CARBON REDUCTION INSTITUTE

NoCO2 Audit Report

KENNEDY NOLAN

FY2022 Annual Audit

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EXECUTIVE SUMMARY

The Carbon Reduction Institute (CRI), through its certification and logo system, aims to assist organisations reduce their Greenhouse Gas (GHG) emissions and provide those organisations and consumers with a simple way of identifying carbon neutral and low carbon products and services.

Kennedy Nolan is an architectural practice which focuses on innovative approaches to public and residential projects that delivers a highly responsive design, sensitive to its context in conjunction with sustainable design initiatives. Kennedy Nolan commissioned a NoCO2 audit from CRI to measure their carbon footprint, through the determination of the GHG emissions that resulted from their operations over the 2022 financial year (FY2022).

This report provides the results of this audit, and delivers an understanding of the organisation's GHG inventory. Kennedy Nolan will then be able to use this knowledge to plan future reductions of its carbon footprint, as well as determine whether they have any reporting obligations under energy and emissions reporting legislation. This report is valid within the FY2022 period, subject to Kennedy Nolan's compliance with the terms and conditions outlined by CRI.

CRI's NoCO2 audit follows the standards outlined by the World Business Council for Sustainable Development's Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (1), in addition to the international standard ISO 14064.1 (2).

The emissions from Kennedy Nolan's operations were calculated through the application of numerous published life cycle emission factors along with the use of multi-regional input-output tables (3) derived figures. Each emissions factor is scaled to a level of consumption for its impact area, for example a kilowatt-hour of electricity or a litre of fuel.

It has been determined that the total GHG emissions from Kennedy Nolan's relevant operations and activities, within the boundaries of the NoCO2 program, were **117.74 tonnes of CO2e** (tCO2e) over the FY2022 period.

A breakdown of Kennedy Nolan's emissions by source is summarised in the chart immediately below.

Figure 1: Breakdown of Kennedy Nolan's GHG Emissions, FY2022

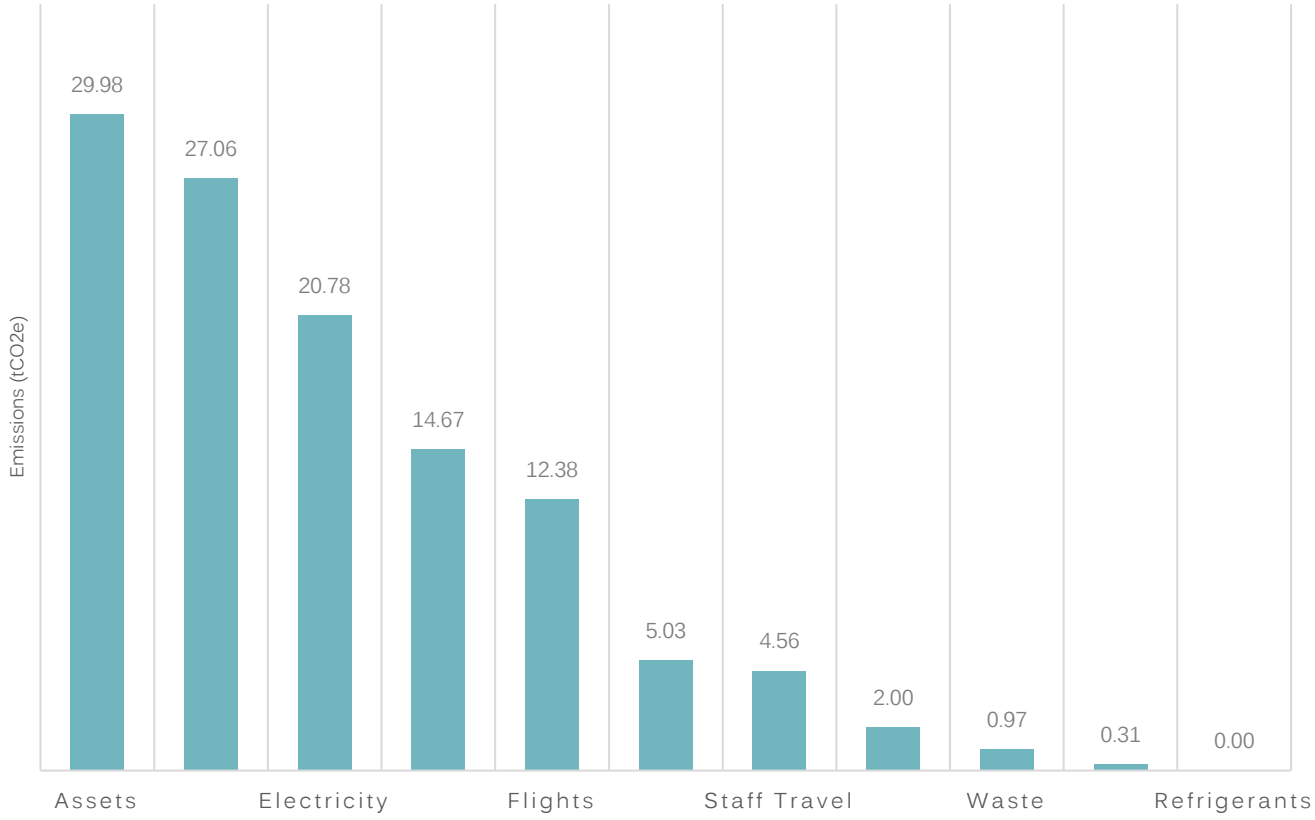
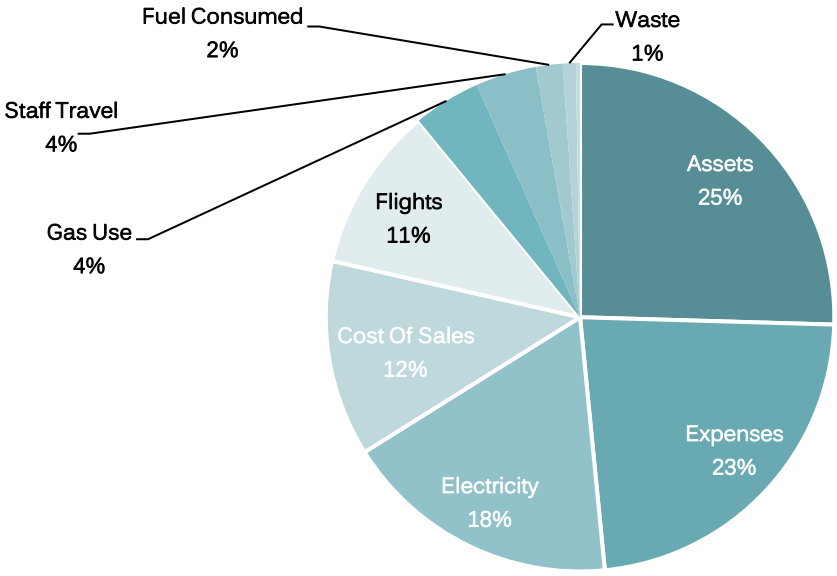


Table 1: Sources of Kennedy Nolan's emissions (NoCO2 Boundaries)

Scope	Emission Source	Emissions (tCO2e/year)
Scope 1	Fuel Consumed	1.59
	Gas Use	4.67
	Refrigerants	0.00
Scope 2	Electricity	19.20
Scope 3	Supply of Electricity	1.58
	Supply of Gas	0.36
	Staff Travel	4.56
	Supply of Fuel	0.41
	Assets	29.98
	Expenses	27.06
	Cost Of Sales	14.67
	Flights	12.38
	Waste	0.97
	Staff Telecommuting	0.31
	Total Footprint:	**117.74**
	Carbon Neutral Expenses	0.33
	Carbon Offset Flights	3.46
	Green Power	20.78
	Carbon Neutral Gas	5.03
	Total FY2022 Offset Requirement:	**88.13**

The table above encapsulates Kennedy Nolan's total carbon footprint as per Figure 1 on page 2 before accounting for Carbon Neutral Expenses and offsets purchased through third parties. These results are subsequently summarized in Figure 2 below where it should be highlighted that Carbon Neutral Expenses account for a total of 29.61 tCO2e and 25.1% of Kennedy Nolan's footprint.

Figure 2: Emission Sources for Kennedy Nolan, FY2022



Kennedy Nolan's FY2022 net carbon footprint for certification purposes under CRI's NoCO2 Program is **88.13 tCO2e**.

Full details of the terms and conditions of certification will be forwarded separate to this audit report.

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GLOSSARY

Term	Description
CO2-e	CO2 equivalent. This unit reflects the impact of the emission of all greenhouse gases, including CO2 (carbon dioxide), CH4 (Methane), N2O (Nitrous Oxide), Sulphur Hexafluoride (SF_6) as well as fluorocarbons PFCs and HCFCs and expresses their varying global warming impacts in terms of a weighted CO2 equivalent.
EF	Emissions Factor. The amount of CO2-e emitted (in kg or tonnes) per unit of according factor.
GHG	Greenhouse Gases (methane, CO2, N2O, etc.). Gases that contribute towards global warming.
p.km	Person kilometres. A value expressing the total distance travelled by multiple individuals (i.e. one individual travelling 50km plus one individual travelling 60km is 110 p.km).
RFI	Radiative Forcing Index. A factor that references the global warming multiplier effect of releasing GHGs in the upper atmosphere as opposed to ground level. This is relevant to commercial flights. Approximately equal to 1.9 (4).
FY2022	Financial year of 2022 commencing July 2021, ending June 2022.
Uplift Factor	Uplift Factor. This value is an inflating factor (1.09 or, in other words, an addition of 9%) (5) that accounts for uncertainties associated with air travel such as indirect paths, delays and varying weather conditions.

1. INTRODUCTION

The Carbon Reduction Institute (CRI), through its NoCO2/LowCO2 certification program, aims to help businesses reduce their greenhouse gas (GHG) emissions and demonstrate their pro-active approach toward the threats posed by climate change. This program allows businesses to position themselves within industry and community as leaders in the fight against climate change and become part of the growing 'low carbon economy'.

As part of Kennedy Nolan's commitment to increase the sustainability of its business practices, it is having its overall greenhouse gas impact assessed by CRI. This audit will enable Kennedy Nolan to identify areas where emissions are greatest and calculate the carbon offset requirement that Kennedy Nolan must fulfil in order to achieve NoCO2 certification.

1.1. OPERATIONAL EMISSIONS

In order for Kennedy Nolan to negate the impact of its greenhouse gas emissions, it must first quantify them. CRI does this by conducting an emissions assessment and then applying the methodologies outlined within the World Business Council for Sustainable Development's (WBCSD) Greenhouse Gas Accounting Protocol. (6)

1.1.1. GHG PROTOCOL

The protocol contains universally recognised accounting methods and boundaries that can be applied to different levels, sizes and types of organisations when creating their GHG inventory. This includes multinational organisations, energy intensive primary industry, as well as small to medium enterprises (SME). Boundaries are important when compiling a GHG inventory, as they give organisations consistency and scope when accounting for their emissions.

1.2. EMISSIONS BOUNDARIES

There are two 'types' of boundaries that need to be set when compiling a GHG inventory; an organisational boundary and an operational boundary. Organisational boundaries allow a business to distinguish between GHG emitting activities that are attributable to their organisation, and those that are not. Operational boundaries allow an organisation to define the emissions that they own or control and categorise them into different scopes (as either direct or indirect). Dividing emissions up into different scopes allows an organisation to determine opportunities for emissions reduction, as well as knowing where their emissions are occurring along the value chain.

1.2.1. ORGANISATIONAL BOUNDARIES

When setting organisational boundaries, CRI applies a financial control rationale, which states that businesses account for emissions generated from activities over which they have financial control, and derive the majority of financial benefits and/or risks as a result of these activities (6). CRI uses this rationale as we believe that the consumer (in this case Kennedy Nolan) is responsible for the products and services that they consume, and that the purchase is an endorsement of the conditions under, and methods used to produce the goods and services consumed. This rationale is both comprehensive and simple; if you bought it, then the emissions produced and embodied within it are your responsibility. This straightforward demarcation will ensure the best outcome for Kennedy Nolan, and other certified businesses as consumers will have confidence in the authenticity of organisations certified with CRI.

1.2.2. OPERATIONAL BOUNDARIES

The main function of operational boundaries is to create different scopes for organisations to separate and define the emissions produced from their operations. The three scopes are described in detail below.

- **Scope 1: Direct GHG emissions** - Emissions that occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces and vehicles. (6)
- **Scope 2: Electricity indirect GHG emissions** - Emissions from the generation of purchased electricity consumed by the company. (6)
- **Scope 3: Other indirect GHG emissions –** Emissions that are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. These include emissions from waste, the extraction and production of purchased materials; transportation of purchased fuels and transportation of employees to and from work. (6)

The GHG protocol describes scopes 1 and 2 as mandatory reporting categories, and scope 3 as a voluntary reporting category. Under CRI's NoCO2 certification program, it is mandatory for organisations to include scope 3 emissions. This is due to the large amount of embodied emissions associated with the sale, delivery and purchase of products and services of a company. "Embodied emissions" refer to the emissions generated in the manufacture and distribution of a product. All products require energy in production and distribution. This energy is most commonly provided through the use of fossil fuels, which have a greenhouse emissions impact. Embodied emissions are included due to the products and services that Kennedy Nolan has bought and used. See section 2.3 for an in-depth description of scope 3 emissions.

2. KENNEDY NOLAN'S GHG EMISSIONS INVENTORY

2.1. SCOPE 1 EMISSIONS

2.1.1. FUEL USE

Fuel purchased as a company expense, for combustion in vehicles and onsite is classed as a Scope 1 emission source. Fuel also incurs a Scope 3 emission impact from the fuel's extraction, processing and transportation prior to use.

The emissions generated due to fuel use were based on fuel purchase details supplied by Kennedy Nolan and calculated using emission factors outlined in the Department of Climate Change's National Greenhouse Account Factors (7) Equation 1 illustrates this method.

Equation 1: Fuel Combustion Emissions Formula

$$Fuel\ Emissions = Fuel\ Quantity\left(\frac{Litres}{Year}\right) \times EF\left(\frac{tCO_2e}{L}\right)$$

Table 2 shows a breakdown of the emissions incurred.

Table 2: Emissions from Fuel Combustion

Fuel Type	Purpose	Litres of fuel Per Year	CO2 EF (kgCO2e /Litre)	CH4 EF (kgCO2e /Litre)	N2O EF (kgCO2e /Litre)	Total Scope 1 Emissions (tCO2e)	Scope 3 EF (kgCO2e /Litre)	Total Scope 3 Emissions (tCO2e)	Total Emissions (tCO2e)
Petrol	Transportation	688.72	2.31	0.00	0.01	1.59	0.59	0.41	2.00
Totals:		688.72				1.59		0.41	2.00

2.1.2. GAS USE

Data regarding the amount of gas used was converted into an equivalent number of gigajoules (GJ) and appropriate emissions factors were applied. This method allowed resultant scope 1 and scope 3 emissions from gas use to be calculated, as shown in Table 3.

Table 3: Summary of Emissions from Gas Use

Address	State /Location	Gas Use (GJ)	Scope 1 EF (kgCO2e/GJ)	Total Scope 1 Emissions (tCO2e)	Scope 3 EF (kgCO2 /GJ)	Total Scope 3 Emissions (tCO2e)	Total Emissions (tCO2e)
61 Victoria Street	VIC	90.62	51.53	4.67	4.00	0.36	5.03
Totals		90.62		4.67		0.36	5.03

2.1.3. REFRIGERANTS

It was indicated to CRI that over the reporting period Kennedy Nolan did not operate any significant commercial or industrial refrigeration equipment, and thus no emissions have been attributed to this sub scope.

2.2. SCOPE 2 EMISSIONS

2.2.1. ELECTRICITY USE (SCOPE 2 & 3)

Frameworks and data sets exist both within Australia and internationally that enable calculations of emissions from electricity, which follow the formulae below.

Equation 2: Emissions from Electricity Use (Scope 2 & 3)

$$Electricity\ Emissions(Scope\ 2) = kWh\ consumed \times Scope\ 2\ EF\left(\frac{kgCO_2e}{kWh}\right)$$

$$Electricity\ Emissions(Scope\ 3) = kWh\ consumed \times Scope\ 3\ EF\left(\frac{kgCO_2e}{kWh}\right)$$

The Department of Climate Change's National Greenhouse Accounts Factors detail the emission factors for electricity used in each state (7). These values are shown in Table 23 (Appendix D. Electricity). The following table shows a summary of the accounting implemented by CRI and resulting emissions as calculated using the described method. A more comprehensive breakdown is available in Appendix D. Electricity

Table 4: Summary of Emissions from Electricity Use

Address	State	Electricity Usage (kWh)	Scope 2 kgCO2e/kWh	Scope 2 Emissions tCO2e	Scope 3 kgCO2e/ kWh	Scope 3 Emissions tCO2e	Total Emissions tCO2e
61 Victoria Street	VIC	22,589.00	0.85	19.20	0.07	1.58	20.78
	Total:	22,589.00		19.20		1.58	20.78

2.3. SCOPE 3 EMISSIONS

Scope 3 emissions are defined as indirect emissions that occur from sources offsite. Scope 3 emission sources are assessed through the application of life-cycle emissions coefficients in the case of cost of sales, expenses, assets, waste, flights and staff travel.

The emissions impact and calculations behind scope 3 sources are depicted in the following sections, with the exclusion of scope 3 impacts from fuel use and electricity, addressed in sections 2.1.1 and 2.2.1.

Scope 3 emissions from cost of sales, expenses and assests were calculated using Input-Output tables (8) which equate dollar values spent, within particular industries in Australia, to GHG emissions. More information on this particular method is available in Cost of Sales, Expenses & Assets

2.3.1. COST OF SALES

Using the profit and loss statements supplied, the embodied emissions from Kennedy Nolan's cost of sales were calculated. The following tables and figures show a summary of the type of cost of sale items that generated the most emissions.

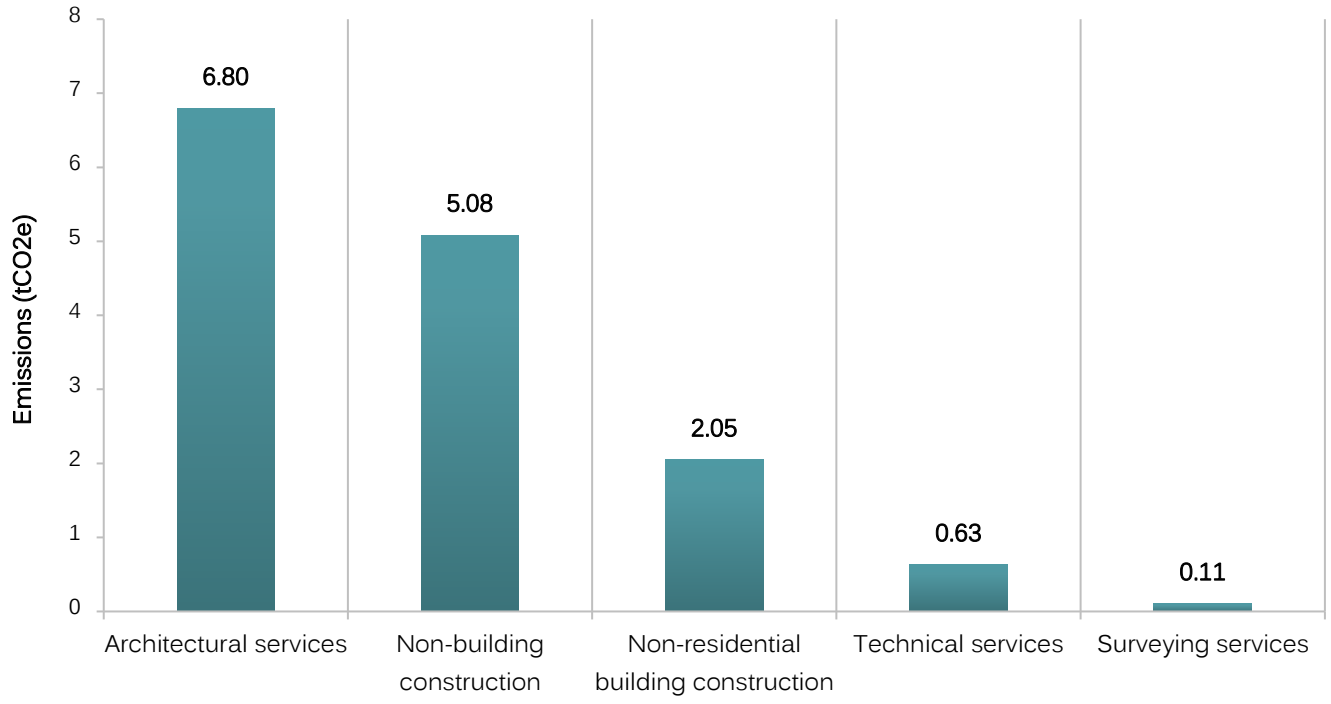
Table 5: Summary of Embodied Emissions from Cost of Sales (by General Type)

Type of COS	Amount Spent ($)	tCO2e/year
Consultants		14.67
Totals:		14.67

Table 6: Summary of Embodied Emissions from Cost of Sales (by MRIO Categories)

Category	Expense ($AUD)	Emissions (tCO2e)
Architectural services		6.80
Non-building construction		5.08
Non-residential building construction		2.05
Technical services		0.63
Surveying services		0.11
Totals:		14.67

Figure 3: Summary of Embodied Emissions from Cost of Sales (by MRIO Categories)



2.3.2. EXPENSES

Similarly, the embodied emissions from Kennedy Nolan's expenses were calculated.

Table 7: Summary of Embodied Emissions from Expenses, (by General Type) [1]

Type of Expense		tCO2e/year
Computer Expenses		0.00
Advertising and Marketing		0.06
Printing, Stationery and Office Expenses		1.43
Staff Amenities and Entertainment		4.78
Motor Vehicle Expenses		0.08
Travel		1.42
Other Operating Expenses		19.29
Totals:		27.06

Figure 4: Summary of Embodied Emissions from Expenses (by General Type)

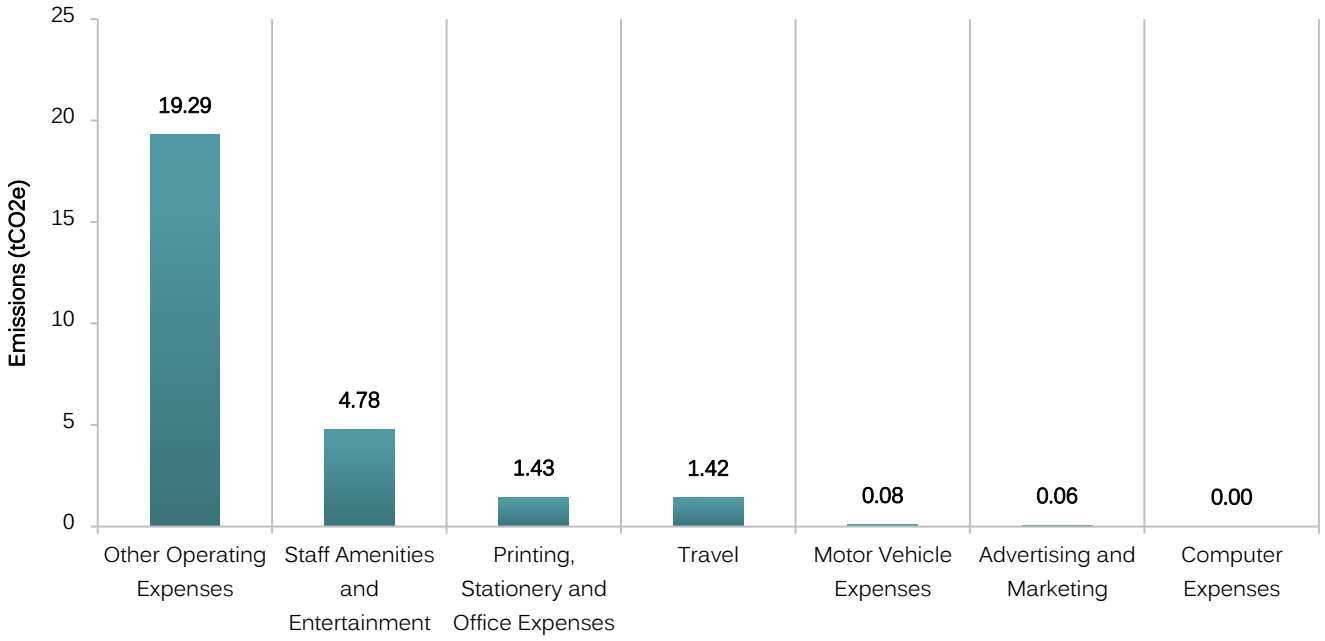


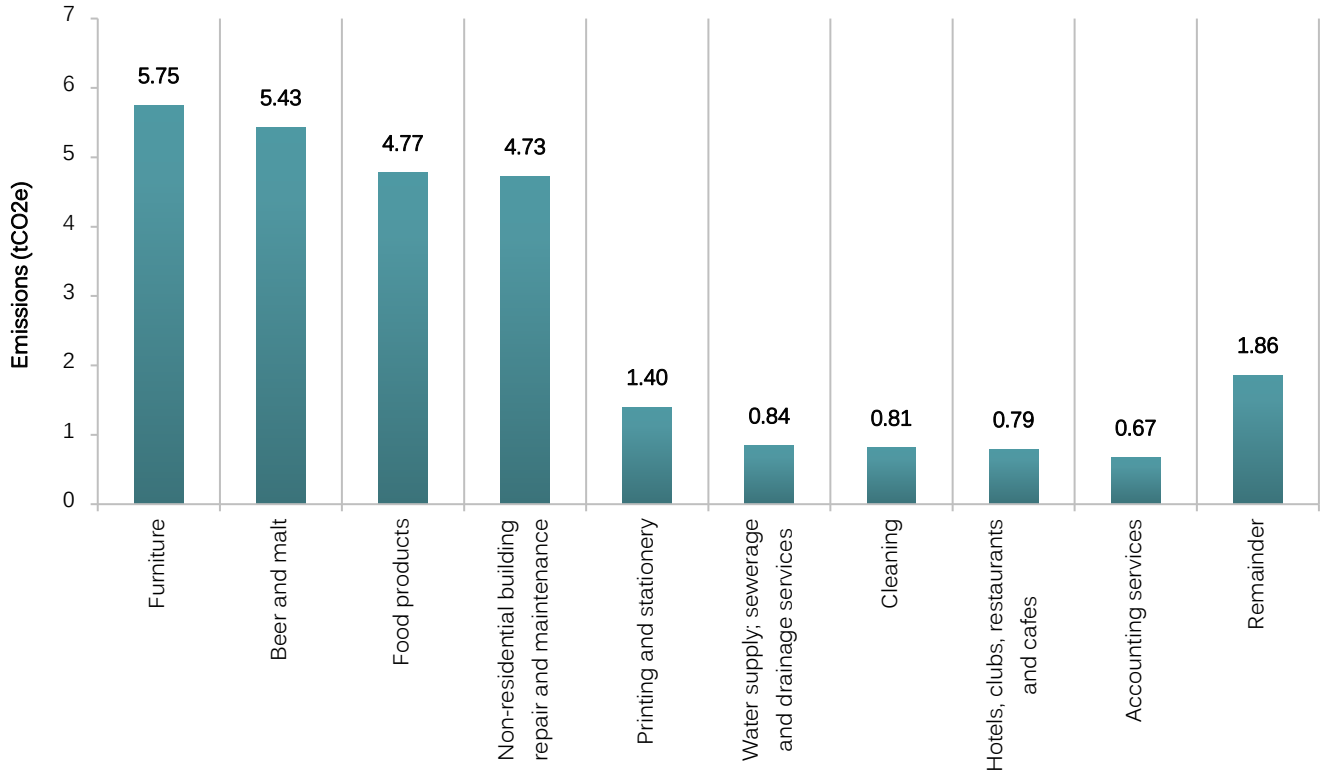
Table 8: Summary of Embodied Emissions from Expenses (by MRIO Categories)

Category		Emissions (tCO2e)
Furniture		5.75
Beer and malt		5.43
Food products		4.77
Non-residential building repair and maintenance		4.73
Printing and stationery		1.40
Water supply; sewerage and drainage services		0.84
Cleaning		0.81
Hotels, clubs, restaurants and cafes		0.79
Accounting services		0.67
Taxi VIC		0.58
Insurance		0.30
Architectural services		0.28
Technical services		0.24

[1] The total monetary sum in Table 7 differs from that in Table 8 as categories with zero emissions are excluded.

Category		Emissions (tCO2e)
Domestic telecommunication services		0.13
Motor vehicle repairing		0.06
Market research and other business management services		0.05
Education		0.05
Legal services		0.04
Services to water transport		0.04
State government		0.04
Postal services		0.03
Business services		0.01
Banking		0.00
Parking services		0.00
Totals:		27.06

Figure 5: Summary of Embodied Emissions from Expenses (by MRIO Categories)



2.3.3. CARBON NEUTRAL EXPENSES

Kennedy Nolan indicated that some of their expenses and/or purchased items and services were certified as Carbon Neutral under CRI's certification program or other valid certification system. As a result, the associated emissions from these items, as depicted below, have been reduced from Kennedy Nolan's total offset requirement as highlighted in Table 1 (Executive Summary).

Table 9 Carbon Neutral Expense Offsets

Type of CNE		tCO2e/year
General		0.33
Totals:		0.33

2.3.4. ASSETS

CRI used Kennedy Nolan's depreciation schedule to calculate the embodied emissions attributed to current assets. When accounting for embodied emissions of assets, CRI scales the impact of an asset over the period in which it is depreciated for tax purposes. An asset depreciating at 50% per year, with total embodied emissions of 10 tCO2e, will register as 5 tCO2e each year of its two-year depreciable lifetime. This method ensures Kennedy Nolan can update its emissions inventory with its tax reports. Written off assets are thus excluded from the assessment.

The tables below show a summary of the types of assets and their attributed emissions. The full breakdown of the calculations performed can be found in Cost of Sales, Expenses & Assets.

Table 10: Summary of Embodied Emissions from Assets (by General Type)

Type of Assets		tCO2e/year
Leasehold Improvements		13.78
Motor Vehicles		6.38
Office Furniture & Equipment		9.82
Computer Software		0.00
Totals:		29.98

Figure 6: Summary of Embodied Emissions from Assets (by General Type)

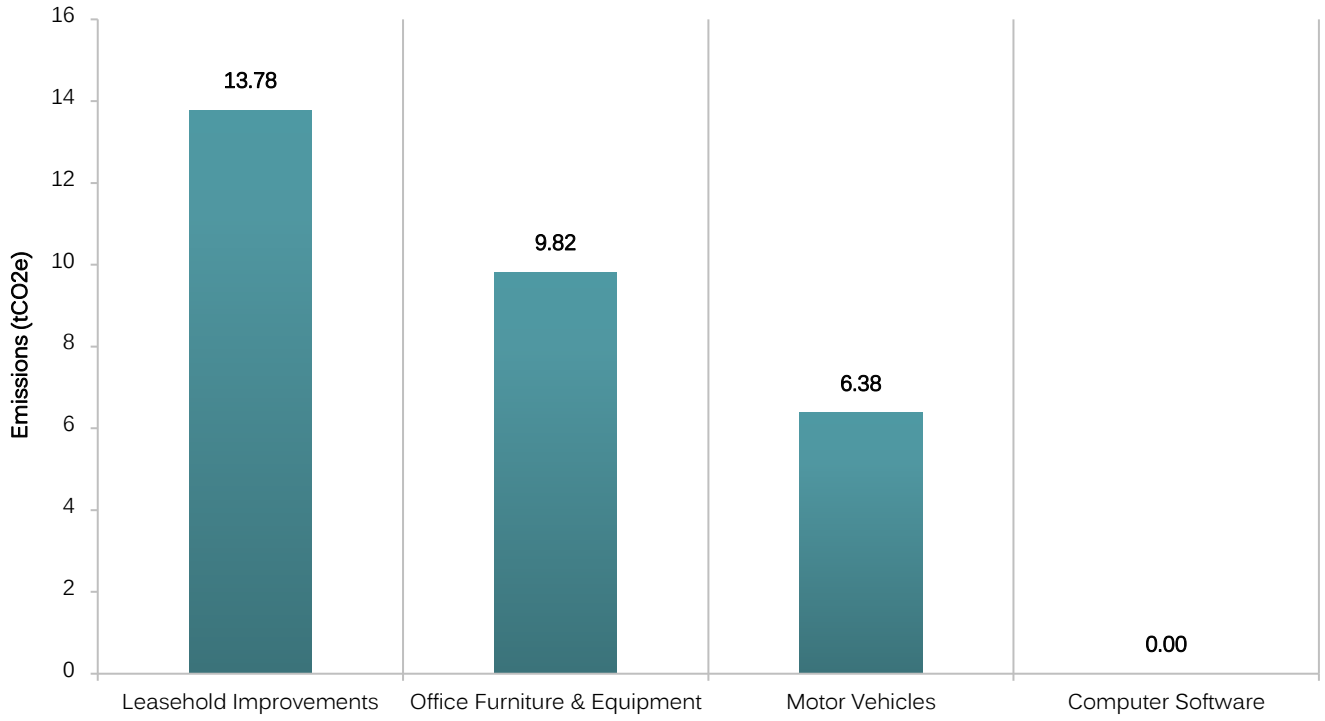
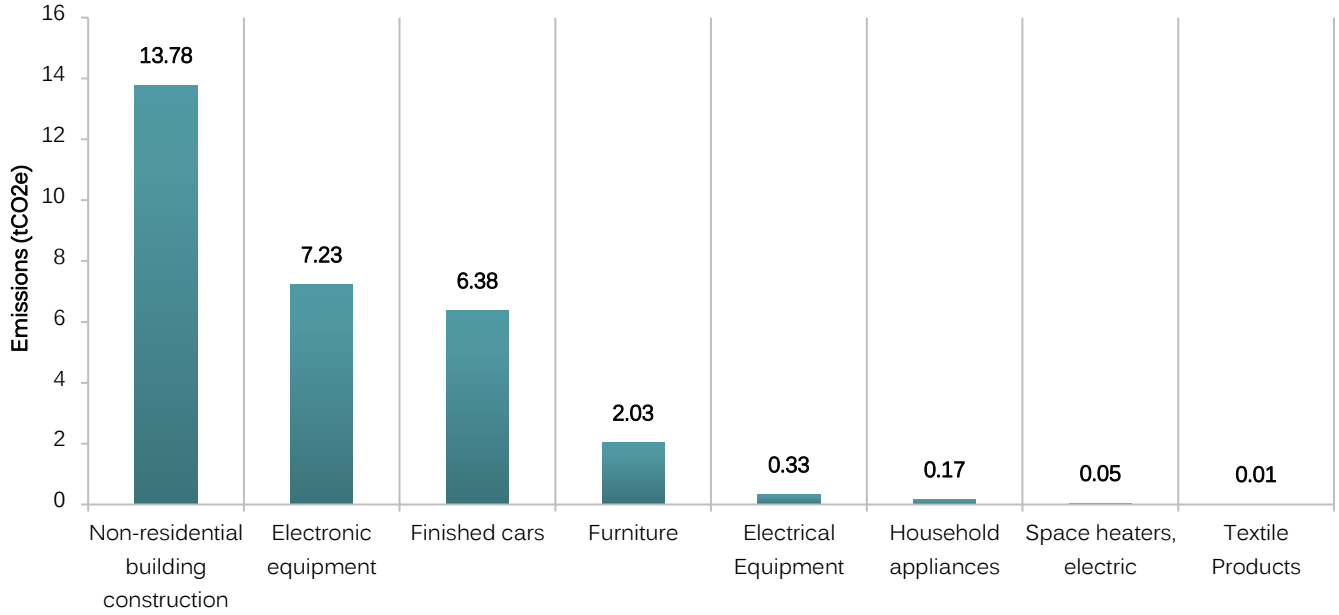


Table 11: Summary of Embodied Emissions from Assets (by MRIO Categories)

Category		Emissions (tCO2e)
Non-residential building construction		13.78
Electronic equipment		7.23
Finished cars		6.38
Furniture		2.03
Electrical Equipment		0.33
Household appliances		0.17
Space heaters, electric		0.05
Textile Products		0.01
Totals:		29.98

Figure 7: Summary of Embodied Emissions from Assets (by MRIO Categories)



2.3.5. WASTE

Kennedy Nolan provided information to CRI estimating its waste generated. The Department of the Environment and Energy's National Greenhouse Accounts provide factors for emissions generated per tonne of various waste types, along with conversion factors between mass and volume for different waste streams (7). These factors can be used to account for the emissions embodied in Kennedy Nolan's waste generation using the method illustrated in Equation 3 and Table 13 below.

Equation 3: Emissions from Waste

$$Waste\ Emissions = \frac{Waste\ Volume}{year} \times Waste\ Conversion\ Factor(m^3 \rightarrow tonnes) \times EF\left(\frac{kgCO_2e}{tonne}\right)$$

The following waste conversion factors were used to convert data provided in volume (m3) to weight (tonnes):

Table 12: Waste Conversion Factors (Volume To Weight)

Waste Type	Volume to Weight (t/m3)	Reference
Co-mingled	0.12	NGER (2019), Page 514

Table 13: Emissions from Waste (7)

Volume of Waste /Yr (m3)	Waste Type	Recycled Portion (%)	Conversion Factor (m3 to tonnes)	Tonnes Recycled	Tonnes Landfilled	Waste Type	tCO2e /tonne waste	tCO2e
6.24	Co-mingled	0%	0.120	0.00	0.75	Commercial & Industrial Waste	1.30	0.97
6.76		100%	0.120	0.81	0.00		1.30	0.00
13.00				0.81	0.75			0.97

2.3.6. STAFF AIR TRAVEL (FLIGHTS)

The emissions from flights taken by Kennedy Nolan were calculated employing the distance between airports, the emissions factor associated with passenger flights, the RF Index factor and the Greater Circle Flight factor. This method is illustrated in Equation 4.

Equation 4: Emissions from Air Travel

$$Flight\ Emissions = Distance\ (km) \times RFI\ Factor \times GCF\ Factor \times EF\left(\frac{kgCO_2e}{km}\right)$$

Emission factors for air travel are sourced from the UK Department for Environment, Food and Rural Affairs' (9) data for air passenger emission factors per passenger kilometre, and are scaled for domestic flights, short haul flights and long haul flights. Such values are shown in Table 32 (Staff Air Travel).

Table 14 shows the recorded flights taken for work related affairs by individuals from Kennedy Nolan and the respective calculated emissions for each flight.

Table 14: Staff flights by Kennedy Nolan

Flight	Origin	Dest. 1	Return (Y/N)	# of Passengers	tCO2e from One-way Trip to Dest. 1	Total tCO2e	Total Flight Distance (pkm)	Third Party Offset (tCO2e)
1	MEL	SYD	Y	2	0.19	0.77	2,821.58	0.77
2	MEL	SYD	Y	2	0.19	0.77	2,821.58	0.77
3	MEL	SYD	Y	1	0.19	0.38	1,410.79	0.38
4	MEL	SYD	Y	1	0.19	0.38	1,410.79	0.00
5	MEL	SYD	Y	1	0.19	0.38	1,410.79	0.00
6	MEL	SYD	Y	1	0.19	0.38	1,410.79	0.00
7	MEL	SYD	Y	2	0.19	0.77	2,821.58	0.77
8	MEL	SYD	Y	1	0.19	0.38	1,410.79	0.00
9	MEL	MXP	Y	1	3.49	6.99	32,624.47	0.00
10	MEL	SYD	Y	2	0.19	0.77	2,821.58	0.77
11	MEL	SYD	Y	1	0.19	0.38	1,410.79	0.00
			# of Flights:	15	Total tCO2e:	12.38	52,375.52	3.46

2.3.7. STAFF GROUND TRAVEL

Staff travel includes emissions from private road travel that takes place due to Kennedy Nolan's operations, this includes commuting to work and any work-related travel. GHG emissions resulting from the use of public transport by Kennedy Nolan's staff are not attributed to Kennedy Nolan, as the emissions created from its utilisation of public transport cannot be affected by Kennedy Nolan's actions through policy, technology or through direct authority.

The formulae and methods used for calculating the emissions impact for small, medium and large cars are similar. Varying parameters are fuel type, fuel consumption, vehicle type and kilometres travelled. Calculations take into account any additional passengers in each carpool. Staff travel information from Kennedy Nolan is collected and figures for fuel use per kilometre (10) make calculations of emissions per kilometre possible. These figures were then increased by a factor of 15% to more accurately represent real world fuel uses (9) and are shown in Table 29 (Staff Ground Travel).

To obtain the final emission quantity for each employee's commuting, Scope 1 and Scope 3 emission factors for transport fuel combustion were used. Emission factors for the relevant fuel types used by Kennedy Nolan are available in Table 30 (Staff Ground Travel).

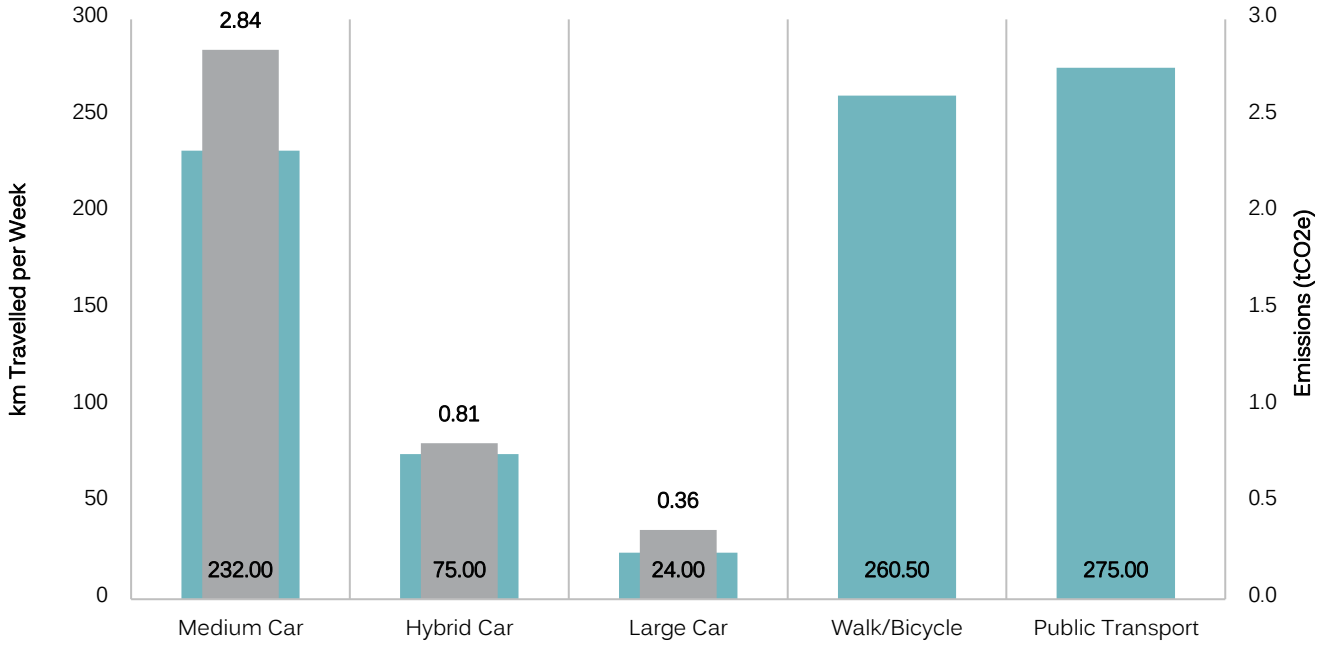
Emissions from ground travel are calculated using information provided by Kennedy Nolan's office staff and/or correspondents. A total of 18 staff answered a survey regarding their average number of kilometres travelled and their individual transport methods and Kennedy Nolan has indicated that a total of 20.5 Full-Time Equivalent (FTE) staff are employed. Where private vehicles were used, type of car and type of fuel used were also considered.

Summarized results for each relevant vehicle type are shown in Table 15 and the full log of received data and calculations available in Staff Ground Travel.

Table 15: Emissions from Staff Ground Travel by Vehicle Type (Summary)

Vehicle Type	Quantity	Total km /Week	Total tCO2e /Year
Medium Car	4	232.00	2.84
Hybrid Car	1	75.00	0.81
Large Car	1	24.00	0.36
Walk/Bicycle	17	260.50	0.00
Public Transport	9	275.00	0.00
		Subtotal:	4.01
		Total (Adjusted for FTE Staff)	4.56

Figure 8: Summary of Staff Ground Travel Types and Emissions



2.3.8. STAFF TELECOMMUTING

While working remotely Kennedy Nolan employees consume electricity via the operation of their personal electronic devices and use of lighting. Recent trends in staff telecommuting habits would lead to significant amounts of leakage in Kennedy Nolan's GHG inventory were these emissions not accounted for. This includes electricity use from contingent staff and employees. As such, CRI has estimated these emissions through the use of conservative assumptions on the types of electronic equipment that would be in use in conjunction with estimates of the total number of hours worked from home by Kennedy Nolan employees per state. Staff telecommuting emissions were calculated using the following equation.

Equation 5: Emissions from Telecommuting

$$Telecommuting\ Emissions = Annual\ Working\ Hours \times Power(W) \times \left(Scope\ 2\ EF\left(\frac{kgCO_2e}{kWh}\right) + Scope\ 3\ EF\left(\frac{kgCO_2e}{kWh}\right)\right)$$

As mentioned in section 2.2.1, the emission factors for electricity used in each state (7) are shown in Table 23 (Appendix D. Electricity). The following table shows a summary of the accounting implemented by CRI and resulting emissions as calculated using the described method. The appliances assumed to be used for staff telecommuting and the respective power outputs can be found in Appendix H. Staff Telecommuting.

Table 16: Emissions from Staff Telecommuting by State

State	Number of FTE Staff	# Weeks WFH	Annual Hours	Power (kW)	Electricity Use (kWh)	Scope 2 kgCO2e/ kWh	Scope 2 Emissions tCO2e	Scope 3 kgCO2e/ kWh	Scope 3 Emissions tCO2e	Total Emissions tCO2e
VIC	20.50	4.09	3,140.02	0.11	332.84	0.85	0.28	0.07	0.02	0.31
Totals:	20.50		3,140.02		332.84		0.28		0.02	0.31

3. EMISSIONS ANALYSIS

This audit found that Kennedy Nolan's total emissions footprint in FY2022 was **117.74 tCO2e** and that a significant portion of these emissions were the result of Assets (25%), followed by Expenses (23%) and Electricity (18%).

The measure to which a company relies on a carbon-intensive economy can be deduced by looking at the average intensity of emissions per dollar spent and per full-time-equivalent employee. These two indicators have been calculated for Kennedy Nolan as shown below:

Table 17: Carbon Intensity Indicators for Kennedy Nolan, (FY2022)

Indicator	Value
Emissions per dollar spent (kgCO2e /$AUD) [2]	0.04
Emissions per FTE employee (tCO2e /FTE)	5.74

3.1. Emissions from **fuel use** (2.00 tonnes of CO2e) were a very small source of GHG emissions in the context of Kennedy Nolan's total emissions. The entirety of fuel-based emissions, resulted from the combustion of Petrol with a combined (scope 1 & 3) emissions intensity of 2.90 kgCO2e/L.

3.2. The **combustion of gas** generated 5.03 tCO2-e (a small emissions source), resulting from a total gas consumption of 90,615.48 MJ.

3.3. **Electricity use** produced 20.78 tCO2-e over FY2022. These emissions were resultant from a total electricity consumption of 22,589.00 kWh which compares to **17,241.00** kWh in FY2021.

3.4. Emissions from **cost of sales** were attributed 14.67 tCO2-e inFY2022. The most emissions–intensive cost of sales item was Landscape, Arborists, etc with its cost value of being attributed 5.08 tCO2-e.

3.5. Emissions from **expenses** were attributed 27.06 tCO2-e in FY2022. The most emissions-intensive expense item recorded for the given audit period was Equip/Furniture Under , with an expense being attributed 5.75 tCO2-e.

3.6. Emissions from the depreciation of **assets** were attributed 29.98 tCO2-e in FY2022. The most emissions-intensive asset item recorded for FY2022 was 61 Victoria Street Renovation, with a depreciated value of being attributed 9.21 tCO2-e.

3.7. Emissions attributed to **waste** contributed 0.97 tCO2-e to FY2022's carbon footprint (a negligible source) stemming from the 0.75 tonnes of waste that were sent to landfill (0.81 tonnes were recycled). CRI recommends referring to services like those offered in www.cleanup.org.au for the disposal and recycling of waste types.

3.8. **Staff travel**: A new staff travel survey was conducted for FY2022, the results of which have been presented in Table 29. An effective 18 full-time equivalent staff were surveyed from a total of 20.5 full-time-equivalent employed.

3.9. Work related **flights** generated 12.38 tCO2-e in FY2022, from the 15 flights that were recorded to have been taken by Kennedy Nolan's staff. These covered a total of 52,375.52 individual person kilometres and generated emissions equivalent to the combustion of 27 barrels of oil.

3.10. **Staff Telecommuting**

produced 0.31 tCO2-e over FY2022. These emissions were resultant from a total electricity consumption of 332.84 kWh.

[2] Emissions per dollar spent were calculated by dividing the total carbon footprint from expenses (27.06 tCO2e) by the monetary sum of all valid expense entries (i.e. excluding entries marked as 'N/A').

3.11. COMPARISON WITH PREVIOUS YEARS

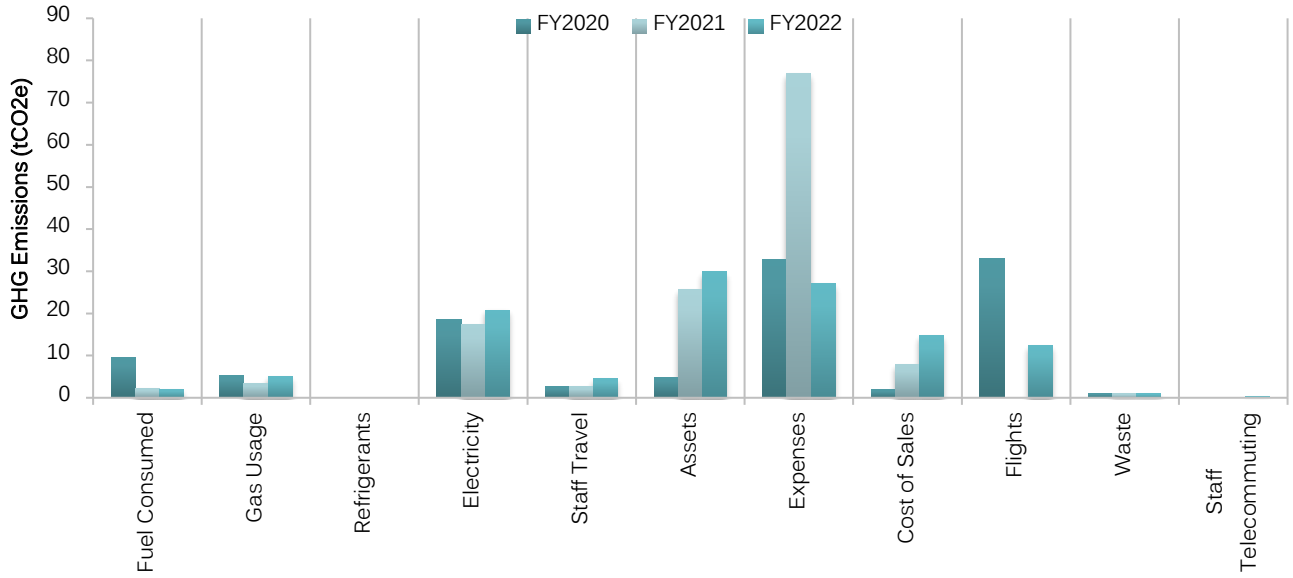
This audit found that Kennedy Nolan's total emissions footprint has decreased from 136.80 tCO2-e in FY2021, to 117.74 tCO2-e in FY2022.

The most significant change that has occurred during FY2022 is the decrease of emissions attributed to Expenses, as these changed from 76.84 tCO2-e in FY2021 to 27.06 tCO2-e in FY2022. The second largest change in emissions was an increase in those attributed to Flights.

Table 18: Sources of Kennedy Nolan's emissions for Audited Periods (NoCO2 Boundaries)

Scope	Emission Source	FY2020	FY2021	FY2022	% Difference From Initial Audit	% Difference From Previous Audit
Scope 1 & 3	Fuel Consumed	9.52	2.13	2.00	-79%	-6%
	Gas Usage	5.22	3.45	5.03	-4%	46%
	Refrigerants	0.00	0.00	0.00		
Scope 2 & 3	Electricity	18.56	17.41	20.78	12%	19%
Scope 3	Staff Travel	2.63	2.59	4.56	73%	76%
	Assets	4.83	25.61	29.98	521%	17%
	Expenses	32.78	76.84	27.06	-17%	-65%
	Cost of Sales	1.91	7.79	14.67	667%	88%
	Flights	33.08	0.00	12.38	-63%	
	Waste	1.05	0.97	0.97	-7%	0%
	Staff Telecommuting			0.31		
	Gross Total	109.57	136.80	117.74	7%	-14%
	Carbon Deductions	22.91	17.41	29.61	29%	70%
	Net Total	86.66	119.38	88.13	2%	-26%

Figure 9: Comparison of Emissions for Current and Previous Audit Periods



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APPENDIX A. UNCERTAINTY OF SCOPE 1 COMPONENTS

CRI has itemised and assessed the uncertainty margins of all scope 1 emissions.

Uncertainty margins were derived by calculating emissions using values at each extreme end of their own uncertainty margins and then inspecting how much the results (upper bound and lower bound values) deviated from the actual value. Sometimes uncertainty margins can be asymmetric, meaning it is more likely to deviate one way than the other (this is common for values which have lower or upper limits).

Uncertainty margins were assigned from published figures or using CRI's own judgment on the expected variability of a value, for example:

- Emission factors from the IPCC or NGA have uncertainty margins published (at a 95% level of confidence). CRI uses these error margins where available.
- For values for other quantities (e.g. quantity of fuel prices, etc) CRI uses specialised judgement and assigns a reasonable uncertainty margin on a case-by-case basis.

The following summary tables show similar calculations to those shown in their respective parts of this report. However, each variable shows the specific uncertainty range that is inherent to its value.

Table 19: Summary Emissions from Fuel Consumed (with Uncertainties)

Type of Fuel	Litres of Fuel per Year	CO2 EF (kgCO2 /Litre)	CH4 EF (kgCO2 /Litre)	N2O EF (kgCO2 /Litre)	CO2 Emissions (tCO2e)	CH4 Emissions (tCO2e)	N2O Emissions (tCO2e)	Scope 1 Emissions (tCO2e)
Petrol	688.72	2.31 ±7%	0 ±53%	0.01 ±53%	1.59 -22% to +7%	0 -61% to +53%	0 -61% to +53%	1.59 -23% to +7%
Totals:	688.72 -17% to +0%			0	1.59 -22% to +7%	0 -61% to +53%	0 -61% to +53%	1.59 -23% to +7%

Table 20: Summary Emissions from Gas (with Uncertainties)

Address	Gas Type	Gas Use (GJ)	Scope 1 EF (kgCO2e/GJ)	Total Scope 1 Emissions (tCO2e)	Scope 3 EF (kgCO2 /GJ)	Total Scope 3 Emissions (tCO2e)	Total Emissions (tCO2e)
61 Victoria Street	Natural Gas	90.62	51.53 ±4%	4.67 ±4%	4 ±50%	0.36 ±50%	5.03 ±7%
Totals		90.62		4.67 ±4%		0.36 ±50%	5.03 ±7%

APPENDIX B. BREAKDOWN OF SCOPE 1 CONSTITUENTS

The IPCC stresses that quantification of GHGs should be expressed separating each of the principal GHGs: Carbon dioxide (CO2), nitrous oxide (N2O), & methane (CH4). CRI has completed calculations to meet these requirements by including the breakdown scope 1 emissions from fuel use, gas use and refrigerant leakage. This is instanced in the following table.

Table 21: Scope 1 Breakdown of Emission Totals, with Uncertainties

Emissions Source	CO2	CH4	N2O
Liquid Fuels	1.59 ±4%	0.00 ±50%	0.00 ±50%
Gaseous Fuels	4.66 ±4%	0.01 ±50%	0 ±50%
Totals (tCO2e):	6.25	0.01	0.01
Totals (tCO2e) (All):	6.26		

APPENDIX C. GAS USE

Table 22: Site(s)' Full Gas Emissions Calculations (7)

Units of Consumption:		MJ	Gas Type:	Natural Gas			Site Address:		61 Victoria Street				State:	VIC
Supply Start Date	Supply End Date	No. of Days	Gas Use (MJ)	Gas Use (GJ)	CO2 EF (kgCO2e /GJ)	CH4 EF (kgCO2e /GJ)	N2O EF (kgCO2e /GJ)	CO2 Emissions (tCO2e)	CH4 Emissions (tCO2e)	N2O Emissions (tCO2e)	Total Scope 1 Emissions (tCO2e)	Scope 3 EF (kgCO2e /GJ)	Scope 3 Emissions (tCO2e)	Total Emissions (tCO2e)
1/09/2021	2/11/2021	63	17,457.00	17.46	51.4000	0.1000	0.03	0.90	0.00	0.00	0.90	4.00	0.07	0.97
10/05/2022	7/07/2022	59	31,389.00	31.39	51.4000	0.1000	0.03	1.61	0.00	0.00	1.62	4.00	0.13	1.74
12/01/2022	6/03/2022	54	0.00	0.00	51.4000	0.1000	0.03	0	0	0	0	4.00	0	0
3/11/2021	11/01/2022	70	4,783.00	4.78	51.4000	0.1000	0.03	0.25	0.00	0.00	0.25	4.00	0.02	0.27
5/07/2021	31/08/2021	58	32,301.00	32.30	51.4000	0.1000	0.03	1.66	0.00	0.00	1.66	4.00	0.13	1.79
7/03/2022	9/05/2022	64	5,182.00	5.18	51.4000	0.1000	0.03	0.27	0.00	0.00	0.27	4.00	0.02	0.29
Totals for Period:		367	91,112.00	91.11				4.68	0.01	0.00	4.70		0.36	5.06
Totals for Year:		365	90,615.48	90.62				4.66	0.01	0.00	4.67		0.36	5.03

APPENDIX D. ELECTRICITY

Table 23: Emission Factors for Electricity Consumption in Australian States (7)

State	Scope 2 kgCO2e/ kWh	Scope 3 kgCO2e/ kWh	Reference
VIC	0.85	0.07	National Greenhouse Accounts (NGA) Factors by the Australian Government: Department of Environment and Energy. November 2022, Table 1

Table 24: Site(s)' Full Electricity Emission Calculations

Address	Period Start Date	Period Finish Date	No. of Days	Electricity Use (kWh)	Scope 2 kgCO2e/ kWh	Scope 2 Emissions tCO2e	Scope 3 kgCO2e/ kWh	Scope 3 Emissions tCO2e	Total Emissions tCO2e
61 Victoria Street	29/03/2022	28/04/2022	31	1,691.00	0.85	1.44	0.07	0.12	1.56
61 Victoria Street	29/07/2021	29/08/2021	32	2,097.00	0.85	1.78	0.07	0.15	1.93
61 Victoria Street	29/11/2021	28/12/2021	30	1,546.00	0.85	1.31	0.07	0.11	1.42
61 Victoria Street	31/01/2022	28/02/2022	29	1,761.00	0.85	1.50	0.07	0.12	1.62
61 Victoria Street	29/12/2021	30/01/2022	33	1,781.00	0.85	1.51	0.07	0.12	1.64
61 Victoria Street	29/06/2021	28/07/2021	30	1,988.00	0.85	1.69	0.07	0.14	1.83
61 Victoria Street	30/05/2022	28/06/2022	30	2,433.00	0.85	2.07	0.07	0.17	2.24
61 Victoria Street	1/03/2022	28/03/2022	28	1,658.00	0.85	1.41	0.07	0.12	1.53
61 Victoria Street	29/04/2022	29/05/2022	31	1,980.00	0.85	1.68	0.07	0.14	1.82
61 Victoria Street	29/10/2021	28/11/2021	31	1,855.00	0.85	1.58	0.07	0.13	1.71
61 Victoria Street	29/09/2021	28/10/2021	30	1,960.00	0.85	1.67	0.07	0.14	1.80
61 Victoria Street	30/08/2021	28/09/2021	30	1,839.00	0.85	1.56	0.07	0.13	1.69
Total for Period:			365	22,589.00		19.20		1.58	20.78
Total for Year:			365	22,589.00		19.20		1.58	20.78

APPENDIX E. COST OF SALES, EXPENSES & ASSETS

To attain NoCO2 certification the embodied emissions in expense items (that is cost of sales, expenses and assets) must be accounted for and offset. Embodied emissions are premised on the basis that the end user is responsible for the impacts incurred in the life cycle of the products that they purchase (11). However, for some uses of products, services and trade between businesses, there is an issue of a shared responsibility for the emissions. As such, the Carbon Reduction Institute defines different purchase types:

- **Wholly consumed (Scope 3 incl.):** Where a product or service's life has been fully developed and/or purchased for the sole purpose of consumption by the end consumer. For these purchases, the responsibility of the complete life cycle emissions associated with the delivery of that good or service is ascribed to the purchaser and thus emissions up to and including the scope 3 boundary are attributed to the expense.

- **Discretely consumed (Scope 2 incl.)**: Where a good or service has been provided by another business for discrete use by the organisation, and the use of that service incurs a direct emissions impact (from fuel use, electricity use or waste production). For these purchases, the responsibility of the purchaser is only for those emissions that result as a direct result of use of the good or service and thus emissions up to and including the scope 2 boundary are attributed to the expense.

Examples of either purchase types are shown in the following table:

Table 25: Examples of Different Embodied Energy Emission Categories

Wholly Consumed (Scope 3)	Discretely Consumed (Scope 2)	Hired (Scope 2)
Food	Consultancy	Scaffold
Furniture	Repairs/Labour	Marque
Stationary	Fee for service	Cutlery
Fuel	Accommodation	Leased Car
Appliances	Freight	Hired Equipment

The categorization of expense items under these two purchase types is evident in the comprehensive calculation tables instanced in. Such tables contain the calculations performed by CRI to determine the embodied emissions attributed to each expense and asset item.

The full calculations of emissions from cost of sales, expenses and assets for Kennedy Nolan are shown in Table 27 and Table 26 overleaf. Input-Output tables from this report presents GHG intensities per dollar spent in over 300 different industry sectors of the Australian economy. These emission intensity factors were developed for CRI's use by Eora (3) through the use of multi-regional input-output databases (MRIO) (12).

In addition, the use of Eora's MRIO database allows expenses to be categorised by their price layer, split between a basic and a full price layer. Where appropriate, this allows the exclusion of taxes, subsidies, trade, and transport price layers from the resultant emissions intensity factor per sector.

Input-output data from these tables is configured from 2014 census data, and is presented in kgCO2-e per dollar spent in each relevant sector. As the dataset was created with 2014 data, the emissions intensity per dollar of GDP has dropped due to inflationary forces. To improve the fairness and accuracy of its calculations, CRI has adjusted the resultant MRIO emission factors by consumer price index rises as provided by the Reserve Bank of Australia (13).

Table 26: Embodied Emissions from Expenses

Item	Value ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
Computer Expenses						
Software/IT Subscriptions				N/A		
Subtotal (Computer Expenses):			0.00			
Advertising and Marketing						
Adv/Marketing/Awards/Sponsors		0.0063	0.05	Market research and other business management services	Full	2
Business Development		0.0087	0.01	Business services	Full	2
Subtotal (Advertising and Marketing):			0.06			
Printing, Stationery and Office Expenses						
Library Standards, etc		0.1311	0.07	Printing and stationery	Full	3
Office Supplies		0.1311	1.07	Printing and stationery	Full	3
Postage & Delivery		0.0735	0.03	Postal services	Full	3
Printing & Photocopies		0.1311	0.26	Printing and stationery	Full	3
Subtotal (Printing, Stationery and Office Expenses):			1.43			
Staff Amenities and Entertainment						
Staff Amenities		0.4289	4.77	Food products	Full	3
Health and Wellbeing		0.0030	0.00	Education	Full	2
Subtotal (Staff Amenities and Entertainment):			4.78			
Motor Vehicle Expenses						
PATRICK MV General Expenses		0.3027	0.06	Motor vehicle repairing	Full	3
PATRICK MV Insurance		0.0071	0.01	Insurance	Full	2
MV tolls reimbursed		0.0057	0.00	State government	Full	2
MV Parking		0.0072	0.00	Parking services	Full	2
PATRICK MV Petrol				Accounted For		
PATRICK MV Regsitration		0.0057	0.00	State government	Full	2
RACHEL MV Petrol				Accounted For		
MV Allowance (kms reimbursed, etc)				N/A		

Item	Value ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
RACHEL MV Registration		0.0057	0.00	State government	Full	2
Subtotal (Motor Vehicle Expenses):			0.08			

Travel						
Travel ACCOMMODATION		0.1630	0.49	Hotels, clubs, restaurants and cafes	Full	3
Travel MEALS		0.1630	0.30	Hotels, clubs, restaurants and cafes	Full	3
Travel - SUNDRIES				N/A		
Ferry costs		1.5138	0.04	Services to water transport	Full	3
Taxi, uber, etc		0.1358	0.58	Taxi VIC	Full	3
Tolls		0.0057	0.00	State government	Full	2
Flights				Accounted For		
Carbon offsets for flights				Accounted For		
Subtotal (Travel):			1.42			

Other Operating Expenses						
Accounting Fees		0.0071	0.16	Accounting services	Full	2
Bad Debt				N/A		
Bank fees		0.0031	0.00	Banking	Full	2
Bookkeeping		0.0071	0.51	Accounting services	Full	2
Cleaning & Rubbish Removal		0.1033	0.81	Cleaning	Full	3
Consultants		0.0115	0.02	Architectural services	Full	2
Donations				N/A		
Electricity & Gas				Accounted For		
Equip/Furniture Under $5000		0.3791	5.75	Furniture	Full	3
Filing Fees		0.0057	0.00	State government	Full	2
Insurance		0.0071	0.29	Insurance	Full	2
Leasehold Improvement Expense		0.3753	3.51	Non-residential building repair and maintenance	Full	3
Legal		0.0064	0.04	Legal services	Full	2
Maintenance & Repairs		0.3753	1.21	Non-residential building repair and maintenance	Full	3
Photography		0.0084	0.10	Technical services	Full	2
Professional Development		0.0030	0.04	Education	Full	2

Item	Value ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
Project Expenses VARIOUS		0.0084	0.14	Technical services	Full	2
Rent				N/A		
Staff Gifts		0.8159	5.43	Beer and malt	Full	3
Stamp Duty		0.0057	0.02	State government	Full	2
Superannuation				N/A		
Suspense				N/A		
Telephone/Internet/IT		0.0075	0.13	Domestic telecommunication services	Full	2
Wages & Salaries				N/A		
Workers Compensation				N/A		
Backpay				N/A		
Rental Outgoings - Rates, Ins, Water, etc		0.1589	0.84	Water supply; sewerage and drainage services	Full	3
ANZ Credit Card Surcharge		0.0031	0.00	Banking	Full	2
Professional associations memberships		0.0115	0.26	Architectural services	Full	2
Income Tax Expense.				N/A		
Payroll Tax				N/A		
Fully Franked Dividend				N/A		
Bonuses				N/A		
Subtotal (Other Operating Expenses):			19.29			

Table 27: Embodied Emissions from Assets

Item	Value Depreciated ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
Leasehold Improvements						
8 x Studio Walls ($3400 each)		0.2243	1.22	Non-residential building construction	Full	3
61 Victoria Street Renovation		0.2243	9.21	Non-residential building construction	Full	3
Two new workstations		0.2243	2.20	Non-residential building construction	Full	3
Installation of seven downlights		0.2243	0.18	Non-residential building construction	Full	3
Carpet Installation		0.2243	0.04	Non-residential building construction	Full	3
Electrical Improvements		0.2243	0.85	Non-residential building construction	Full	3
Curve pull linear standard		0.2243	0.01	Non-residential building construction	Full	3

Item	Value Depreciated ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
200mm triple skin flue kit		0.2243	0.06	Non-residential building construction	Full	3
Cali mulipurpose holder		0.2243	0.00	Non-residential building construction	Full	3
Subtotal (Leasehold Improvements):			13.78			
Motor Vehicles						
VW		0.4186	0.13	Finished cars	Full	3
Tesla		0.4186	6.24	Finished cars	Full	3
Subtotal (Motor Vehicles):			6.38			
Office Furniture & Equipment						
Office chairs		0.3791	0.00	Furniture	Full	3
Office furniture		0.3791	0.03	Furniture	Full	3
Office furniture		0.3791	0.00	Furniture	Full	3
Office furniture		0.3791	0.00	Furniture	Full	3
Office furniture - assembly		0.3791	0.00	Furniture	Full	3
Dishwasher		0.6185	0.01	Household appliances	Full	3
Johansen table		0.3791	0.09	Furniture	Full	3
Blinds		0.5905	0.01	Textile Products	Full	3
Synology dockstation DS1513		0.3486	0.01	Electronic equipment	Full	3
2 x executive chairs		0.3791	0.01	Furniture	Full	3
Mitsubishi heater		0.3613	0.05	Space heaters, electric	Full	3
Artemide Lamps		0.3399	0.01	Electrical Equipment	Full	3
Apple computer		0.3486	0.02	Electronic equipment	Full	3
Computer workstation		0.3486	0.03	Electronic equipment	Full	3
Office furniture		0.3791	0.01	Furniture	Full	3
MicroCADD Workstation		0.3486	0.02	Electronic equipment	Full	3
2 x MicroCADD computer systems		0.3486	0.13	Electronic equipment	Full	3
Artemide IPOGEO Terra inc Lamp		0.3399	0.07	Electrical Equipment	Full	3
2 x MicroCADD computer systems		0.3486	0.04	Electronic equipment	Full	3
1 x MicroCADD computer systems		0.3486	0.03	Electronic equipment	Full	3
1 x MicroCADD computer workstation		0.3486	0.03	Electronic equipment	Full	3

Item	Value Depreciated ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
Sony TV		0.3486	0.04	Electronic equipment	Full	3
Norse leather lounge suite		0.3791	0.14	Furniture	Full	3
MicroCADD Workstation		0.3486	0.05	Electronic equipment	Full	3
Synology NAS		0.3486	0.19	Electronic equipment	Full	3
Lenovo Notebook		0.3486	0.10	Electronic equipment	Full	3
MicroCADD Computer System & Monitors		0.3486	0.20	Electronic equipment	Full	3
Cupboards		0.3791	0.20	Furniture	Full	3
MicroCADD computer system		0.3486	0.19	Electronic equipment	Full	3
MicroCADD computer		0.3486	0.23	Electronic equipment	Full	3
MacBook Pro		0.3486	0.02	Electronic equipment	Full	3
MicroCADD computer		0.3486	0.36	Electronic equipment	Full	3
MicroCADD Motherboard & Graphics card		0.3486	0.38	Electronic equipment	Full	3
Apple iPad Pro x 3		0.3486	0.28	Electronic equipment	Full	3
Lenovo laptop		0.3486	0.10	Electronic equipment	Full	3
Apple iPad Pro x 4		0.3486	0.60	Electronic equipment	Full	3
Apple iPad Air x 6		0.3486	0.74	Electronic equipment	Full	3
F&P Whitegoods		0.3486	0.38	Electronic equipment	Full	3
Apple iPad Air x 3		0.3486	0.43	Electronic equipment	Full	3
Apple iPhone 12 Mini x 3		0.3486	0.54	Electronic equipment	Full	3
Sit-stand desks		0.3791	1.25	Furniture	Full	3
Synology SSD Cache & unifi 48 port		0.3399	0.25	Electrical Equipment	Full	3
Herman Miller chair		0.3791	0.10	Furniture	Full	3
MicroCADD Workstation		0.3486	0.51	Electronic equipment	Full	3
Gigabyte Motherboard x 2 & Graphics Card		0.3486	1.24	Electronic equipment	Full	3
Herman Miller Chair x 2		0.3791	0.20	Furniture	Full	3
3.5kw Bulkhead A/C S&I		0.6185	0.16	Household appliances	Full	3
Lenovo laptop		0.3486	0.35	Electronic equipment	Full	3
Subtotal (Office Furniture & Equipment):			9.82			

Computer Software						
Archicad 22 Software				N/A		

Item	Value Depreciated ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
Archicad 23 Software				N/A		
Bluebeam Revu CAD & Extreme				N/A		
Archicad 23 Commercial Single License				N/A		
Archicad 25 Software				N/A		
Archicad 25 Software				N/A		
Subtotal (Computer Software):			0.00			

Table 28: Embodied Emissions from Cost of Sales

Item	Value ($)	kg CO2e/$	tCO2e/year	Category	Price Layer	Scope Boundary (inclusive)
Consultants						
Building Surveyors		0.0027	0.09	Surveying services	Full	2
Geotech		0.0518	2.05	Non-residential building construction	Full	2
Landscape, Arborists, etc		0.0515	5.08	Non-building construction	Full	2
Other Consultants		0.0115	1.30	Architectural services	Full	2
Quantity Surveyors		0.0027	0.01	Surveying services	Full	2
Services Engineers		0.0115	2.92	Architectural services	Full	2
Structural Engineers		0.0115	2.25	Architectural services	Full	2
Environmental Consultants		0.0084	0.34	Technical services	Full	2
Heritage Consultants		0.0084	0.13	Technical services	Full	2
Civil Engineering		0.0115	0.03	Architectural services	Full	2
Contract Architects		0.0115	0.29	Architectural services	Full	2
Town Planning Consultants		0.0084	0.16	Technical services	Full	2
Subtotal (Consultants):			14.67			

APPENDIX F. STAFF GROUND TRAVEL

Table 29: Staff Travel Emissions [3]

# Days Worked /wk	First Name	Weekly km by Foot /Bicycle	Public Transport km /wk	Private Vehicle km /wk	Vehicle Type	Fuel (%) Paid by Organisation	Fuel Type	Car pools?	# of People In Car	% of Time Carpool	km /Yr	Fuel Economy (L /km)	Litres /Yr	Scope 1 EF (kgCO2e /L)	Scope 3 EF (kgCO2e /L)	Staff Travel Emissions (tCO2e /Yr)
4	Victoria	5	0	0	Not Applicable		Not Applicable	Yes	1	1	0.00	0.00	0.00	-	-	0.00
5	Hugh	40	0	0	Not Applicable	100	Not Applicable				0.00	0.00	0.00	-	-	0.00
4	Marnie	72	48	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
4	Michael	6	0	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
5	Shin	7	0	0	Medium Car (2.0ltr, 4cyl)	100	Petrol				0.00	0.09	0.00	2.313	0.588	0.00
5	Dorothea	0	60	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
5	annie	5	20	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
4	Catherine	6	20	78	Medium Car (2.0ltr, 4cyl)		Petrol				3,744.00	0.09	329.47	2.313	0.588	0.96
5	Hilary	12	0	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
2	Maisie	6	12	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
5	matilda	12	28	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
5	Susan	50	0	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
4	Candice	12	12	24	Medium Car (2.0ltr, 4cyl)		Petrol				1,152.00	0.09	101.38	2.313	0.588	0.29
5	Yau	1	5	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
5	Patrick	0	0	18.5	Small Car (1.4ltr, 4cyl)	100	Diesel				888.00	0.06	49.73	2.718	0.668	0.00
4	Jacky	15	0	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
4	Wyndham	4.5	0	0	Not Applicable		Not Applicable				0.00	0.00	0.00	-	-	0.00
5	Adriana	2	70	24	Large Car (6cyl)		Petrol	Yes	2	10	1,152.00	0.11	123.67	2.313	0.588	0.36
5	Han	5	0	75	Hybrid Car		Electric (VIC)				3,600.00	N/A	N/A	N/A	N/A	0.81
5	Lee	0	0	130	Medium Car (2.0ltr, 4cyl)		Petrol				6,240.00	0.09	549.12	2.313	0.588	1.59
															Total Emissions (tCO2e):	4.01

[3] Annual km are calculated based on the assumption of 48 working weeks per year.

# Days Worked /wk	First Name	Weekly km by Foot /Bicycle	Public Transport km /wk	Private Vehicle km /wk	Vehicle Type	Fuel (%) Paid by Organisation	Fuel Type	Car pools?	# of People In Car	% of Time Carpool	km /Yr	Fuel Economy (L /km)	Litres /Yr	Scope 1 EF (kgCO2e /L)	Scope 3 EF (kgCO2e /L)	Staff Travel Emissions (tCO2e /Yr)
															Number of Surveyed Staff (FTE):	18.00
															Number of Full-Time-Equivalent Staff:	20.50
															Total Emissions (tCO2e) (Adjusted for FTE Staff):	4.56

Table 30: Fuel Efficiency for Different Vehicle Types (10)

Vehicle Type	Fuel Consumption (Litres /km)
Petrol Medium Car (2.0ltr, 4cyl)	0.088
Diesel Small Car (1.4ltr, 4cyl)	0.056
Petrol Large Car (6cyl)	0.113

Table 31: Emissions Factors of Fuels (7)

Fuel Type	Scope 1 EF (kgCO2e/L)	Scope 3 EF (kgCO2e/L)	Reference
Petrol	2.31260	0.58824	National Greenhouse Accounts (NGA) Factors by the Australian Government: Department of Environment and Energy. November 2022, Table 7
Diesel	2.71783	0.66778	

APPENDIX G. STAFF AIR TRAVEL

Table 32: Kilograms of CO2e per passenger.km (10) (For Different Types of Flights)

Description	Distance (km)	Emission Factors (kg-CO2e/passenger.km)
Domestic Flights	0-463	0.20515
Short Haul Flights	464-1108	0.11600
Long Haul Flights	>1109	0.13535

APPENDIX H. STAFF TELECOMMUTING

Table 33: Power consumption of working from home equipment

Appliance	Power (W)	Source
Laptop	60	https://energyusecalculator.com/electricity_laptop.htm
Monitor	30	https://energyusecalculator.com/electricity_lcdleddisplay.htm
Lighting	16	https://energyusecalculator.com/electricity_cfllightbulb.htm
Total	106	