

Some Like It Hot, 6 November 2008

The Carbon Hullabaloo: back to first principles



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Overview

Carbon dioxide equivalents

Counting carbon

Carbon in the marketplace

Emissions trading

Reducing emissions

SA Wine Industry Sector

Agreement – *Jodie Pain (SAWIA)*





Carbon dioxide equivalents (CO₂e) – not just carbon

‘Carbon’ is being used as shorthand for 6 greenhouse gases:

- carbon dioxide – burning fuels
- methane – waste breakdown, wastewater treatment
- nitrous oxide – agricultural soils, fertiliser
- hydrofluorocarbons – refrigerants
- hexafluorides – insulation for high voltage equipment
- perfluorocarbons – by-product of Aluminium production



Carbon dioxide equivalents (CO₂e) – not just carbon

Greenhouse gases have a quantified 'Global Warming Potential' (GWP) measured in carbon dioxide equivalents (CO₂e)

Carbon dioxide has a Global Warming Potential set at 1 CO₂e

Other greenhouse gases are given a number that compares their Global Warming Potential to that of carbon dioxide

So...



Carbon dioxide equivalents (CO₂e) – not just carbon

Methane = 21 CO₂e

Nitrous Oxide = 310 CO₂e

Hydrofluorocarbons = 140 – 11,700 CO₂e

Sulfur hexafluoride = 23,900 CO₂e

Some gas emissions are more significant than others!

Addressing a leakage responsible for the annual loss of **100g of hexafluoride gas** from old switchgear saves the equivalent of **2.39 tonnes of CO₂** from entering the atmosphere!

Counting Carbon

Carbon footprints

Calculate how much carbon equivalent your operation emits

The basis of proposed carbon labelling programs

Emissions trading

Calculate how much carbon your operation emits and that you are held responsible for

Trade in permits that give you an allowance to emit that carbon



Counting Carbon

Scope 1, 2 and 3

Taken from the international Greenhouse Gas Protocol

Scope 1 – direct emissions arising from your operations

eg tractor emissions, fertiliser volatilisation

Scope 2 – emissions from production of purchased electricity

Scope 3 – indirect emissions as a result of your operation

eg emissions from contractor vehicles, waste disposal
in off-site landfills



Counting Carbon

Scope 1, 2 and 3

Reporting of scope 1 and 2 emissions is the norm in government reporting

Scope 3 leads to the potential for double counting – your scope 3 (indirect) emissions are someone else's scope 1 (direct) emissions



Counting Carbon

Life cycle assessment

All of the CO₂e emitted from 'cradle to grave'

Includes carbon emitted in the production and transport of production inputs like fertilisers, agrochemicals etc

- the carbon is added up all the way along the supply chain

Less chance of double counting

Counting Carbon

Life cycle assessment

Can be a very complex process, especially without agreed rules on where the supply chain begins and ends

Life cycle assessments are emerging as the preferred international approach to counting carbon

...but after you count ALL of this carbon, how much should you be responsible for offsetting if that is your aim?



Carbon in the marketplace

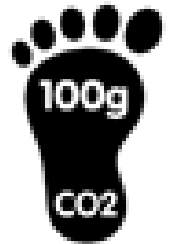
Carbon footprint calculation processes are being trialled by Tesco in the UK, Wal-Mart in the US, Casino and Carrefour in France and by regulators in Japan

The Tesco pilot includes a carbon footprint logo



Australia Food and Grocery Council and Woolworths – joint project to review carbon footprint methods and application in other markets

Consultants, consultants, consultants


working with
the Carbon Trust





  Australian Competition & Consumer Commission

Carbon claims and the Trade Practices Act



  Australian Competition & Consumer Commission

Green marketing and the Trade Practices Act



Emissions trading

Australia's instrument is the Carbon Pollution Reduction Scheme

Unlikely that any Australian wine company will trigger the direct emissions threshold that will lead to them trading carbon credits

Agriculture is proposed to be excluded from the early days of the scheme

A decision will be made in 2013 about whether or not to include agriculture from 2015 onwards



Emissions trading

Don't bank on carbon sequestration on your farm as a money spinner in future carbon trading

Soil carbon sequestration – jury is out and a favourable verdict is unlikely

Short term carbon cycle – carbon locked up for less than 100 years likely to fall outside rules for carbon calculation

This includes carbon locked up in vine roots, shoots and leaves, and mid-row crops



Emissions trading

Tree planting for carbon credits

Definition of a forest for greenhouse reporting purposes:

- Trees with potential height of 2m+ and canopy cover of min 20%
- Patches greater than 0.2ha and min width of 10m
- Established since 1 January 1990
- Established by human-induced methods

www.climatechange.gov.au/greenhousefriendly/publications/gf-forestsinks.html



Reducing emissions

Vineyard emissions

nitrous oxide emissions from agricultural soils and fertiliser (synthetic and organic) application

fuel use in vineyard equipment

on site waste treatment – eg composting of prunings

land use change?

Reducing emissions

Prevent waterlogging – nitrous oxide emissions are greatest just before the soil is saturated

Use nutrient budgets to apply the right amounts of nitrogenous fertilisers

Look at multi-row equipment to reduce vineyard passes

Maintain tractors, vehicles and equipment to keep them running efficiently

Consider energy efficiency when upgrading equipment

Don't forget back at the ranch!



wfa

**Winemakers'
Federation of
Australia**

For the Industry by the Industry

Thanks for your attention

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WINE INDUSTRY SECTOR AGREEMENT

Climate Change and Greenhouse
Emissions Reduction



Wine Grape Council SA



SOUTH AUSTRALIAN
WINE INDUSTRY
ASSOCIATION
INCORPORATED

SECTOR AGREEMENT

- South Australian Wine Industry Association (SAWIA) and the Wine Grape Council SA (WGCSA)
- Two year agreement with the South Australian Government
- *Climate Change and Greenhouse Emissions Reduction Act 2007*

WINE INDUSTRY SECTOR AGREEMENT

Climate Change and Greenhouse Emissions Reduction



Wine Grape Council SA



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PROJECT AIM

- Inform the wine industry on climate change
- Encourage and assist industry to measure and report greenhouse gas emissions
- Consistent measurement across industry
- Use Carbon Calculator based on International Wine Carbon Calculator



WINE INDUSTRY SECTOR AGREEMENT

Climate Change and Greenhouse Emissions Reduction



Wine Grape Council SA



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INFORM

- Information Sessions through regional associations January - April 2009
- Information pack available at regional information sessions, on SAWIA website and hard copies by contacting Project Manager
- SAWIA and WGCSEA newsletters information on project and dates for sessions

WINE INDUSTRY SECTOR AGREEMENT

Climate Change and Greenhouse Emissions Reduction



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COMMIT

- Commitment from growers and wineries by 30 June 2009
- Report on emissions for 2009/ 2010



WINE INDUSTRY SECTOR AGREEMENT

Climate Change and Greenhouse Emissions Reduction



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MEASURE

- Over 2009/ 2010 workshops in each region to show how to:
 - Collect data
 - Use Carbon Calculator
 - Enter data
 - Report emissions



WINE INDUSTRY SECTOR AGREEMENT

Climate Change and Greenhouse Emissions Reduction



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SET REDUCTION TARGETS

- Data aggregated at industry level and reported on
- Targets for reduction set for participants for 2010/ 2011 and 2011/2012



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Climate Change and Greenhouse Emissions Reduction



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HOW CAN YOU BE INVOLVED?

- Attend information session in Riverland in April 2009
- Commit to reporting
- Attend workshops in 2009/2010 and measure and report your emissions



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THANKS AND CONTACT DETAILS

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