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Inspiration to Application

+ product development
+ process development
+ effective packaging
+ efficient manufacturing
+ sensory evaluation
+ analytical chemistry
+ winemaking
+ fermentation

Glacier National Park

Boulder Glacier

1932

1988

Photos: George Grant, Glacier National Archive; Jerry DeSanto, National Park Service

Global Warming It's Not Easy!

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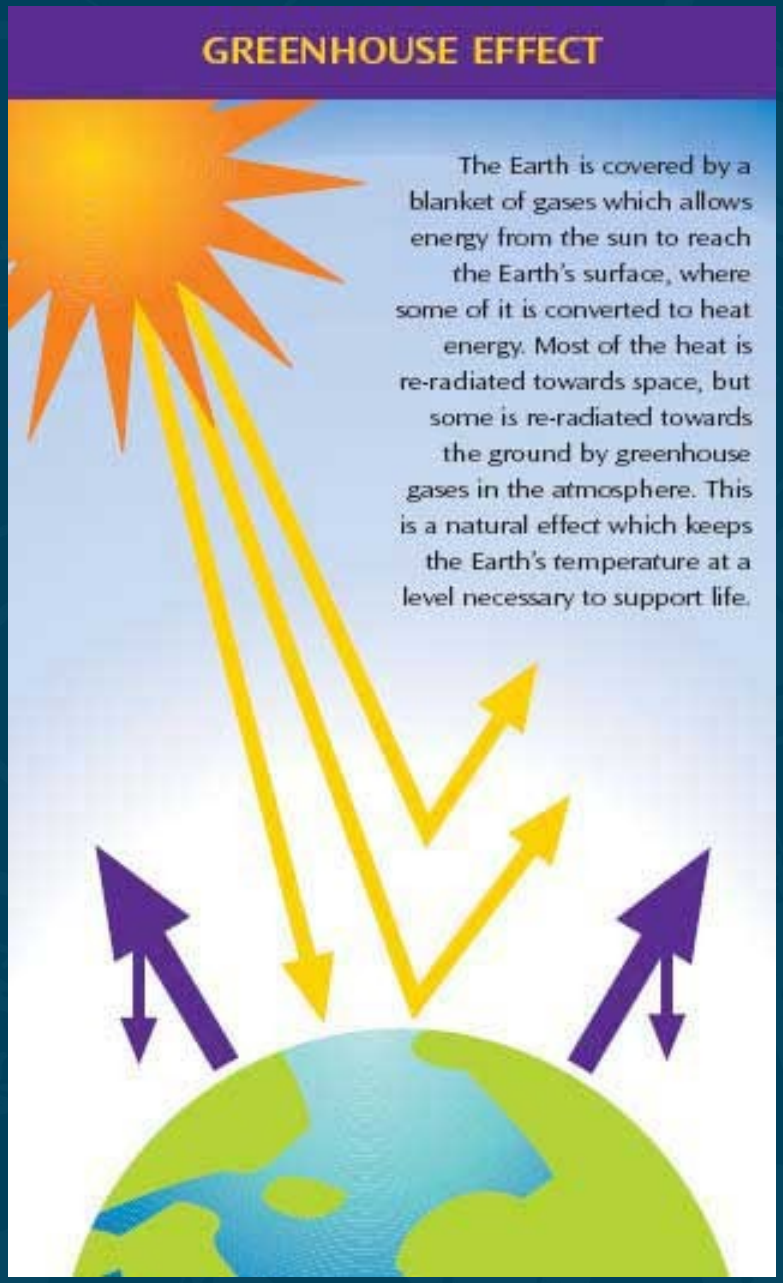

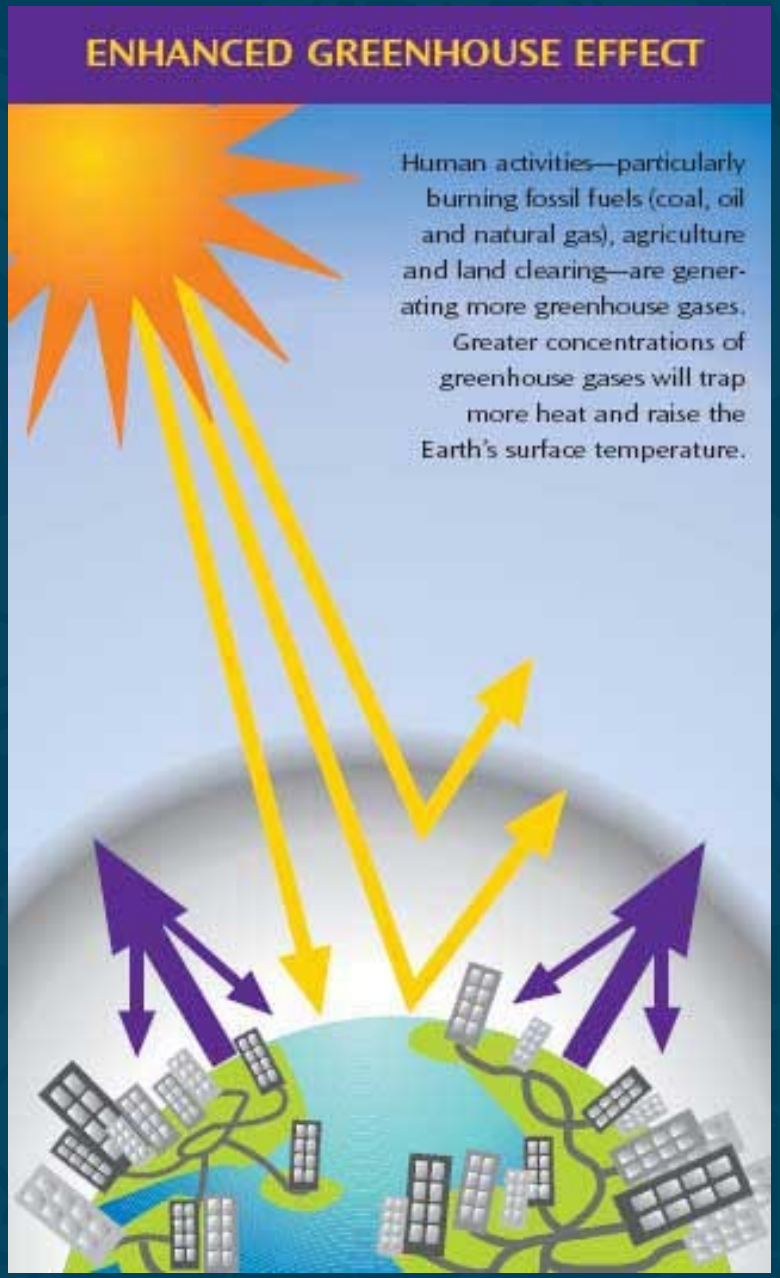

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New Orleans
Intracoastal
Mississippi River
Gulf Outl
Lake Borgne
Waterway
La. Nature & Science Ctr.
NASA MICHOUD ASSEMBLY FACILITY
47
RD
310
241
242
240B
244

"He says there's no scientific basis for global warming."

New World GHG Situation

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$$Q_{CO2e} = E_f \times Q_{source}$$

Welcome to the International Wine Industry Greenhouse Gas Accounting Calculator

Start AB32 Accounting

Start Carbon Footprint or Embodied Carbon Accounitng

In order to select the familar units and region specific emission factors, please select a region from the coloured maps below.

You have selected the following country and region: **Australia**

You have selected the following electrical grid: **South Australia**

Units Used Within the Model

	Volume	Energy	Mass	Mileage	Gas Units	Distance	Crush	Power	Sugar	Land Area
Australia	L	GJ	Kg	L/100Km	scM	Km	Tonnes	kWh	Brix	ha
New Zealand	L	GJ	Kg	L/100Km	scM	Km	Tonnes	kWh	Brix	ha
United States	Gal (US)	Therm	lb	mpg	scf	mil	ton (short	kWh	Brix	Acre
South Africa	L	GJ	Kg	L/100Km	scM	Km	Tonnes	kWh	Brix	ha
United Kingdom	Gal (imp)	Btu	lb	L/100Km	scf	mil	ton (long)	Therm	Brix	ha

How Successful has it been?

- Utilised in each of the jurisdictions, and gaining support;
- Oregon stage embracing the methodology;
- SA Government sector agreements with the wine industry and wine industry suppliers.

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Future Work

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Carbon Footprint vs product embedded carbon

- Footprint
  - Carbon emitted by an enterprise or facility
  - Elements directly controlled
  - Excludes elements controlled by other companies
  - Usually required for regulatory and government reporting

- Embedded Carbon
  - Lifecycle carbon of the product
  - Includes elements embedded in inputs
  - Required for Carbon Labelling
  - Required for Carbon Neutral Claims (ACCC 2008)

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working with
the Carbon Trust
75g
CO2

Caution: Carbon Neutral

First "neutral" winery wasn't including bottle

Tuesday, 18 March 2008, 9:48 am
Press Release: Carbon News

Media Release

LEADING STORIES IN CARBON NEWS: 18 MARCH 2008

World's first "carbon neutral" winery wasn't including the bottle

The world's first "carbon neutral winery" hasn't been including the carbon footprint of its bottles.

Bottles are included for the first time this year in the footprint inventory of the world's first certified carbon-neutral winemaker, Grove Mill, the country's first carbon market daily news service, Carbon News, reports today at www.carbonnews.co.nz.

SEARCH NZ JOBS
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Check Your SALARY Level
MORTGAGE Calculators
Taxed 39%? Earn more money!
Compare cars at Rightcar
Calculate Your NETWORTH

we are what we do©
Small actions x lots of people = BIG change

This means Grove Mill wasn't including the carbon content of its bottles when it announced it was the world's first "carbon neutral" winery.

Ann Smith, programme leader for state-owned certifier carboNZero, told Carbon News that in anticipation of a new standard being drafted by British Standards, this year's Grove Mill inventory was widened.

"Last year, when we took Grove Mill through the programme, there was no standard for product, only a standard for an entity or organisation, but they included a lot more emissions than were required, like the freight to the UK even though they don't pay for it," Smith said.

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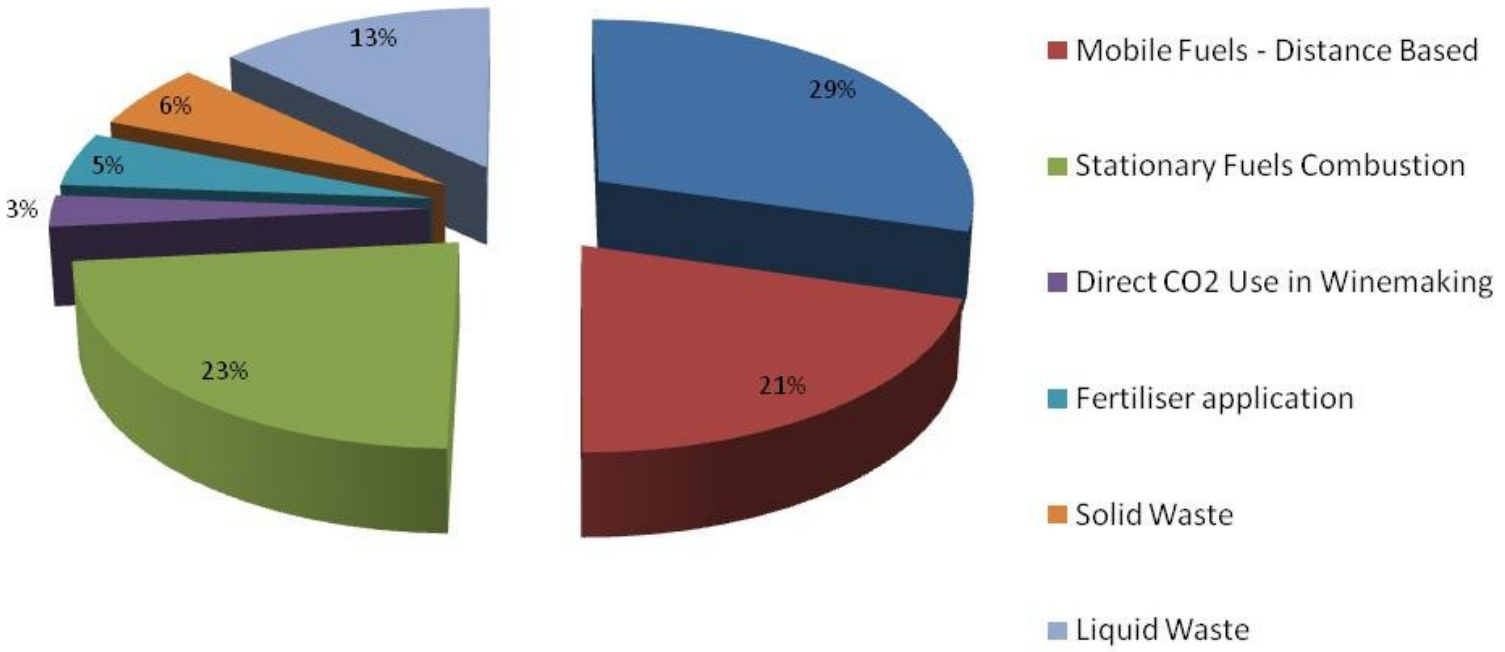
Typical Winery Emissions



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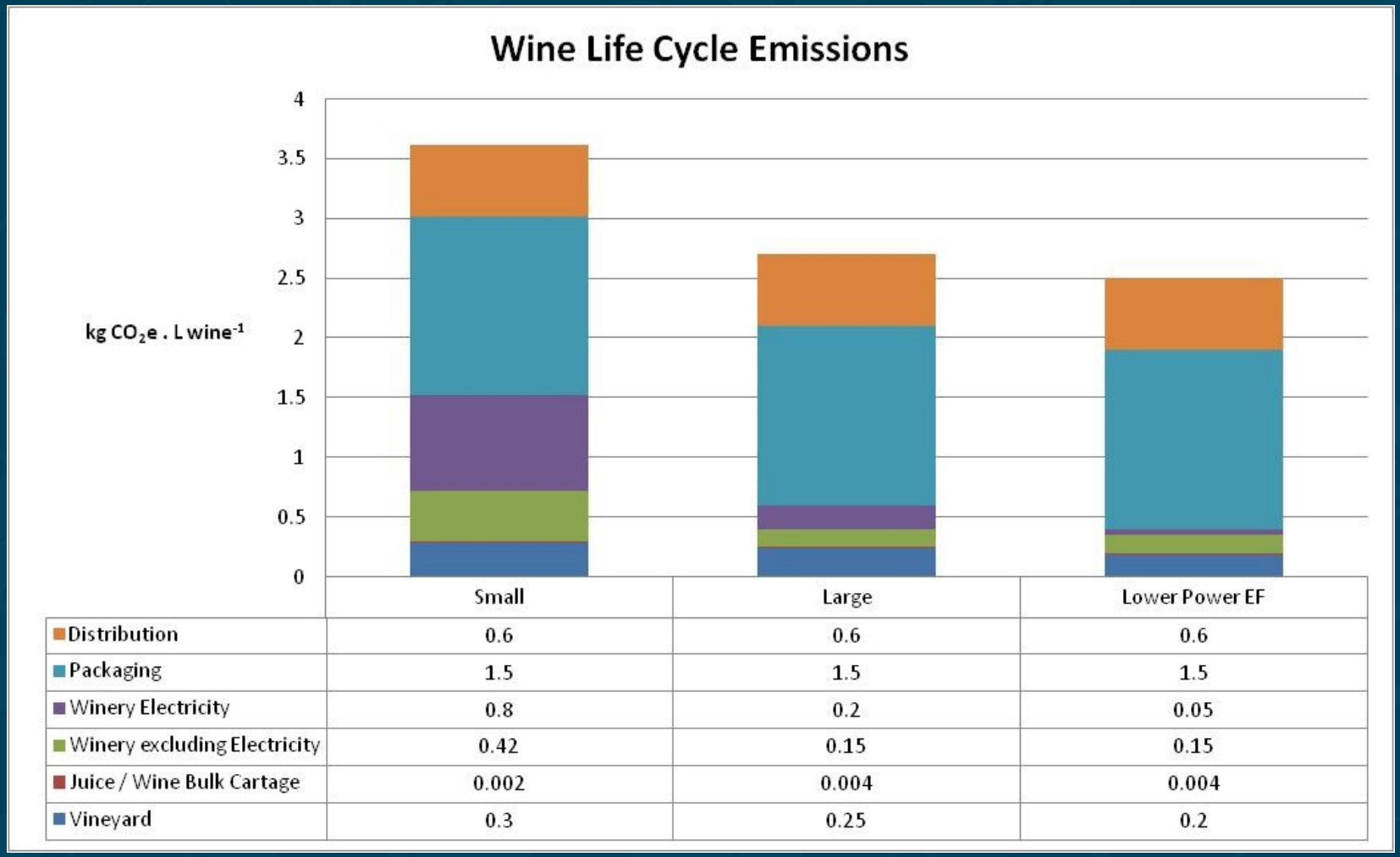
Life Cycle Emissions



	Small	Large	Lower Power EF
Distribution	0.6	0.6	0.6
Packaging	1.5	1.5	1.5
Winery Electricity	0.8	0.2	0.05
Winery excluding Electricity	0.42	0.15	0.15
Juice / Wine Bulk Cartage	0.002	0.004	0.004
Vineyard	0.3	0.25	0.2

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