



PUBLIC DISCLOSURE STATEMENT

HARVEST ROAD OCEANS PTY LTD

**PRODUCT CERTIFICATION (MUSSELS)
PROJECTED FY 2020-21**

Australian Government
Climate Active
Public Disclosure Statement



An Australian Government Initiative



NAME OF CERTIFIED ENTITY: Harvest Road Oceans Pty Ltd

REPORTING PERIOD: Projected financial year 1 July 2020 – 30 June 2021

Declaration

To the best of my knowledge, the information provided in this Public Disclosure Statement is true and correct and meets the requirements of the Climate Active Carbon Neutral Standard.

Signature

Date 22/12/2020

Name of Signatory: Dr Justin Welsh

Position of Signatory: General Manager of Aquaculture



Australian Government
Department of Industry, Science,
Energy and Resources

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1. CARBON NEUTRAL INFORMATION

Description of certification

This PDS provides an outline of the certification of the aquaculture produced mussel products of Harvest Road Oceans (“HRO”) as carbon neutral using the Climate Active Carbon Neutral Standard for Products and Services (2019).

Our Life Cycle Assessment (LCA) covers all the shellfish grown and produced by HRO, of which this PDS covers our mussel products. A separate PDS covers the footprint of our Rock Oysters and Akoya. We have estimated the greenhouse gas intensity for the functional unit of “1 kg of mussels supplied to customers”. Carried out in accordance with the Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Protocol, this includes the carbon emissions from the fuel used in the boats to the pre-processing of the materials used in the packaging, through to freight of the product to the customer and disposal of the empty shells. The detailed calculation for the LCA has been submitted to the Climate Active Carbon Neutral Program. The LCA data have been assessed by Life Cycle Logic under the Climate Active validation requirements for carbon neutral certification.

“Our decision to have our products certified as Climate Active carbon neutral is a direct result of our aim to produce sustainable seafood.”

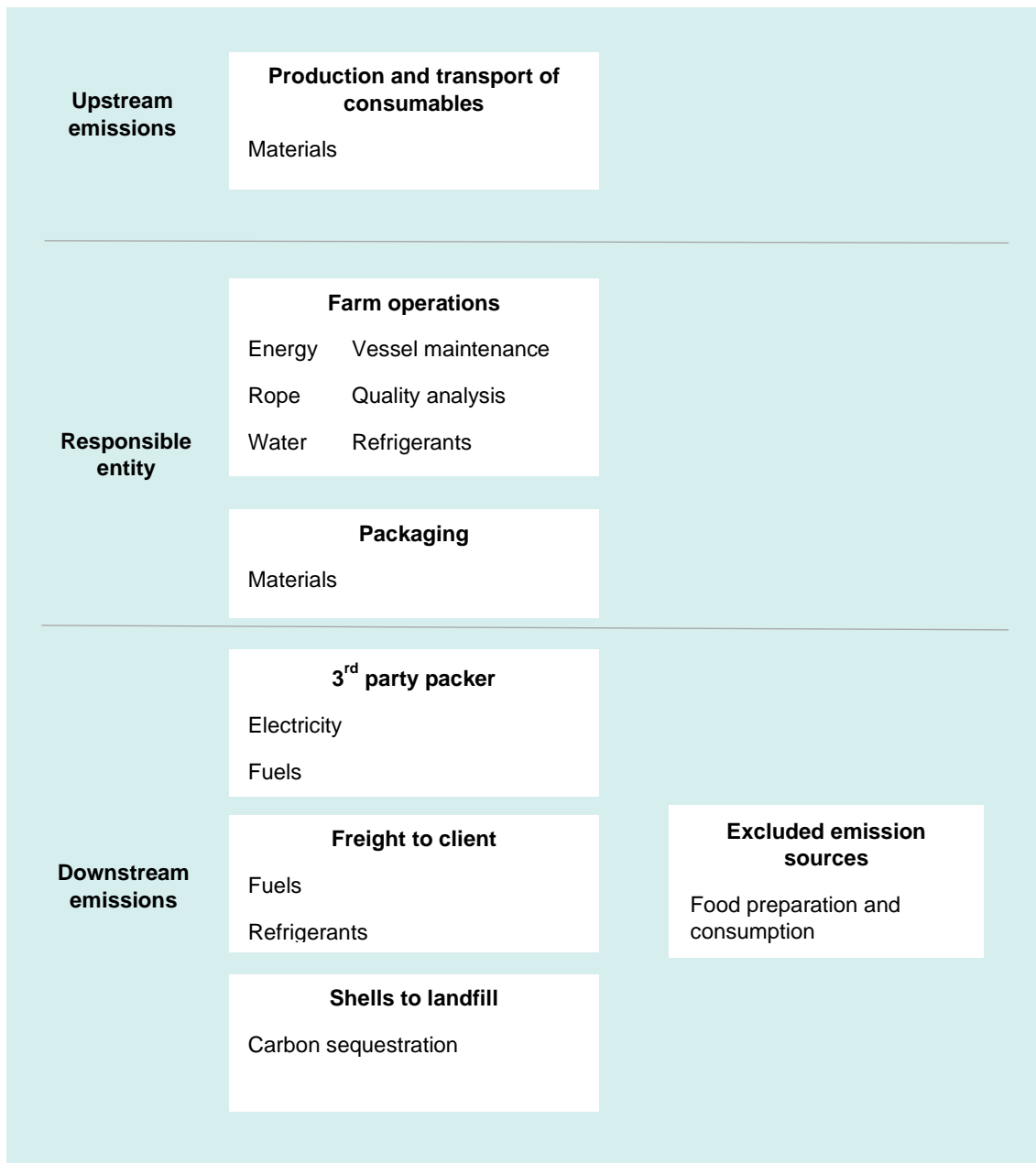
About Harvest Road Oceans

HRO is a business of Harvest Road Group and part of Tattarang, one of Australia’s largest private investment groups. We grow and market a range of ethically and sustainably produced high quality Western Australian products for consumers and wholesale partners in domestic and export markets. Shellfish production is carried out in two areas of Western Australia: Garden Island (Cockburn Sound) and Albany (Oyster Harbor and King George Sound).

Our seafood is grown under the Leeuwin Coast banner. We established the Leeuwin Coast brand to honour WA oceans, and our world at large. The swift flowing currents along the Leeuwin Coast give our produce a taste that is uniquely West Australian. It’s as clean and pure as the pristine waters in which it is grown. We have built our aquaculture business on sustaining a vision of are creating solutions to prevent climate breakdown, enhance food security and revitalize local ecosystems. We’re dedicated to supplying the world with the finest seafood grown and harvested from Western Australia.

Product process diagram

The following diagram shows the cradle-to-grave life cycle of mussels and the emission sources considered.

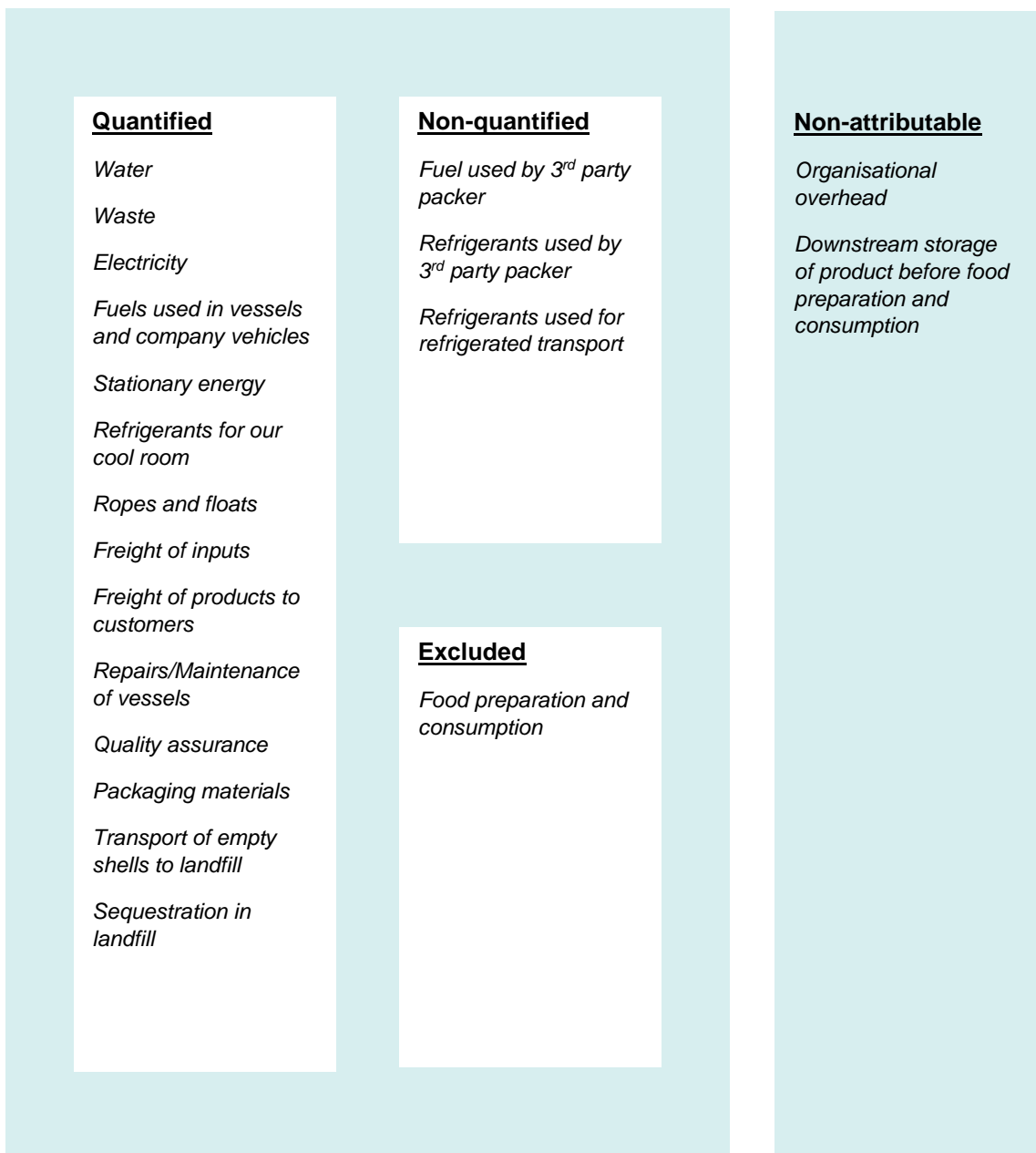


Baby mussels (spat) are collected from the wild by hanging spat collector ropes in the water. Mussels filter nutrients from the water, which allows them to grow on the ropes. The ropes drop vertically into the water and are supported by a horizontal rope connected to floats. The mussels are harvested after 9-15 months, cleaned, packaged and transported to customers. After consumption, the empty shells are disposed of and assumed to go to landfill. The carbon that has been captured in the shells will remain sequestered.

2. EMISSION BOUNDARY

Diagram of the certification boundary

The following diagram shows the cradle-to-grave life cycle of shellfish products and the emission sources considered.



Attributable non-quantified sources

We have not been able to quantify the following attributable emission sources:

- Water use at our Mangles Bay site, which is not metered. Consumption is limited to water used for the ice machine, drinking water, sanitary and cleaning purposes. We have applied an uplift factor based on estimated water use at 250L per staff member per day. (Data unavailable and the emission is small in relation to electricity and stationary energy emissions, but uplift is applied)
- Fuel use at the third-party packer. We have not received any information regarding fuel use by this external party. We do know that, due to the nature of their activities, electricity is their most important energy source (which is included in the LCA). We are not able to collect data on third-party fuel use, nor can we extrapolate this or use proxy data to fill the data gap. Furthermore, we believe the third-party fuel use is not material, and therefore we have applied uplift factors to account for these emission sources.
- Refrigerant use and emissions associated with third-party processes: cool room at the third-party packer and refrigerated transport. We are not able to collect data on third-party refrigerant emissions. We have applied uplift factors to account for these emission sources.

“We’re dedicated to supplying the world with the finest sustainable seafood grown and harvested from Western Australia. Certifying our products as carbon neutral is a key part of our unwavering commitment to sustainability.”

Data management plan

Emissions from non-quantified emission sources are estimated to contribute less than 0.2% to our footprint. Nonetheless, our data management plan consists of:

- Water use at Mangles Bay is not metered. This will remain to be the case for the foreseeable future, as the investment costs for metering would far outweigh the benefits.
- The use of uplift factors for refrigerant use and emissions associated with our third-party packer and refrigerated transport is considered appropriate for the foreseeable future. We will attempt to get better data on refrigerant use from our third-party packer. For refrigerated transport, it would be a significant exercise to establish refrigerant use and attribute this to HRO. The impact is estimated to be negligible, so we will continue our current approach.

Excluded sources (within certification boundary)

We have not excluded any material emission sources to the best of our knowledge. We did exclude:

- Food preparation (e.g. cleaning and cooking of shellfish) has been excluded from the system boundaries, as practices vary and no information is available (measured, extrapolated or proxy) that would define an average scenario. Mussels are often cooked (e.g. boiled, fried, baked), and emissions associated with their cooking depend on the process, energy source, kitchen practices, etc. Depending on these factors, emissions from food preparation can be significant for mussels. A [Scottish study](#)¹ estimates the contribution at approximately 75 kg CO₂e per tonne of mussels. This equates to roughly 5% of the footprint of HRO's blue mussels as calculated in this LCA. Considering the difficulty in establishing an average scenario, high uncertainty and zero ability for HRO to influence these emissions, we have opted to exclude these emissions. We have specified our functional unit as "mussels supplied to customers" to indicate the storage, food preparation and consumption are excluded.
- Consumption. The release of (biogenic) carbon embodied in our products is excluded from the product carbon footprint. This is consistent with the ["Carbon Footprint Of Scottish Suspended Mussels And Intertidal Oysters"](#) study previously mentioned. Furthermore, we have specified our functional unit as "mussels supplied to customers" to indicate the storage, food preparation and consumption are excluded.
- Biogenic emissions from product waste (e.g. cracked mussels) on our farm are not measured, as the products are returned to the sea where they came from and become part of the nutrient cycle. Biogenic CO₂ emissions would not add to the footprint (counted as zero).

Non attributable sources (outside certification boundary)

The following processes are outside of the certification boundary:

- Organisational overhead. Items associated with running the business (e.g. capital goods, corporate activities, employee commuting) are excluded in line with the GHG Protocol Product Standard.
- Storage by our customers. Our shellfish products are typically stored in cool rooms before they are prepared and consumed. The duration of storage varies, but is usually a matter of hours to days, as our products are generally consumed fresh. No information is available that specified the average time shellfish spend in storage before they are consumed. We have assumed any energy consumption for a cool room is for generic restaurant duties and not specifically attributable to the shellfish. We have specified our functional unit as "mussels supplied to customers" to indicate the storage, food preparation and consumption are excluded.

¹ Jonna Meyhoff Fry (ERM), Carbon Footprint of Scottish Suspended Mussels and Intertidal Oysters, Published by the Scottish Aquaculture Research Forum (SARF), January 2012 (https://fcrn.org.uk/sites/default/files/carbon_footprint_mussels_oysters.pdf)

3. EMISSIONS SUMMARY

Emissions reduction strategy

Our decision to have our products certified as carbon neutral is a direct result of our aim to produce sustainable seafood. Harvest Road is leading the way in trialing new methods of food production that pave the way for a better earth – taking what we need, whilst striving to leave it better than how we found it.

This is supported by our vision to increase the efficiency of our operation as far as possible, reducing our emissions wherever possible, and to fully offset remaining emissions. We also closely monitor the creation of 'blue carbon' credit farming projects in Australia and invest in innovative technology and methods to constantly improve our sustainable farming practices.

Although HRO is a young business that is currently undergoing rapid expansion, our emissions reduction strategy is currently supported by the following commitments:

- New larger vessels with a greater capacity will be delivered in the 2021 financial year. The increased capacity will improve efficiency and require less trips to and from the mussel leases, thereby reducing the amount of diesel consumed per unit of product.
- Integrated development is underway at our shore base in Albany, which will reduce local freight of product, staff travel and reduce boat movements by the end of 2021.
- Investing in more efficient oyster handling technology, reducing vessel time on lease per production unit. The technology is planned to be operational by the end of 2021 the latest.

The impact of these initiatives along with additional measures currently being identified will be formally measured to understand the emission reduction benefit.

Together with carbon emission reduction strategies, HRO has taken other actions to demonstrate strong environmental stewardship in the marine environment in which we work:

- We have reduced using lead-weighted rope as part of our production infrastructure. Lead weighted ropes are currently being phased out for ceramic weighted lines.
- We made the change from polystyrene mussel boxes to polypropylene boxes, which are reusable/recyclable.
- We are moving towards floating oyster infrastructure which has a smaller seabed footprint and reduces sea floor disturbance.
- We have moved to environmentally friendly hydraulic oil that will reduce risk on the marine environment.

We are in the process of applying for "Friends of the Sea" sustainability accreditation.

Emissions over time

This PDS represents the base year for Harvest Road Oceans Climate Active certification. As such, emissions cannot yet be compared over time. Future Public Disclosure Statements will report the emissions intensity for our products and compare changes over time. We do note that emissions per functional unit are likely to vary considerably due to the nature of shellfish aquaculture operations.

Functional unit

The reference units for the LCA are based on how the shellfish products are sold:

- 1 kg of Leeuwin Coast blue mussels², cleaned and packed live, delivered to customers and ready to cook/eat (sold since February 2019).

Our customers are mostly hospitality and wholesale businesses, although a very small amount of product is sold direct to the public.

Our mussels are farmed and harvested from Garden Island near Perth and surrounding waters of Albany. HRO took over ownership of the Albany land base on the 1st of April 2020. We are currently in the process of revitalising and expanding our aquaculture farms. Since the shellfish take a long period to grow, which varies by species and is dependent on external factors (such as climatic conditions), it is virtually impossible for us to attribute our energy use (and calculate emissions) per reference unit. This is further complicated by the fact that we took ownership of the existing farm in April 2020. Due to these factors, we have devised an approach that focuses on ensuring that we offset all our scope 1, 2 and 3 emissions in a reporting year. The attribution of emissions towards the three species we currently produce is based on initial estimates that will be updated over coming reporting periods to ensure the accuracy of the carbon account increases. These estimates will be fine-tuned over coming reporting periods but are likely to result in significant swings in emissions per reference unit from year to year (on top of swings expected due to natural variation). Most importantly though, our approach means that we take responsibility for the total life cycle emissions associated with our shellfish products.

Table 2

	Number of functional units
<i>a) Number of functional units sold this period</i>	
<i>Mussels</i>	116,396 kg
<i>b) Number of functional units to be forward offset demonstrating commitment to carbon neutrality (true-up to be conducted at the end of the reporting period)</i>	
<i>Mussels</i>	116,400 kg

Emissions summary (inventory)

The following table shows a summary of emissions by emission category. Note that the total emissions are based on products sold in the reporting year.

We have used the location-based approach for electricity.

² Mussels are measured as “total wet weight including the shell” (excluding weight of packaging)

Table 3 Base year quantified emissions

Emission source category	Blue mussels (t CO₂-e)
Hatchery - electricity	-
Transport from hatcheries to farm	-
Ropes used on farm	0.5
Packaging materials	10.4
Upstream freight	20.7
HRO Fuel use	61.0
HRO Land base electricity use (location-based approach)	7.3
HRO Land base waste	27.2
HRO Cold storage (refrigerants)	0
Boat repairs and maintenance	31.8
Quality analysis	4.3
3 rd party packer - electricity	5.6
Freight to customers	13.2
Empty shells transported to landfill	0.9
End-of-life disposal (carbon in shells is sequestered in landfill)	-16.3
1. Total Inventory Emissions	167
a. Number of functional units represented by the inventory emissions	116,400
2. Emissions per functional unit (1 kg of mussels delivered to the customer) (based on the number of functional units represented by the inventory)	0.0014 t CO₂-e (1.441 kg CO₂-e)
3. Carbon footprint	167

The emissions intensity is based on our best estimates at this point in time. Because we haven't sold any Akoya and oysters in the reporting period, the emissions for all of our products (including mussels) are indicative. Over the next few years, we expect these values to become more accurate as data become available.

Uplift factors

We have applied uplift factors to the emission sources listed in the table below.

Table 4 Base year uplift factors and total footprint

Reason for uplift factor	Blue mussels (t CO ₂ -e)
HRO Land base water supply	1.0
3 rd party packer – fuel and refrigerants	0.3
<i>Total Footprint to offset (uplift factors + net emissions)</i>	168

Carbon neutral products

HRO has not used any Climate Active Carbon Neutral certified products or services in the life cycle of the shellfish products.

4. CARBON OFFSETS

Offset purchasing strategy: forward purchasing

Offsets are forward-purchased based on the assessment for the completed year and next year's estimated sales volume. After each reporting period, a true-up will occur and any additional credits will be procured as needed. If we have pre-purchased more credits than we required, then any surplus credits are carried over (banked) to the next reporting period.

Offsets summary

Table 6

1. Total offsets required for this report		168							
2. Offsets retired in previous reports and used in this report		0							
3. Net offsets required for this report		168							
Project description	Eligible offset units type	Registry unit retired in	Date retired	Serial number (including hyperlink to registry transaction record)	Vintage	Quantity (tonnes CO ₂ -e)	Quantity used for previous report	Quantity to be banked for future years	Quantity to be used this report
Fortaleza Ituxi REDD Project	VCU	Verra	3/03/2021	7623-412957081-412957363-VCU-053-MER-BR-14-1654-15122013-14122015-0	15/12/2013-14/12/2015	168	0	0	168
<i>Total offsets retired this report and used in this report</i>									168
<i>Total offsets retired this report and banked for future reports</i>								0	

Co-benefits

We have purchased credits from the Fortaleza Ituxi REDD project in Brazil, mitigating deforestation in the Amazon in Brazil. We have also chosen to purchase an equal amount of credits from the Yarra Yarra Biodiversity Corridor, which have a positive impact on the Western Australian environment and align with our values of a long-term view on sustainability. The Yarra Yarra project is the largest revegetation project based in the Western Australian Wheatbelt. This key project will help to protect and recover the endangered and declining woodland while sequestering carbon. Due to sampling constraints, these credits will become available for retirement in 2022.

5. USE OF TRADE MARK

Table 7

Description where trademark used	Logo type
Website:	Certified product
Social Media	Certified product
Press releases:	Certified product
Packaging material (product carton, sealed packaging etc.):	Certified product
Point of sale material (brochures, pull up banners)	Certified product
Educational material (trade and consumer)	Certified product

6. ADDITIONAL INFORMATION

APPENDIX 1

Non-attributable emissions for products and services

To be deemed attributable an emission must meet two of the five relevance criteria. Non-attributable emissions are detailed below against each of the five criteria.

Table 8

Relevance test					
Non-attributable emission	<i>The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions</i>	<i>The emissions from a particular source contribute to the organisation's greenhouse gas risk exposure.</i>	<i>Key stakeholders deem the emissions from a particular source are relevant.</i>	<i>The responsible entity has the potential to influence the reduction of emissions from a particular source.</i>	<i>The emissions are from outsourced activities previously undertaken within the organisation's boundary, or from outsourced activities typically undertaken within the boundary for comparable organisations.</i>
Organisational overhead	Not relevant for the product	No	No	Yes	No
Storage by our customers	Possibly	No	No	No	No

APPENDIX 2

Non-quantified emissions for products/services

The following table outlines which of the reasons apply to each of our non-quantified emissions.

Table 9

Non-quantification test				
Relevant-non-quantified emission sources	<i>Immaterial <1% for individual items and no more than 5% collectively</i>	<i>Quantification is not cost effective relative to the size of the emission but uplift applied.</i>	<i>Data unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.</i>	<i>Initial emissions non-quantified but repairs and replacements quantified</i>
Fuel used by 3rd party packer	Yes	No	Yes	No
Refrigerants used by 3rd party packer	Yes	No	Yes	No
Refrigerants used for refrigerated transport	Yes	Yes	No	No