Managing GHG Emissions

(Measure to Manage)

DG Butler

Alliance Group Ltd

Topics

- Introduction to emissions trading scheme — ETS
- AGL’s environment programme — EMS
- Emissions profile since 2000 — EP
- Utility key performance indicators — KPI
- Energy efficiency & conservation — EEC
- Where to next? — XYZ

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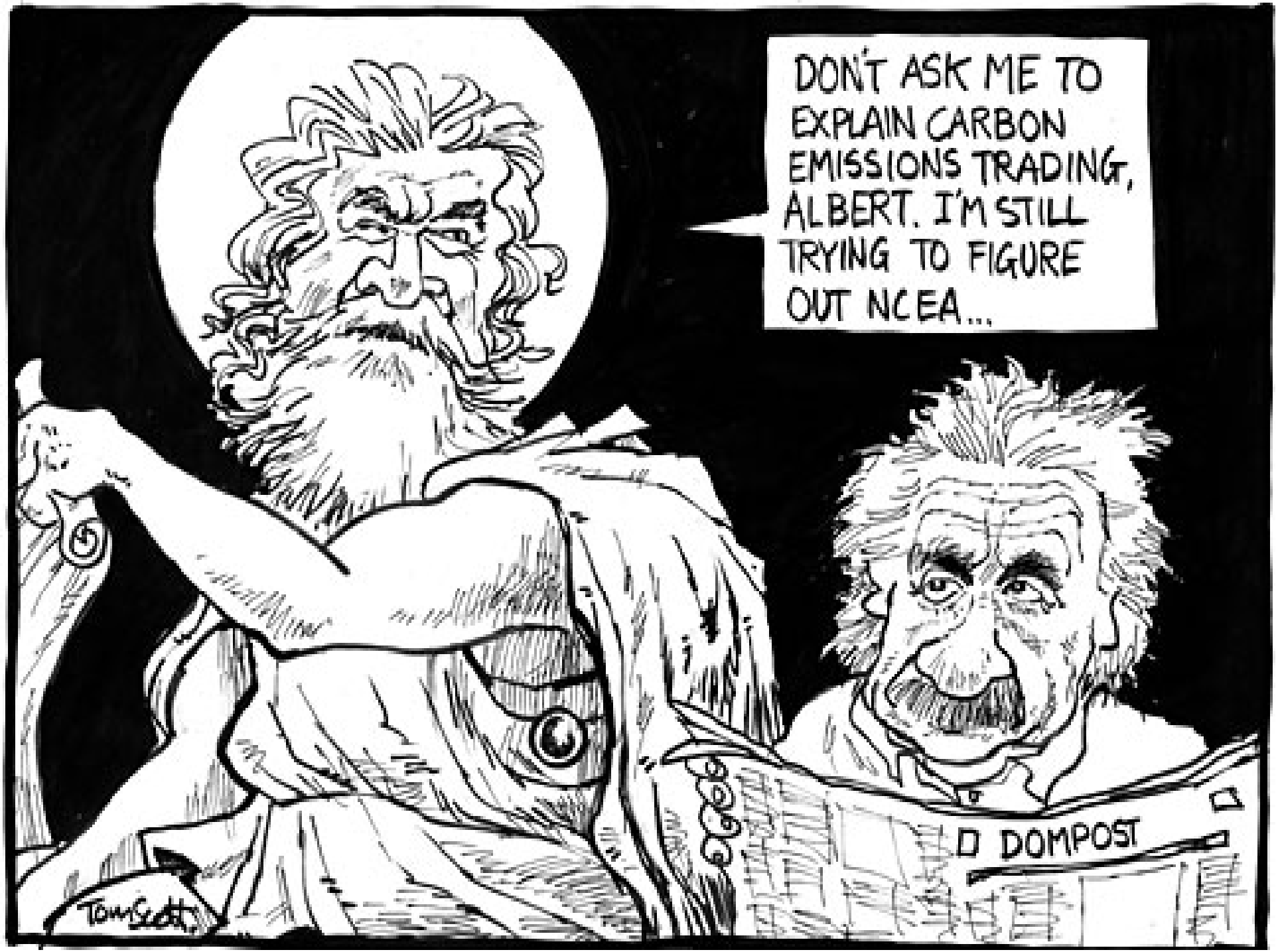
DON'T ASK ME TO EXPLAIN CARBON EMISSIONS TRADING, ALBERT. I'M STILL TRYING TO FIGURE OUT NCEA...
DOMPOST
TomScott

Kyoto Speak

- Carbon footprints
- Carbon neutral
- Food Miles
- Carbon labelling
- Emissions trading
- EF+
- Sustainability

- Carbon tax
- AAUs, CERs, RMUs
- CP1, CP2
- Points of Obligation
- Pricing Carbon
- LCA
- NZ Units
- Participants
- Free Allocation

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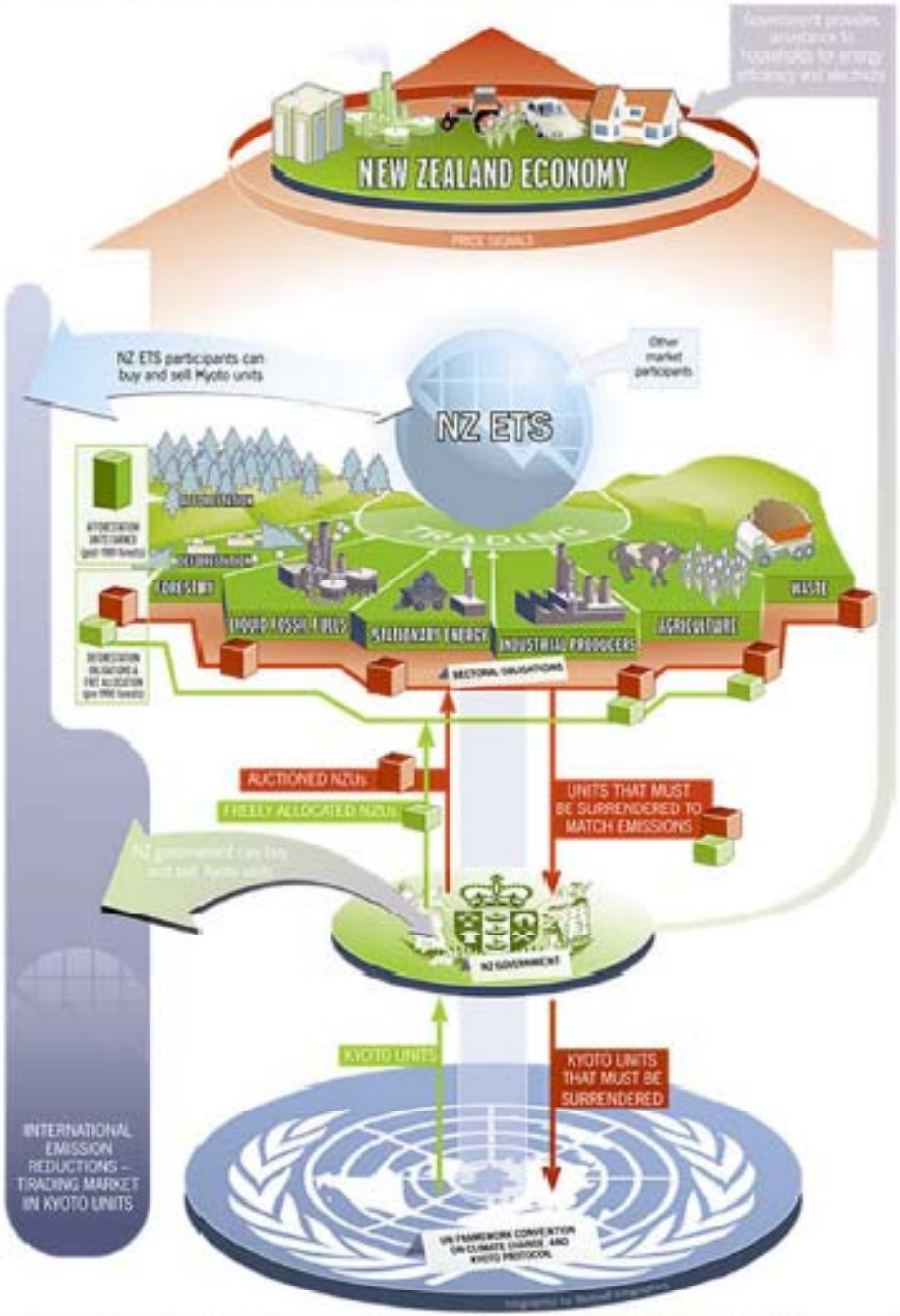
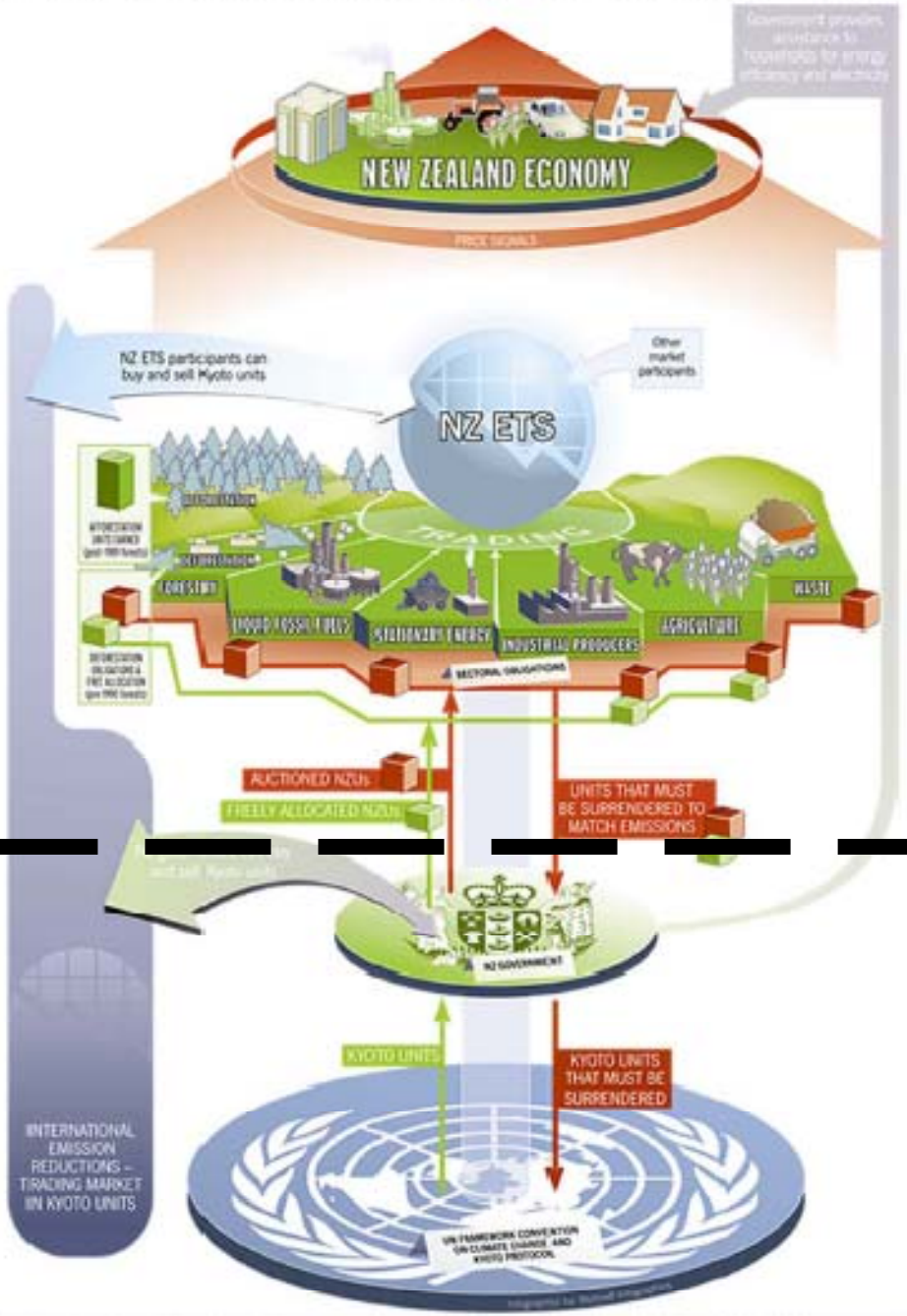
NZ Government


NEW ZEALAND ECONOMY
NZ ETS participants can buy and sell Kyoto units
Other market participants
NZ ETS
TRADING
FORESTRY
LIQUID FOSSIL FUELS
STATIONARY ENERGY
INDUSTRIAL PROCESSES
AGRICULTURE
WASTE
SECTORAL OBLIGATIONS
AUCTIONED NZUs
FREELY ALLOCATED NZUs
UNITS THAT MUST BE SURRENDERED TO MATCH EMISSIONS
NZ GOVERNMENT
KYOTO UNITS
KYOTO UNITS THAT MUST BE SURRENDERED
INTERNATIONAL EMISSION REDUCTIONS – TRADING MARKET IN KYOTO UNITS

DOMESTIC

INTERNATIONAL



NZ and Agriculture

- NZ is 0.2% of global emissions (of Kyoto countries)
- Agriculture is 49% of NZ total emissions

  Livestock emissions
  - methane
  - nitrous oxide

- Processing industry
  - carbon dioxide from electricity and fuels

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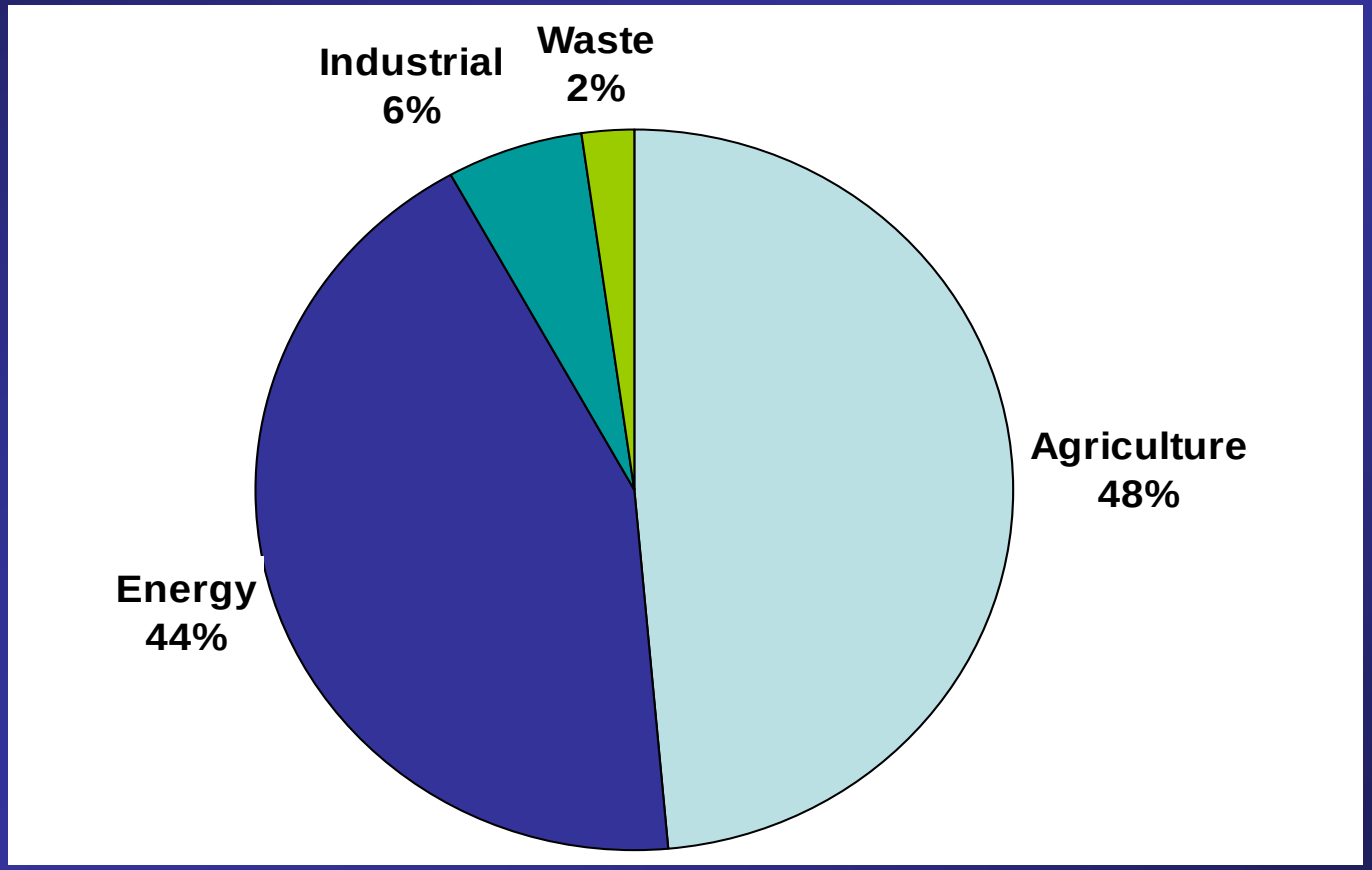
NZ Greenhouse Gases by Sector in 2005



‘NZ Meat Inc.’

Industrial Processes Sector

- 1 July 2010 - Electricity and fuel price increases.
- Meat (and milk) processing are not ‘energy intensive’ enough to qualify for free allocation of NZ Units.
- ‘Protein meal production’ may be EITE. Free allocation of NZUs

Agriculture Sector

- NZ Meat: 22 million tonnes @ $30/t = $660m p.a.*
- Meat Processors are Participants in ETS. Not farmers.
- Emissions factors for livestock set in regulations
- 1 Jan 2011 – Voluntary reporting

*NB. Without transitional assistance by Free Allocation of Units

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AGL Environmental Programme

- Systems based
  - ISO 14001 - EMS
  - **Enviro-Mark®NZ – Diamond**
- Pollution Prevention
- Resource Use and Process Efficiencies
- Climate Change Issues

AGL CO_2 Emissions from Processing Energy Use

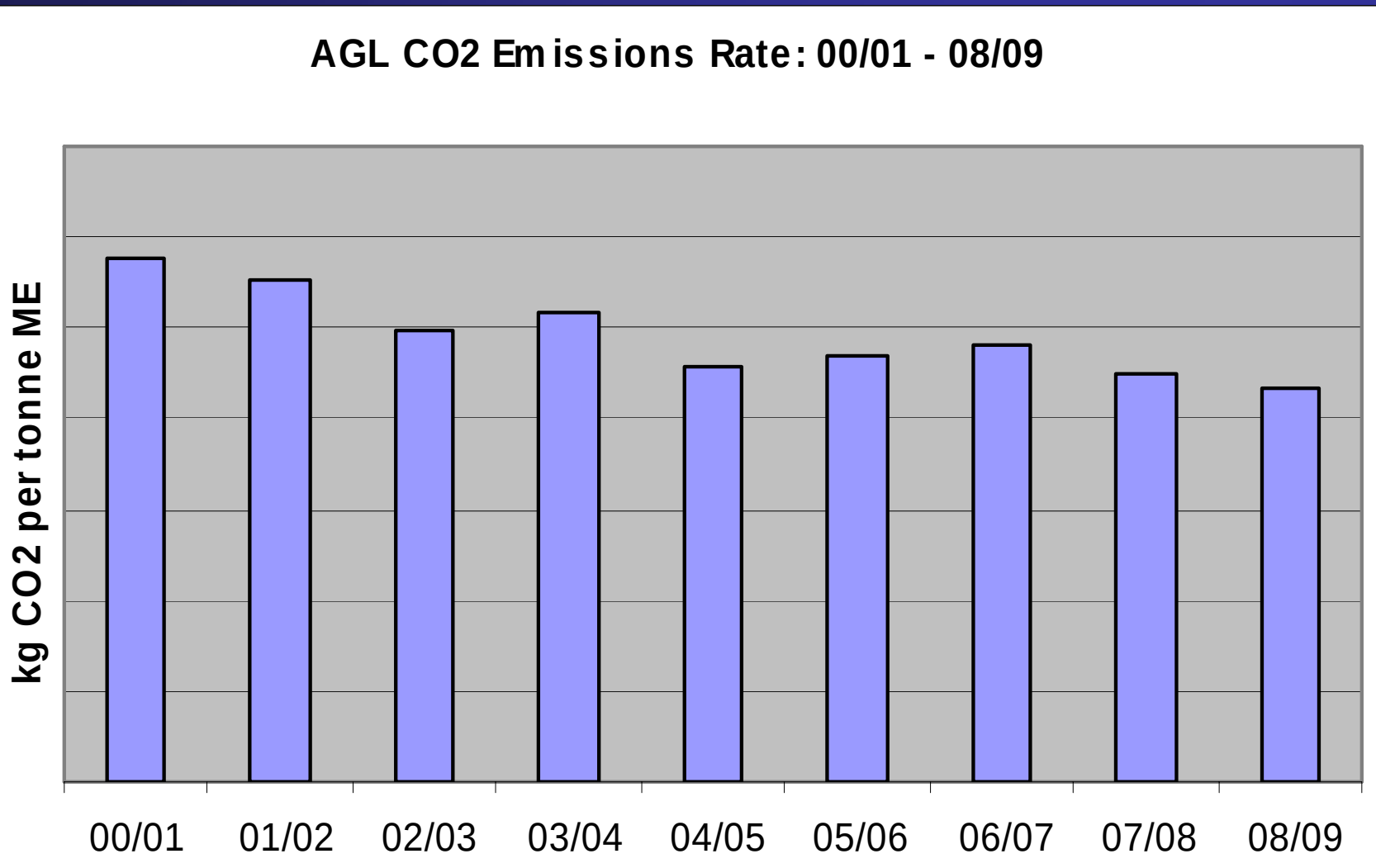
Nine Season Review (2000-2009)

- Total emissions (tonnes CO_2) reduced by 10%
- Production (Meat Equivalents) increased 20%

Combined:

  - Emission rate (kg CO_2 / t ME) reduced by 25% this decade

AGL CO2 Emissions from Processing Energy Use



Resource and Process Efficiency

Utilities Key Performance Indicator (KPI) weekly reporting

- Electricity: GJ / t EFW
- Fuel: GJ / t FAP
- Water: L per SU
- GHG emissions: t CO_2-e / t ME

- Presented to each plant as weekly, monthly, year to date, and annual trends
- Targets set and monitored at each plant

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KPI Report for the week ending **Sat 24 Apr-10**

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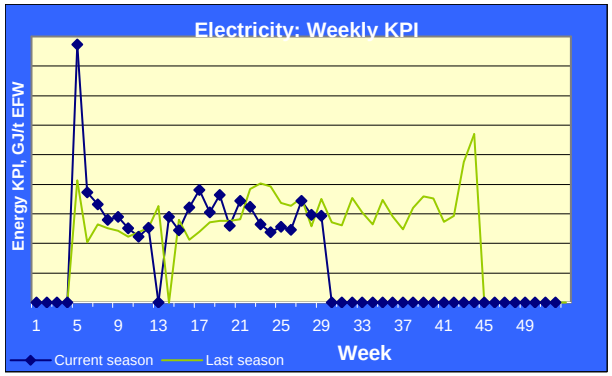
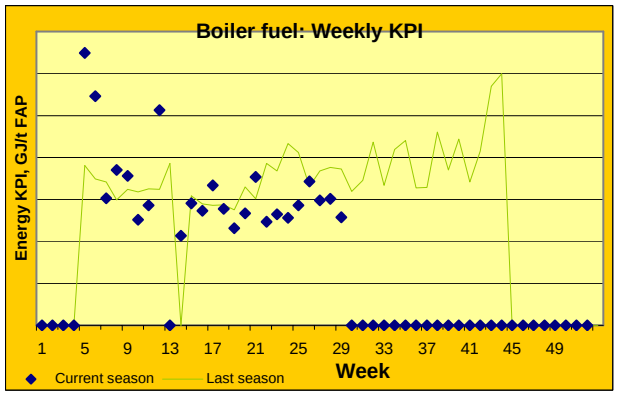
Smithfield

Utility	*YTD KPI*	*Status*	*Trend*
Electricity (GJ/tonne EFW)	3.10	☺	↓
Fuel (GJ/tonne FAP)	3.07	☺	↓
Water (litres/le su)	567	☺	↓

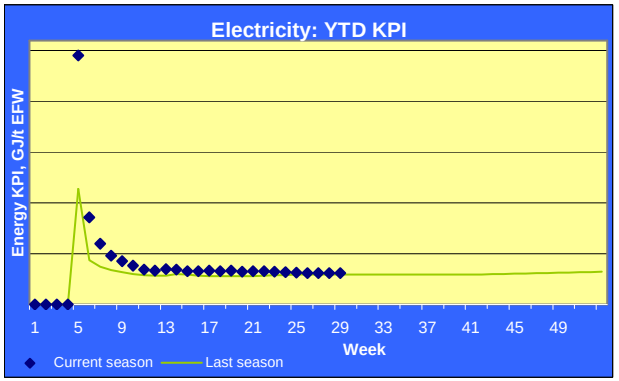
☺ Below target KPI
☹ Above target KPI
↓ KPI lower than last week
↑ KPI higher than last week

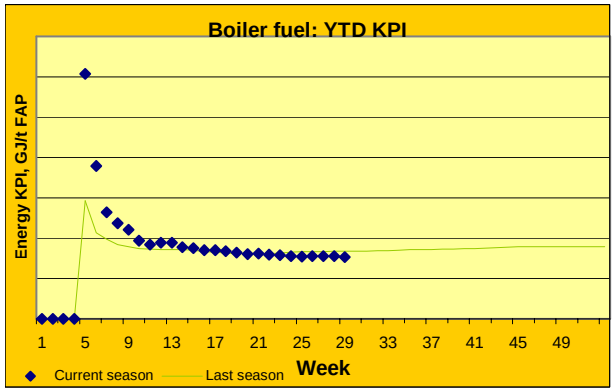
Weekly





Year to date





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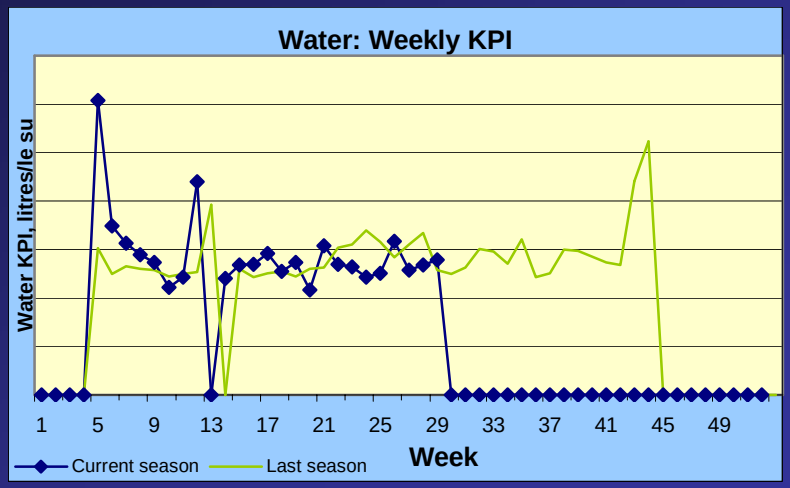

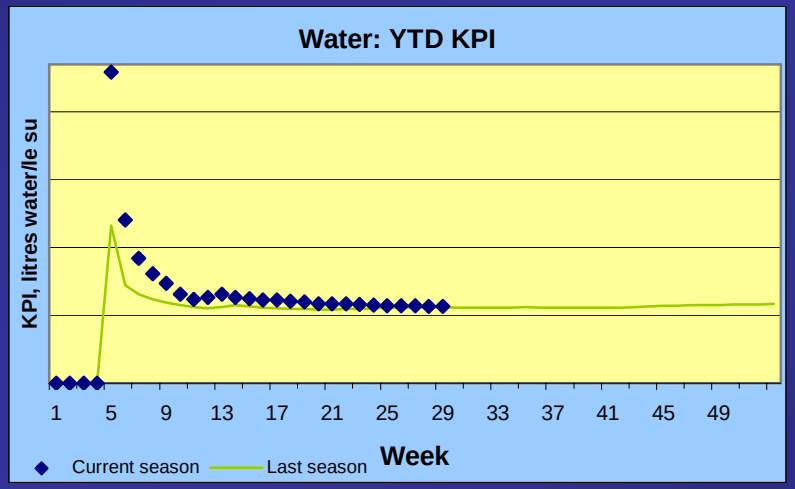

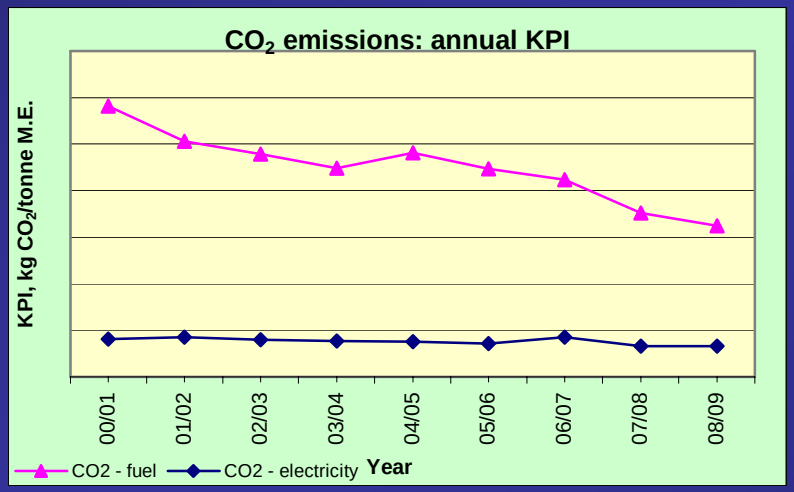

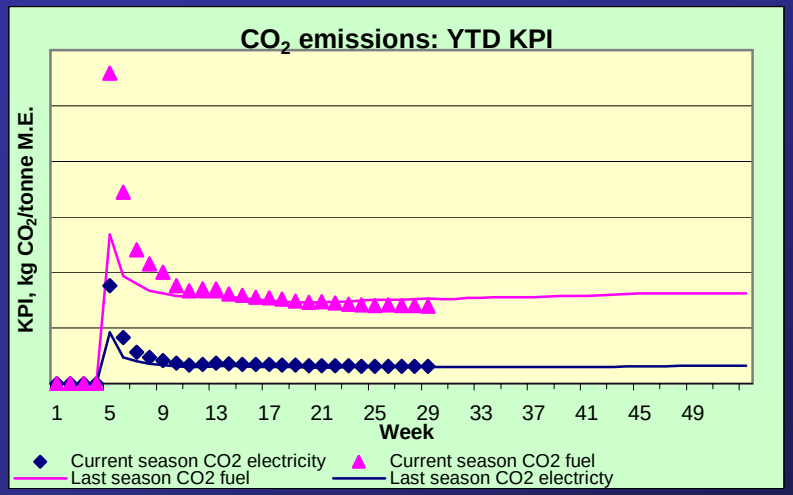

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Energy Projects

EECA Audits – Level 3

- Implementing recommendations
- $1.3m project costs for $1.4m p.a. savings

Refrigeration Projects

- $7.2m costs for $3.9m p.a. savings

Process Reviews

GHG Footprints

Protein Meal Production

- Qualifying for free allocation of NZ Units as EITE industrial process.
- All renderers provided energy, production and revenue data for three financial years.
- Govt assessing NZ average emissions intensity and may set allocative baseline. (Ave t CO2/t MBM)
- Renderers able to apply for NZ Units per tonne of MBM.
- Partial compensation for increased energy costs.

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Where to Next?

- Inter-plant comparisons
- Capital development programme
- Processing logistics
- Off-setting energy cost increases due to NZETS
- Qualifying for free NZ Units from ‘protein meal’ production
- Linking to on-farm emissions monitoring
- NZ ETS – Agriculture
  - 1 Jan 2011 – Voluntary reporting
  - 1 Jan 2012 – Mandatory reporting
  - 1 Jan 2015 – Full participation
- First formal review of ETS during 2011

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Thank You