Waste & Recycle Conference 2007 Goes Carbon Neutral

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1 Why Carbon Neutral?

The Waste & Recycle 2007 Conference is going carbon neutral. This is in keeping with the theme of the Conference *Planning in an Uncertain Climate: A Delicate Balancing*

Act? and reflects the wider concerns of the waste management industry and those individuals involved in it.

This paper presents an overview of what we consider carbon neutral to be, how we are setting about achieving it for the Waste & Recycle Conference 2007 and plans for the future.

2 What is Carbon Neutral?

Some of the terminology around carbon neutral requires clarification. The term carbon offset is used in this discussion. Carbon offsets (a.k.a. carbon credits) are purchased from a provider to counterbalance the carbon dioxide produced by an action.

Given the variety of carbon offset providers and the debate which has raged about the value of 'carbon neutral' a clear definition and understanding of the concept is needed. The definition of carbon neutral provided by the Easy Being Green Website is "calculating the amount of greenhouse gas emissions your life creates, and paying to reduce the equivalent emissions from entering the atmosphere somewhere else". This definition is open to the criticism levelled by The Carbon Neutral Myth "the culture offsets is corrosive to the climate change debate. It presents itself as a way that people can effectively deal with climate change while largely maintaining their levels of energy consumption" (Carbon Trade Watch, 2007).

For our purposes, therefore, the traditional definition of carbon neutral is inadequate. A more holistic approach to carbon neutral is provided by the Total Environment Centre (TEC) in their recent paper. TEC state "there needs to be a clear distinction between carbon neutrality and carbon offsets. Carbon neutrality does not mean emissions have been negated entirely by off site measure; it represent a higher quality of action by changing business-as-usual behaviour as the bulk of the response to global warming". This definition is therefore the one which will be adopted for the purposes of the Conference and the aim were are directed toward.

3 Why we consider the Conference to be Carbon Neutral

Given the use of the TEC papers definition of carbon neutral, the Conference is addressing and seeking to reduce its impacts, in addition to purchasing carbon offsets to address unavoidable emissions. The TEC paper outlines a process for going Carbon Neutral:

Step 1: Assess carbon footprint
Step 2: Implement emissions reduction measures
Step 3: Compute remaining carbon emissions
Step 4: Purchase GHG offsets

Step 1 and Step 2: Assess and reduce Carbon footprint

The overall impact carbon emissions of the Conference were estimated using an online Conference Carbon Calculator developed by EPA Victoria (2005). This provided only a general calculation and is likely an underestimate as the calculator does not have a

facility for the inclusion of flights within WA. The amount of Carbon produced using this calculation totalled 286.86t.

An assessment was made of where reductions in the amount of Carbon could be made, these included:

- Transportation

Promotion of public transport options for getting to and from the Conference, as well as, around Fremantle. Train, bus and Fremantle Central Area Transit (CAT) timetables will be prominently displayed at the Registration desk. The Registration brochure also lists the relevant websites for public transport timetables.

- Paper

All Conference promotional/information material is printed on 100% recycled paper with vegetable based dyes.

- Recycling

On site recycling bins are provided.

- Bags

This year the Conference will not be supplying the usual type of satchel to all delegates – a paper bag will be used. These are less energy intensive to produce and can be recycled.

- Venue

The venue selected is itself carbon neutral (see Appendix 1)

- Exhibitors

When the various exhibiters registered they were sent (electronically) an outline of how they could reduce their carbon footprint at the Conference (aside from making their booth carbon neutral).

Step 3: Carbon Offset Calculations

Carbon Dioxide Generated

The CO_2 generated (and offset) by the Conference has been split into various areas. The Esplanade Hotel has its own offset programme which considers its range of operational activities (not only offsetting current but seeking ways to reduce carbon produced). Therefore the activities producing activities specific to the hotel, such as food production, energy use etc, have not been included in the calculation of emissions.

Table 1 shows a breakdown of the carbon dioxide produced from the range of activities undertaken at the Conference and in its organisation. To ensure total coverage of the Conference, an additional 15% has been added onto the amount calculated. This is the amount of carbon offsets purchased.

Projection of Total Carbon Dioxide Generated

Conference Related Activity	Carbon Dioxide generated (t)
Flights (international, inter state and within the state – includes travel to the airport)	141.34
Car travel (by delegates to and from the Conference)	8.5
Transport of materials for Conference display	0.608
Outdoor Conference display	0.85
Site visits (travel to and from)	0.05

Printing of Conference materials	0.36
Registration and associated admin activities	1.82
Delegates	1.3
Total	154.828t
Total (inc. 15% to ensure total coverage)	177.1t

Table 1: Projection of carbon dioxide produced by the activities of the Conference (excluding the majority of activities undertaken on the Esplanade premises).

For a breakdown of the assumptions for each of the calculations and fuller explanation see Appendix 2.

Every Carbon Calculator is not equal

As there is some variation with regard to online carbon calculators, an average has been used (where possible) and the standard deviation indicated. The following online calculation tools were used for flight and transport:

- www.my-climate.com
- www.climatefriendly.com
- www.co2balance.com

Step 4: Carbon Offset Provider - Considerations

When selecting offset providers, the Conference committee considered the following factors:

1. Needed to be a nationally accredited provider which included third party verification (ensuring that the offsets were legitimate and had been through a rigorous approval process);
2. Given the urgent necessity to act regarding Climate Change carbon offsets where the benefits were immediate;
3. Where permanence of offset could be assured;
4. Preference for waste management related offsets, given nature of the Conference;
5. WA based offset provider; and
6. Additionality, while this is an element in any offset accreditation scheme, the Committee was keen to include our own assessment as part of the criteria.

Therefore the offset provider selected was the Southern Metropolitan Regional Council.

1. They are accredited under the Australian Greenhouse Friendly Program (Australian Greenhouse Office, 2007).
2. They provide offsets which are immediate.
3. Permanence is assured.
4. Waste management related.
5. WA based.
6. Additionality is provided on the basis that their practice is not yet standard (this will be reviewed in future as more AWT plants come on line).

Southern Metropolitan Regional Council – Carbon offsets

The Southern Metropolitan Regional Council (SMRC) is a statutory West Australian local government authority created to develop collective, sustainable waste management and

recycling solutions, and greenhouse gas reduction for and with its seven member councils:
Canning, Cockburn, East Fremantle, Fremantle, Kwinana, Melville and Rockingham.

The SMRC operates an alternative waste treatment facility that composts the organic fraction of municipal solid waste (MSW) into a valuable product which is applied to agricultural land. The carbon offsets are generated from the avoidance of methane emissions, caused by waste decomposing in landfill, that would otherwise occur in the absence of the project.

The tonnage of carbon offset that the SMRC is eligible for, under the Greenhouse Friendly™ Program, is calculated using the following general formula:

Total Greenhouse gas emissions avoided by project -
Total Greenhouse gasses emissions from the project (all operating emissions)

= Carbon offset eligible

For more information about the SMRC's carbon offsets visit www.smrc.com.au or to find out more about the Greenhouse Friendly™ Program visit http://www.greenhouse.gov.au/greenhousefriendly/abatement/projects.html

5 What about next year and beyond?

The Waste & Recycle Conference has an ongoing commitment to reducing the environmental effect of their activities associated with the Conference. Therefore in the coming years we plan to:

- Continue reducing our impact;
- Continue to purchase carbon offsets for impacts which cannot be reduced;
- Ensure better data collection; and
- Investigate further methods of reducing carbon emissions.

Appendix One

The Esplanade Hotel Fremantle: A 'Green' Journey

The Esplanade Hotel Fremantle signed onto the Federal Government's Greenhouse Challenge in 1997. Through Greenhouse Challenge, Australian companies help to lead the way against climate change, by reducing millions of tonnes of greenhouse gas emissions each year. In 2007, The Esplanade Hotel Fremantle proudly celebrates its ten year anniversary of being part of this initiative.

Building on her environmental commitment, Ms New secured the hotel its AAA Tourism Green Star accreditation in 2001. The Esplanade Hotel Fremantle was the first WA hotel to receive its Green Stars. The Hotel is committed to all aspects of environmental sustainability focusing on;

Recycling
Reducing water use
Using environmentally friendly products
Energy management
Reducing the production of greenhouse gases
Solar hot water heating

2007 has become another landmark year for the Esplanade Hotel Fremantle, with environmentally-friendly vehicle purchase (a Citroen C4) and the Hotel's recently achieved carbon neutral status. The Esplanade Hotel Fremantle's new carbon neutral status has been established by securing 9.6 hectares of rainforest in Ecuador through Rainforest Rescue. This is part of an ongoing commitment to offset the Hotel's remaining carbon emissions. Still standing strong with much of its original architecture, the building embodies the past of Fremantle and heralds in the future as a shining example with its environmentally responsible business practices.

For more information:

http://www.greenhouse.gov.au/challenge/
http://aaatourism.com.au/pdf/Green%20STARS%20fact%20sheet.pdf
http://www.rainforestrescue.org.au/

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Appendix Two

Flights (and travel to and from the airport)
International – reflects 2007 keynote speakers
Total tonnes (average) = **35.65t**
Standard deviation = 2.58t

Interstate – reflects 2006 attendees + 10%
Total tonnes (average) + 10% = **94.90t**
Standard deviation = 12.64t

Within state – reflect 2006 attendees + 10%
Total tonnes + 10% = **7.39t***
*only www.my-climate.com provided enough detail of airport listing for this calculation.

Taxi travel by those flying – reflects 2007 and 2006 figures
Total distance travelled by delegates – 11,200km
Total tonnes carbon dioxide produced – 3.4t

TOTAL = 141.34t

Assumptions
All calculations based on round trip
Travel to a certain distance (30km to airport)
Travel from Airport to Fremantle – 38.55km x 2 = 77.1km
4 Litre car for all travel (petrol)

Transport of materials for Conference displays
Total used in transporting booth set up material by ADVANS– 0.058t
Total used in transporting booth materials Misc Delegates – 0.55t

TOTAL = 0.608t

Assumptions
Travel for booth materials, assuming 2 trips, travelling 50km each way for each booth.
Standard truck fuel consumption applies.
Include assumption that each exhibitor will bring material on Monday, hence extra trip of 50km.

Outdoor Conference display

For transport of material to conference (by truck): 0.35t
Energy use for outdoor exhibition: 0.5t

TOTAL = 0.85t

Assumptions
Energy use in the outdoor exhibition is limited to lighting and power generation for the hospitality tent.
100L of fuel per tank
One tank of fuel will propel truck for 500km
Majority of the transport will come from Midland (where majority of such companies are located)
Diesel carbon content per gallon: 2,778 gram (US EPA, 2007)
1 gallon [US] = 3.785 411 8 litre
All of the lots on offer will be sold.

Printing of Conference materials

Paper used (Call for papers, sponsorship forms, registration forms, programs, delegate lists, menus, evaluation forms, misc printing) = 29,150 sheets
Kg of Paper = 146.3kg

TOTAL = 0.36t

Assumptions
1 Kg of paper uses 1.22kg of Carbon Dioxide to produce
1 Kg of printing (on paper) uses 1.24kg of Carbon Dioxide to produce (Pers Comm. Tim Grant)
Average sheet weight of 500 sheets of paper 2.51kg

Registration and associated admin activities

The total amount of power used for the Conference was estimated to be 2 full months = 1.82t

Assumption
Calculation based on average use of power in a large household (10.9t / year).

TOTAL = 1.82t

Delegates travel to Conference by car

Total distance travelled by delegates – 10,322km
Amount of carbon dioxide produced (+10%) - 8.5 t

TOTAL = 8.5t

Assumptions
Based on 2006 figures + 10%
Assuming delegates attend for 2 days out of potential 4 (so 2 journeys to and from the Conference included).
Using postal address that was supplied by delegate (this is assuming that delegates live close to their work – which may be erroneous in some cases)
CO2 saved by avoiding usual commuting to work activities has not been included in the calculations
Assuming a 4L car
No assumptions have been included regarding public transport utilisation.

Delegates
The average person's respiration generates approximately 900grams of CO_2 daily.
Based on 2006 attendance figures + 10%, also include 30% smokers the amount of **1.30t** (Hannan, undated)

TOTAL = 1.3t

Assumption
Extra Carbon Dioxide emission has been included to factor in dancing at the Conference Dinner. Smokers have been estimated at 30%, therefore additional CO2 to offset cigarettes has been included (Pers Comm, Dave West), assuming 30 a day habit.

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