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# ORGANISATIONAL GREENHOUSE GAS EMISSIONS INVENTORY (CARBON FOOTPRINT SUMMARY)

FY 2019/20

for

**Luminary**

Final 1.0



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# SUMMARY

<b>ORGANISATION NAME:</b>	<b>Luminary</b>
Period:	1 July 2019 to 30 June 2020
Disclosure type:	Organisational Carbon Neutrality
Total Gross Greenhouse Gas (GHG) emissions:	136.59 t CO <sub>2</sub> -e
Carbon neutral office paper credits	-0.06 t
Total net GHG emissions (excluding office paper)	136.53
Carbon offset credits	137.00
<b>Total Net GHG Emissions:</b>	<b>-0.47t CO<sub>2</sub>-e</b>

## ABOUT THE ORGANISATION

Luminary is a full-service digital agency, trading since 1999. Experience is their point of difference, both in terms of the experience they hold and the experiences they create.

Luminary brings together the brightest minds in digital to craft experiences that are intuitive, engaging, impactful and enlightening.

Luminary is known for work on complex web projects for leading Australian brands and offers other services from digital transformation and user experience design, to digital marketing and managed cloud services.

The business has been offsetting its organisational GHG emissions since 2018 and can be considered to be a carbon neutral organisation.

Luminary promotes its carbon neutrality status on its [website](#) and encourages its clients to consider their digital footprint.

This report provides transparency about the way in which the carbon footprint of Luminary has been calculated and the offsets used to cancel GHG emissions from FY2020.

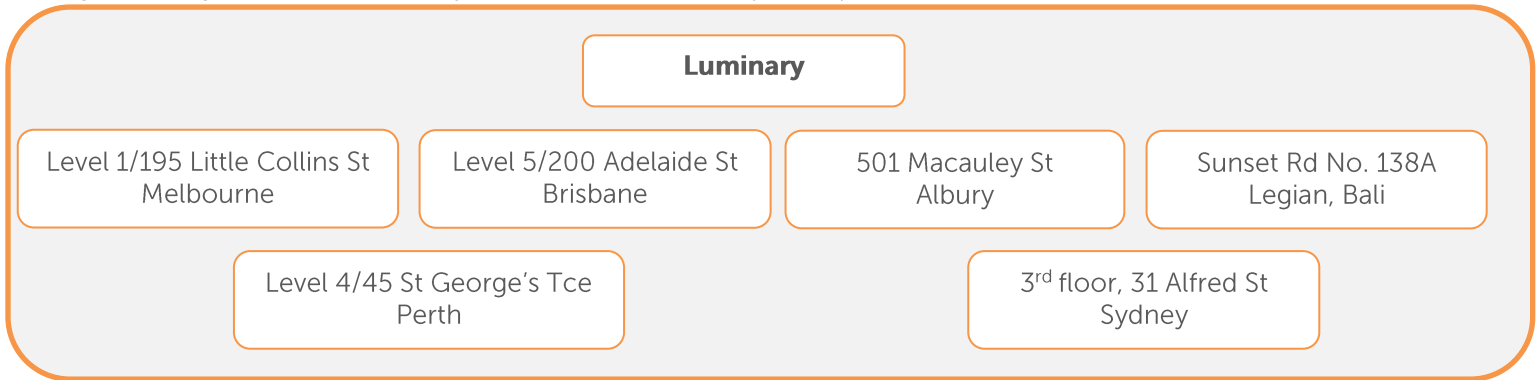
## EMISSIONS SCOPE & OPERATIONAL BOUNDARY

The emissions scope and organisational boundary for the GHG inventory has been developed in accordance with the GHG Protocol and includes GHG emitting activities considered to be under the *operational control* of the business.

Luminary's GHG emissions inventory includes aspects of operations that the business has operational control over, as well as activities which the business could influence. The seven GHG sources covered by the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>) are included and reported as units of carbon dioxide equivalents (CO<sub>2</sub>-e).

Operating locations and GHG emissions from following facilities have been included in this GHG Emissions inventory.

Figure 1: Organisational boundary of FY2020 carbon footprint report



## METHODOLOGY & EMISSIONS FACTORS

Except where otherwise stated in this report, Carbon Neutral has calculated Luminary's Scope 1 and 2 GHG emissions using Department of the Environment and National Greenhouse Accounts (NGA) Factors (August 2018).

Scope 3 emissions are difficult to quantify as these emissions come from various sources with no direct way to easily measure the contribution to climate change. In these cases, in addition to the NGA Factors,

we use external, credible sources to perform our calculations.

Data for the determination of GHG emissions was provided by Luminary.

*The veracity of this data is taken to be complete and accurate and has not been audited or independently verified by Carbon Neutral.*

Where incomplete data has been provided, estimates have been used and are stated in this report.

Carbon Neutral's own calculation methodologies, assumptions and emission factors are referenced in the report.

## FY2020 GHG EMISSIONS

FIGURE 2: Inclusions and exclusions of 2019/20 carbon footprint

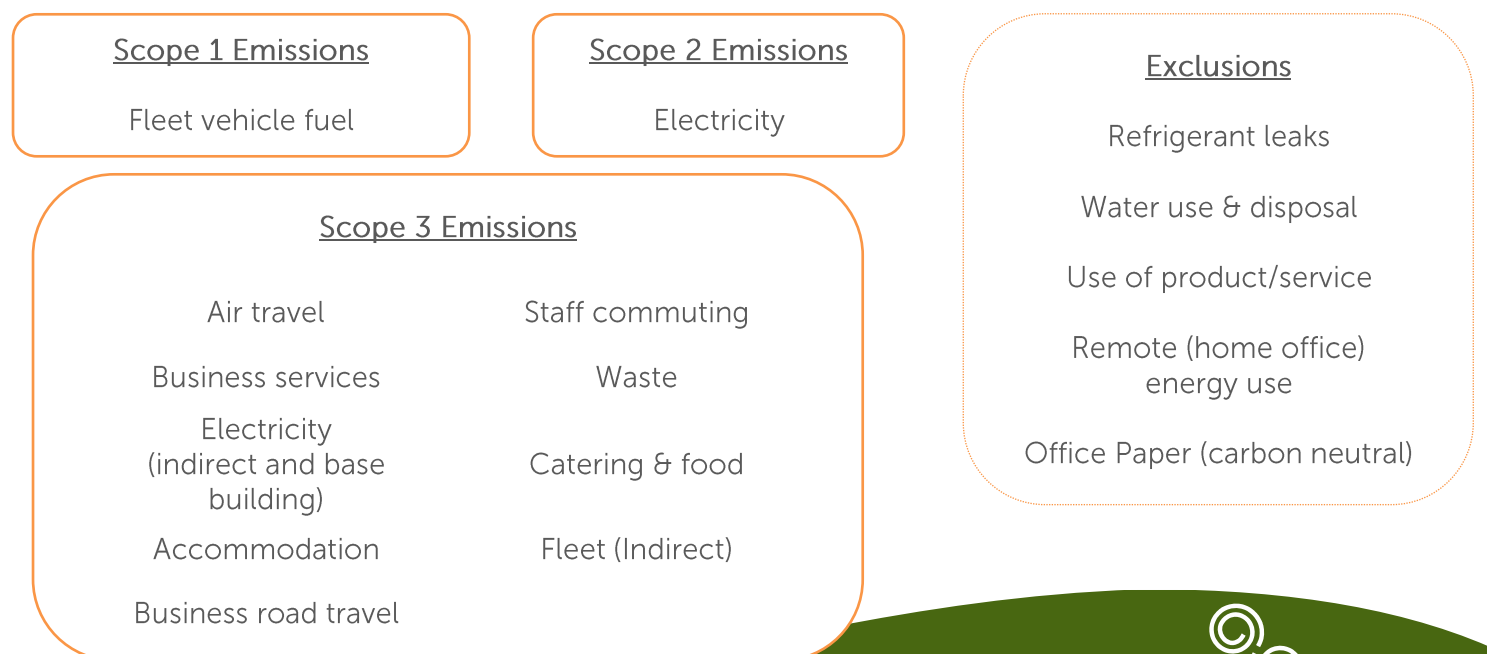


TABLE 1: Detailed activity data, emission factors, references and GHG emissions

FACILITY	Activity source	Activity data	Emissions factor	GHG Emission t CO <sub>2</sub> -e	Reference
<b>SCOPE 1</b>					
Unspecified	Fleet fuel use (petrol)	1,045 litres	2,312.6 kg CO <sub>2</sub> -e/litre	2.42	NGA Factors 2019
<b>SCOPE 2</b>					
Albury	Electricity use	634 kWh	0.81 kg CO <sub>2</sub> -e/kWh	0.43	NGA Factors 2019
Bali	Electricity use	5,855 kWh	0.80 kg CO <sub>2</sub> -e/kWh	4.69	PT Electricity Company Business Plan
Brisbane	Electricity use	1,140 kWh	0.81 kg CO <sub>2</sub> -e/kWh	0.92	NGA Factors 2019
Perth	Electricity use	634 kWh*	0.69 kg CO <sub>2</sub> -e/kWh	0.37	NGA Factors 2019
Melbourne	Electricity use	16095 kWh	1.02 kg CO <sub>2</sub> -e/kWh	16.42	NGA Factors 2019
Sydney	Electricity use	634 kWh*	0.81 kg CO <sub>2</sub> -e/kWh	0.43	NGA Factors 2019
<b>SCOPE 3</b>					
Unspecified	Fleet fuel use (petrol)	1,045 litres	123.1 kg CO <sub>2</sub> -e/litre	0.13	NGA Factors 2019
Albury	Electricity use	634 kWh	0.09 kg CO <sub>2</sub> -e/kWh	0.05	NGA Factors 2019
Bali	Electricity use	5,855 kWh	0.12 kg CO <sub>2</sub> -e/kWh	0.71	NGA Factors 2019
Brisbane	Electricity use	1,140 kWh	0.12 kg CO <sub>2</sub> -e/kWh	0.14	NGA Factors 2019
Perth	Electricity use	634 kWh*	0.04 kg CO <sub>2</sub> -e/kWh	0.02	NGA Factors 2019
Melbourne	Electricity use	16095 kWh	0.10 kg CO <sub>2</sub> -e/kWh	1.61	NGA Factors 2019
Melbourne	Electricity use (base building)	4695 kWh	1.12 kg CO <sub>2</sub> -e/kWh	5.26	NGA Factors 2019
Sydney	Electricity use	634 kWh*	0.09 kg CO <sub>2</sub> -e/kWh	0.05	NGA Factors 2019
Albury	Flights (<400km)	518 km	0.16274 kg CO <sub>2</sub> -e/km	0.08	DBEIS Factors 2019
Albury	Flights (400 – 785km)	3,722 km	0.28284 kg CO <sub>2</sub> -e/km	1.05	DBEIS Factors 2019
Brisbane	Flights (400 – 785km)	3,012 km	0.28284 kg CO <sub>2</sub> -e/km	0.85	DBEIS Factors 2019
Brisbane	Flights (785 – 3,700km)	10,544 km	0.17279 kg CO <sub>2</sub> -e/km	1.82	DBEIS Factors 2019
Melbourne	Flights (400 – 785km)	19,740 km	0.28284 kg CO <sub>2</sub> -e/km	5.58	DBEIS Factors 2019
Melbourne	Flights (>3,700km)	48,202 km	0.153605 kg CO <sub>2</sub> -e/km	7.4	DBEIS Factors 2019
Unspecified	Flights (400 – 785km)	72,753 km	0.28284 kg CO <sub>2</sub> -e/km	20.58	DBEIS Factors 2019
Unspecified	Flights (785 – 3,700km)	40,699 km	0.17279 kg CO <sub>2</sub> -e/km	7.03	DBEIS Factors 2019
Unspecified	Flights (>3,700km)	122,696 km	0.153605 kg CO <sub>2</sub> -e/km	18.85	DBEIS Factors 2019

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Albury	Staff commuting	Train - 15,696 km	160 g CO <sub>2</sub> -e/p.km	2.51	EPA Victoria 2019, NGA Factors 2019
Bali	Staff commuting	17 FTE	0.16 t CO <sub>2</sub> -e/FTE	3.57	NGA Factors 2019
Brisbane	Staff commuting	2.5 FTE	0.52 t CO <sub>2</sub> -e/FTE	0.41	Dept. of Infrastructure and Transport 2012, ABS 2016 & 2018, NGA Factors 2019
Perth	Staff commuting	Train - 5,013 km*	40.7 g CO <sub>2</sub> -e/p.km	0.20	Dept. of Infrastructure and Transport 2012, ABS 2016
Melbourne	Staff commuting	38 FTE	0.17 t CO <sub>2</sub> -e/FTE	6.57	EPA Victoria 2019, ABS 2018, NGA Factors 2018
Sydney	Staff commuting	Train - 5,044 km*	40.7 g CO <sub>2</sub> -e/p.km	0.21	Dept. of Infrastructure and Transport 2012, ABS 2016
Unspecified	Business services – IT Equipment	\$27,000	0.34 kg CO <sub>2</sub> -e/\$	9.05	Balancing Act 2005
Unspecified	Business services – Printing	\$1,100	0.30 kg CO <sub>2</sub> -e/\$	0.33	Balancing Act 2005
Unspecified	Business services – Telecom/web	\$3,600	0.14 kg CO <sub>2</sub> -e/\$	0.50	Balancing Act 2005
Melbourne	Waste to landfill	2.10 tonnes	1.2 t CO <sub>2</sub> -e/t waste	2.52	NGA Factors 2019
Alb/Bri/Bali	Waste to landfill	0.94 tonnes	1.2 t CO <sub>2</sub> -e/t waste	1.12	NGA Factors 2019
Unspecified	Catering - plant based	\$6,200.00	.0.425 kg CO <sub>2</sub> -e/\$	2.64	Food, Groceries & Services Reference Report 2010
Unspecified	Groceries	\$3,600	0.502 kg CO <sub>2</sub> -e/\$	1.81	EPA Victoria 2019
Unspecified	Accommodation - Australia	35 nights	43 kg CO <sub>2</sub> -e/room night	1.51	Hotel stay - CHSB 2019 Index Tool
Unspecified	Accommodation - Bali	62 nights	82.6 kg O <sub>2</sub> -e/room night	5.12	Hotel stay - CHSB 2019 Index Tool
Albury	Business related train travel (VLine)	640 km	0.160 kg CO <sub>2</sub> -e/km	0.10	EPA Victoria 2019
Melbourne	Business related train travel	535 km	0.020 kg CO <sub>2</sub> -e/km	0.01	EPA Victoria 2019
Unspecified	Business related Uber travel	2,620 km	190 g CO <sub>2</sub> -e/km	0.50	EPA Victoria 2019, NGA Factors 2019
Unspecified	Business related car travel	400 litres	2,436 kg CO <sub>2</sub> -e/l	0.97	NGA Factors 2019
Unspecified	Office paper use	25 kg (20 reams)	0 kg CO <sub>2</sub> -e/kg	0.00	EPA Victoria * NCOS carbon neutral certified paper
Total gross GHG emissions				136.53	

# ASSUMPTIONS & ALLOWANCES USED

The following assumptions have been used.

## FLEET FUEL USE

The volume of petrol used in fleet vehicles has been estimated by the business as 1,045 litres, based on the approximate distance travelled in two fleet vehicles using an average fuel efficiency of 7.4 litres petrol per 100km.

## ELECTRICITY USE

Melbourne – Based on sub-metered data (good accuracy)

Base building energy use is based on 2017/18 usage of 392.11kWh per month.

Other facilities – Electricity use based on average kWh use per month by Luminary.

Electricity use for shared office spaces in Perth and Sydney are based on use in the Albury home office (each have one FTE).

## AIR TRAVEL

Radiative Forcing Index factor of x1.9 applied as per DBEIS recommendations except for shorter, regional flights. GHG emission estimates include an allowance for indirect, Well to Tank (WTT) transmissions.

All flights are economy class.

## WASTE

Waste for the Melbourne facility is based on a 240 litre bin being 70% full when emptied twice weekly.

Waste sent to landfill for other facilities has been estimated at 0.15m<sup>3</sup> on a weekly basis.

A weight to volume conversion factor of 0.12 t/m<sup>3</sup> has been applied (NGER Technical Guidelines).

## STAFF COMMUTING

A staff survey was conducted, and data obtained was used to identify average emissions per full time equivalent (FTE) staff for each facility as follows:

Bali – 0.24 t CO<sub>2</sub>-e/FTE

Brisbane – 0.52 t CO<sub>2</sub>-e/FTE

Melbourne – 0.29 t CO<sub>2</sub>-e/FTE

Staff commuting data for staff in Perth and Sydney was not available. 2016 ABS Census data was used to estimate the average daily commute distance, taken to be in train, for the two staff that work out of these locations in the CBD.

Emission factors for public transport as follows:

Train (V/Line) – 0.160 kg CO<sub>2</sub>-e/pkm (EPA Vic 2019)

Train (Brisbane, Perth and Sydney) – 0.0407 kg CO<sub>2</sub>-e/pkm (DIT 2012)

Train (Melbourne) – 0.020 kg CO<sub>2</sub>-e/pkm (EPA Vic 2019)

Tram/Bus – 0.120 kg CO<sub>2</sub>-e/pkm (EPA Vic 2019)

Where private vehicle fuel efficiency has not been stated in staff surveys, an average vehicle efficiency of 11.5l/100km petrol has been applied.

## BUSINESS SERVICES

Inflation factor (1.79) applied based on Reserve Bank of Australia to TBL input:output multipliers of Balancing Act 2005. Total emissions factors applied.

## CATERING & FOOD

Emission factor of 1.2 applied to account for inflation from 09/10 to 19/20.

## ACCOMMODATION

Mean average emission factors have been used.

## BUSINESS ROAD TRAVEL

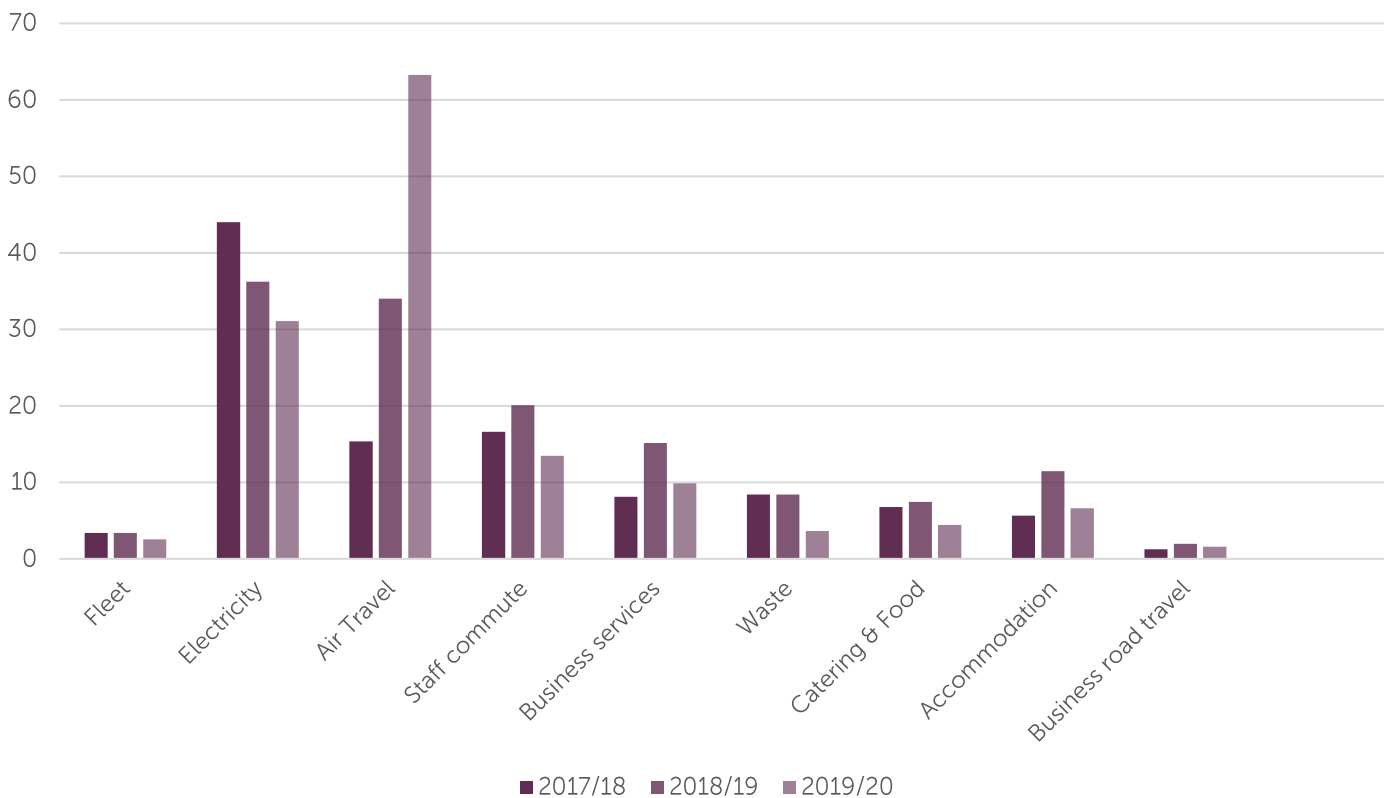
Uber vehicles based on vehicle efficiency of 7.8L/100km (petrol) post 2004.

# HISTORICAL GHG EMISSIONS

TABLE 2: Historical GHG Emissions for Luminary (t CO<sub>2</sub>-e)

Activity	2017/18 (t CO <sub>2</sub> -e)	2018/19 (t CO <sub>2</sub> -e)	2019/20 (t CO <sub>2</sub> -e)	Change (%)
Fleet	3.37	3.37	2.55	-24%
Electricity	44.02	36.25	31.09	-14%
Air travel	15.34	18.80	63.25	+86%
Staff commute	16.62	20.09	13.47	-33%
Business services	8.12	15.15	9.88	-35%
Waste	8.42	8.42	3.64	-57%
Catering & Food	6.79	7.45	4.44	-40%
Accommodation	5.63	11.48	6.63	-42%
Business road travel	1.27	0.74	1.59	-19%
<b>Total</b>	<b>109.58</b>	<b>138.31</b>	<b>136.53</b>	<b>-1%</b>

FIGURE 3: Historical organisational carbon footprint



To improve the accuracy of GHG emission estimates, encourage as many staff as possible to complete staff commuting surveys.

Scope 1 and 2 activities (fleet fuel use and electricity consumption) should use the most accurate activity data available.

# GHG REDUCTIONS & EXCLUSIONS

**GHG emissions prior to the purchase of carbon offsets are calculated to be 136.53 tonnes CO<sub>2</sub>-e for FY2020.**

GHG emissions exclude GHG emissions associated with the use of carbon neutral office paper.

Emissions from the following activities have not been included in the carbon footprint assessment:

- Refrigerant leaks in buildings (no data, immaterial)
- Water use & disposal (immaterial)
- Emissions from clients using services (outside boundary, difficult to quantify)
- Energy used in home offices from staff working from home due to COVID restrictions (excluding Albury which has been included)

## CARBON REDUCTION ACTIONS

Luminary has introduced initiatives to reduce its carbon footprint as shown in the following diagram.

FIGURE 4: Summary of carbon reduction actions

### FY2018

- All lights are switched off centrally every evening
- Enabling sleep settings on computers and monitors
- Using Google Hangouts for meetings to enable remote attendance without travel
- Providing recycling bins in kitchen facilities (Australia)
- Composting of coffee grounds via ReGround
- Providing reusable cups and bottles for all staff
- Restricting printer use to sales staff
- Providing bicycle racks in all offices
- Flexible working hours to enable travel at off-peak hours
- Flexible working arrangements that allow staff to work from home
- Introducing a commitment to purchasing electric fleet vehicles in the future
- Canceling carbon emissions through the use of Gold Standard certified Australian Native Reforestation carbon offsets

### FY2019

- Providing stainless steel drink bottles for all staff
- Tree planting initiatives
- Provision of Manuka tree seed stick to all clients
- Policy to avoid single use plastic use
- Provision of sparking tap water to discourage plastic water bottle purchases
- Using plant-based catering options for major events



**FY2020**

- TP link smart adaptors installed to appliances which are switched off in the evenings and turned on the next morning.
- Printing on recycled materials where possible
- Soft plastic recycling
- Provision of bicycle racks at all facilities
- Flexible working arrangements to allow staff to avoid peak hour travel
- Reduced commuting from staff working remotely from home

**CARBON OFFSETS**

Luminary purchases carbon credits to offset its unavoidable emissions.

**By offsetting the remainder of its unavoidable GHG**

TABLE 3: Details of carbon offsets purchased for FY2020

Type of offset	Serial numbers	TONNES PURCHASED & ALLOCATION DATE
Gold Standard Australian Native Reforestation – PER, Vintage 2022	GS1-1-AU-GS3039-21-2022-19221-4383-4519	137
('stapled' and retired) CDM-CER China Wind Power, Vintage 2013-2016	CN-316 1,011,009,668 – 1,011,009,804	(137)
TOTAL tonnes retired for 2019/20		137

**emissions, the organisation is a carbon neutral organisation.**

Carbon offsets purchased by Luminary are shown in the following table.

**EMISSIONS INTENSITY**

The emissions intensity shows Luminary's GHG emissions relative to the number of staff. This allows for a more meaningful comparison of emissions to be made on a year to year basis.

The following table shows Luminary's GHG emissions against staff numbers. These are based on gross emissions for the organisation.

TABLE 4: Emissions intensities for Luminary

PERIOD	STAFF NUMBER	GHG EMISSIONS	GHG EMISSIONS INTENSITY
	(t CO <sub>2</sub> -e/staff)	(t CO <sub>2</sub> -e)	(t CO <sub>2</sub> -e/staff)
2017/18	51	109.65	2.2
2018/19	60	138.31	2.3
2019/20	60.5	136.53	2.3

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