Encorp Pacific Environmental Report

The Government of British Columbia has adopted public policies intended to promote a low carbon economy. As a stewardship agency operating under a provincial regulation, Encorp has an opportunity to disclose the impacts of its stewardship activities. In addition to informing our stakeholders, the benchmarking of our green house gas emissions opens a window for improved efficiency and the potential to reduce energy consumption in the future. We believe there is a sound business case for these initiatives.

Reduction in greenhouse gas emissions from recycling

In 2010, Encorp collected and had over 97,000 metric tonnes of material recycled. The energy saved through the recycling of materials collected by Encorp can be converted into tonnes of carbon dioxide equivalent (CO2e) (the common measure of greenhouse gases (GHGs)), based on the US Environmental Protection Agency's (EPA) Waste Reduction Model. The model calculates net emission reductions based on the average distribution of fuels consumed along the entire lifecycle production process[i].

In total, Encorp's activities in 2010 contributed to the reduction of about 135 thousand tonnes of CO2 equivalent being released into the atmosphere, a slight decline of 2.3 thousand tonnes from 2009. The decline is due to the changed mix of the material collected and the different energy savings related to each material type.

Material	% Energy Savings from Use of Recycled Inputs for Manufacturing of Material	tonnes CO2 equivalent reduced
Aluminum	93%	77,307
Plastic	86%	21,037
Pouches/Bag-in-Box	53%	1,089
Glass	34%	27,218
Bi-Metal	82%	361
Polycoat	53%	8,193
Total		135,206

Greenhouse gas emissions associated with Encorp's stewardship activities

While recycling has an overall net benefit in terms of energy and emissions savings, the recycling process itself does require energy and thus has GHG emissions associated with it. While the EPA's Waste Reduction Model does factor in the typical energy use associated with recycling when estimating net savings, Encorp has committed to specifically estimating the GHG emissions associated with its stewardship activities. By doing so, we hope to identify ways in which we can minimize our carbon footprint.

Since Encorp is not a manufacturing company, the majority of our associated GHG emissions come as a result of transporting materials as well as heating and powering our network of facilities. Therefore, we define Encorp's GHG inventory boundary from the point that empty containers enter into the Encorp system at either a depot or retailer, to when the materials are delivered to the end processors for recycling into new products. Emissions were estimated using conversion factors and methodologies developed by the World Resource Institute's Greenhouse Gas Protocol.

The services provided to Encorp are done through third party independent contractors and the emissions produced by these activities are classified as Indirect Scope 3 GHG emissions in accordance with the World Resource Institute's Greenhouse Gas Protocol. With limited data availability for Scope 3 emissions we accept that data accuracy is lower.

Accounting and Reporting on Scopes

Emission calculations from purchased electricity were based on a survey of a number of depots and processors in each Region. These depots and processors were asked to provide their purchased electricity and natural gas consumption during the year.

The sample was used to estimate the energy use per metric tonne of material collected which was then extrapolated to

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the total weight of used beverage containers collected in the Province.

The estimated energy consumption in KwHs was then converted into the carbon dioxide emissions using the calculators offered by the Greenhouse Gas Protocol[ii].

Emissions Sources Exclusions
Emissions associated with heating and powering the Encorp head office are not included in the GHG inventory since the office is part of a shared lease facility for which heat and power is controlled centrally by the landlord.

Staff commuting to work in personal cars was excluded as this is considered to fall under the personal carbon footprint of the employee and Encorp has little control over where people choose to live. Staff commuting and travel on BC Ferries was also excluded as we were unable to quantify BC Ferry fleet GHG emissions.

Finally, emissions associated with the handling of materials outside of Encorp's core stewardship activities of deposit bearing beverage containers, such as milk cartons and electronics, were excluded since such activities fall outside the scope of Encorp's core recycling stewardship activities for BC.

i US EPA, Waste Reduction Model, Version 10 (10/09); US EPA, Solid Waste Management and Greenhouse Gases (2002) (Exhibits 2-3 to 2-6) were used to calculate 2010 and 2009 avoided emissions of CO2.

ii GHG Emissions from purchased electricity worksheet V 4.1. (Jun 2009) and GHG emissions from transport or mobile sources V 2.0 (Jun 2009) from the Greenhouse Gas Protocol Initiative were used to calculate emissions for 2010.

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iv All indirect emissions except for Office use were calculated based on the sample data provided by selected Depots, Processors, and Transporters.

v Electricity Intensity Table for BC provided for 2008 retrieved from from http://www.ec.gc.ca on April 13, 2011.

Emissions Inventory Summary

Emissions Inventory Summary (tonnes CO2)	2010[ii]	2009[iii] (restated Note 1)
Type of Emission		
Direct emissions are emissions from sources that are owned or controlled by Encorp		
Employee travel - gas use	34	27
Indirect emissions occur as a consequence of the activities of Encorp, but are from sources not owned or controlled by Encorp. Inclusions are emissions from purchased electricity consumed by Encorp offices, depots, processors and transporters, as well as the transportation of the beverage containers by contracted transporters[iv].		
Offices (excluding head office)		
Purchased electricity in leased buildings (excluding head office)	4	3
Employee domestic air travel	16	14
Depots		
All purchased electricity in owned or leased buildings	104	118
All natural gas consumed in owned or leased buildings	68	75
Processors		
All purchased electricity in owned or leased buildings	40	28
All purchased gas consumed in owned or leased buildings	10	3
Transportation – depots to processors		
Diesel fuel	4,172	4,386
Transportation – processors to end markets		
Diesel fuel	1,381	1,507
Rail (based on metric tonne km)	368	392
Sea travel (based on metric tonne km)	4,216	4,555
Total Emissions all sources	**10,188**	**10,880**

Note 1
In 2010, we changed our methodology to convert KwH into CO2 emissions using the British Columbia Electricity Intensity factors retrieved from the Environment of Canada Websitev. As a result of using the proper mix of the low emission public utilities in BC, the calculated emissions from the purchased electricity declined drastically that required us to restate the prior year emissions.
In addition, this year we included other GHG gases (CH4 and N20) in the calculation to provide reporting on the CO2 equivalent (CO2e) to better match the reported emissions avoided into the atmosphere as a result of our recycling activities. This inclusion required restatement of the prior year emissions as well.

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Emissions Reduction Strategies

The overall decrease in emissions in 2010 compared to 2009 was partly due to the lower volume of containers collected. Approximately 45 million fewer containers were collected by the depots in 2010 as compared to 2009.

In addition, 14 small compactors were installed at 8 of our depots for a total of 17 compactors in 10 depots by the end of 2010. Even though we have not attempted to quantify the avoided emissions as a result of the depots' use of the compactors in 2010, we were able to confirm that the number of trips to pick up from these depots was reduced by 30% on an annual basis thereby saving fuel and reducing emissions.

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