

Greenhouse Gas Inventory Report

Period: 01 July 2023 to 30 June 2024

**Prepared in accordance with ISO 14064-1: 2018 Greenhouse gases
– Part 1: Specification with guidance at the organisational level for
quantification**

Date: 28 August 2024

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Executive Summary

This Greenhouse Gas (GHG) Inventory Report provides an accurate account of Lyttelton Port Company's (LPC) Scope 1, 2, and 3 GHG emissions for the FY2024 financial year (1 July 2023 – 30 June 2024). LPC's total gross GHG emissions for FY2024 were approximately 45,258.38 tonnes of carbon dioxide equivalent (tCO₂e).

The table below summarises the main sources of GHG emissions for the reporting period.

Category (ISO 14064-1:2018)	Scopes (ISO 14064-1:2006)	FY2018 (baseline year)	FY2023	FY2024
Category 1: Direct emissions	Scope 1	8,991.19	8,844.18	8,631.22
Category 2: Indirect emissions from imported energy (location-based method)	Scope 2	1,162.29	980.93	992.57
Category 3: Indirect emissions from transportation	Scope 3	225.93	69.63	1,230.73
Category 4: Indirect emissions from products used by organisation		432.26	808.20	13,489.93
Category 5: Indirect emissions associated with the use of products from the organisation		0.00	59.23	20,913.93
Category 6: Indirect emissions from other sources		0.00	0.00	0.00
Total direct emissions		8,991.19	8,844.18	8,631.22
Total indirect emissions		1,820.48	1,646.73	36,627.16
Total gross emissions		10,811.67	10,490.91	45,258.38
Category 1 direct removals		0.00	0.00	0.00
Indirect emissions negated due to purchase of NZ Certified Renewable Energy Certificates (NZRECs)		0.00	980.93	992.57
Total net emissions*		10,811.67	9509.98	44,265.81

* = market-based method, Includes emission removals from NZRECs

Introduction

This report is the annual greenhouse gas (GHG) Inventory Report for Lyttelton Port Company Limited (LPC), covering the measurement period 01 July 2023 to 30 June 2024.

This inventory has been prepared according to *ISO 14064-1:2018 Greenhouse gases – Part 1: Specification with guidance at the organisational level for quantification*, the *GHG Protocol Corporate Accounting and Reporting Standard* and the *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*.

This GHG inventory report has been audited by a third-party independent assurance provider in accordance with the New Zealand Standard on Assurance Engagement 1 and ISO 14064-3:2019.

Statement of Intent

This inventory forms part of LPC's commitment to consistently account for its GHG emissions using best practice greenhouse gas accounting standards.

The primary purpose of this report is to inform our own emissions management, reduction, and reporting activities. The intended users of this report are, but not limited to:

- LPC's Board of Directors and Executive Leadership Team
- Christchurch City Holdings Limited (CCHL) who owns 100% of LPC
- LPC customers
- LPC staff

This report is primarily used by the Environment and Sustainability Team, and the Chief Bulk Cargo, Engagement and Sustainability Officer who is the Executive with responsibility for LPC's GHG Emissions Inventory and GHG reduction programme. Internally it is available to all staff, and it is also publicly available on LPC's website (<https://www.lpc.co.nz/>).

Description of Lyttelton Port Company

LPC is a regionally and nationally significant infrastructure asset operating over three locations in Greater Christchurch (Figure 1). It provides a vital link in international trade routes and plays a key role in the global transport network. LPC employs over 650 staff.



Figure 1 Lyttelton Port Company Operational Sites and Connecting Freight Routes

LPC's seaport (Lyttelton Port) is located on the northern shores of Lyttelton Harbour. Lyttelton Port is the largest port in the South Island and the country's second largest export port, managing nearly half the South Island's container volume. Lyttelton Port is a 24 hour, 7 days a week, \$190 million/year operation. It facilitates coastal and international shipping for range of trades including containers and fuel, supports commercial fishing operations, provides port services for Antarctic research vessels, military vessels, cruise ships and supports recreational boating and harbour access.

The CityDepot site in Woolston occupies 17ha of rail-side industrial land. It is the largest empty container hub depot in the South Island. Its role is to facilitate the storage and repair of empty containers as well providing full container handling for imports and export moving to and from the port. It provides a conveniently located rail and road interchange and can store up to 10,000 containers (TEUs).

Midland Port in Rolleston occupies 27ha of rail-side land. While similar, Midland Port is a different operation to CityDepot. Primarily it is focused on the aggregation of import and export cargo. There are daily connecting transport services between Midland Port and Lyttelton.

LPC's Sustainability Strategy

LPC recognises that its operations may have a direct impact on the environment and integrates sustainability throughout every aspect of our business. The LPC Board approved the business wide Sustainability Strategy in 2019. The strategy shapes how LPC ensures the business is prosperous, while supporting its people, growing trust and mutual benefits with communities and taking care of the

environment that makes our business possible. LPC set key commitments and targets across three key focus areas: Prosperity, People and the Planet.

Carbon reduction is one of the three key priorities under Planet. In October 2023, the Board approved the company’s alignment with Science Based Targets (SBT). LPC has set an ambitious goal of halving its Scope 1 and 2 emissions by 2030 using 2018 as its baseline.

LPC is also a signatory on the New Zealand Climate Leaders Coalition (CLC) and member of the Sustainable Business Council (SBC).

Persons Responsible

This GHG Inventory Report has been primarily prepared by LPC’s Environment and Sustainability Team. LPC’s Head of Environment and Sustainability is responsible for overall emission inventory measurement and monitoring reduction performance, as well as reporting results to top management. Data inputs came from a range of sources at LPC, as well as from LPC’s key suppliers and consultants.

Reporting Period

This GHG Inventory Report covers the financial year 01 July 2023 to 30 June 2024.

Organisational Boundaries

Christchurch City Holdings Limited (CCHL) is the 100% shareholder of LPC. CCHL is the investment arm of Christchurch City Council (CCC), holding shares in seven trading companies. LPC operates as a totally independent business from CCHL, CCC and the other trading companies (Figure 2).

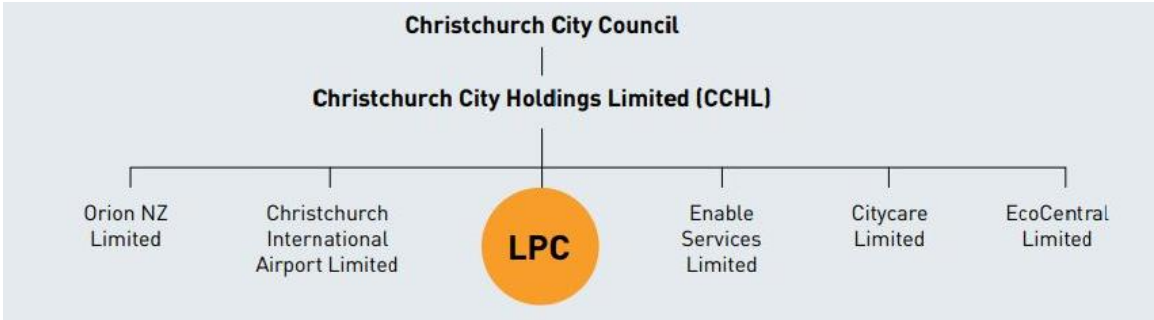


Figure 2 Organisational Structure of LPC

LPC applies the operational control consolidation approach in accounting for the organisational boundary of our emissions, in accordance with the methodology described in the ISO 14064-1:2018 standard. This approach was chosen as it best aligns with the GHG Inventory Report’s intended uses. This allows us to focus on those emissions sources that we have greater control over and can influence in line with our targets.

Table 1 outlines the business units/facilities owned by LPC and of which LPC has operational control over. For emissions reporting purposes, the operations within LPC have been divided into physical operational areas. Data on activities creating emissions has been collected from these 12 areas within the business.

Table 1: LPC business units and their physical locations.

Business unit / Facilities	Physical location	Description
CityDepot	Chapmans Road, Woolston	A land-based depot for container handling and storage. Includes rail links with Lyttelton Port and Midland Port.
Midland Port	686 Jones Road, Rolleston	A land-based depot for container handling and storage in Rolleston on the outskirts of Christchurch. The depot is strategically placed for transport links including rail and road.
Coal, Container Terminal, Corporate, Dry Dock, Infrastructure Services, Maintenance, Marine, Bulk Cargo, Port Services, Te Ana Marina	37-39 Gladstone Quay, Lyttelton	Business units at the Lyttelton Port site in Lyttelton and make up the operational units of the Port.

Operational Boundary

LPC has included Scope 1, 2 and 3 emissions in this GHG Inventory Report. The following GHG emissions sources are classified by the following ISO14064-1:2018 categories and GHG Protocol scopes:

- Scope 1 (Category 1): Direct GHG emissions, as a result of LPC operations, including fuel usage and fugitive gases;
- Scope 2 (Category 2): Indirect GHG emissions from LPC electricity usage; and
- Scope 3 (Category 3, 4, 5, 6): Indirect GHG emissions from LPC's supply chain. This accounts for all emissions occurring because of LPC operations that are not included in Scope 1 or 2, including upstream and downstream emissions and transmission losses from the national grid. LPC reports on GHG Protocol Scope 3 categories 1-7, 11 and 13. The other categories are not applicable to our operations.

The following criteria were used to evaluate the significance of indirect emissions, in the context of the intended uses of this inventory.

- Access to data: The ability for LPC to gain accurate data for indirect GHG emissions in a timely and cost-effective manner.
- Shareholder interest: The emissions that LPC's shareholder CCHL require LPC to report on.
- Level of influence: The extent to which LPC can monitor and reduce emissions.

Information Management Procedures

LPC have developed a guidance document that describes the methods the organisation takes to prepare its GHG emissions inventory. The document describes how to calculate GHG emissions for the purposes of monthly reporting, and in preparation for the annual audit in accordance with the GHG Protocol and ISO 14064-1:2018 Standard.

Data Collection, Quantification and Uncertainties

All calculations in this report are expressed in total tonnes of carbon dioxide equivalent (tCO₂e). In some instances, the data provided by suppliers was reported in tCO₂e and was assumed to be accurate.

Where feasible, LPC measured data for the different sources of emissions by collecting measures as close to the point of combustion of the emissions as possible (e.g., litres of fuel used instead of the total kilometres). However, for some indirect sources of emissions, less accurate data was obtained such as dollar spend. Data was collected directly from LPC staff, suppliers and LPC's internal finance software, M3. Table 2 outlines the emissions sources and where the data was sourced from.

Collection of data occurs on a monthly or annual basis depending on the magnitude of the emissions source and the ease of access to the data. Data is collected and centrally filed in a Sharepoint folder. Data is uploaded to BraveGen monthly or annually by LPC staff or directly from suppliers. In Bravegen, activity data is multiplied by the relevant emission factors to calculate tCO₂e. IPCC Global Warming Potential's (GWPs) are as published by:

- Ministry for the Environment, MfE (<https://environment.govt.nz/publications/measuring-emissions-a-guide-for-organisations-2023-detailed-guide/>)
- Ministry for the Environment, MfE (<https://environment.govt.nz/publications/measuring-emissions-a-guide-for-organisations-2024-detailed-guide/>)
- DEFRA, (<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023>).

Changes to Approach Used Previously

During FY24 LPC focused on adding additional Scope 3 emissions to be more aligned with the GHG Protocol Corporate Standard and Technical Guidance for Calculating Scope 3 Emissions.

Purchased goods and services (including capital goods) have been calculated using expenditure-based emissions factors sourced from Market Economics (M.E.) - *Table 5 Consumption Emissions Intensities for the Year Ending 2019*.

- <https://www.knowledgeauckland.org.nz/media/2593/consumption-emissions-modelling-market-economics-march-2023.pdf>

Using the spend base approach carries inherent uncertainties. To reduce this uncertainty, LPC will work with its suppliers in FY25 to increase the proportion of activity data received from suppliers.

To estimate staff commute emissions and working from home emissions, LPC is using data provided by staff when they join LPC with regards to the suburb they live in (at the time of joining LPC). Using this information together with the addresses for the three LPC locations (Lyttelton Port, CityDepot and Midland Port), commute to work distances are then calculated using google maps and assuming that the average distance from each suburb to and from LPC's sites can be represented by the suburb's centre, as suggested by google maps. On the basis of the commute travel distance, emissions are then calculated based on national average travel modes. The mode of transport (vehicle type, public transport) used by staff to commute to and from work is based on the NZ average and the assumption that staff travel on their own (single occupancy vehicle).

Ship's emissions have been calculated for the first time following the USA EPA's *Port Emissions Inventory Guidance: Methodologies for estimating Port-Related and Goods Movement Mobile Source Emissions*. Vessels that entered the Port between 01 July 2023 and 30 June 2024 were included in

the analysis. Various sources of data and operational knowledge about the Port's marine activities were used to compile the data necessary to estimate emissions including:

- Automatic Identification System (AIS) track data
- Vessel arrival and departure data from LPC's Port Control system

Impact of uncertainty

Some level of uncertainty is associated with the preparation of GHG emissions inventory. LPC outlines our approach to uncertainties in Table 2.

GHG Inventory of Emissions

Summary of Emission Sources Included

Table 2 below provides a summary of the emissions sources included in the GHG inventory. It also describes the methodology used and level of uncertainty. Uncertainty was assessed using a qualitative approach as the relevant metrics were not available for quantifying the data uncertainty.

Category	GHG emissions source or sink subcategory	Activity data and evidence	Data source	Uncertainties or assumptions	New emission source reporting in FY 24 (Y/N)
Scope 1 – ISO Category 1: Direct emissions and removals					
Category 1	Mobile combustion (incl. company owned or leased vehicles)	Diesel commercial	BP Bulk fuel reports	Low level of uncertainty, assume supplier report is complete and accurate.	N
		Diesel commercial, Diesel, Petrol premium, Petrol regular (l)	BP fuel card reports	Low level of uncertainty, assume supplier report is complete and accurate.	N
	Fugitive emissions	Refrigerant losses from HVAC units (kg)	AC Dynamics HVAC supplier reports	Low level of uncertainty, assume supplier report is complete and accurate.	Y
		Welding gases (kg)	Southern Gas Services supplier reports	Low level of uncertainty, assume supplier report is complete and accurate.	Y
Scope 2 – ISO Category 2: Indirect emissions from imported energy					
Category 2	Imported electricity	Electricity (kWh)	Meridian Energy reports	Low level of uncertainty, assume supplier report is complete and accurate.	N
Scope 3 – ISO Category 3: Indirect emissions from transportation					
Category 4	Upstream freight - Paid by the organisation	Freight (supplier calculated CO2e including RFI)	NZ Couriers reports	Low level of uncertainty, assume supplier report is complete and accurate.	N

Category	GHG emissions source or sink subcategory	Activity data and evidence	Data source	Uncertainties or assumptions	New emission source reporting in FY 24 (Y/N)
		Diesel commercial (l)	NZ Express	Low level of uncertainty, assume supplier report of litres fuel used is complete and accurate.	N
		kg CO2e	Move Logistics reports	Medium level of uncertainty. Move Logistics provided a report with litres use for FY24. Averages used for two months due to inability to obtain data.	N
		Net Tonne Kilometres (NTK)	KiwiRail reports	Low level of uncertainty. Assume supplier report is complete and accurate. Rail freight of containers between Lyttelton and Inland Ports.	N
Category 6	Business travel - Transport (non-company owned vehicles)	Air travel, rental cars and business travel accommodation (pre-calculated emissions, kgCO2e)	Orbit Travel report	Low level of uncertainty. Orbit Travel became LPC's travel booking provider in September 2023. It is assumed Orbit Travel reports are correct and accurate. Some inaccuracies as an average of the remaining months were used to estimate rental car and hotel stay emissions for July and August 2023.	Y
		Air travel (pkm)	Air NZ travel card report	Air travel: It is assumed data source represents a complete and accurate account of air travel activity. Air NZ reports were used to calculate air travel emissions for July and August 2023 prior to Orbit Travel being used.	N
Category 7	Employee commuting and working from home	Employee commuting and working from home	Employee suburb location in internal HR software	Medium level of uncertainty, calculated based on national average and some inaccuracies as employees don't always update change of address.	Y
Scope 3 – ISO Category 4: Indirect emissions from products used by organisation					
Category 1	Purchased goods and services	Suppliers spend (\$, excluding GST)	Suppliers spend records	High level of uncertainty as calculated based on spend. Suppliers with annual spend less than \$50,000 was	Y

Category	GHG emissions source or sink subcategory	Activity data and evidence	Data source	Uncertainties or assumptions	New emission source reporting in FY 24 (Y/N)
				excluded. This category also includes GHG emissions associated with <i>purchases</i> and <i>maintenance</i> of capital goods.	
		Water supply	Internal finance reporting software	High level of uncertainty as meter readings are completed manually and inputted into internal asset management software. FY23 data used as estimate of FY24 due to inaccuracies in data.	N
Category 3	Transmission of energy (T&D losses)	Electricity distributed T&D losses	Meridian Energy reports	Low level of uncertainty. It is assumed supplier reports are correct and accurate.	N
Category 5	Disposal of solid waste - Landfilled	Incineration of clinical waste, Waste landfilled LFGR Mixed waste (tonnes or kg)	Waste Management reports	Low level of uncertainty. WM reports have a high level of accuracy with actual weights provided for most pickups.	N
			CCC kerbside waste collection	High level of uncertainty, actual weights unavailable and therefore weights assumed based on historical data.	N
			Interwaste report	Low level of uncertainty, assume supplier reports are true and accurate.	N
Category 5	Disposal of solid waste - Not landfilled	Waste disposal recycling (kg on tonnes)	Waste Management	Low level of uncertainty. WM reports have a high level of accuracy with actual weights provided for most pickups.	N
			Remarkit E Waste	Low level of uncertainty, supplier reports assumed to be complete and accurate.	N
			Tyre Innovations	Medium level of uncertainty. FY 24 data unable to be obtained so estimated based of FY23 data.	N

Category	GHG emissions source or sink subcategory	Activity data and evidence	Data source	Uncertainties or assumptions	New emission source reporting in FY 24 (Y/N)
			CCC kerbside waste collection	High level of uncertainty, actual weights unavailable and therefore weights assumed based on historical data.	N
			Resource Recycling reports	Medium level of uncertainty as data provided was for 2024 calendar year, not FY.	N
Category 5	Treatment of liquid waste	Waste Management liquid waste collection.	Waste Management	WM reports have a high level of accuracy with actual weights provided for collection.	N
		Discharge to CCC tradewaste system.	Trade waste consented maximum allowable limits.	High level of uncertainty, total volume estimated based on consented annual maximum allowable limits.	Y
Scope 3 – ISO Category 5: Indirect emissions associated with the use of products from the organisation					
Category 11	Use of sold products	Ships emissions while within port limits	Shipping AIS data and marine pilot logs	Medium level of uncertainty given this is the first-time estimating ship emissions	Y
Category 13	On sold electricity	Electricity on sold (kwh)	Energy on sold to LPC tenants and customers	Medium level of uncertainty. Calculated using on sold electricity to tenants and customers.	N
Non-Emission Sources					
N/A	Renewable Energy Certificates	Renewable Energy Produced (MWh)	Meridian Energy	Medium level of uncertainty as electricity reported as MWh.	N

Summary of Emissions Sources Excluded

Table 3: Summary of emission sources excluded from this inventory. GHG Protocol Scope 3 and ISO reporting categories 8, 9, 10, 12, 14 and 15 were also excluded from this inventory as they are not applicable to LPC.

GHG & ISO 14064-1 reporting category	Activity / emission source	Reason for exclusion	Estimated tCO ₂ e excluded from inventory
Scope 1 – Category 1: Direct emissions and removals			
Fugitive emissions	AdBlue	Total contribution of AdBlue to LPC’s GHG emissions inventory considered de minimis.	Approximately 6 tCO ₂ e (25,000l x 0.000238 EF)
Scope 3 - Category 4: Indirect emissions from products used by organisation			
Purchased Goods and Services	Spend on consent condition related payments, sponsorship and payments to staff	Low accuracy in attributing emission factor. One-time payments.	Approximately 43 tonnes CO ₂ e (~\$600,000 x 0.00007235 EF)
	Suppliers where annual spend <\$50,000 (excl GST)	Significant number of suppliers where the spend was <\$50,000.	Each supplier with spend \$50,000 or less unlikely to contribute more than 140 tonnes to inventory (\$50,000 x 0.00279 maximum ME spend-based EF)

Biogenic Emissions

Biogenic emissions are those that come from a natural source, including the burning of biomass and biofuel. Neither of these activities occur at LPC.

FY2024 Reported Emissions

The total reported GHG emissions for LPC using location-based reporting were 44,470.81 tCO₂e, and 43,478.24 tCO₂e for market-based reporting. This difference is due to the purchase of renewable energy certificates (NZECS), negating the Category 2 emissions from electricity usage.

Table 4: Location based and market-based reported emissions for FY24.

Scope / Category	Location based reporting (tCO ₂ e)	Market-based reporting (tCO ₂ e)
Category 1: Direct emissions and removals		
S1 Mobile combustion	8,628.55	8,628.55
S1 Fugitive Emissions	2.67	2.67
Category 2: Indirect GHG emissions from imported energy		
S2 Purchased electricity	992.57	0
Category 3: Indirect GHG emissions from transportation		
S3 4. Upstream transportation and distribution	117.61	117.61

S3 6. Business travel	127.93	127.93
S3 7. Employee commuting	1,102.8	1,102.8
Category 4: Indirect GHG emissions from products used by organization		
S3 1. Purchased goods and services	12,776.95	12,776.95
S3 3. Fuel- and energy-related activities	114.21	114.21
S3 5. Waste generated in operations	481.15	481.15
Category 5: Indirect emissions associated with the use of products from the organisation		
S3 11. Use of sold products	20864.49	20864.49
S3 13. Downstream leased assets	49.44	49.44
Total	45,248.38	44,265.81

Table 5 Direct FY24 direct emissions broken down by Greenhouse Gas.

GHG Scope & Category	Emissions Source	CO2	CH4	NOx	HFCS	PFCs	SF6	Other	tCO2e
Direct emissions (Scope 1, Category 1)	Welding gases	265.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other gases	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4
	Diesel	8,557.2	32.8	18.6	0.0	0.0	0.0	0.0	8,608.6
	Petrol premium	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.2
	Petrol regular	18.0	0.2	0.5	0.0	0.0	0.0	0.0	18.7
	Total	8,842.1	33.0	19.2	0.0	0.0	0.0	2.4	8,631.2

Significant Emission Sources

In FY24, the greatest emission contribution to the inventory was the use of sold products, specifically the emissions from ships while in the Port's operational limits. This indirect emission source contributed 20,864 tCO2e in FY24 (Figure 3). Following ship's emissions, purchased goods and services procured from LPC suppliers contributed a further 11,708 tCO2e. Mobile combustion, a direct source of emissions was the third greatest contributor to the inventory, specifically relating to the combustion of diesel in large mobile plant.

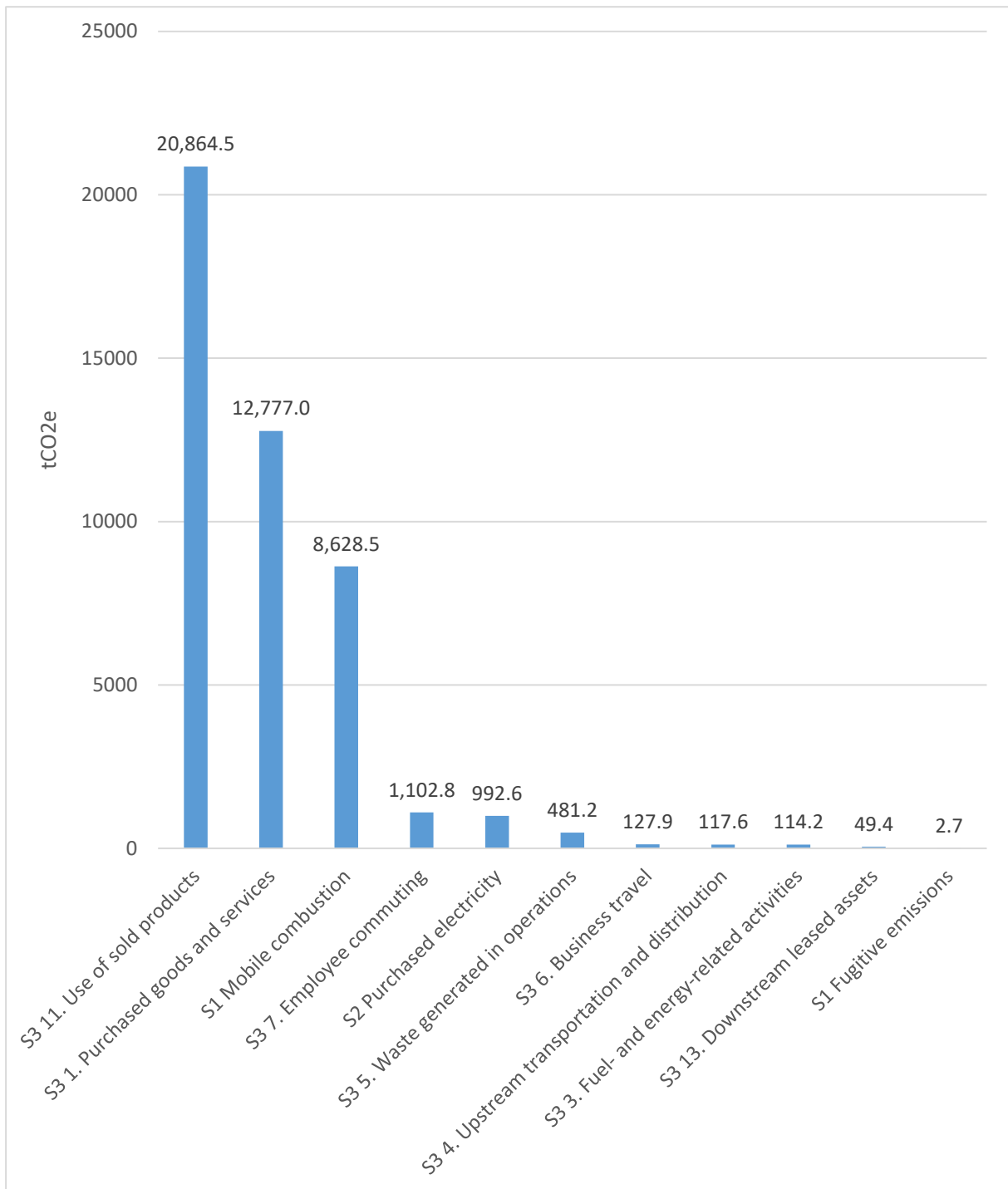


Figure 3: FY24 emissions categorised by GHG Protocol scope and ISO category.

LPC's container terminal operates 24/7, 365 days a year with 25 diesel electric straddles used for moving containers. For this reason, it contributes about half of LPC's direct emissions (Figure 4). The marine and coal business units also rely heavily on diesel powered fleet such as tugs, the pilot boat and front-end loaders, also contributing significantly to LPC's direct emissions.

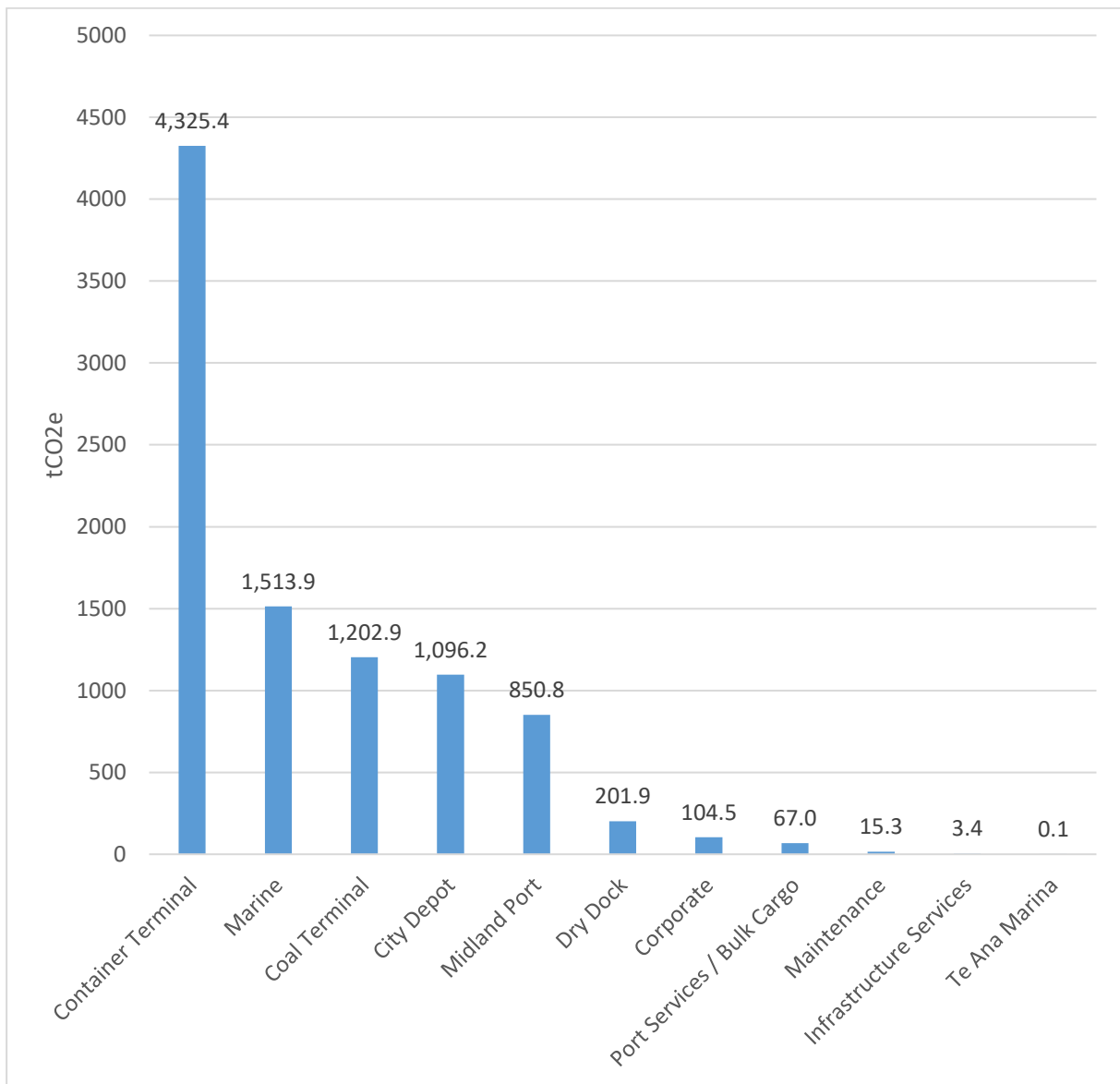


Figure 4: FY24 direct emissions associated with a specific site or business unit (tCO₂e).

Intensity Measures

In FY24 there was a marginal increase in the average tCO₂e per TEU moved, from 0.009488 tCO₂e in FY23, to 0.009524 in FY24 (Figure 5). However, this was a decrease of around 15% from the FY18 baseline.

In FY24 there was a reduction in the direct emissions per thousand dollars of revenue (tCO₂e) by ~9%, from 0.0487 tCO₂e in FY23 to 0.0445 in FY24 (Figure 6). This was also a 65% reduction from the FY18 baseline.

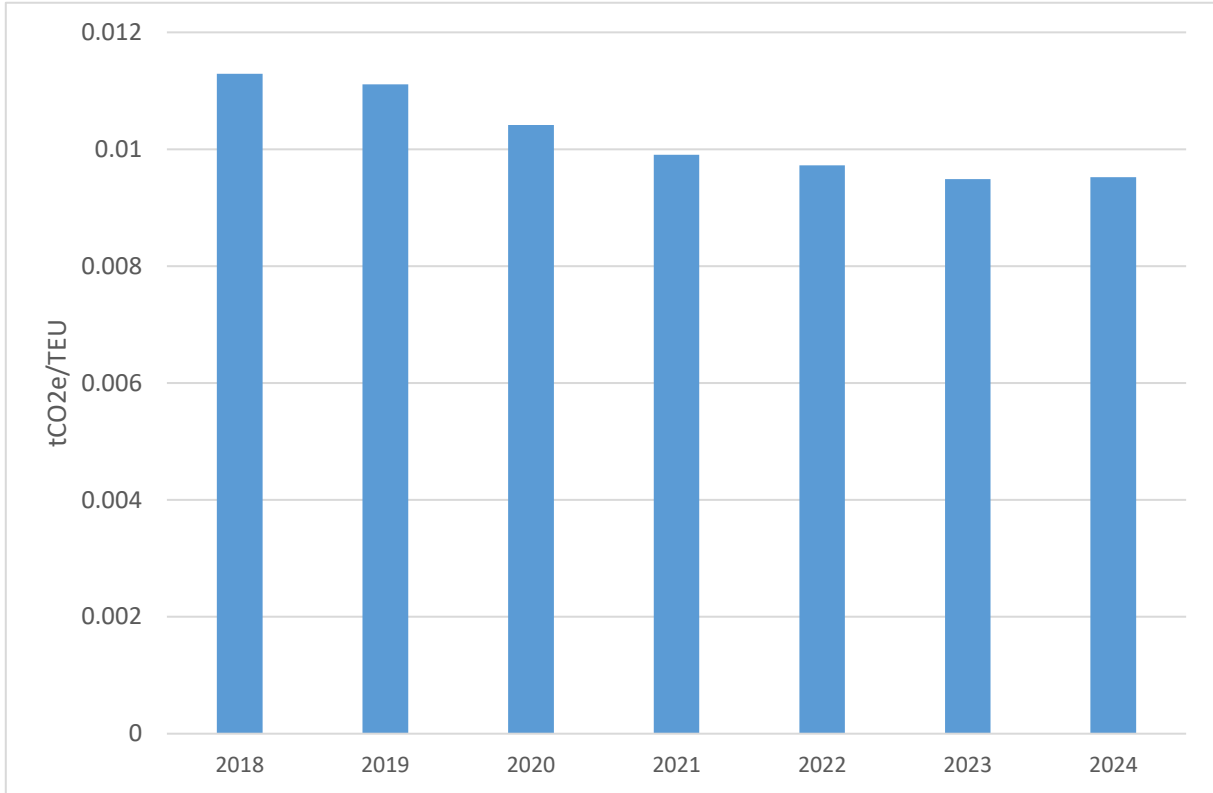


Figure 5: Carbon Intensity (tCO2e per TEU moved)

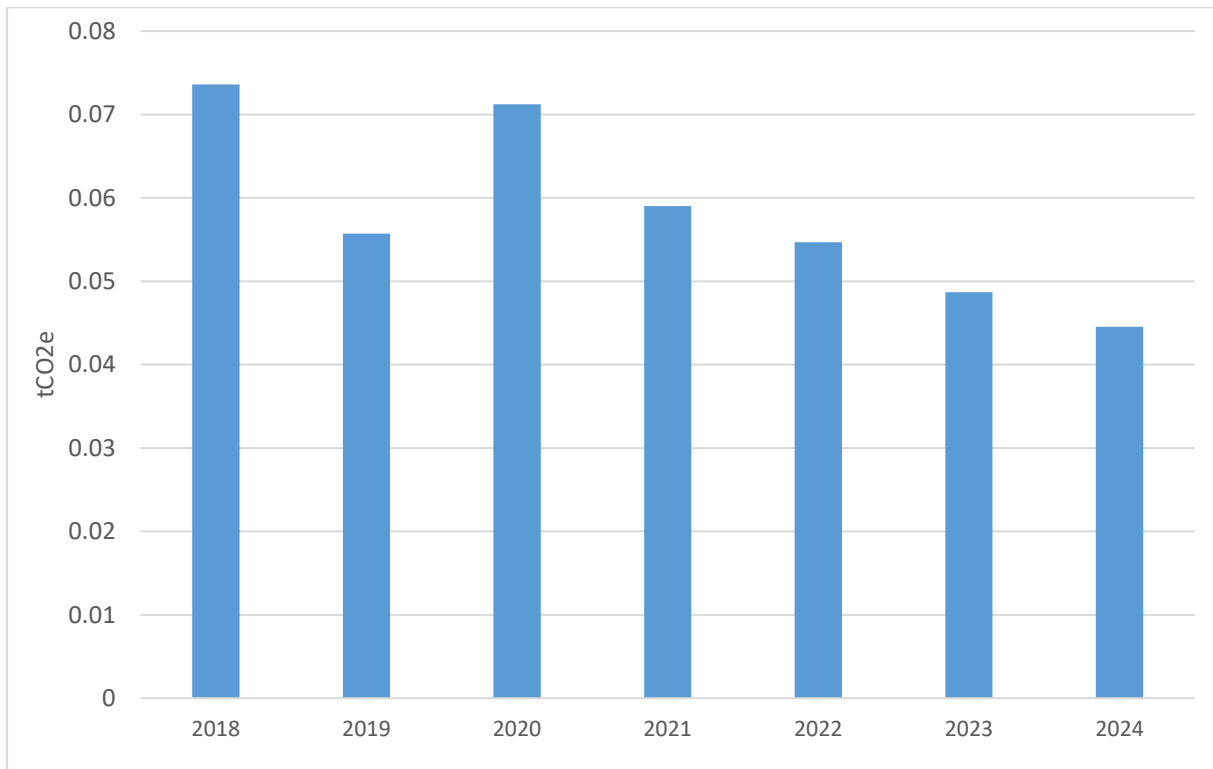


Figure 6: Carbon intensity (direct emissions per thousand \$ revenue, tCO2e).

Changes to Historic Base Year and Recalculations

LPC's baseline year is FY18, covering the period 01 July 2017 to 30 June 2018 in line with the financial year. FY18 was chosen as the base year as it was the first year LPC produced a GHG inventory in accordance with the ISO14064 standard. Changes will be made to the baseline year's

data if significant changes in LPC's operational footprint or reporting boundary occur that have a 5% or greater impact on our scope 1 and 2 emissions. A recalculation will also be triggered upon the discovery of significant errors, changes in calculation methodology, improvements in the accuracy of emissions factors, or activity data that results in a significant impact on the base year.

In June 2024, the Ministry for the Environment released an update to its guidance on calculating emissions. Changes to the purchased electricity emission factor back to 2010 were material to LPC's FY19, FY20, FY21 and FY22 inventories. For this reason, emissions for the affected years were recalculated with the updated emission factors in FY24.

GHG Emissions Reductions and Comparison with Previous Inventories

In FY24, LPC's reported emissions increased by over 400%, due to additional Scope 3 categories being reported for the first time. The greatest contributor to this increase was the inclusion of emissions from shipping (use of sold products) and purchased goods and services (Figure 7). These categories will be compared "like for like" with future inventories.

LPC's direct emissions from mobile combustion were 8,631 tCO₂e in FY24, a reduction of 2.4% from FY23 and 4% from FY18. The reduction in Scope 1 emissions since FY18 has coincided with the implementation of more efficient diesel electric straddles over this period and increasing driver awareness to reduce idling of large mobile plant. Long term initiatives such as the trial of different tyre sizes and types on straddles has contributed to emission reductions, particularly in the container terminal. In 2021, LPC started purchasing certified renewable energy through Meridian Energy. This has negated emissions from electricity since the baseline year under market-based reporting.

Contributing to our targets is the improvements to our lighting infrastructure at the Dry Dock and coal yard. The new exterior light upgrade at the Dry Dock was recognised nationally with two top awards. The Black Sky Highly Commended Award from the Royal Astronomical Society of New Zealand for protecting the night environment, and the Lighting Design Award – Highly Commended from IESANZ. One of the outcomes of installing LED lights in the coal yard was the 62% energy savings and lamp power reduction of around 29%. Both systems allow for pre-set lighting configurations, and LPC uses dimming and time control when the coal yard and Dry Dock are not operating, further reducing energy consumption.

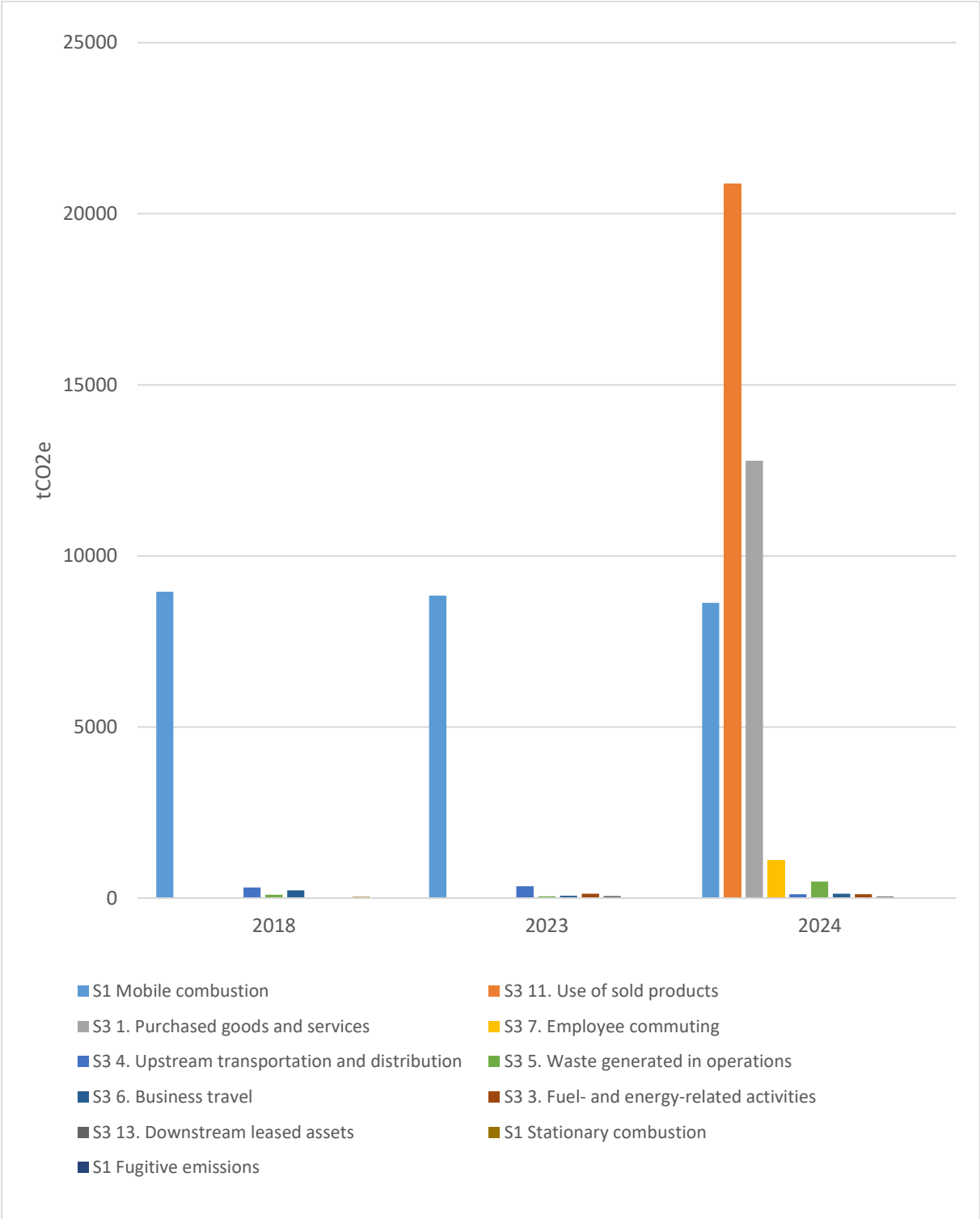


Figure 7: GHG emissions comparing the baseline year (2018) and the last two reporting years (location-based reporting).

Assurance

Compliance with ISO14064-1

The GHG Inventory report has been compiled in accordance with ISO14064-1.

Audit of GHG Inventory

Independent verification was completed by McHugh & Shaw Limited (ISO 14064-3:2019) and the assurance level achieved is Reasonable Assurance for Scope 1/ISO Category 1 & Scope 2/ISO Category 2 and Limited Assurance for Scope 3/ISO Category 3-5.