



# **Greenhouse Gas Emissions Audit for Foof**

2005/06





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## Executive Summary

Carbon Planet conducted a comprehensive audit of the greenhouse gas emissions accountable to the operations of Foof for the financial year 2005/06. The aim of this process was to define and establish an operational boundary to account for direct and indirect GHG emissions (scope 1, scope 2, scope 3) that constitute to Foof's inventory for the purpose of removing those emissions with carbon credit offsets. A further aim was to identify areas where GHG emissions may be able to be reduced in subsequent years.

A carbon credit, as defined by the Kyoto Protocol, certifies one metric tonne of carbon dioxide (CO<sub>2</sub>) either removed from the atmosphere or saved from being emitted. To compensate for the other greenhouse gases, a carbon credit can be expressed in terms of tonnes of carbon dioxide equivalents (CO<sub>2</sub>e), which relates the effect of other greenhouse gases to an equivalent warming capacity of CO<sub>2</sub>.

Carbon Planet's CO<sub>2</sub> free™ audits comply with the standards outlined by the Greenhouse Gas Protocol in the Corporate Accounting and Reporting Standard (2004) [1]. The amount of carbon credits required to make Foof CO<sub>2</sub> free™ is derived from the calculation of the total amount of carbon dioxide equivalents emitted from all the activities and equipment employed to make Foof function. Elucidation of the activities and items contributing to GHG emissions involves obtaining an organisational inventory of everything that was conducted and consumed as a result of operations within the established organisational boundary. Table I presents a summary of the all the services required, as well as the consequent emissions that arose as a result of operation.

**Table I Service and procedures provided for Foof**

Service	Procedures	Emission Source
Utilities & Services	<ul style="list-style-type: none"> <li>▶ Electricity</li> <li>▶ Gas</li> <li>▶ Water</li> </ul>	<ul style="list-style-type: none"> <li>▶ Green energy employed - not required</li> <li>▶ Fuel combustion - direct CO<sub>2</sub>e emissions from CH<sub>4</sub></li> <li>▶ Direct CO<sub>2</sub>e emissions from waste water &amp; sludge</li> </ul>
Stationery	<ul style="list-style-type: none"> <li>▶ paper</li> <li>▶ staples</li> </ul>	<ul style="list-style-type: none"> <li>▶ Emissions from manufacture, waste and printing</li> <li>▶ Emissions from steel manufacture</li> </ul>
Transport	<ul style="list-style-type: none"> <li>▶ Ground transport (car)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Fuel combustion - direct CO<sub>2</sub>e emissions from cars</li> </ul>
Professional Services	<ul style="list-style-type: none"> <li>▶ Staff member's individual work time contribution</li> </ul>	<ul style="list-style-type: none"> <li>▶ Per capita emissions of country of origin for work time only</li> </ul>
Products & Food Packaging	<ul style="list-style-type: none"> <li>▶ plastic</li> <li>▶ cardboard</li> </ul>	<ul style="list-style-type: none"> <li>▶ Emissions from manufacture and waste of plastic and cardboard</li> </ul>
Freight	<ul style="list-style-type: none"> <li>▶ Ground transport</li> </ul>	<ul style="list-style-type: none"> <li>▶ Fuel combustion - indirect CO<sub>2</sub> emissions (air/ road)</li> </ul>

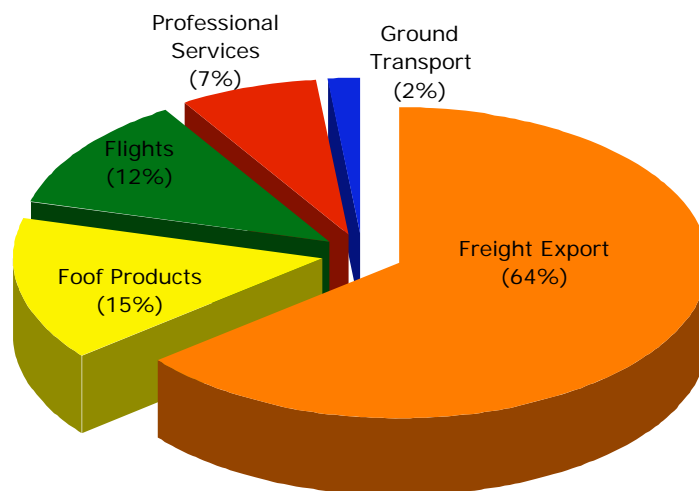
Calculation of the amount of CO<sub>2</sub>e is determined via the multiplication of a referenced emissions factor (F<sub>CO<sub>2</sub></sub>) in units of tonnes of CO<sub>2</sub>e per unit of material involved, multiplied by the total amount of material (Q<sub>item</sub>) employed, equation (2.1):

$$m_{CO_2} = F_{CO_2} \left( \frac{t CO_2e}{\text{unit item}} \right) \times Q_{\text{item}} \quad (2.1)$$

The greenhouse gas emissions factors collated for all activities and items responsible for CO<sub>2</sub>e emissions are accessed from a wide variety of sources. Where possible, the most reputable resource available was utilised and referenced. Table 2 and Figure 1 below present a summary of the main items and activities responsible along with the corresponding tonnes of CO<sub>2</sub> equivalents for Foof. The audit concluded that 102.3 tonnes of greenhouse gas (CO<sub>2</sub>e) were accountable to the operations of Foof.

**Table 2 A summary of CO<sub>2</sub>e emissions for Foof**

Service/Equipment	Emissions (tCO <sub>2</sub> e/yr)	% of Total
Freight (export)	65.54	64%
Foof products	15.60	15%
Flights	12.17	12%
Professional Services	7.30	7%
Ground Transport	1.69	2%
Electricity (green supplier)	0.0	0%
TOTAL	102.3	100%



**Figure 1 A comparison of the CO<sub>2</sub>e emissions for Foof**

From both Table 2 and Figure 1 it can be seen that international air freight of Foof products to worldwide customers contributes the greatest emissions (64%, 65.5 tonnes of CO<sub>2</sub>e) to the total CO<sub>2</sub>e footprint of Foof. Products produced account for the second highest levels of CO<sub>2</sub>e emissions at 15.6 tonnes amounting to 15.6% of the overall emissions. The majority of these emissions were associated with the direct importation by air freight of textiles from Ireland and Japan or the cable turtles from Netherlands (10.0 tonnes of CO<sub>2</sub>e). Business air travel from Sydney to Dublin via Tokyo and Frankfurt was the next largest contributor at 12%, 12.2 tonnes of CO<sub>2</sub>e. Professional services emissions (7%, 7.3 tonnes of CO<sub>2</sub>e) were based on a 25hr week basis for 50 weeks in the year for 2 staff members. Ground transportation produced 1.7 tonnes of CO<sub>2</sub>e, (2% of total). The electricity emissions were zero given the use of a green electricity. For comparative purposes, had the energy been sourced from the national grid as supplied, accountable emissions would have risen by 4.3 tonnes of CO<sub>2</sub>e.

The purchase of 103 fully certified carbon credits will render Foof CO<sub>2</sub> free<sup>TM</sup>. CO<sub>2</sub> free<sup>TM</sup> is a certification that means the business has completed comprehensive yearly greenhouse gas emissions auditing, is zero net greenhouse gas emissions through offsetting with fully certified carbon credits, and has made a long term commitment to implementing low emissions policies.

The partnership between Foof and Carbon Planet for this audit places Foof as an industry leader in climate change policy. As such it offers an important opportunity to educate Foof's clients, staff and the public (corporate and consumer) on the importance of understanding and removing our impact on the greenhouse effect.

## Audit Commissioned by Dirtymouse, Company Director of Foof and conducted and presented by Carbon Planet Pty Ltd

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## Accounting and Reporting Standardization

Carbon Planet's CO<sub>2</sub> free™ audits are in accordance with the standards outlined by the Greenhouse Gas Protocol in the Corporate Accounting and Reporting Standard (2004). The GHG Protocol is a broad international coalition of businesses, non-governmental organisations (NGOs), government and inter-governmental organisations and operates under the umbrella of the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI).

