Australian Government

Carbon Neutral Program

Public Disclosure Summary

NAME OF CERTIFIED ENTITY:

Austral Fisheries Pty Ltd

REPORTING PERIOD:

Calendar year 2017

SCOPE OF CARBON NEUTRAL CERTIFICATIONS:

- Austral Fisheries Pty Ltd, as an organisation; and
- Austral Southern Fish Catch, Austral Northern Fish Catch, and Austral Prawn Catch, as three products of Austral Fisheries Pty Ltd

Introductory Statement

Austral Fisheries is certified as a carbon neutral organisation under the Carbon Neutral Program. This report is consistent with the National Carbon Offset Standard for Organisations (2017), and is Austral's third reporting period after the initial baseline which looked at the 2014 calendar year.

Similarly, the three wild-caught products of the Austral Fisheries business, Austral Southern Fish Catch, Austral Northern Fish Catch, and Austral Prawn Catch, are also certified as carbon neutral under the Carbon Neutral Program. This has involved a Life Cycle Assessment of these products in accordance with the requirements of the National Carbon Offset Standard for Products and Services (2017).

As outlined in this report, we have measured and reported our emssions for our organisation, and our LCA studied products, based on collected data for 2017, and are required to have purchased and retired offsets for 100% of our 2017 emissions by the end of April 2018.

As described in further detail below, the life cycle emissions of the certified products are contained completely within the extensive footprint already offset at the organisation level, negating the need for any additional offsetting of emissions for our fish and prawn products.

Declaration

To the best of my knowledge, the information provided in this Public Disclosure Summary is true and correct and meets the requirements of the National Carbon Offset Standard Carbon Neutral Program.

	26/04/2018
David Carter	
Chief Executive Officer	

Carbon neutral certification category	Organisation, and Products
Date of most recent external verification/audit	27/04/2017
Auditor	Ernst & Young
Auditor assurance statement link	For organisation audit: http://www.australfisheries.com.au/wp-content/uploads/2017/04/2016.AUST_.NCOS_.CR_.-Assurance-Report-FINAL.pdf For LCA audit: http://www.australfisheries.com.au/wp-content/uploads/2017/04/2016.AUST_.NCOS_.CR_.-LCA-Assurance-Report-FINAL.pdf

Australian Government
Department of the Environment and Energy

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1A. Carbon neutral information – Organisation Certification

Introduction

The following is an outline of the certification of our Organisation, Austral Fisheries Pty Ltd ("Austral") as Carbon Neutral by the Carbon Neutral Program, using the National Carbon Offset Standard for Organisations (2017).

Austral is one of Australia's leading commercial fishing companies, specialising in environmental fishing practices that catch and source sustainable seafood. Austral catches and processes Patagonian toothfish and Mackerel icefish from the Southern Ocean, as well as wild ocean caught Goldband Snapper, and Banana prawns and Tiger prawns from across northern Australia. To do this, Austral owns and operates three longline vessels (including one dual purpose longline-trawler) in the Southern Ocean, 1 fresh trapping vessel out of Darwin, and ten refrigerated prawn trawlers in Australia's Northern Prawn Fishery.

As part of Austral's commitment to environmental excellence, the company became certified under the Carbon Neutral Program in 2016. This firstly involved an extensive footprinting analysis under the National Carbon Offset Standard, baselined in 2014. Following this, the entire footprint of the company was, and continues to be offset through Gold Standard credits, generated through revegetation in Western Australian farmland, by Carbon Neutral Pty Ltd.

All parts of the Austral business have been accounted for in the preparation of this certification. For example, it includes all the fuel we use on our vessels at sea to harvest fish and prawns; the emissions associated with production and transport of supplies we provide to vessels; and all supporting activitites such as shore based operations and management, administration, policy development, sales and marketing.

As required under the Carbon Neutral Program, the calculation of the footprint includes extensive emissions generated by other suppliers (i.e. Scope 3 emissions), such as sea, land and air transportation, and cold store facilities.

Essentially, we have accounted for all carbon emissions we can identify from the start of our activities, through to the point of end consumer purchase of our studied fish and prawn products at the retailer or restaurant.

Extensive details are provided on separate calculations, and they were most recently independently audited and verified by Ernst & Young for the 2016 calendar year. The next external audit will be in 2019 or 2020, as the Carbon Neutral Program requires an independent audit every third year.

For this section of the carbon footprint inventory, a "greenhouse gas inventory" approach is used, since the entity being analysed is an organisation.

1B. Carbon neutral information – Product Certification

Introduction

The following is an outline of the certification of the wild caught ocean fish and prawn products of Austral Fisheries Pty Ltd ("Austral") as Carbon Neutral by the Carbon Neutral Program, using the National Carbon Offset Standard for Products and Services (2017).

Further to the organisation-level certification, Austral has carried out Life Cycle Assessments (LCA) of its wild ocean-caught fish and prawn products, so that these products can also be certified as carbon neutral.

This LCA covers all the wild fish and prawn products caught by Austral. Carried out in accordance with the Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Protocol, this extends from the carbon emissions from the vessels used to catch the fish and prawns, and the bait used to catch the fish, through the pre-processing of materials in the production line, and through to the point of end consumer purchase of our studied fish and prawn products at the restaurant or retailer.

The extensive scope in calculating the carbon footprint of the organisation, Austral Fisheries, covered, amongst other things, the activities involved in producing the fish and prawn products. The carbon emissions associated with the products, assessed via the LCA, are shown to fit within the organisational footprint, as a subset. This is indeed the general intention of the Greenhouse Gas Protocol reporting for the relationship between businesses and products.

As our LCA scope falls inside our organisation emissions boundary, the emissions involved in the production of Austral's fish and prawn catch are covered by those same offsetting activities as described in section 1A.

Detailed calculations for the three LCA products, as well as a separate full report[1] for this period have been submitted to the Carbon Neutral Program. Like the annual inventory, our LCA data was most recently independently audited and verified by Ernst & Young for the 2016 calendar year. The next independent audit will be in 2019 or 2020, as the Carbon Neutral Program requires an independent audit every third year.

[1] Austral Fisheries Pty Ltd 2017 Annual Inventory, including Life Cycle Analysis. *2017 Reporting Period. 2018 Product Certification Period. Prepared April 2018.*

1C. Emission sources within certification boundary

Quantified sources – Organisation

The emissions boundary is the entire organisation of Austral Fisheries Pty Ltd (Figure 1). The boundary for the emissions sources was defined using the "control approach" described in the National Greenhouse and Energy Reporting Act. This then involves accounting for the following emissions:

- Scope 1 (direct) emissions by the organisation, such as fuel burned in fishing vessels;
- Scope 2 emissions, which are emissions attributed to purchased electricity; and
- Scope 3 emissions, which are emissions arising from third party sources associated with activities of Austral.

Austral has followed the carbon accounting principals of relevance, completeness, consistency, transparency and accuracy. It has also referenced the following methods and factors:

the Greenhouse Gas (GHG) Protocol standards, including:

- *GHG Protocol – A corporate accounting and reporting standard* (GHG Corporate Standard) (2004)
- *GHG Protocol – Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011);*

the National Greenhouse and Energy Reporting Act 2007 (NGER Act) and supporting legislation and documentation, including:

- *National Greenhouse and Energy Reporting Regulations 2008 (1 March 2017 compilation)*
- *National Greenhouse and Energy Reporting (Measurement) Determination 2008 (1 July 2017 compilation)*[2] *(referred to as NGER 2017)*
- *National Greenhouse and Energy Reporting Technical Guidelines*
- *National Greenhouse Accounts Factors 2017 (referred to as NGA Factors 2017);*

procedures and factors used by the Environmental Protection Authority Victoria for some Scope 3 emissions;

[2] The NGER Determination is often used in preference to the NGA Factors. While they report the same methods and factors, we consider NGER is superior since it describes methods in more detail, describes alternative methods and is the source of the data in the NGA Factors.

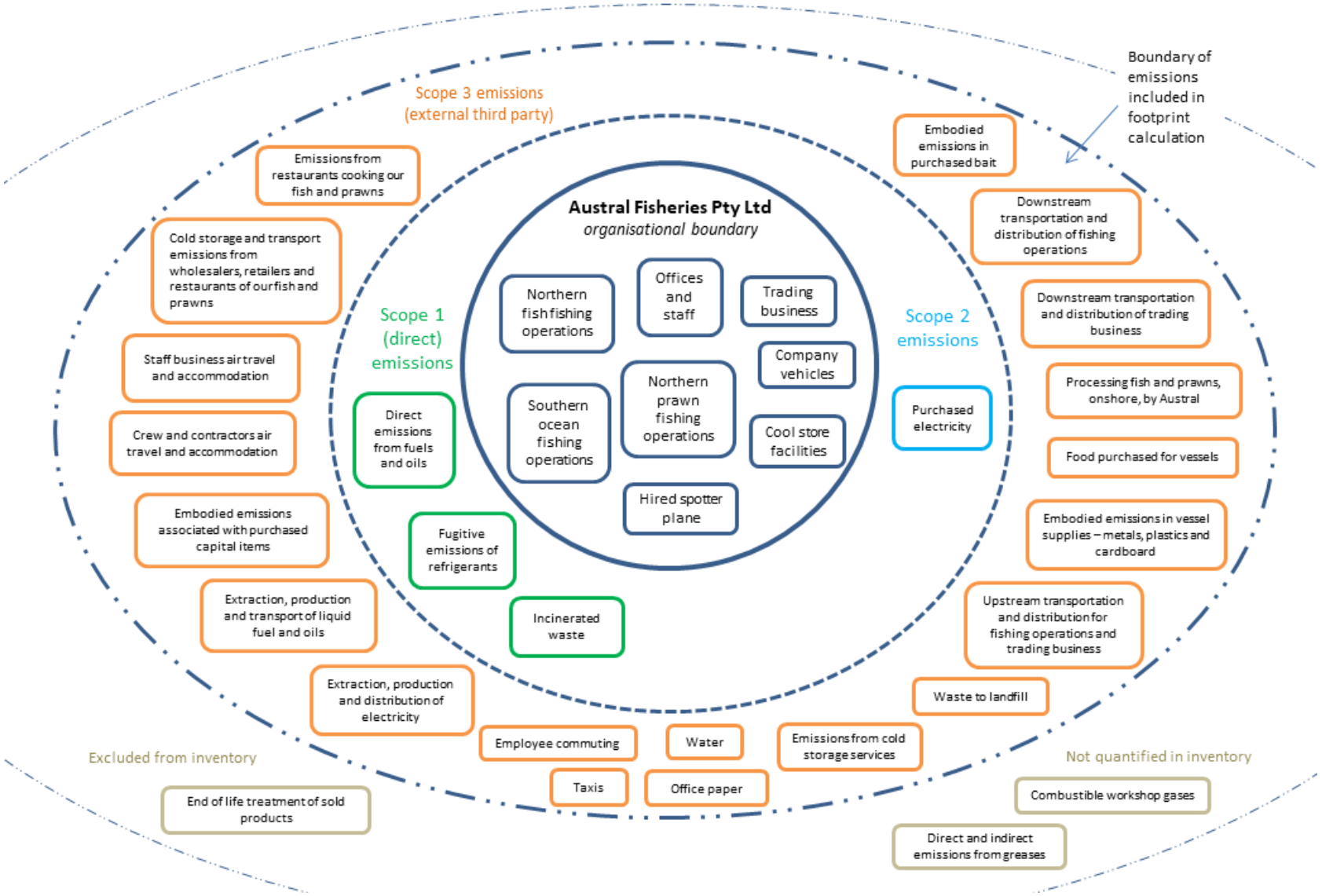

Figure 1. Organisational boundary and carbon inventory boundary of Austral Fisheries 2017 footprint at the organisation level.

emissions factors from the Department of Energy and Climate Change in the United Kingdom; and other in house calculations of emissions where other data was not readily available, which have been audited by Ernst Young.

The following greenhouse gases were accounted for:

(a) carbon dioxide;
(b) methane;
(c) nitrous oxide;
(d) sulfur hexafluoride;
(e) hydrofluorocarbons specified in the National Greenhouse and Energy Reporting Determination; and
(f) perfluorocarbons specified in the National Greenhouse and Energy Reporting Determination.

A summary of the outcomes for our calculations can be seen at Table 4.

Quantified sources – Products

Austral's three studied LCA products make up the entire wild catch of Austral Fisheries, and the seafood products which make up these catches are listed in Table 1. These catches come from three geographically and operationally separate fishing fleets:

1. 'Southern Fish' are mainly catches of Patagonian Toothfish, but also include Icefish, Grenadier and a small portion of High Seas species caught in the Indian Ocean.
2. 'Northern Fish' are mainly catches of Goldband snapper, but also include similar tropical reef fish species.
3. 'Prawns' are mainly catches of Banana prawns and Tiger prawns, but also include Endeavour and King prawns as minor catches, as well as small bycatch of other species such as squid, moreton bay bugs and scallops, which for the purpose of our LCA, we will include in our 'prawn' category.

The studied products also comprise the major reference flows used in the organisation-level carbon footprint of Austral, for example in downstream transport calculations. The unit of analysis is defined as the reference flow since the Austral Southern Fish Catch, Northern Fish Catch, and Prawn Catch are intermediate products and this is a cradle-to-gate life cycle analysis.

Table 1. Summary and definitions of studied products.			
	Accounting point and definition	**Unit of Analysis, Reference Flow and Functional Unit**	**Description**[A]
Studied Products			
Austral Southern Fish Catch	Product leaving the ship	Tonnes of Austral Southern Fish Catch leaving the ship	• Patagonian Toothfish, as 'HGT' (headed, gutted and tailed)[B] • Icefish, as whole fish • Grenadier, as 'H&G' (headed and gutted), or fillets • High seas fish, as both 'H&G' and whole fish Comprises 100% of the southern fish catch of Austral Fisheries
Austral Northern Fish Catch	Product leaving the ship	Tonnes of Austral Northern Fish Catch leaving the ship	• Goldband snapper, as whole fish • Other similar tropical reef fish[C] • Comprises 100% of the Northern fish catch of Austral Fisheries
Austral Prawn Catch	Product leaving the ship	Tonnes of Austral Prawn Catch leaving the ship	• Whole frozen prawns[D] • Whole frozen bycatch species[E] Comprises 100% of the prawn catch of Austral Fisheries

Notes:

[A] For interest, it is estimated that 70% of HGT toothfish and whole snapper, and 50% of whole prawns are actually eaten, due to heads, bones, etc.

[B] For simplicity we have not specifically referred to additional minor products from Toothfish which are cheeks and collars (<5%). The emissions for cheeks and collars are nonetheless included in the analysis, and the tonnage of these products is included in numbers referring to 'HGT'.

[C] Includes, but not limited to Saddletail Snapper, Red Emperor, Mangrove Jack, Cod and Red Throat Snapper

[D] Includes Tiger, Banana, Endeavour and King prawns. Endeavour and King prawns are minor catches during both Tiger and Banana prawn seasons.

[E] Includes squid, moreton bay bugs, scallops, cuttlefish, lobster, pomfret, leader prawns and certain whole fish species.

The LCA scope will be Cradle-to-Gate, due to the fact that Austral is a supplier of wholesale seafood which is then processed and eaten in a diverse variety of ways around the globe. We refer to the inventory as Cradle-to-Gate even though we have elected to include 'Use' in the LCA. Consistent with a Cradle-to-Gate scope, End-of-life emissions of the products are not included.

Greenhouse gases involved in the LCA are as per the GHG Protocol Product Life Cycle Accounting and Reporting Standard and the National Carbon Offset Standard, and are the same as used in the calculations in the Austral Fisheries organisational carbon footprint study, mentioned above in *Quantified Sources - Organisation*.

A process map for the production of fish and prawns are shown in Figure 2. The process applies to all studied products, so the one figure is applicable for both.

Wild caught fish and prawns grow naturally in the ocean, and in accordance with the requirements of the life cycle assessment, natural emissions from this process are not included.

The production facility consists of a fishing fleet steaming to the fishing grounds, catching the fish or prawn products, (and where relevant) processing on board, freezing, and packaging. The production facility also includes any onshore processing undertaken by Austral.

Figure 3 shows the relationship between the Austral Fisheries organisation level inventory and the Life Cycle Assessment of the three studied products[3,4]. We consider that many of these are marginally attributable from a LCA viewpoint, but have included them on the basis that they have already been included in the organisation level inventory.

Austral has followed the carbon accounting principals of relevance, completeness, consistency, transparency and accuracy, as outlined above in *Quantified Sources – Organisation*, with the addition, in the LCA, of:

- *GHG Protocol – Product Life Cycle Accounting and Reporting Standard (2011)*

A summary of the outcomes for our LCA calculations are in Tables 5 and 6 below.

[3] Note of explanation on the trading business (Seafood Solutions) within Austral Fisheries, in relation to the LCA: The emissions associated with Seafood Solutions are rightly included in the Organisation level inventory (see Figure 3) but do not feature in the life cycle assessment of Austral Southern Fish, Northern Fish, or Prawn Catch. This is due to the fact that Seafood Solutions is a separate importing business arm which does not deal in significant quantities of these products.

[4] Note of explanation that the Scope 2 electricity emissions have only been included from Austral's head office as part of the product LCA, as this is the only office that controls the sales and marketing of these products.

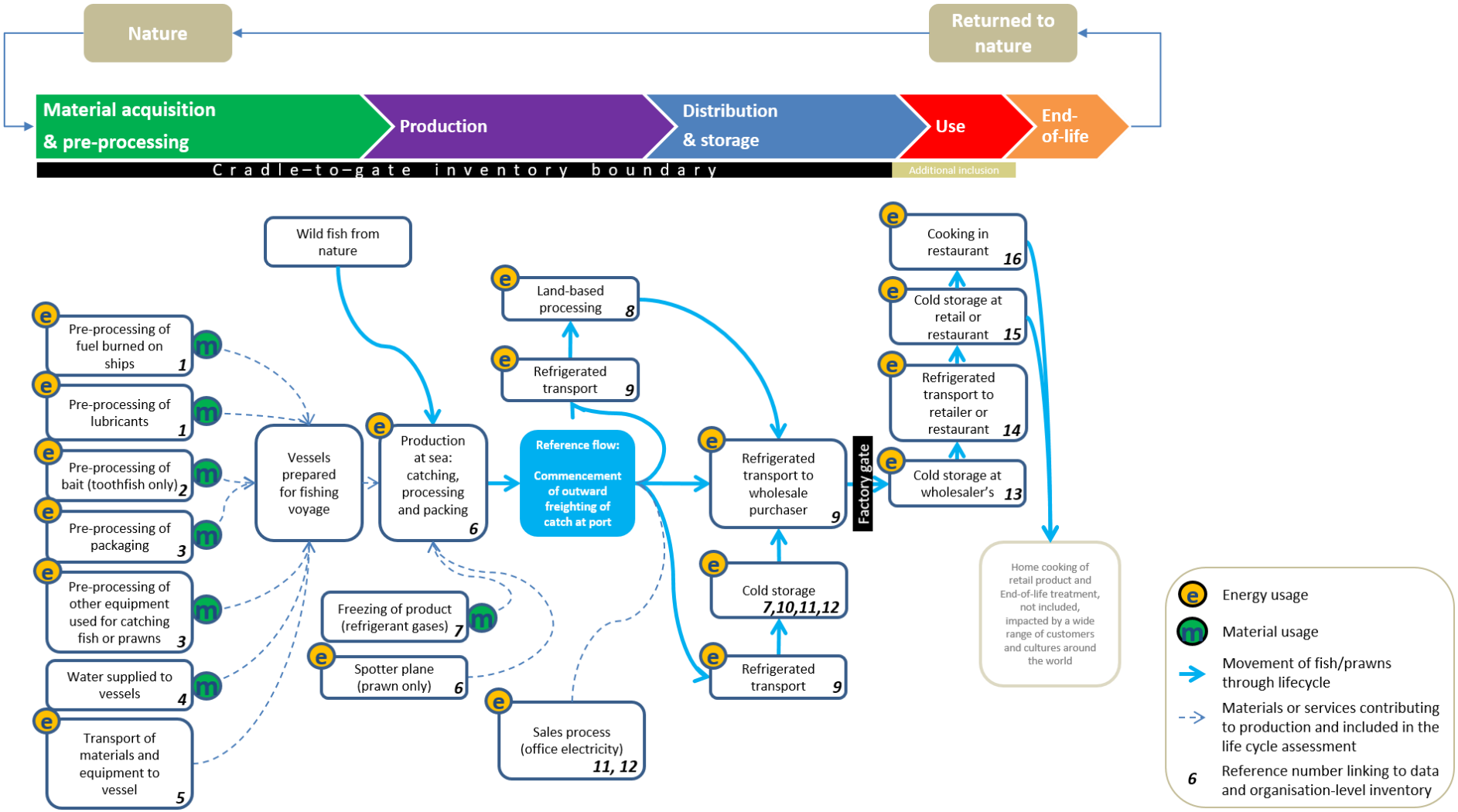

Figure 2. Process map for the production of the studied products, Austral Southern Fish, Northern Fish, and Prawn Catch.

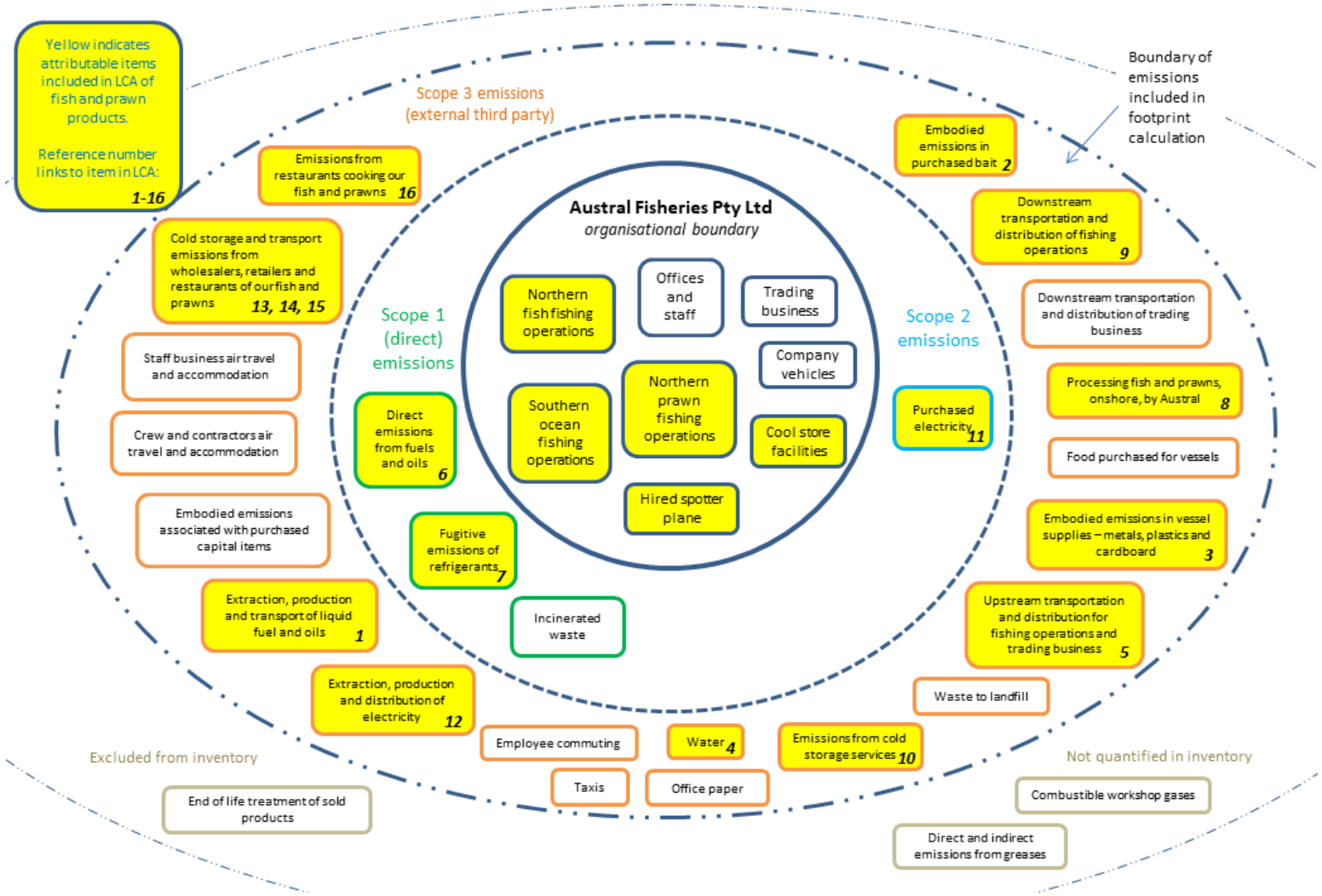

Figure 3. Austral Fisheries organisation level inventory with items which have been used in the life cycle assessment of Austral Southern Fish, Northern Fish, and Prawn products shown in yellow highlight.

Non-quantified sources

Two sources of emissions from our inventory have not been quantified due to immateriality.

Firstly, Scope 1 emissions associated with use of petroleum based greases were excluded on the basis of immateriality. In our baseline year calculation, this was estimated to account for 0.04t CO_2-e, or approximately 0.0001 % of our organisation's emissions, and usage has not changed significantly since that time.

Secondly, Scope 1 emissions associated with use of combustible workshop gases were excluded on the basis of immateriality. In our baseline year calculation, this was estimated to account for 0.5t CO_2-e, or approximately 0.002 % of our organisation's emissions, and usage has not changed significantly since that time.

Excluded sources

One emissions source has been excluded from our inventory.

Scope 3 emissions associated with End-of-Life treatment of sold fish and prawns were excluded on the basis that this is outside of the scope of cradle-to-gate accounting. However, we have chosen to extend our boundary further downstream to include downstream transport, cold storage and cooking of Austral fish and prawn catch by restaurants and retailers.

We will be strongly encouraging our suppliers and customers to carry out their business with a low carbon footprint. This footprint is akin to a cradle-to-gate scope in this regard.

2. Emissions reduction measures

Part A. Emissions over time

This section compares emissions over time, in this case, between the baseline year (2014) and current year (2017).

With our baseline obviously being the first year we calculated our emissions, we have, in the past two years, begun to settle the refinements of the methodologies we have chosen to use. These refinements are the result of a better understanding of the data, as well as there being some new internal reporting systems in place which allowed those data to be better retrieved. These changes, we believe, will better allow us to track results over time, and enable us to deliver achievable results in regards to our Emissions Reduction Strategy.

There were some minor changes to our account this year, which did not have a significant effect on our emissions, and as such did not trigger the baseline recalculation policy. These included: Addition of 'Northern Fish' fleet; electricity from new coldstore facility; and using country-allocated emission factors to determine accommodation related emissions for business travel.

There was one change however, which resulted in the triggering of our baseline recalculation policy, where we have recalculated our baseline to include the change in refrigerant gas used by some of our fishing vessels:

> Our two newly purchased vessels in 2017 have R507a based refrigeration plants. We also upgraded four existing prawn vessels' refrigeration systems from R22 to R507a based systems.
>
> By following Australia's National Greenhouse Accounting methodology, which sets fugitive emissions of R22 to zero, any leakages of R22 refrigerant have not added to our CO_2-e emissions in the current, or previous years' accounts. In 2017 however, 399 kg of R507a escaped from our fridge plants on the 4 retrofitted vessels, equating to 1590t CO_2-e added to our inventory.
>
> So, looking at our baseline calculations, if we were to apply the average industry leakage rate of 16% to the combined capacity of these four retrofitted systems (960 kg) plus the capacity of the two newly purchased vessels (900 kg), we get a default annual leakage of 298 kg of R507a, which equates to an additional **1188 t CO_2-e** to be added to the baseline.

Revised baseline emissions:
Including this revision into our baseline calculations increases the baseline emissions from 29,111 t to **30,299 t CO_2-e**.

As a result of this change, and the minor changes identified above, the scope and coverage of the baseline calculations will be most accurately represented diagrammatically by Figures 2 and 3, shown for this current 2017 inventory. As previously mentioned in this report, we will revise the baseline taking into account the addition of the 'Northern Fish' fleet in next year's report, once we have a full year's set of data to work from.

2017 comparison to baseline

In 2017, our overall emissions were 1996t (or 6%) higher than the 2014 revised baseline emissions. While there are many variables between years, around half of the total emissions growth can be atrributed to an increased use of diesel to catch our 'Southern Fish' product due to lower catch rates than the baseline year and the vessels therefore taking a longer time to catch our quota. The remaining half is mainly attributed to refrigerant gas leakage in the prawn fleet, and the upstream transportation and embodied emissions of goods pertaining to the build of the new prawn vessel, *Austral Hunter*.

These three operational incidents are also relevant when looking at the 32% increase in the emissions intensity of combined LCA products. Also important to note is that total product landed in 2017 was 24% lower than the baseline year, which exacerbates this emissions intensity increase. Looking more closely at each LCA product, the 'Southern Fish' emissions intensity increased from a baseline of 5.12 to 6.35 t CO_2-e / t fish landed (mainly attributable to 10% increase in diesel use and 18% decrease in catch), and the 'Prawn' emissions intensity increased from a baseline of 6.76 to 9.09 t CO_2-e / t prawn caught (mainly attributable to the aforementioned refrigerant gas leakage and 35% decrease in catch). The decreased prawn catch can be explained by the productivity of this fishery being largely dependent on rainfall across northern Australia during the wet season, and while 2017 was not seen as a disappointing year, it is being compared to 2014 which is seen historically as an exceptional year.

Finally, there was a 71t increase in our overall emissions, which was directly related to the newly acquired 'Northern Fish' fleet, where one vessel is now catching Goldband snapper, and other related tropical reef fish species out of Darwin. These emisisons were only a small portion of what we would expect over the course of a full calendar year, as this acquisition only took place in November 2017. We therefore, have decided not to include this fleet into our baseline until a full year's set of data is available, which we will include in next year's report.

We have chosen to report and track our yearly progress against the total emissions and the emission intensity of total seafood catch for the Organisation; and the emissions intensity per tonne of seafood landed for our Products (Table 2).

Table 2. Emissions comparison to (revised) baseline year						
		Scope 1	**Scope 2**	**Scope 3**	**Total**	
		(t CO2e)	(t CO2e)	(t CO2e)	(t CO2e)	(t CO_2e/t product)
Organisation	**Base Year (2014 rev.)**	22,720	88	7,491	30,299	6.54 t CO_2e/t fish+prawn
	Current Year (2017)	24,040	90	8,096	32,225	8.62 t CO_2e/t fish+prawn
Southern Fish	**Base Year (2014 rev.)**	10,834	26	2,282	13,142	5.12 t CO_2e/t fish
	Current Year (2017)	11,347	16	2,496	13,859	6.35 t CO_2e/t fish
Northern Fish	**Base Year**	In next year's report, we will use the full 2018 calendar year as our baseline for this fleet				
	Current Year (2017)	46	0	24	71	2.84 t CO_2e/t fish
Prawns	**Base Year (2014 rev.)**	11,786	26	2,127	13,939	6.76 t CO_2e/t prawn
	Current Year (2017)	12,492	18	1,435	13,945	9.09 t CO_2e/t prawn

Given around 85% of our emissions comes from diesel usage on our vessels, the most relevant metric to track our progress is the emissions intensity of tonnes of CO_2-e per tonne of product landed. Figure 4 tracks this over time for the organisation, as well as the LCA products.

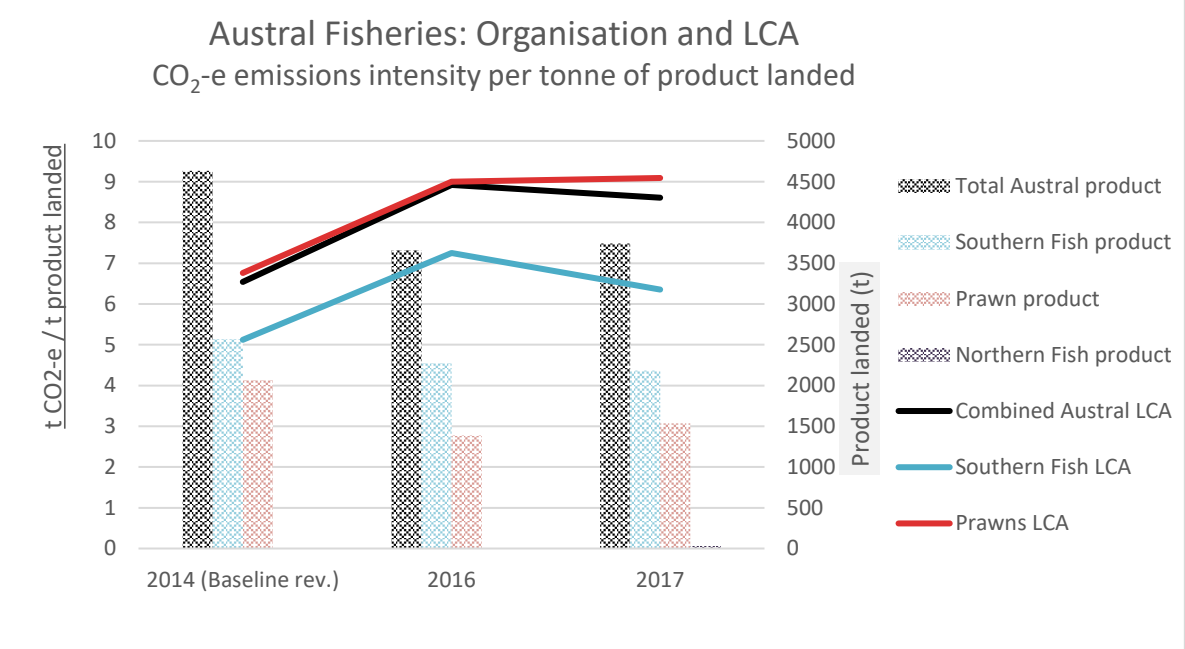

Figure 4: Austral Fisheries: Organisation and LCA products CO_2-e emissions intensity per tonne of product landed. Line graphs represent emissions intensity per tonne of product landed. Bar graphs represent tonnes of product landed.

Part B. Emissions reduction strategy

Our decision to become certified as Carbon Neutral as an organisation, and extend that to our products, is a direct result of our aim to do our bit to ensure a sustainable, healthy, environment for the seafood and seafood products that we rely upon for our livelihoods.

Our vision is to increase the efficiency of our operations (relative to carbon emissions) as far as possible, reduce our carbon emissions wherever we can, and to fully offset remaining emissions. Our major offsetting activities support direct revegetation activities in Western Australia, generating carbon offsets under the Gold Standard certification program, which takes into account, not only the direct carbon sequestration benefits of biodiverse plantings, but additional direct benefits including environmental, social, enonomic and heritage. We will review and investigate additional carbon offset programs in future years, with a particular focus on the development of eligible new "blue" carbon offset programs, which we have been closely monitoring.

In our baseline year (after applying the recalculation policy in 2017):

- our total direct catch was 4,632 t of fish and prawns[5],
- our total carbon footprint was 30,299 t CO_2-e, and
- our emissions intensity was 6.54 t CO_2-e per tonne of fish and prawns caught.

Our emissions reduction strategy is primarily focussed on the rate of carbon emissions per tonne of product caught. This is appropriate because our operations fluctuate as a result of either increasing or decreasing availability of wild fish stocks, changes to expand our operations into other fisheries (such as the acquisition of the Northern Fish fleet in late 2017), or due to government fisheries resources management or conservation changes out of our control.

Any meaningful emissions reduction strategy in a complex business that relies so heavily on expensive, long term assets such as fishing vessels, will not happen overnight, and we acknowledge that this will be an ongoing journey for us. We look forward to being able to report next year on the two projects that we have outlined in Part C below, which focus on making our vessels more fuel efficient. These projects

[5] In this document, when referring to tonnes of fish and prawns caught, it means the weight of the *total product* that comes off the fishing vessel, which in the case of 'fish', consists of either whole fish, headed, gutted and tailed (HGT) trunks, headed and gutted (H&G) trunks, fillets, collars or cheeks, and in the case of 'prawns', consists of whole prawns, and minor bycatch species such as squid, scallops and lobster.

are complete, but not yet measurable. Our specific Emissions Reduction Strategy for 2018 will include:

- Aim to maintain or reduce the emissions intensity of the 2014 baseline year of 6.54 t CO_{2}-e per tonne of fish and prawns caught.
- Continue to communicate the policy and approach of our "Carbon Neutral" pledge to all employees, contractors, suppliers, customers and industry peer groups in an endeavour to gain their support for devising mechanisms to lower the carbon emission footprint of Austral Fisheries, and as a consequence, the industry as a whole;
- Public acknowledgement that the seafood industry can be a leader in the transition to the low emission economy, through technological advancements, as well as being responsible stewards for the marine sector.
- Continue to work with government regulators such as the Australian Fisheries Management Authority, and the Australian Maritime Safety Authority to work towards making our operations more emissions efficient, while not compromising safety or operational efficiency;
- Continue to work with non-government organisations such as the World Wide Fund for Nature and the Marine Stewardship Council to adapt or implement relevant suggestions from their programs;
- Continue to encourage our suppliers to provide lower carbon emission goods and services to our company. This would include fishing gear, mechanical and engineering supplies, stevedore and provedore supplies, fuel, product suppliers, and others;
- Working with our customers to encourage them to continue our Carbon Neutral story through to the end consumer.
- Continue to work with stakeholders in this field to progress an international offset standard (like the Marine Stewardship Council cerification for sustainable seafood), or international alignment of domestic standards.
- Continue to work with stakeholders, such as CSIRO, to develop methodologies and logistically possible solutions surrounding for future for 'blue carbon' capturing systems.

We will review, evaluate, refine and report on our Emissions Reduction Strategy following the end of calendar year 2018.

Part C. Emissions reduction actions

Table 3 indicates the measures that have been completed or are currently underway in regards to emissions reductions at Austral Fisheries.

Table 3. Emissions reduction measures implemented in the current reporting period

Year completed	Emission source	Reduction measure and calculation method	Scope	Status	Reduction t CO_2-e
2016	Paper	Moved to NCOS certified paper for all offices	3	Complete	1.2t
2017	Perth office electricity	We upgraded our printers to more energy efficient models. We could not estimate the CO_2-e reduction as it is so minor.	2, 3	Complete	Unknown
2017	Perth office electricity	We switched all lights in our Perth office to LED in August 2017.	2, 3	Complete	2.7t
2017	Melbourne and Sydney offices electricity	Where available, we switched our energy providers to NCOS certified providers in May 2017. See calculated savings in 'Scope 2 – Purchased electricity_inc LCA.xlsx'	2, 3	Complete	5.2t
2017	Litres of diesel per kilogram of prawn caught	We finished the construction of a new prawn trawler, that we expect to be able to catch more prawns per litre of diesel than our current 30 year old vessels achieve.	1, 3	The 2018 prawn season only began on April 1. Results will be in next year's report once a full year's records can be analysed	Cannot estimate yet
2018	Litres of diesel per kilogram of fish caught	We finished installing an alternating generator for our largest toothfish vessel, which we estimate will reduce fuel usage by 20%.	1, 3	The 2018 toothfish season has only just begun. Results will be in next year's report once a full year's records can be analysed	Cannot estimate yet
Total emission reductions implemented in this reporting period					9.1t

3A. Emissions summary – Organisation

The total emissions of Austral Fisheries at the organisation level in 2017 was 32,225 t CO2-e, as shown in Table 4.

Table 4. Emissions Summary - Organisation

Scope	Emission source	t CO_2-e
1	Diesel oil - transport (Southern Ocean fleet)	11329
1	Diesel oil - transport (Northern Prawn fleet)	10806
1	Diesel oil - transport (Austral Hunter voyage to Australia)	117
1	Diesel oil - transport (Northern fish fleet)	46
1	Petroleum-based oils (Southern Ocean fleet)	18
1	Petroleum-based oils (Northern Prawn fleet)	16
1	Petroleum-based oils (Northern fish fleet)	0
1	Transport petrol-post 2004 vehicles	35
1	Gasoline for aircraft – spotter plane	80
1	Fugitive emissions of refrigerant gas	1590
1	Waste incinerated on vessels	2.6
2	Electricity purchased for Australian offices	118
2	Electricity purchased for international offices	1.2
3	Cold storage services	96
3	Food supplies on vessels	1002
3	Water purchased for vessels and offices	0.7
3	Office paper	0.7
3	Bait for Southern Ocean	496
3	Bait for Northern Fish Fleet	10
3	Supplies procured for vessels – cardboard	180
3	Remaining weight of supplies procured for vessels – assumed to be metals and plastics	395
3	Capital goods	54
3	Diesel oil - transport (Southern Ocean fleet)	579
3	Diesel oil - transport (Northern Prawn fleet)	552
3	Diesel oil - transport (Austral Hunter voyage to Australia)	2.3
3	Diesel oil - transport (Northern fish fleet)	6.0
3	Petroleum-based oils (Southern Ocean fleet)	4.6
3	Petroleum-based oils (Northern Prawn fleet)	4.1
3	Petroleum-based oils (Northern fish fleet)	0.0
3	Transport petrol-post 2004 vehicles	1.9
3	Gasoline for aircraft – spotter plane	4.2
3	Electricity purchased for international offices	0.2
3	Electricity purchased for Australian offices	16
3	Upstream transportation of supplies for fishing vessels	156
3	Upstream transportation of fish in trading division, by sea	1598
3	Waste to landfill	37
3	Business air travel - employees	206

Table 4. Emissions Summary - Organisation		
Scope	Emission source	t CO_2-e
3	Business air travel - crew/contractors	286
3	Business travel accommodation - employees	70
3	Business travel accommodation – crew/contractors	21
3	Employee commuting	51
3	Taxi use	4.9
3	Onshore processing of catch	11.2
3	Downstream transportation of Austral fish and prawn catch	1010
3	Downstream transportation of fish in trading division, by road	216
3	Retail and Restaurant use of product	337
Total Gross Emissions		32,225
GreenPower or retired LGCs		0
Total Net Emissions		**32,225**

3B. Emissions summary – Products

The total emissions of Austral Southern Fish Catch (2182 t) in 2017 was 13,859 t CO_2-e, as shown in Table 5. This represents emissions of 6.35 t CO_2-e per tonne of product leaving the ship.

Table 5. Emissions Summary for Austral Southern Fish Catch		
Emission source	t CO_2-e for 2017 Austral Southern Fish Catch	t CO_2-e for emission source contributing to life cycle of one tonne of Austral Southern Fish Catch in 2017
Pre-processing of fuel burned on ships (diesel)	579	0.2653
Pre-processing of lubricants (petroleum-based oils)	4.6	0.0021
Pre-processing of bait	496	0.2273
Pre-processing of packaging (cardboard)	54	0.0247
Remaining supplies procured for vessels – assumed to be metals and plastics	430	0.1970
Water supplied to vessels	0.1	0.00005
Transport of materials and equipment to vessels	212	0.0971
Production at sea: catching, processing and packing (diesel)	11329	5.1908
Production at sea: catching, processing and packing (petroleum-based oils)	18	0.0082
Freezing of product (at sea) (refrigerant gases)	0	0
Land-based processing	7.5	0.0034
Refrigerated transport	471	0.2158
Cold storage on land, third party	0	0
Cold storage, Austral facility (refrigerant gases)	0	0
Sales co-ordination, Leederville office – electricity use	16	0.0075

Table 5. Emissions Summary for Austral Southern Fish Catch		
Emission source	t CO_2-e for 2017 Austral Southern Fish Catch	t CO_2-e for emission source contributing to life cycle of one tonne of Austral Southern Fish Catch in 2017
Sales co-ordination, Leederville office – pre-processing of supplied electricity	1.4	0.0006
Retail and Restaurant use of fish and prawn products	240	0.1100
Total Gross Emissions	**13,859**	**6.35**
GreenPower or retired LGCs	**0**	
Total Net Emissions	**13,859**	

The total emissions of Austral Northern Fish Catch (25 t) in 2017 was 71 t CO_2-e, as shown in Table 6. This represents emissions of 2.84 t CO_2-e per tonne of product leaving the ship.

Table 6. Emissions Summary for Austral Northern Fish Catch		
Emission source	t CO_2-e for 2017 Austral Northern Fish Catch	t CO_2-e for emission source contributing to life cycle of one tonne of Austral Northern Fish Catch in 2017
Pre-processing of fuel burned on ships (diesel)	2.3	0.0926
Pre-processing of lubricants (petroleum-based oils)	0	0
Pre-processing of bait	10	0.4028
Remaining supplies procured for vessels – assumed to be metals and plastics	0	0
Transport of materials and equipment to vessels	2.2	0.0886
Production at sea: catching, processing and packing (diesel)	46	1.8528
Production at sea: catching, processing and packing (petroleum-based oils)	0	0
Chilling of product (at sea) (refrigerant gases)	0	0
Land-based processing	10.5	0.0076
Refrigerated transport	7.6	0.3061
Cold storage on land, third party	0	0
Sales co-ordination, Leederville office – electricity use	0.2	0.0081
Sales co-ordination, Leederville office – pre-processing of supplied electricity	0.0	0.0004
Retail and Restaurant use of fish and prawn products	2.2	0.0886
Total Gross Emissions	**71**	**2.84**
GreenPower or retired LGCs	**0**	
Total Net Emissions	**71**	

The total emissions of Austral Prawn Catch (1534 t) in 2017 was 13,945 t CO_2-e, as shown in Table 7. This represents emissions of 9.09 t CO_2-e per tonne of product leaving the ship.

Table 7. Emissions Summary for Austral Prawn Catch

Emission source	t CO_2-e for 2017 Austral Prawn Catch	t CO_2-e for emission source contributing to life cycle of one tonne of Austral Prawn Catch in 2017
Pre-processing of fuel burned on ships (diesel)	552	0.3598
Pre-processing of lubricants (petroleum-based oils)	4.1	0.0027
Pre-processing of gasoline for spotter plane	4.2	0.0027
Pre-processing of packaging (cardboard)	54	0.0352
Remaining supplies procured for vessels – assumed to be metals and plastics	121	0.0789
Water supplied to vessels	0.5	0.0003
Transport of materials and equipment to vessels	14	0.0091
Production at sea: catching, processing and packing (diesel)	10806	7.0439
Production at sea: catching, processing and packing (petroleum-based oils)	16	0.0104
Spotter plane	80	0.0521
Freezing of product (at sea) (refrigerant gases)	1590	1.0364
Cold storage, Austral facility (refrigerant gases)	0	0
Land-based processing	3.7	0.0024
Refrigerated transport	531	0.3461
Cold storage on land, third party	55	0.0359
Sales co-ordination, Leederville office – electricity use	13.3	0.0087
Cold Storage, Austral facility – electricity use	4.3	0.0028
Sales co-ordination, Leederville office – pre-processing of supplied electricity	1.1	0.0007
Cold Storage, Austral facility – electricity use – pre-processing of supplied electricity	0.8	0.0005
Retail and Restaurant use of fish and prawn products	94	0.0613
Total Gross Emissions	**13,945**	**9.09**
GreenPower or retired LGCs	**0**	
Total Net Emissions	**13,945**	

4. Carbon offsets

Part A. Offsets summary

Austral Fisheries has offset all of our 2017 emissions through the purchase of Gold Standard Voluntary Emissions Reductions (VERs) from an international wind power project. Originally, we intended to use credits from the *Yarra Yarra Biodiversity Corridor, h*owever there has been a delay in the Gold Standard auditing of these units, so in the meantime we have assigned 32,225 validated units from the *Yarra Yarra Biodiversity Corridor* project on the Gold Standard Registry. These can be viewed publicly on the Markit Environmental Registry. The retired amount international wind power offsets to ensure carbon neutrality under NCOS can also be viewed on the Registry.

Table 8: VER serial numbers for the 2017 reporting period

Serial Number	**Vintage**	**Credits**
2017 reporting period, based on 2016 actual emissions		
5773-258685730-258717954-VCU-048-APX-IN-1-1521-01012015-31122015-0	2015	32,225
	Total	**32,225**

Part B. Offsets purchasing and retirement strategy

We have chosen to offset our emissions in arrears, as it is a simpler process of retiring units once the annual account is finalised, rather than making estimates for the year ahead, retiring those units, and then tidying up the account at year end, as you make estimates for the following year.

In 2017 we forward purchased 60,000 validated credits from the *Yarra Yarra Biodiversity Corridor* Gold Standard certified offset project, with the aim of retiring these as required by the Carbon Neutral Program over the coming years once they become verified units.

As mentioned above, the delay in the Gold Standard auditing of the Yarra Yarra units meant we have instead assigned 32,225 of these validated units, and have retired an equivlant amount of NCOS approved international wind power offsets. We therefore actually will be 'carbon positive' for our 2017 inventory, but we will not be using this as a marketing strategy, or focus this section of the report on those international units, apart from them appearing in Table 8.

Part C. Offset projects (Co-benefits)

Australian Native Reforestation within the *Yarra Yarra Biodiversity Corridor*

The *Yarra Yarra Biodiversity Corridor* Gold Standard project is part of nearly 13,000 hectares that has been revegetated and will capture an estimated 1.897 million tonnes of CO_2-e over the next 50 years.

The project involves the planting of 40-50 mixed native tree and shrub species (some of which are endangered) on degraded agricultural land that no longer supports viable farming practices. It's located in a globally significant biodiversity hotspot and in a region where over 90% of the land has already been cleared. This reforestation project is encouraging native animals and plants that have vanished or been pushed to the brink of extinction in the region to return and breed. This includes iconic threatened species such as Malleefowl, Bush Stone-curlew, Carnaby's Black-Cockatoo, Western Spiny-tailed Skink and the Woylie (Brush-tailed Bettong), as well as over 30 species of conservation-significant native plants.

Project impacts and benefits:

As well as removing carbon dioxide from the atmosphere, the *Yarra Yarra Biodiversity Corridor* project also delivers substantial positive social outcomes in the region:

- **Environmental** includes salt, wind and water erosion amelioration and improved soil biology and aeration (which equals increased soil carbon levels).

- **Social** includes local employment (including First Peoples) and support of local businesses (more than 100 people employed and nearly 100 local businesses benefit since project inception), which is contributing to reversing the population drift from rural areas to the cities. Scientific research, eco-tourism and community education is also gathering momentum.

- **Economic** includes nearly $20 million invested from project inception into struggling rural areas, with the biodiversity project model allowing other sustainable and profitable land uses to occur (sandalwood, dryland irrigation, agistment of neighbours sheep for fire risk mitigation, beekeeping, bush foods and tourism).

- **Heritage** includes identifying and protecting significant First People's heritage sites of cultural significance and relying on Elders knowledge on how we interact and manage these areas. One of Carbon Neutral's core values is to recruit as many local indigenous people as possible and since project inception there has been nearly 50 individuals employed at different times.

5. Use of trade mark

Table 9. Trade mark register	
Where used	Logo type
Austral Fisheries website; Austral Fisheries staff signature blocks and business cards; and Various presentations made by Austral staff.	Certified organisation
Austral Fisheries website; Austral Fisheries prawn packaging; Austral's LCA flyer for the Australian Emissions Reduction Summit; and Various presentations made by Austral staff.	Certified product

6. Have you done more?

To date, we are the only marine protein source that we know of in the world that is certified carbon neutral, which we take great pride in. We continued our low emissions outreach with our supply chain and customer base, to encourage them to also take action in this space, and we are happy to say that our lubricant supplier for our Prawn fleet, International Lubricant Distributors, in March 2018, became a NCOS certified organisation.

We have also continued to have conversations within the seafood industry, and it was promising to see the National Seafood Industry Leadership Program class of 2017 delcare their goal was for the seafood industry to be carbon neutral via blue carbon projects by 2030, who have in turn inspired the Sydney Fish Market to become the second seafood industry organisation in Australia to achieve carbon neutral status.

We have a genuine vision of leading our suppliers, customers and competitors to reduce carbon pollution as a result of their activities, and will continue to do so into the future.

Watch this space.