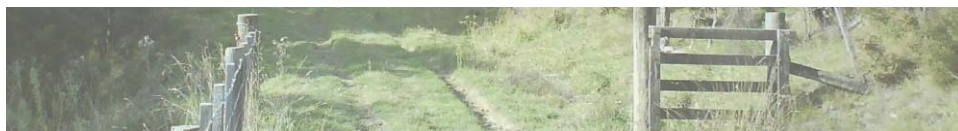




On-Farm Emission Issues

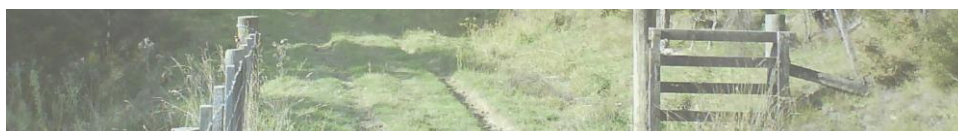
- Carrot and Stick
 - No carrot
 - No stick

eg. Nitrification inhibitors (currently available) can reduce on-farm N_2O emissions up to 60%, but NZGHG Inventory measured only a 0.1% reduction in N_2O emissions in 2008.



Summary

- Few proven options to reduce GHG emissions
- Political uncertainty
- Small incentives to change GHG behaviour
- Potential to reduce GHG as a result of using clean technologies





Thank you

www.carbonfarming.org.nz

