

1. Introduction

1.1 Background

In line with the City of Launceston's (CoL) commitment to reduce its operational greenhouse gas (GHG) emissions and achieve carbon neutrality by 2025, CoL has undertaken its fourth annual emissions desktop audit. This audit is used to track changes in emissions, against the 2018/19 baseline completed by a third party¹. The annual desktop audit was completed and reviewed in-house before being sent to an independent third party for a secondary review and verification.

Since its conception, there have been no changes to the organisational boundary, as defined in the 2018/19 baseline. The emissions inventory encompasses Scope 1, 2 & 3 emissions along with a review of materiality of emission sources, whilst documenting exclusions and other assumptions.

Completing an annual emissions desktop audit, or carbon footprint assessment, assists CoL in identifying potential risks and provides the ability to make informed decisions around management and identification of risk reduction opportunities. The creation of an emissions inventory enables public reporting and participation in voluntary emissions and mandatory reporting schemes, and, where applicable, participation in carbon markets. Emissions reporting also allows for recognition of CoL's actions in reducing climate change.

Carbon accounting is the process of identifying and measuring the amount of emissions/carbon, measured in tonnes carbon dioxide equivalents (tCO₂e), emitted by an entity.

1.2 Assumptions and Limitations

The 2022/23 emissions inventory is based on the same assumptions and limitations as the baseline year, the Greenhouse Gas Protocol as developed by the World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI). The Scope 1 and 2 emission factors are taken from the National Greenhouse and Energy Reporting (NGER) Measurement Determination. Various resources were used to determine the Scope 3 emission factors (Table 1).

Table 1. Resource (author and document title) used to determine the emission factor for each Scope 3 category reported on by CoL in the 2022/23 carbon footprint report.

Category	Source	
	Author	Document
Paper; Business Travel	Environmental Protection Agency (EPA) Victoria	Greenhouse gas inventory and management plan 2020 to 2021
Hotel Accommodation	Department for Energy Security and Net Zero	Greenhouse gas reporting: conversion factors 2023
Employee Commuting	National Transport Commission	Carbon Dioxide Emissions Intensity for New Australian Light Vehicles 2021
T&D Electricity Losses; Liquid Fuels	Department of Climate Change, Energy, the Environment and Water	National Greenhouse Accounts (NGA) Factors: 2023
T&D Gas Losses; Water	GHD	The baseline calculations produced for the 2018/19 financial year

¹ GHD, 2020.

1.3 Emissions Boundary Reporting Approach

The emissions inventory includes a variety of emissions sources that we have deemed “relevant” and “material” to the City’s operations. As per the baseline inventory, and common practice for councils, the 'operational control' approach was applied for this reporting year. Operational control is determined by who has authority at a facility on a day to day basis, which is demonstrated by the right to set environmental or health and safety policies and procedures at a site. Under this approach, the organisation deemed to have operational control is responsible for reporting 100% of its emissions.

The reporting boundary for this inventory has been prepared by following the approach of the Australian Government’s Climate Active Standard. The Climate Active program is the most commonly used approach for Australian organisations to certify their carbon neutral status, and it is based on the Greenhouse Gas Protocol and NGER Measurement Determination.

1.3.1 Relevance

The Climate Active Standard states emissions sources considered to be relevant, whether or not they fall within the reporting organisation’s boundary, must be included in the emissions boundary (subject to materiality). The following emissions sources are deemed to be relevant to all organisations (Figure 1):

- All Scope 1 emissions - direct emissions.
- All Scope 2 emissions - emissions from the generation of electricity, heat, cooling and steam purchased by the organisation.
- Scope 3 emissions from electricity consumption and fuel use - indirect emissions from the extraction, production and transport of fuel burned at generation, and the indirect emissions attributable to the electricity and gas lost in delivery in the transmission and distribution network.
- Scope 3 emissions from business travel and accommodation, employee commuting, office paper, and water use.

Other Scope 3 emission sources, such as postage and freight, stationary, printing, cleaning services etc., must be assessed for materiality. If deemed immaterial they may be excluded from the inventory taking into account the materiality threshold (see Section 1.3.2).

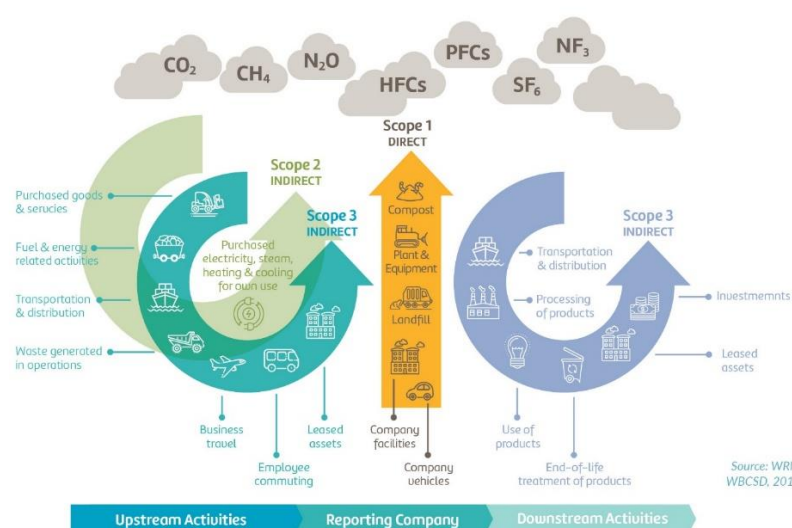


Figure 1. Overview of Greenhouse Gas Protocol scopes and emissions across Council's value chain²

² Figure adapted from the WRI / WBCSD, 2013. GHG Protocol

The Climate Active Standard determines that all Scope 1 and 2 emissions are relevant whereas, a Scope 3 emissions source is relevant when any two of the following conditions are met:

- The Scope 3 emissions from a particular source are likely to be significant relative to the organisation's Scope 1 and 2 emissions;
- The Scope 3 emissions from a particular source contribute to the organisation's GHG risk exposure;
- The Scope 3 emissions from a particular source are deemed relevant by key stakeholders;
- The responsible entity has the potential to influence the reduction of Scope 3 emissions from a particular source; and
- The Scope 3 emissions are from outsourced activities that were previously undertaken within the organisation's boundary or from outsourced activities that are typically undertaken within the boundary for comparable organisations.”³

Conversely, some Scope 3 emissions sources have been excluded, based on guidance from Section 2.3.1 of the National Carbon Offset Standard, exclusions are allowed on the basis that:

- Emissions are likely to be negligible (relative to other Scope 3 emissions);
- Determining emissions is not currently possible given available technology;
- Determining emissions will be very costly relative to their likely significance; and
- There is insufficient data for the specific source.

1.3.2 Materiality

Different standards stipulate different definitions and thresholds for materiality. An organisation can determine materiality themselves, but if reporting under a specific scheme then materiality is determined by the scheme's requirements and standards. Under Climate Active, an emissions source that constitutes 1% or more of the total carbon account is material. For an emissions inventory of the CoL's size the materiality threshold is therefore approximately 976 tCO₂e per annum. If a relevant emissions source is estimated to be material, it must be included within the emissions boundary, unless justification can be provided to demonstrate that such quantification would not be technically feasible, practicable or cost effective relative to its significance.

Emissions sources that are relevant but estimated to constitute less than the materiality threshold towards the total carbon account can be excluded from the emissions boundary. Under Climate Active standards, when applying the 1% materiality threshold, the total amount of emissions to be excluded must not exceed 5% of the total carbon account. Responsible entities are encouraged to include, measure and report as many emissions sources as possible, regardless of an emissions source's materiality. Data for emissions sources that are deemed as immaterial may still be included in the emissions inventory.

1.3.3 Exclusions

Emission sources excluded from the 2022/23 inventory are presented below (Table 2).

³ Climate Active, 2021. Climate Active Technical Guidance Manual, February 2021

Table 2. Emissions excluded from the 2022/23 inventory.

Emission	Scope	Justification for exclusion
Emissions for postage/ courier services and food/ beverage services	3	Data for these items is insufficient for accurate reporting purposes, and based on the information that is available, it is estimated with confidence that these items represent less than 1% of total emissions.
Upstream transportation & distribution	3	There was insufficient data to calculate emissions from this category for 2022/23. Purchased goods and services and capital goods can become a material source of emissions if the CoL undertakes capital works that require a significant amount of steel and cement. Based on GHD 2019 Emissions Report, capital projects of \$10m and over use significant quantities of cement and steel which results in emissions. These emissions could exceed the materiality threshold and hence should be included in CoL's emissions inventory.
Freight	3	There was no data supplied in order to calculate the emissions associated with freight, however this needs to be investigated for future inventories.

1.3.4 New Emission Sources

No new emission source was included in the 2022/23 inventory. However, we are exploring the addition of an upstream transportation and distribution emission source and the relevant data required.

1.3.5 Activity Data

All emissions data is based on activity data sourced by CoL's utility providers, Energy Detective (web based electricity monitoring program developed by LGAQ), the Launceston Waste Centre gate records, and purchase orders. Table 3 summarises the data source for all activity data.

Table 3. Data sources attributed to their emission activity and its corresponding scope.

Emission	Scope	Source
Landfill gas	1	CoL Launceston Waste Centre gate records
Gas consumption	1	Aurora, TasGas and TasGas Networks
Fuel consumption	1	CoL fuel purchase orders
Composting	1	CoL Launceston Waste Centre gate records
Electricity consumption	2	Energy Detective
Water	3	TasWater
Business travel - air & taxi travel	3	RACQ Travel Agency purchase orders, CabCharge purchase orders
Business travel - accommodation	3	RACQ Travel Agency purchase orders
Office Paper	3	Winc purchase orders
T&D losses - gas	3	Aurora, TasGas and TasGas Networks
T&D losses - electricity	3	Energy Detective
T&D losses - fuel	3	CoL fuel purchase orders
Employee commuting	3	Voluntary staff survey

2. Emissions Inventory 2022/23

2.1 Overall Emissions

Based on available data, CoL's total operational emissions for 2022/23 was 97,604 tCO₂e.

Scope 1 accounts for 97.5% of total emissions; this is largely attributed to Launceston Waste Centre landfill that CoL owns and operates. The contribution of each scope for the 2023 financial year (FY) is depicted below (Figure 2) and CoL's emissions inventory presented (Table 4).

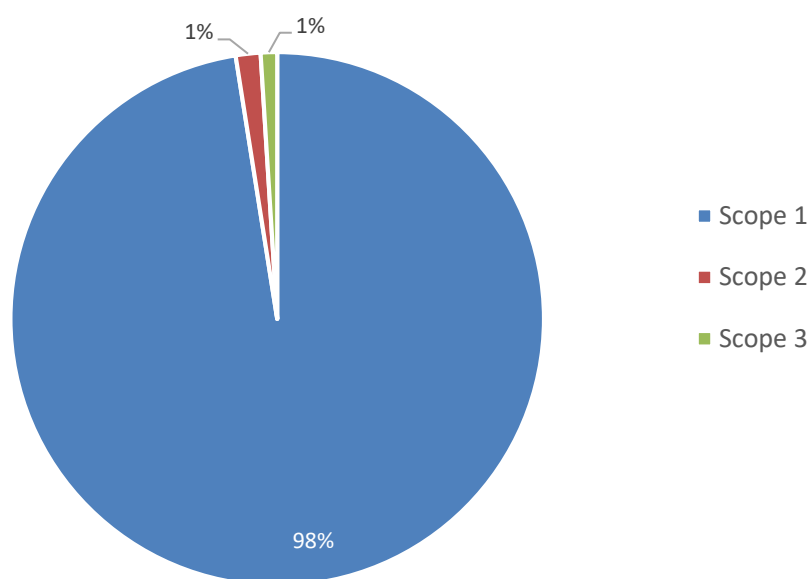


Figure 2. CoL's emissions profile for 2023FY.

Table 4. Breakdown of emission categories and their contributions to the overall emissions output of CoL for the 2023FY

Emission Source	Activity Data	Units	Emissions	% of Total Emissions
Landfill gas	92,196.00	t	92,782.00	95.1%
Gas consumption	4,528.19	GJ	233.30	0.2%
Fuel consumption	571.14	kL	1542.90	1.6%
Composting	13,563.00	t	623.90	0.6%
Scope 1 total			94,596.10	97.5%
Electricity consumption	8,570,827.00	kWh	1,457.00	1.5%
Scope 2 total			1,457.00	1.5%
Water	294,114.00	kL	196.80	0.2%
Business travel - air & taxi travel	242,604.00	p.km	63.80	0.1%
Business travel - accommodation	291.00	nights	10.20	0.01%
Office Paper	1,139.00	reams	7.30	0.01%
T&D losses - gas	115,221.00	m3	55.20	0.1%
T&D losses - electricity	8,750,827.00	kWh	85.70	0.1%
T&D losses - fuel consumption	21,956.00	GJ	377.60	0.4%
Employee Commuting	1,544,312.00	p.km	168.33	0.2%
Scope 3 total			964.93	1.0%
Total Emissions			97,018.03	

As depicted above, the landfill emissions account for 97.5% of Scope 1 emissions, and 95.1% of CoL's total emissions whereas Scope 2 and 3 emissions only account for 1.5% and 1%, respectively. It has been known since the conception of this report, that the landfill operations are the majority contributor towards CoL's emissions profile. As an organisation we have a sound understanding of the environmental impacts caused by landfill operations and the need to reduce these impacts. We are constantly investigating how to reduce its impacts, including gas flaring and resource diversion. Given this knowledge and understanding that the landfill makes up such a substantial portion of CoL's total emissions, we have chosen to exclude it from the following figures to gain a better understanding of the influence of the remaining factors, and establish a prioritised plan to reduce each of them.

The remaining four Scope 1 and 2 contributors (Council's fossil fuel gas consumption, fuel consumption, compost facility, and electricity consumption) are important for CoL to be aware of as they indicate areas in which we can improve and reduce emissions. These four contributors make up 3.9% of overall emissions, with fuel consumption as the highest and gas consumption as the lowest, for the 2023FY (Figure 3).

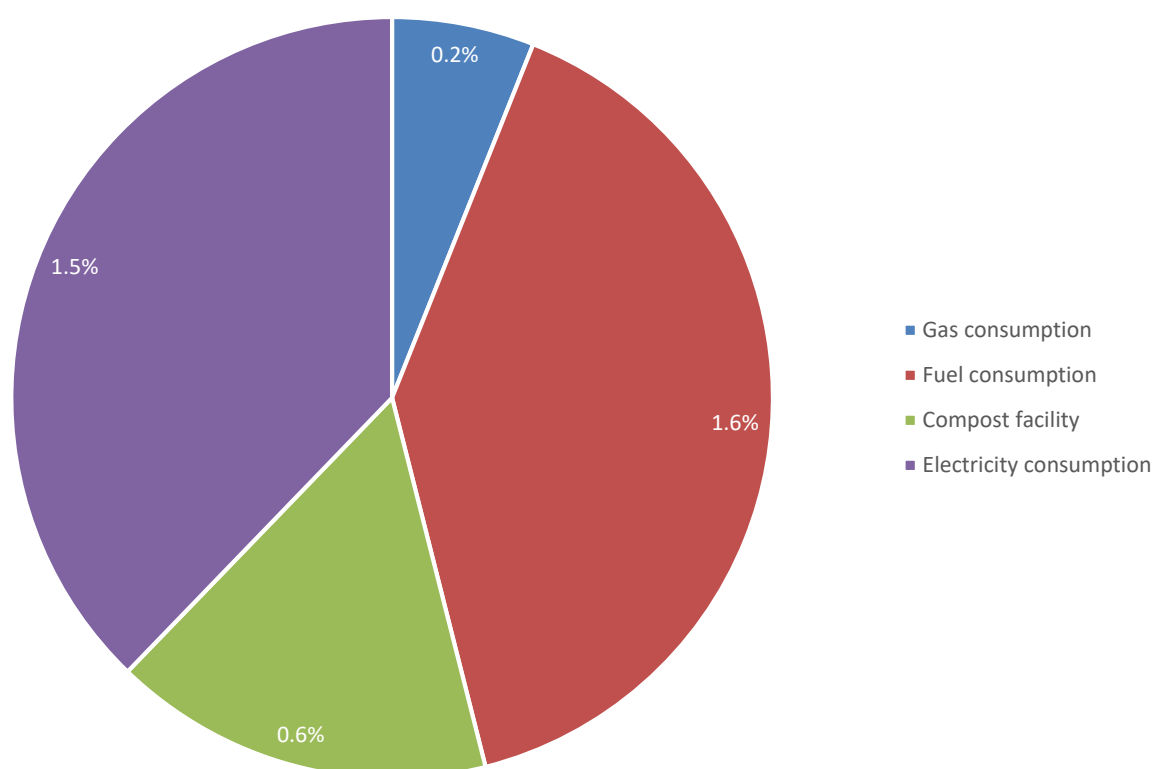


Figure 3. The proportion of contributions for the remaining four Scope 1 and 2 emission factors for CoL.

The eight Scope 3 emission sources made up a total of 1% of overall emissions for the 2023FY, of which the greatest contributor was T&D losses - fuel, and the lowest were business travel (accommodation) and office paper (Figure 4).

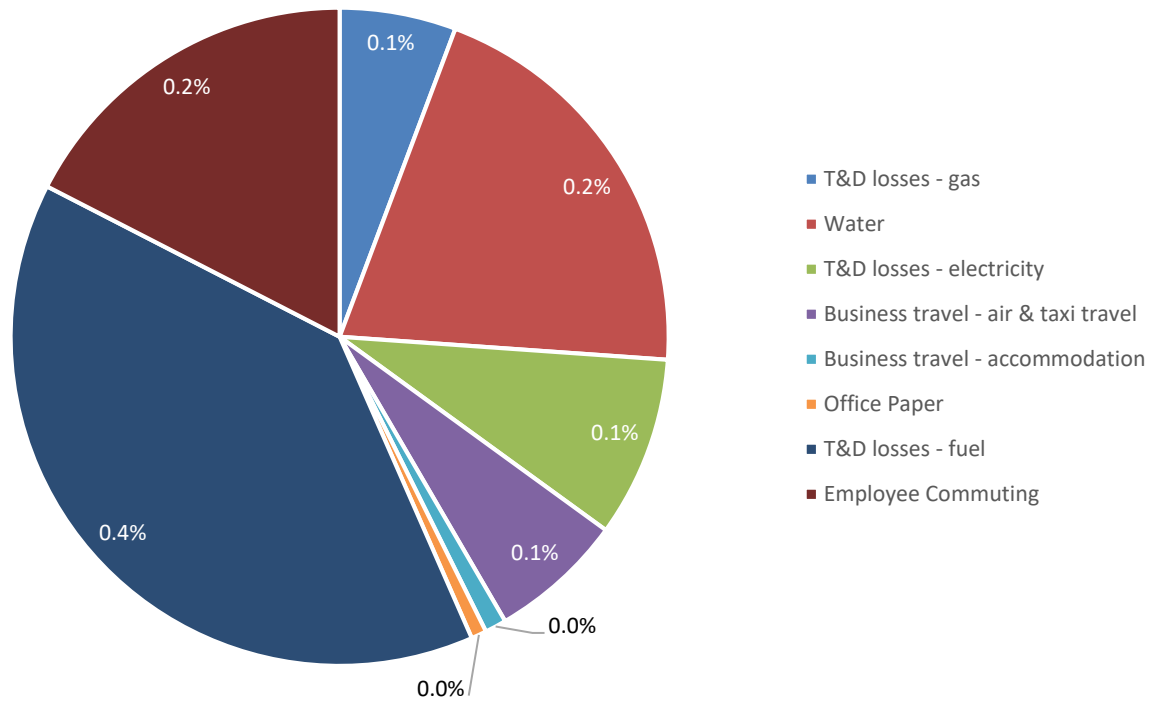


Figure 4. Scope 3 emitters and their overall percentage contribution to CoL's GHG emissions for the 2023FY.

Table 5 presents CoL's most emission intensive facilities. The Launceston Landfill was the largest contributor to emissions due to the generation of landfill gas emissions, emitting 92,219 tCO₂e and representing 96% of Scope 1 & 2 emissions. Of the many facilities that are owned and operated by CoL, the Launceston Aquatic Centre was the largest consumer of electricity, and the second highest emitter of overall emissions, representing 0.6% of CoL's total carbon inventory. QVMAG Royal Park was the highest consumer of gas, with 165 tCO₂e.

Table 5. Scope 1 and 2 emissions (tCO₂e) for the top six emission intensive assets and their proportional contribution.

Facility	Scope 1 Emissions (tCO ₂ e)	Scope 2 Emissions (tCO ₂ e)	Total Emissions (tCO ₂ e)	% of Scope 1 & 2 Emissions
Launceston Landfill	92,782	23	92,805	96.03%
Launceston Aquatic Centre	0	576	576	0.60%
York Park Stadium	4	79	83	0.09%
QVMAG Inveresk	0	89	89	0.09%
Town Hall	0	101	101	0.10%
QVMAG Royal Park	165	90	255	0.26%

2.2 NGERs Reporting

While CoL's emissions for the landfill is over the NGER reporting threshold of 25,000 tCO₂e, Council has been advised by the Clean Energy Regulator (CER) that CoL does not qualify as a constitutional corporation and therefore is not required to report under the NGER Scheme. Council will keep up to date with the CER's requirements to ensure this advice is applicable in future reporting years.

3. Comparison to Baseline Year

The reported landfill gas emissions increased by 39,828 tCO₂e compared to the baseline year (2018/19). However, several of the other emissions sources reported decreases since the baseline year, resulting in an overall net increase of 38,075 tCO₂e (64%) compared to the baseline. If excluding landfill emissions, there was a decrease of about 1,753 tCO₂e (-27%). Overall, an increase of 18,425 tCO₂e (23%) was reported compared to the previous year (2021/22). If excluding landfill emissions, the total emissions from the remaining sources displayed a decrease of approximately 478 tCO₂e (-9%), compared to the previous year.

At a scope level, Scope 1 and 2 emissions sources reported an increase, while Scope 3 emissions sources reported a decrease, in comparison to the previous reporting year (2021/22).

For Scope 1, the overall increase in emissions, from the previous reporting year, was largely attributed to the following:

- Increase in landfill emissions - the capture of landfill methane gas was only operating at a maximum of 50% efficiency throughout the year. This missed opportunity of maximising our capture resulted in larger carbon emissions for the 2022/23 reporting year.
- Increase in compost facility emissions - the increase in operational activities of the composting facility directly translates to an increase in emissions. This increase is expected annually, as diversion of organic waste, from the landfill, increases.
- Increase in fuel consumption - the largest increase since the baseline year which is likely attributed to a larger fleet and post COVID activities.

Notably, within Scope 1, gas consumption still achieved a 72% decrease in comparison to the 2021/22 and a 92% decrease from the baseline year. This is largely due to the councils efforts in gradually transitioning all facilities away from gas amenities.

The Scope 2 emissions, electricity consumption, observed an overall increase of 8% from the previous reporting year and a 45% increase from the baseline year. These observed increases can be largely attributed to the LAC's transition away from fossil fuel gas.

For Scope 3, the overall decrease in emissions can be attributed to:

- Decrease in emissions for T&D losses for fossil fuel gas - this decrease aligns with the overall decrease observed in the Scope 1 fossil fuel gas consumption.
- Decrease in water associated emissions - this change falls within the historic range meaning the change in values can be attributed to routine and seasonal variation.
- Decrease in office paper related emissions - the recent introduction of electronic signatures within the organisation is a likely influencing factor in the observed decrease in related emissions.
- Decrease in employee commuting emissions - this year the calculations used to extrapolate the data were more refined in that they only considered kilometres travelled by Internal Combustion Engine (ICE) vehicles, when working out an average distance travelled per person. The calculations also only extrapolated the average distance travelled to a portion of the overall workforce, based on the portion of ICE vehicle user's vs non-ICE vehicle users who responded to the survey. Additionally, an extra 10 days were removed from the number of working days in the calculation due to public holidays. All of these adjustments to the calculations are the likely overarching cause to the reduction in emissions for the 2022/23FY.

Contrastingly, some Scope 3 emission sources did experience an overall increase, in comparison to the 2021/22 reporting year. These are:

- Increase in emissions from T&D losses for electricity - The increase in T&D losses reflects the increase in electricity consumption for the reporting period. However, the reason this change contrasts the Scope 2 category, electricity consumption, is due to the emission factor for purchase of electricity decreasing.
- Increase in business travel emissions (air, taxi, and accommodation) - further relaxation of COVID-19 travel restrictions, nationally and globally, allowed for the continuation of events (conferences) and increased travel opportunities.
- T&D losses for fuel - the causes are a direct result of the increased activity and fleet size for fuel consumption in Scope 1.

By comparing the emissions from year to year, we are able to observe trends and identify areas for improvement and focus of emission reduction approaches. A comparison between the five reporting years (2018/19 to 2022/23) is presented in Table 6 and Figures 5 to 9.

Table 6. Annual emissions (tCO₂e) for each reporting year from 2018/19 to 2022/23, categorised by type and scope. As well as the observed change (%) for 2022/23 from 2021/22 and from the baseline year (2018/19), or when the emission source was first recorded.

Emission Source	2018/19 (Baseline)		2019/20		2020/21		2021/22		2022/23		Change (%)	
	Emissions (tCO ₂ e)	% of Total Emissions	Emissions (tCO ₂ e)	% of Total Emissions	Emissions (tCO ₂ e)	% of Total Emissions	Emissions (tCO ₂ e)	% of Total Emissions	Emissions (tCO ₂ e)	% of Total Emissions	From 2021/22	From Baseline
SCOPE 1												
Landfill gas	52,954	89.0%	58,638	90.1%	74,863	91.9%	73,879	93.3%	92,782	95.1%	26%	75%
Gas consumption	2,921	4.9%	2,821	4.3%	2,623	3.2%	840	1.1%	233	0.2%	- 72%	- 92%
Fuel consumption	1,467	2.5%	1,503	2.3%	1,472	1.8%	1,471	1.9%	1,543	1.6%	5%	5%
Composting	122	0.2%	325	0.5%	515	0.6%	510	0.6%	624	0.6%	22%	411%
Total	57,464	96.5%	63,286	97.3%	79,473	97.6%	76,700	96.9%	95,182	97.5%	24%	66%
SCOPE 2												
Electricity consumption	1,003	1.7%	852	1.3%	1,082	1.3%	1,355	1.7%	1,457	1.5%	8%	45%
Total	1,003	1.7%	852	1.3%	1,082	1.3%	1,355	1.7%	1,457	1.5%	8%	45%
SCOPE 3												
Water	177	0.3%	154	0.2%	130	0.2%	233	0.3%	197	0.2%	- 16%	11%
Business travel - air & taxi travel	63	0.1%	31	0.0%	13	0.0%	14	0.0%	64	0.1%	348%	1%
Business travel - accommodation	26	0.0%	7	0.0%	4	0.0%	4	0.0%	10	0.0%	135%	- 61%
Office Paper	57	0.1%	18	0.0%	14	0.0%	10	0.0%	7	0.0%	- 29%	- 87%
T&D losses - gas	605	1.0%	584	0.9%	543	0.7%	199	0.3%	55	0.1%	- 72%	- 91%
T&D losses - electricity	134	0.2%	57	0.1%	132	0.2%	80	0.1%	86	0.1%	8%	- 36%
T&D losses - fuel	-	-	77	0.1%	75	0.1%	360	0.5%	378	0.4%	5%	391%
Employee Commuting	-	-	-	-	-	-	223	0.3%	168	0.2%	- 25%	- 25%
Total	1,062	1.8%	928	1.4%	905	1.1%	1,124	1.4%	965	1.0%	- 14%	- 9%
TOTAL EMISSIONS	59,352		65,066		81,460		79,179		97,604		23%	64%

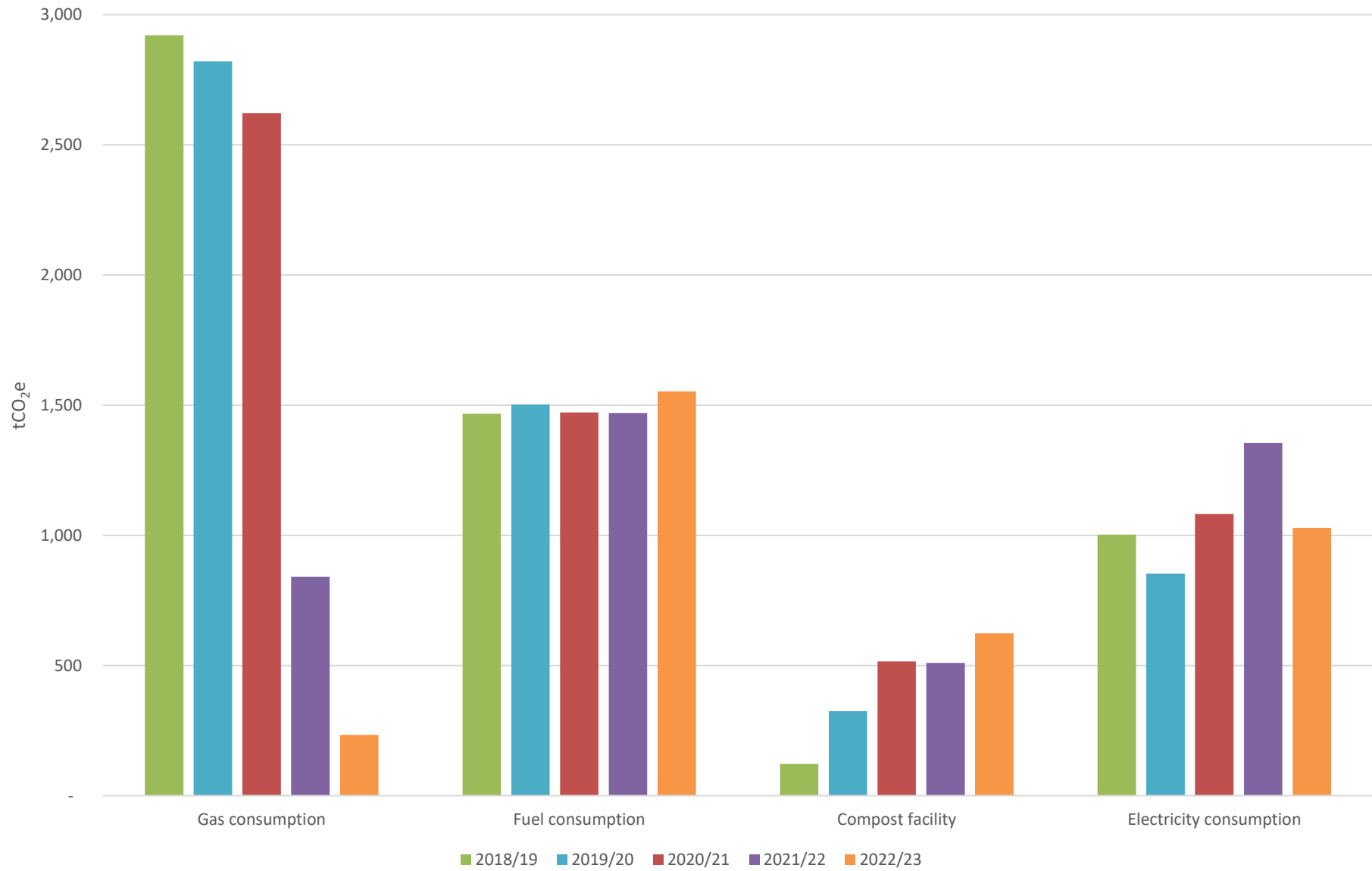


Figure 5. Emissions (tCO₂e) for each Scope 1 and 2 emission category (excluding the landfill) over all five reporting years.

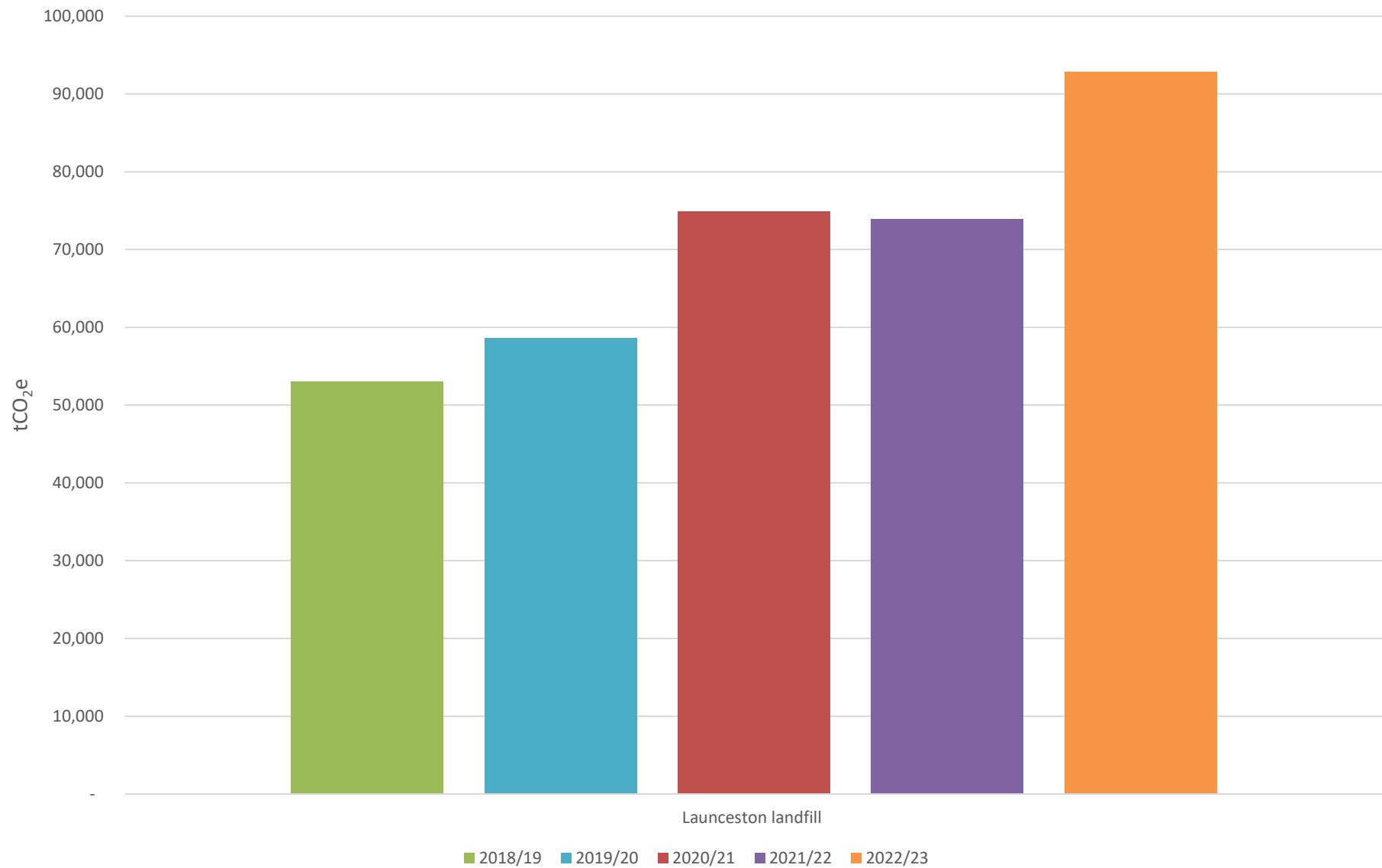


Figure 6. Annual emissions (tCO₂e) for the Launceston Landfill (Scope 1) over each of the five reporting years.

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Figure 7. Total emissions (tCO₂e) per year for each reporting year from 2018/19 to 2022/23, depicting the sum total in a bar graph of all Scope 1 and 2 emitters, excluding the Launceston landfill.

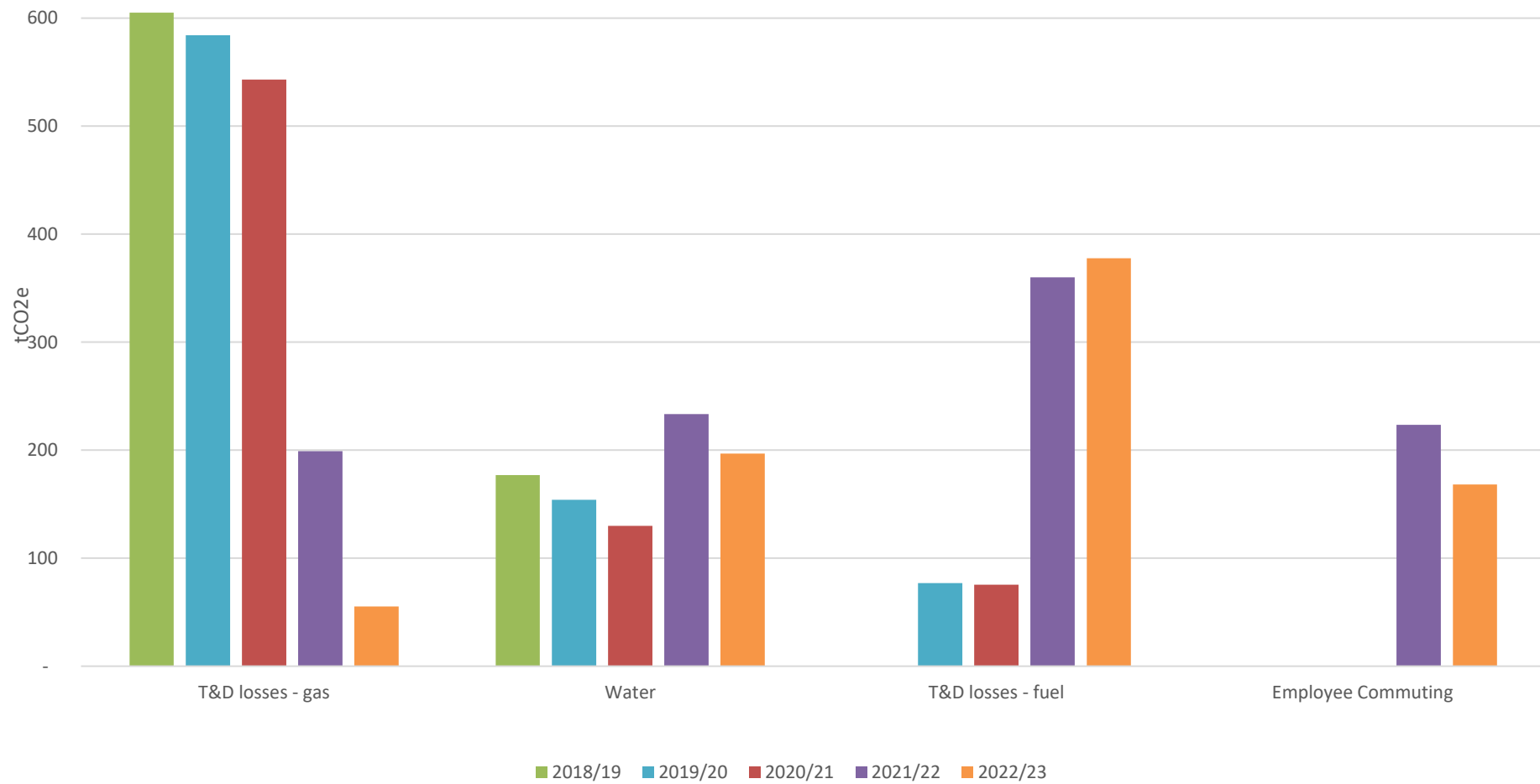


Figure 8. Emissions (tCO₂e) for four of the Scope 3 emission categories over each of the five reporting years which they were included in the total emissions calculations.

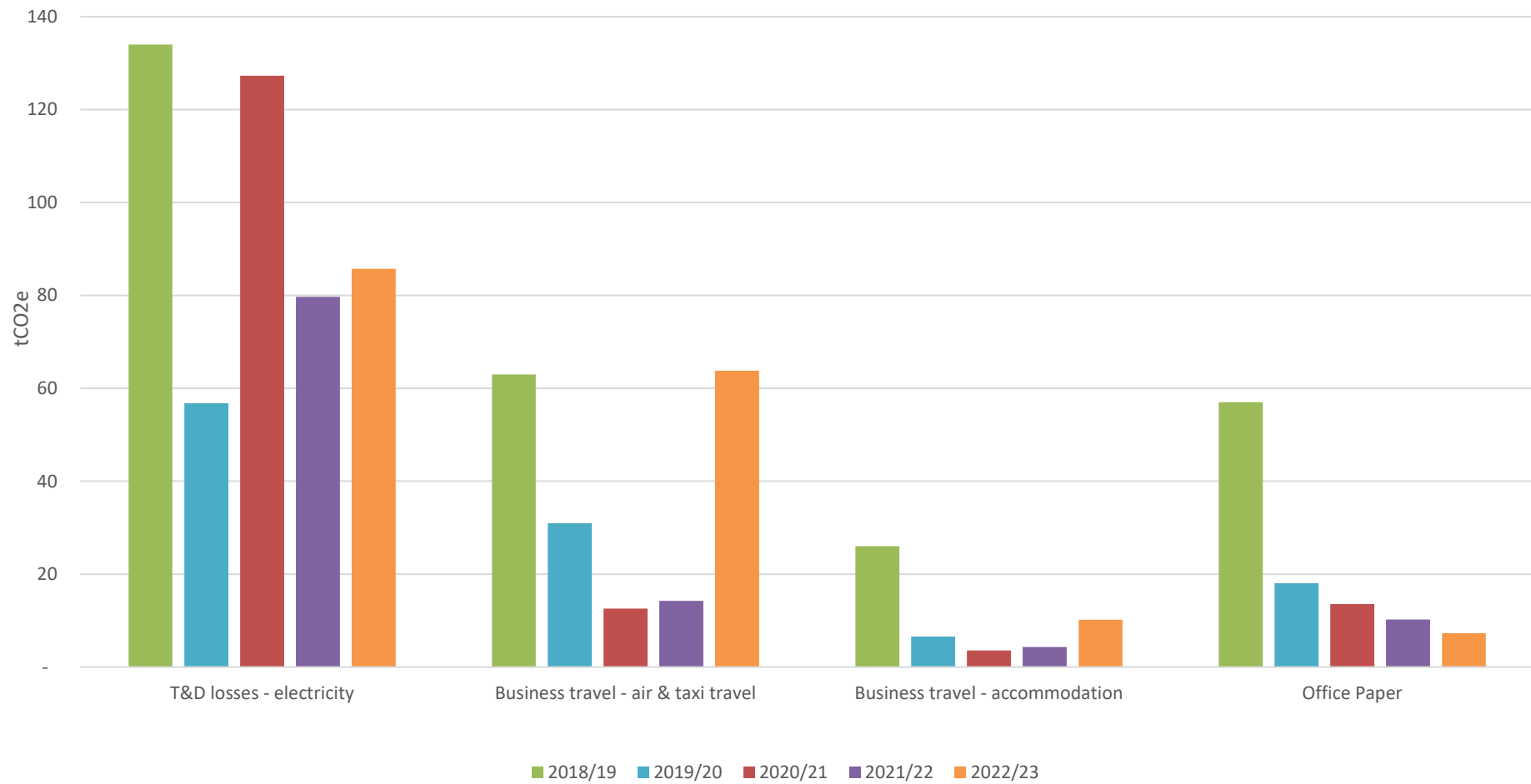


Figure 9. Emissions (tCO₂e) for four of the Scope 3 emission categories for each of the five reporting years.

4. Emissions Abatement

For more than a decade, the City of Launceston has implemented emission reduction initiatives and minimised resource use across the large and diverse portfolio of services and assets. The City of Launceston has undertaken a series of emission reduction and capture projects including landfill gas capture and electricity generation, food and garden organic (FOGO) landfill diversion and composting, transitioning buildings off gas, large scale LED lighting installations, building energy efficiency initiatives, the purchase of electric vehicles (EV) and fuel efficient vehicles, installation of EV charging stations, and the installation of rooftop solar photovoltaic (PV) panels and hot water systems across Council facilities.

Table 7 outlines the annual estimated emission abatements across Scope 1 and 2 emission sources. Electricity generated from all rooftop solar PV systems was not measured during the 2023FY and therefore abatement totals exclude three of the 11 solar PV systems.

The emission reduction initiatives implemented during 2022/23 and prior, is estimated to avoid **70,013 tCO₂e** during the reporting year. Based on this year's emissions total of 97,604 tCO₂e, the abatement represents a minimum of 40% reduction in annual emissions.

Table 7. Estimated emissions abatement for 2022/23

Emission Source	Scope	Description of reduction measure	Annual Emission Reduction (tCO ₂ e)
Scope 1 emissions			
Landfill gas	1	Since 2007, the landfill gas capture system was believed to annually abate over 60,000 tCO ₂ e. However, this year, thanks to more accurate figures being supplied by LMS, there was an observed decline in the quantity of emissions abated. This decline is likely due to the decreased efficiency of gas capture being observed in the 2023FY. It must be noted that despite these emissions being abated, LMS owns the carbon rights to these emissions and sells them as ACCU carbon credits in the Australian carbon market. Therefore, City of Launceston cannot claim these abated emissions towards its future carbon neutrality certification.	42,829
Fuel consumption	1	In 2018, a GPS-based guidance system was installed in the heavy waste compactor to allow drivers to easily identify which parts of a landfill cell require compaction. This initiative has resulted in the compactor using 20,000L less fuel annually.	54
	1	Addition of EVs to Council's fleet in 2019 and 2020. The emissions abated by the EVs are calculated as the emissions avoided from not consuming the equivalent fuel for the distance travelled, from the previous car that the EVs replaced.	4.4
Diversion of organic waste	1	Since 2018, the Launceston Waste Centre has diverted the region's food organic and garden organic (FOGO) waste from the kerbside collection and other Council's, and produces compost. The aerobic composting of organic waste reduces emissions while diverting nutrients from the site. Each tonne of organic waste disposed of as landfill and broken down by anaerobic processes releases approximately two tonnes CO ₂ e.	27,126
Scope 1 total			70,013.40
Scope 2 emissions			

Electricity consumption	2	The landfill gas capture system generates over 9,000 MWh of renewable electricity every year, enough to power over 1,000 homes 24/7 in the local community.	Abatement totals already captured in Solid Waste Calculator
	2	Rooftop solar PV panels installed on 12 Council facilities. Power generation for facilities is unavailable.	Unknown
Scope 2 total			Unknown
Total Emissions Abated			70,013.40

5. Recommendations

Based on CoL's 2022/23 emissions inventory, the actions outlined in the Sustainability Action Plan (SAP) and Towards Zero Emissions Action Plan (TZEAP) must be delivered. The Action Plans set out how the City of Launceston will achieve carbon neutrality by 2025 while playing our role to help meet the Paris Agreement and avoid a global average temperature rise of 2°C by 2050.

A summary of key actions contained in the Action Plan likely to result in the largest emissions abatement are outlined below:

Measuring, reporting and tracking

1. Continue to undertake an annual desktop audit of operational emissions
2. Publically report Council's annual emissions on the CoL website
3. Commence tracking emission reduction actions and provide publicly-available updates on the progress of actions

Waste avoidance and recovery

4. Monitor the newly implemented gas capture infrastructure and efficiencies in the existing landfill gas extraction system
5. Promote commercial FOGO services for organisations and other Councils generating large volumes of organic waste e.g. supermarkets, restaurants, hospitals, hotels, retirement homes, schools, Launceston airport
6. Invest in expanding the composting facility to cater for increases in materials
7. Establish a construction and demolition recovery facility

Reduce energy use, increase efficiencies and transition to renewable energy sources

8. Transition gas powered facilities to electrification
9. Continue upgrading Council facilities to increase energy efficiencies e.g. efficient HVAC systems, adequate insulation and ventilation, window glazing, high efficiency LED lighting and de-lamping etc.
10. Continue fuel efficiency and the transition of light vehicle fleet, plant and equipment to electrification and battery power
11. Investigate and roll out new technology in renewable energy powered plant and equipment, where feasible e.g. renewable hydrogen powered trucks, electric street sweepers, battery operated garden tools
12. Further understand the electricity generated by existing solar PV systems.