

# MAKING A DIFFERENCE

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## Abstract

At a time when dealing with climate change issues are being recognised as one of the greatest challenges by governments, industry and the general public, business leaders are starting to draw up strategies to measure and manage their greenhouse gas (GHG) emissions and to use this knowledge to reduce their carbon footprint. Living Edge is one such company who commenced their journey towards being a carbon responsible organisation, identifying their carbon emission sources, establishing tools and systems for the collection of data and setting targets for emission reduction and finally disclosing their findings and commitments. As part of their business strategy and creating an internal opportunity for learning – the mapping of the carbon emissions from a single product line (Herman Miller) was undertaken within clearly defined boundaries and purchasing of carbon emission offsets, thereby delivering to the Australian market, a carbon neutral product.

For Living Edge the cost of identifying and managing their carbon emissions is far outweighed by the additional marketing and business opportunities created through their journey of becoming a carbon responsible organisation. The identification and quantification of carbon emissions included Scope 1, 2 and 3 (agreed) emissions, in order to identify all relevant GHG emissions for Living Edge. The Greenhouse Gas Protocol framework and the emission factors as described in the National Greenhouse Accounts Workbook were used to calculate these emissions. The principles utilised are based on the identification of carbon emission sources within their business and within their supply chain, the establishment of procedures to record and monitor carbon generating sources, the conduct of workshops to determine methods to avoid or reduce, replace or substitute carbon emissions within an Environmental Management System framework. Having developed a thorough understanding of the carbon emission sources, appropriate carbon offsets to support the Living Edge brand were identified and purchase recommendations provided.

**Key Words: Climate change, carbon responsible, carbon neutral, greenhouse gas emissions, mapping, scope 1, 2 & 3 emissions, supply chain, carbon emission sources, carbon offsetting, GHG protocols, carbon management**

## Background

The release of the third assessment report by the Intergovernmental Panel on Climate Change (IPCC), concluded that “Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level” (IPCC 2007). The urgent need to address climate change issues has become even more pressing and evident. Given the public view and more particularly the view of their customers that climate change is real and that humans are the likely cause, Living Edge management recognised that there existed significant opportunities in the market place to implement an organisational strategy around carbon management. The implementation of an integrated Corporate Sustainability

Strategy, incorporating carbon management as part of an Environmental Management System (EMS) provided the framework for the business to meet its environmental and social objectives while maintaining a focus on the business goals and long-term business strategy. The organisation also estimated that the business opportunity that was not available because it could not provide appropriate environmental credentials amounted to \$2 million dollars. This far outweighed the cost of implementing a Carbon Management Plan and Corporate Sustainability Strategy.

## Introduction

Living Edge furniture is an Australian owned company that supplies designer furniture to the Australian marketplace. The company imports and distributes several premium

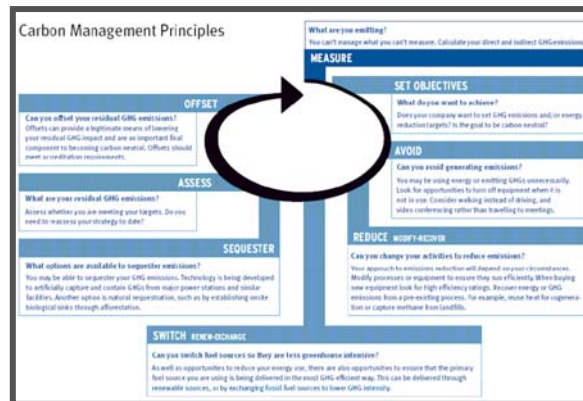
international furniture ranges from Europe, Asia and the USA as well as supporting local furniture designers. Living Edge also provides service and after sales support, including planning, CAD design, product procurement, delivery and installation services. There are six showrooms and two warehouses located around Australia and Living Edge employees 93 full-time staff.

At a time when dealing with climate change issues are being recognised as one of the greatest challenges by governments, industry and the general public, business leaders are starting to draw up strategies to measure and manage their greenhouse gas (GHG) emissions and to utilise this knowledge to reduce their carbon footprint. The organisation has a philosophy of 'people, product and planet'. With the inherent emphasis this places on sustainability and the environment, Living Edge has chosen to conduct a voluntary greenhouse gas emissions investigation. This is an important first step to understanding where the organisation currently stands in relation to its carbon emissions. It is also one that requires the full support and cooperation of all employees and consideration of such matters as travel to and from work and the impact of transportation of products and the impact of suppliers.

The emissions inventory report was prepared and written in accordance with Part 7.3.1 of ISO 14064-1 and is designed to be used by Living Edge furniture to understand and manage their greenhouse gas emissions. Living Edge also recognised that as an organisation pursuing sustainability was good for brand preservation and would lead to improved brand recognition and value. Understanding the sources of carbon emissions also provided an important opportunity for driving change.

### Preparing for the assessment

An initial workshop was held with key Living Edge staff to discuss the process and we decided to utilise the Environment Protection Authority Victoria - Carbon Management Principles as shown in Figure 1 as the model for introducing the principles by which the carbon management plan would be developed.



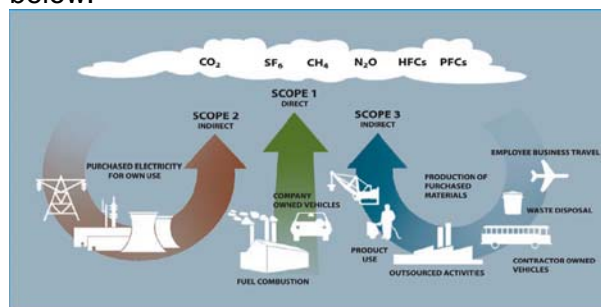
**Figure 1 – Carbon Management Principles**

Based on these principles the first objective was to quantify the carbon emissions. It was also decided to utilise the framework as set out under the National Greenhouse and Energy Reporting Act 2007. Although Living Edge is not required to report under the existing legislation it provides a consistent framework for measurement and decision making and provides further opportunities in the further to participate in the Carbon Pollution Reduction Scheme (CPRS) when introduced.

### Emission Sources

Emission sources were identified with reference to the methodology described in the GHG Protocol and the ISO 14064-1 (2006) standard.

These emissions have then been classified into three categories as shown in Figure 2 below.



**Figure 2 – Emission Sources**

The definition of each emission source has been adapted from the GHG protocol. The three types of emissions are:

**Direct emissions (Scope 1):** emissions from sources that are owned or controlled by Living Edge.

**Indirect emissions (Scope 2):** emissions from the generation of purchased electricity consumed by Living Edge.

**Indirect emissions (Scope 3):** emissions that occur as a consequence of the activities of the Living Edge and its employees, but occur from sources not owned or controlled by Living Edge. Inclusions of these sources will be determined on a case-by-case basis, and relate to Living Edge's determined aims. Living Edge uses the financial control based approach to defining organisational boundaries. As all showrooms and warehouses are leased, purchased electricity and emissions from the vehicle fleet make up the entirety of mandatory emissions reporting.

A summary of the emission sources are provided in Table 1 – Emission Source, below.

**Table 1 – Emission Source**

Emission source	Scope of emission
Petrol for vehicles	Scope 1
Diesel for vehicles	Scope 1
Purchased electricity	Scope 2
Extraction, production and transport of petrol, diesel for vehicles and transmission and distribution line losses for all purchased electricity	Scope 3
Staff commuting	Scope 3
Staff road travel	Scope 3
Staff air travel	Scope 3
Business freight by marine shipping	Scope 3
Business freight by air	Scope 3
Waste to landfill	Scope 3
Water use in facilities	Scope 3
Wastewater production in facilities	Scope 3

**Data Collection**

The chosen base year for this first year of reporting was 1 July 2007 to 30 June 2008. This was the most difficult part of the project as there were no systems within corporate head office to capture and record data.

Information needed to be retrieved from archives and given the range of information required this was an extremely



time consuming and tedious task.

Corporate staff could not see the benefit nor understand why this was necessary, however after considerable explanation the process of data collection and establishment of an audit trail proceeded. Having a good audit trail and clear methodology will make the verification of the data collection and carbon emission assessment an easy process.

**Preliminary Results**

The amount of CO<sub>2</sub>e has been calculated by multiplying the activity data by the relevant emission factors are shown in Table 2 – Initial Results, below. The direct emission factors were provided by the Department of Climate Change and the remaining factors were sourced from the Australian Greenhouse Office and Department of Environment, Food and Rural Affairs (DETRA), UK.

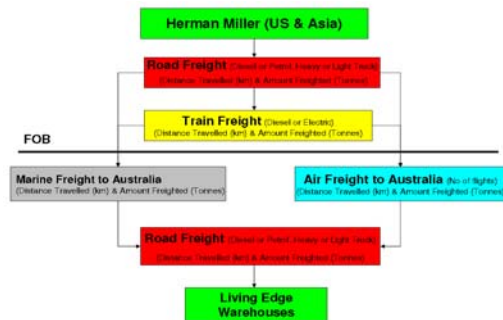
Transport emissions forms the largest part of the carbon emissions inventory for Living Edge. In order to understand the extent and identify any opportunities, Living Edge decided to map the carbon emission for a single product line – Herman Miller.

**Table 2 – Initial results**

Scope	Tonnes CO <sub>2</sub> -e
<b>Scope 1</b> – Petrol and Diesel	41
<b>Scope 2</b> – Purchased Electricity	1,100
<b>Scope 3</b> – Extraction, production and transport of petrol & diesel,	3.5
Transmission and line losses from the distribution of electricity,	113
Staff commuting including business travel	225
Business freight (Marine and air)	1651
Waste to landfill	254
Water use	0.5
Wastewater	1.0
<b>Sub-Total</b>	<b>3,400</b>
<b>Supply Chain</b>	
Herman Miller	600
<b>Total</b>	<b>4,000</b>

## Supply Chain Emissions

The first step in this process was to clearly establish the boundaries for carbon emission assessment.



**Figure 3 – Assessment Boundary**

At this stage, Living Edge cannot influence the way products are manufactured but as a result of this study, Living Edge will be able to influence the purchase and delivery of furniture into Australia through influencing contractors and/or deciding to offset the emissions resulting from its own purchasing decisions.

This study will provide the opportunity for Living Edge to begin a dialogue with Herman Miller and other suppliers about its carbon emissions from purchase of raw materials through to manufacturing of products. The knowledge and experience developed from this study will be offered to supplier and contractors by Living Edge.

Mapping the emissions provides Living Edge an opportunity to engage with staff to now discuss and implement strategies for reduction.

## Verification of Emissions Inventory

The National Centre for Sustainability (NCS) were engaged to undertake an independent evaluation and verification of the underlying systems, processes and competencies that support the production of the emissions inventory for Living Edge Furniture and the Herman Miller product range. The findings from the verification process will be used for a statement of assurance to confirm the claims or assertions made on the status of the organisation's 'carbon responsibility' for the period 1 July 2007 to 30 June 2008.

The approach undertaken by NCS to the provision of assurance is aligned with the AA1000 Assurance Standard. The verification methodology also followed the principles and processes described in the Independent

Verification Guidelines of the Department of Environment and Heritage – AGO 20051.

In summary the NCS reported:

- confidence in the information,
- the inventory was clear, factual and neutral'
- emissions were based on a clearly documented and audited trail of information, and
- that data accuracy was high.

## Conclusion

Addressing the issues of climate change, global warming, carbon emissions, introduction of an environmental management system (EMS) and corporate social responsibility (CSR) reporting is a challenging and ongoing exercise which was undertaken by Living Edge. Carbon management and reduction strategies have been developed and implemented leading to improved organisational performance and increased new business opportunities.

## References

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- Carbon Neutral Calculator, Information Paper, 2008;
- National Greenhouse Accounts (NGA) Factors, Department of Climate Change, Nov 08;
- National Greenhouse and Energy Reporting Act 2007, Department of Climate Change;
- EPA Victoria's Greenhouse Gas Inventory Management Plan, publication 1168.1, June 2008;