

GREENHOUSE GAS

INVENTORY

Spark Greenhouse Gas
Inventory Report 2023

About this report

This document is the 2023 Greenhouse Gas Inventory Report for Spark New Zealand Limited ('Spark' and together with its subsidiaries, the 'Spark Group'). This report covers the emissions for FY23 (1/7/2022 to 30/06/2023) and the previous three financial years, FY20, FY21 and FY22. It has been prepared in accordance with *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* ('the GHG Protocol'). For a detailed summary of our organisational and operational boundaries please see the Appendix.

This report has been approved by the Spark New Zealand Board and is dated 18 August 2023.



Justine Smyth, CNZM
Chair

Spark New Zealand Limited (NZX: SPK, ASX: SPK)

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Spark’s science-based emissions reduction target

56%

Spark New Zealand commits to **reduce absolute Scope 1 and 2 GHG emissions 56% by 2030** from a FY2020 base year.

70%

Spark New Zealand commits that **70% of its suppliers by spend** covering purchased goods and services and capital goods, **will have SBTi-aligned targets in place by 2026.**

In August 2021, Spark received verification of its science-based emissions reduction target. The Science Based Targets initiative (SBTi) is established as the global standard for corporate emissions reduction targets. Over 3,100 organisations have set verified emissions reduction targets since it launched in 2015. In New Zealand 21 companies have set targets, with a further ten committed to set targets within two years.

All SBTi targets must have a strict absolute reduction target for Scope 1 and 2 emissions, and also include a separate Scope 3 target if these emissions are greater than 40% of the total footprint.

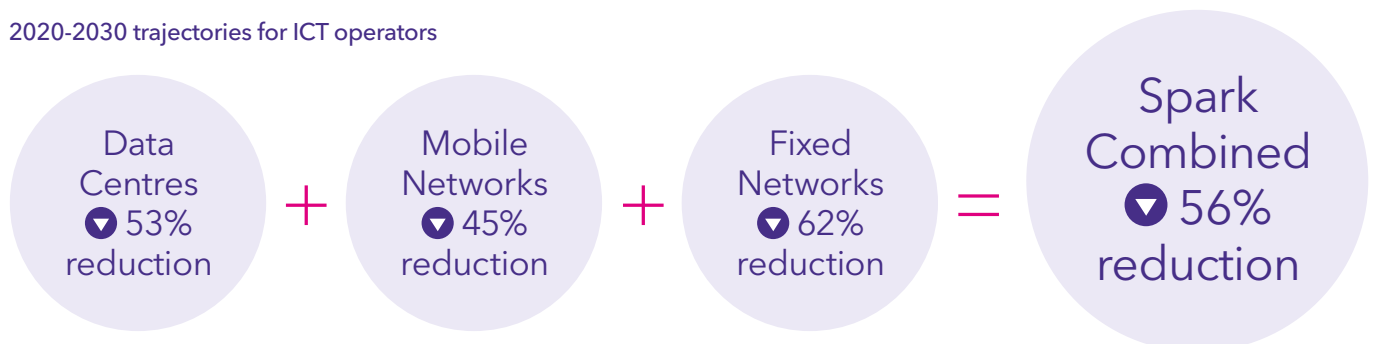
- **Scope 1:** Direct emissions from sources owned or controlled by Spark
- **Scope 2:** Indirect emissions from purchased electricity
- **Scope 3:** Indirect emissions from other sources in the value chain – e.g., production of purchased materials, transportation, business travel and use of sold products

SBTi targets are set against sector-specific emissions trajectories. The ICT sector pathways were developed with the International Telecommunications Union (ITU) and provide specific emissions reductions for mobile and fixed networks, and data centres, based on projected growth and efficiency gains. These reductions are then calculated against our own emissions profile and the share of our emissions from each activity, giving Spark a reduction target of 56% over the next decade.

The SBTi also sets rules for recalculating targets for organisations that have significant changes to their structure, for example when investing or divesting business from group structures. See page 6 for information on our reporting scope and changes made to our reporting over the past year. These changes do not require us to recalculate our scope 1 and 2 SBTi emissions reduction target, which remains at a 56% reduction from FY20 to FY30. The changes in reporting scope are backdated to our FY20 emissions baseline, meaning our ambition level remains the same.

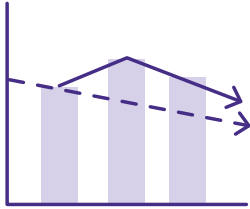
Setting our scope 1 and 2 emissions target:

2020-2030 trajectories for ICT operators



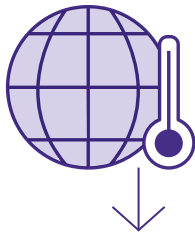
Source: Guidance for ICT companies setting science based targets, ITU, GESI, GSMA, SBTi

Performance summary FY23



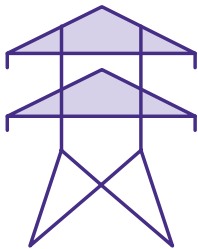
13,318
tonnes CO₂e

Scope 1 and 2 emissions tracking below our SBTi reduction target pathway



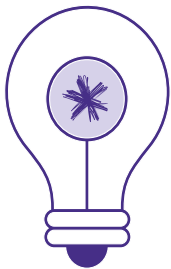
▼ 29.8%
scope 1 and 2 emissions

Scope 1 and 2 emissions reduced significantly year-on-year



▼ 37.1%
grid emissions intensity

Greater share of renewable generation has driven down emissions per unit of electricity consumed from national grid



▲ 1.8%
growth in electricity consumption

Driven by investment in mobile networks and data centres, offsetting efficiency and network simplification savings

About Spark

Spark is New Zealand's largest telecommunications and digital services company. Our customers range from individual New Zealanders and households to small businesses, not-for-profits, government and large enterprise clients. Across all our services - mobile, broadband, cloud services, digital services and entertainment - we have relevance for almost every New Zealander.

98%

of New Zealanders reached by our 4G network

99%

of the population reached by our Internet of Things network¹

63

retail stores

699k

broadband connections

24

regional business hubs

16

data centres

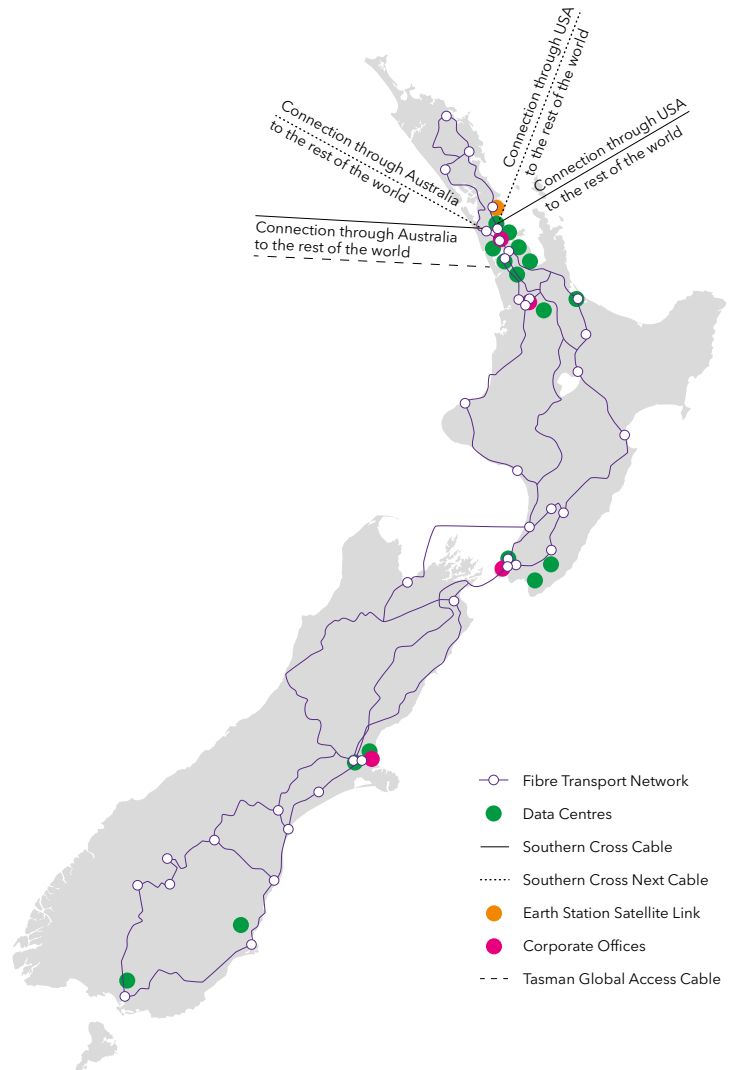
Active infrastructure on

~1,500

mobile sites supporting more than 2.7 million mobile connections

5,432

New Zealand employees



We operate the following brands and businesses

Consumer	Business	Community	Growth markets	Other brands
 Spark™ Skinny	Spark Business Group CCL Digital Island* Qrious leaven.	 Spark™ Foundation Skinny Jump	 Spark Health Spark™ IoT MATT	 Spark™ Wholesale entel group

All data at 30 June 2023

1 Cat-M1 Internet of Things network.

Our base year for reporting

FY20 is our baseline year for emissions reporting and for our SBTi-verified emissions reduction target. In setting our target we refreshed our approach to emissions reporting to bring our processes in-house to provide more frequent internal reporting, better inform decision making, and support progress towards our emissions reduction target.

Since we established our target, we have rescoped our emissions reporting and baseline to account for changes to our business. This includes:

- The sale of a 70% stake in our passive mobile tower assets, which are now owned by Connexa. At these sites we have retained ownership of the site electricity consumption and associated emissions. This includes emissions from electricity used to run cooling systems and lights, alongside active mobile network equipment. Where the ownership of cooling systems has transitioned to Connexa, we have removed associated refrigerant fugitive emissions from our GHG reporting, including re-baselining back to our FY20 baseline year. This has reduced our fugitive emissions for our baseline year by 124 tonnes CO₂e or 0.67% of our total scope 1 and 2 emissions.
- The investment to take full control of Connect 8, which has been integrated into Entelar Group. This includes the integration of a fleet of field services vehicles and equipment, and two depots. This has increased our reported emissions from fleet for our baseline year by 536 tonnes CO₂e or 3.0% of our total scope 1 and 2 emissions.

These changes are not significant enough to require us to recalculate our SBTi emissions reduction target, which remains at a 56% reduction from FY20 to FY30. The reporting scope changes have been applied to our FY20 emissions baseline, meaning our ambition level remains the same.

In the future we will re-baseline our emissions for significant changes in Spark's operational footprint or reporting boundary, including acquisitions and divestments, or outsourcing and insourcing of activities that have a 5% or greater impact on our scope 1 and 2 emissions. A recalculation of baseline emissions will also be triggered in the instance of a discovery of significant errors, a number of cumulative errors that are cumulatively significant, changes in calculation methodology, improvements in the accuracy of emissions factors, or activity data that results in a significant impact on the base year.

Greenhouse gas emissions

SCOPE/CATEGORY	GHG EMISSIONS (t CO ₂ e)			
	FY20	FY21	FY22	FY23
Scope 1	2,485	2,799	2,372	2,694
Fugitive emissions*	561	637	702	628
Mobile combustion - Vehicle fleet**	1,483	1,678	1,337	1,659
Stationary combustion - Diesel generators	426	470	325	393
Natural gas combustion	15	15	8	14
Scope 2	15,855	19,428	16,609	10,624
Corporate/Retail	1,450	1,722	1,361	799
Mobile Network	2,589	3,535	3,546	2,687
Fixed Network	9,061	10,725	8,474	5,116
Data Centre	2,756	3,446	3,228	2,023
Scope 3 (total C3,C6 & C13)	6,277	4,127	3,806	4,818
Category 3 - Fuel- & energy- related activities	1,394	1,356	1,458	1,312
Category 6 - Business travel	3,236	707	620	2,402
Category 13 - Downstream leased assets	1,647	2,063	1,728	1,104
Total Scope 1 and 2 (SBTi target emissions)	18,341	22,227	18,981	13,318
Total Scope 1, 2 and 3 (C3,C6 & C13)	24,618	26,354	22,787	18,137

Notes:

Please see Appendix A and B for information on methodologies used to calculate and measure emissions, and specific exclusions of sources.

We split our scope 2 electricity reporting across four categories - Corporate/Retail, Mobile Network, Fixed Network, and Data Centre. These operational categories align with the ICT sector pathways developed with the International Telecommunications Union (ITU) in their guidance for setting a science-based emissions reduction target.

Numbers may not sum due to rounding.

* We have restated our FY20, FY21 and FY22 Fugitive emissions due to the transition in ownership of cooling systems to Connexa. See page 6 for more information. We have also added historic top-up data for CCL data centre sites.

** We have restated our FY20, FY21 and FY22 Mobile combustion - Vehicle fleet emissions due to the acquisition and integration of the Connect 8 fleet to the Entelar Group. See page 6 for more information.

Greenhouse gas emissions (continued)

Greenhouse gas emissions by gas type

FY23

SCOPE/CATEGORY	GHG EMISSIONS (t CO ₂ e)	CO ₂	CH ₄	N ₂ O	HFC
Scope 1	2,694	2,017	13	37	628
Fugitive emissions	628	-	-	-	628
Mobile combustion - Vehicle fleet	1,659	1,612	12	36	-
Stationary combustion - Diesel generators	393	391	1	1	-
Natural gas combustion	14	14	0	0	-
Scope 2	10,624	10,337	266	22	-
Corporate/Retail	799	778	20	2	-
Mobile Network	2,687	2,614	67	6	-
Fixed Network	5,116	4,978	128	11	-
Data Centre	2,023	1,968	51	4	-

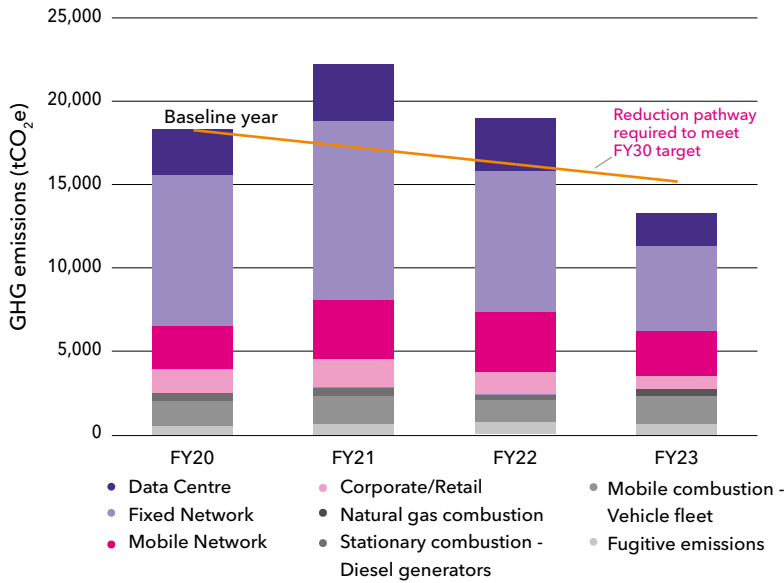
Note: Spark does not have emissions of SF₆, NF₃, and PFCs. We exclude scope 3 emissions from our reporting by gas type due to incomplete data. Numbers may not sum due to rounding. The percentages used to determine CO₂, CH₄ and N₂O gas emissions under Scope 2 may deviate from the Ministry for Environment's 2023 figures due to rounding.

Scope 1 and scope 2 energy usage by type

SCOPE/CATEGORY	ENERGY USAGE			
	FY20	FY21	FY22	FY23
Scope 1				
Fugitive emissions	N/A	N/A	N/A	N/A
Vehicle fleet - premium petrol (litres)	60,079	60,387	24,624	26,235
Vehicle fleet - regular petrol (litres)	225,672	212,408	183,263	307,627
Vehicle fleet - diesel (litres)	197,756	245,046	240,181	309,282
Stationary combustion - Diesel generators (litres)	160,004	176,367	121,763	146,304
Natural gas combustion (KWh)	78,927	75,731	43,460	70,564
Scope 2				
Corporate/Retail (GWh)	14.67	13.83	12.28	11.48
Mobile Network (GWh)	26.18	28.38	32.02	38.59
Fixed Network (GWh)	91.62	86.12	76.50	73.48
Data Centre (GWh)	27.87	27.67	29.14	29.05

Note: CCL vehicle fuel usage by litres is not included from FY20 - FY22 as fuel emissions were calculated on a per-km basis for FY20. We have included CCL fuel usage by litres from FY23, which includes 16,630 litres of premium petrol, 37,258 litres of regular petrol, and 12,953 litres of diesel.

Our emissions reduction performance



Our emissions performance

In the past year we saw our emissions reduce significantly, with our scope 1 and 2 emissions down 29.8% and now tracking below our SBTi pathway, aligned to our 56% reduction target from FY20 to FY30.

Our electricity use, as the source of power for our networks and infrastructure, is our largest source of emissions. The emissions intensity of the electricity we use is dependent on whether it is generated renewably or from fossil fuels such as coal and gas. The mix of sources determines our emissions factor per unit of electricity.

Our FY21 emissions were significantly higher than our FY20 baseline. This was due to dry hydrological conditions which saw a significant increase in non-renewable

electricity generation on the New Zealand grid. In FY22 this trend was reversed, with a cleaner electricity mix and underlying reductions in energy use delivering a significant emissions reduction. This trend continued over the past year, driven by ongoing reductions in the grid emissions factor, which is down from 0.1108 kg/kWh to 0.0696 kg/kWh, or a 37.1% reduction.

Our scope 1 emissions have increased 13.6%, driven by an increase in vehicle fleet emissions which are up 24.2%, mostly due to increased diesel use from the Entelar Group fleet integrated from Connect 8. We also saw a significant increase in stationary combustion, up 21.1%, as we have purchased diesel to fill new tanks for expanded energy storage alongside expanded data centre investment.

Our fleet

Spark's fleet is responsible for 12.5% of our reported scope 1 and 2 emissions. Our reporting now includes Connect 8 fleet data, now part of Entelar Group, which has been backdated to our baseline year. Our FY23 fleet emissions were up 24.2% on the previous year, with increased fuel use across all areas of our fleet. In our core fleet this is expected as this is the first full year reported without COVID-19 restrictions.

In the past year we piloted an 'Electric First' policy for the Spark Corporate Fleet, including individually-assigned vehicles, with all vehicles due for renewal to be replaced by an Electric Vehicle (EV). In FY23 all vehicles introduced to the Spark corporate fleet were electric or Plug-in Hybrid Electric Vehicles (PHEVs), with an increase in 30 EVs.

Much of our fleet remains traditional hybrid vehicles with 182 Toyota RAV4 Hybrids operating across the Spark and Entelar Group teams. The lease on many of these vehicles expires in the year ahead. We will use the results of the pilot to inform a full transition of our fleet to EVs. The experience of our teams has shown that for most people the transition to EV is feasible.

People in some roles do have legitimate need to travel long distances, or to areas with limited fast charging infrastructure. In these cases we will look to extend the lease of existing hybrid vehicles, or reassign vehicles in the fleet, rather than ordering new non-plug-in vehicles.

At the end of FY23 we had three pure petrol or diesel vehicles remaining in the core Spark fleet of 197 vehicles. We had 41 full electric vehicles, up from 11 in the previous year, 21 PHEVs and 132 hybrids. We still have progress to make across the broader Spark fleet, including with our subsidiaries. Across the rest of the Spark Group we have 182 vehicles, of which two are full EV, one is a PHEV, 64 are hybrids and 115 are non-EV.

Our emissions reduction performance (continued)

Business travel

Flights and business travel are classed as scope 3 emissions, so are not included in our SBTi emissions reduction target. However, business travel is a significant source of emissions which is easily influenced by our policies and behaviour.

COVID-19 restrictions significantly reduced our business travel over the previous three years. This has bounced back over the past year, with our emissions up 288% year-on-year. Despite this our FY23 business travel emissions are still 25.8% below our FY20 baseline.

We anticipated some increase as restrictions lifted, with some travel delayed or deferred. To contain growth in business travel we have implemented a new sign-off process for international travel. We have also built quarterly travel data into our sustainability dashboard to maintain greater oversight and determine if any further action is required to manage business travel.

Governance of emissions reduction programme

We measure and report our energy use and emissions on a quarterly basis, with this information shared in updates to our Technology Leadership Team, who act as a Governance Group for our emissions reduction work.

We also report our emissions performance, alongside other quarterly sustainability Key Performance Indicators (KPIs), to our Leadership Squad. The Leadership Squad act as a steering committee for sustainability across Spark through a standing quarterly agenda item at their regular meetings. We have decided that sustainability is relevant to all areas of the business, so key updates and decisions are participated in by all members of our leadership team. The Spark Board also receives quarterly updates on key sustainability topics, and our performance against our emissions reduction target is integrated into our half-year financial reporting.

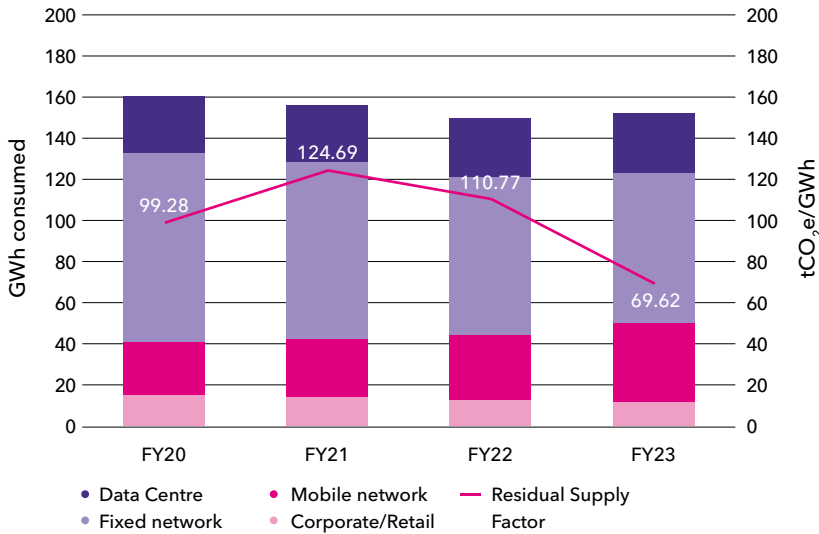
A dedicated Emissions Reduction Squad has oversight of our emissions performance. The Tribe Lead for Network Simplification is the champion for emissions reduction in the technology team. This is the area of the business responsible for retiring legacy network assets - Spark's largest source of energy reductions and electronic waste.

In June we also hired a dedicated Environmental Manager to lead the development of our emissions reduction programme and other environmental actions.

More information on our approach is available in the Environment section of our Annual Report or on our website:

www.sparknz.co.nz/sustainability/environment

Electricity consumption



Our electricity consumption performance

Over the past year electricity accounted for 79.8% of our scope 1 and 2 emissions. The majority of our electricity use is in powering our fixed networks, data centres, and mobile network. Emissions from our electricity use reduced significantly in line with the lower emissions factor, with our scope 2 emissions down 36.0% on FY22.

Our underlying electricity use has grown slightly, driven by increased investment in our 5G mobile networks and data centres. Overall electricity use is up 1.8%, with 152.6 GWh consumed in FY23.

We have a long-running programme of network simplification, including the decommissioning of legacy equipment such as the public switched telephone network (PSTN), which has driven year-on-year reductions in electricity use across our business. We continue to reduce electricity consumption through a focus on energy efficiency and removing old, inefficient equipment.

We are also investing in new infrastructure as traffic grows across our network. This is important to support innovation to drive emissions reductions and productivity across all sectors. This includes the roll-out of 5G, and investment to expand our data centres. Although energy efficiency is a focus in our rollout of new infrastructure and in the construction of new data centre space, we expect our electricity usage to slowly increase over time.

Supporting renewable energy investments

In New Zealand we benefit from a high share of existing renewable generation, with in a typical year over 80% of all electricity supplied from renewable sources. Compared to many operators in other markets our emissions are low. However, to achieve our SBTi target, we need to further reduce the emissions intensity of our electricity, particularly as we invest in more digital infrastructure for the future.

It is projected that the New Zealand grid will continue to decarbonise over the next decade, aligned with New Zealand’s national emissions reduction budgets and plans. In addition to expected national improvements, Spark is actively pursuing options to link our electricity purchasing to new renewable electricity generation capacity. Our partnership with our electricity provider includes a commitment to work with Spark to achieve our SBTi target. We are currently working with our partner to accelerate options for procuring new renewable generation capacity, and exploring options for on-site renewable generation, such as solar. On-site solar generation is an option in some sites with significant areas to house panels. In these cases, on-site generation works alongside electricity provided by the grid, which would be required to provide the majority of electricity to our network sites.

Appendix A: Organisational boundary

Our organisational emissions reporting boundary takes an operational control approach as defined by the GHG Protocol and includes Spark and its subsidiaries.

Spark New Zealand Limited is the parent entity of the Spark Group. Spark is publicly listed, and our issued shares are quoted on the New Zealand Stock Exchange (NZX) and Australian Securities Exchange (ASX). As at 30 June 2023 the Spark Group comprised 26 controlled entities.

More information on significant subsidiaries and controlled entities in the Spark Group as at 30 June 2023 (including ownership percentages and principal activity information) is available in the [Spark Annual Report 2023](#)

Significant Spark subsidiaries

NAME	PRINCIPAL ACTIVITY	EMISSIONS REPORTING INCLUSIONS
Computer Concepts Limited (NZ)	IT infrastructure and cloud services	Electricity, business travel, fleet, refrigerants
Connect 8 Limited	Mobile infrastructure business	Electricity, fleet - included in FY23 inventory and backdated to FY20 baseline
Digital Island Limited (NZ)	Business telecommunications provider	Electricity, fleet
Entelar Group Limited	Telecommunications and IT infrastructure build, and maintenance services, and distribution and supply chain services	Electricity, fleet
Gen-i Australia Pty Limited (Australia)	Provides international wholesale and outsourced telecommunications services	Excluded as no significant emissions
MATTR Limited (NZ)	Software company focused on decentralised identity and verifiable data	Office electricity (on a headcount estimate basis for previous years), natural gas
Qrious Limited (NZ)	Data analytics business	Included in Spark Corporate Reporting
Revera Limited (NZ)	IT infrastructure and data centre provider	Electricity, business travel, refrigerants
Spark Finance Limited (NZ)	A Group finance company	Excluded as not an operating company
Spark New Zealand Trading Limited (NZ)	Telecommunication and digital services company	Included in Spark Corporate reporting
TCNZ (Bermuda) Limited	A holding company	Excluded as not an operating company
Teleco Insurance Limited (Bermuda)	A Group insurance company	Excluded as not an operating company
Telecom New Zealand USA Limited (USA)	Provides international wholesale telecommunications services	Excluded as no significant emissions
Telecom Southern Cross Limited (NZ)	A holding company	Excluded as not an operating company

Investments in associates and joint ventures (at 30 June 2023)

Investments, associates and joint ventures are excluded from emissions disclosures as they are outside our operational control.

NAME	TYPE	COUNTRY	OWNERSHIP	PRINCIPAL ACTIVITY
Adroit Holdings Limited	Associate	New Zealand	47%	Environmental IoT solutions
FrodoCo Holdings Limited ¹	Associate	New Zealand	17%	A holding company for Connexa
Flok Limited	Associate	New Zealand	38%	Hardware and software development
Hourua Limited ²	Joint Venture	New Zealand	50%	Delivering the Public Safety Network
Pacific Carriage Holdings Limited, Inc.	Associate	United States	41%	A holding company
Rural Connectivity Group Limited	Joint Venture	New Zealand	33%	Rural broadband
Southern Cross Cables Holdings Limited	Associate	Bermuda	41%	A holding company
TNAS Limited	Joint Venture	New Zealand	50%	Telecommunications development

¹ Parent company for Connexa.

² Spark and One NZ established Hourua Limited to provide priority cellular services to the Public Safety Network which is the new communications service that will be used by New Zealand's frontline emergency responders.

Appendix B: Operational boundary

Greenhouse gas emissions source inclusions

NAME	ACTIVITIES	METHODOLOGY, DATA QUALITY, UNCERTAINTY
Scope 1: Fugitive Emissions	Refrigerant top-ups / leakage	<p>Refrigerant emissions data is based on a 3% annual loss estimate (based on <i>Ministry for the Environment - Guidance for voluntary greenhouse gas reporting</i>) applied to gases held across Spark operations. For our FY22 emissions reporting we reset our baseline gas stock levels against cooling system data held in our eMaint asset management system, including estimated holdings for equipment without recorded refrigerant volume or type. At this time we restated our FY20 and FY21 emissions based on adjustments to this baseline for known system removals and additions over the previous two years.</p> <p>We continued this approach through to our FY23 reporting. In FY23 we adjusted our reporting scope to remove refrigerants which had been transferred to Connexa. This change of reporting scope has been retrospectively applied to all reported years back to FY20. See page 6 for more information.</p> <p>Data on actual refrigerant top-ups has been included for CCL data centres. This was added for the first time in our FY23 reporting and has been backdated to FY20 based on top-up data provided by our refrigeration service provider.</p> <p>We have identified an opportunity to improve our future refrigerant reporting. We are looking to implement processes with our suppliers to capture refrigerant top-up data to more accurately record actual losses.</p>
Scope 1: Stationary Combustion	Diesel generator fuel usage	Records from supplier invoices and reporting.
Scope 1: Natural Gas	Gas usage for heating	Records from supplier invoices and reporting.
Scope 1: Mobile Combustion Fleet	Petrol and Diesel use for Spark vehicles	<p>Records from vehicle lease supplier reporting, including reporting of fuel card purchases. This includes fuel purchased at filling stations which may be used to fill portable generators deployed in the field.</p> <p>Fuel used by Spark franchisees is excluded where fuel use data is captured under the Spark lease agreement but fuel cost is paid by franchisees.</p> <p>For FY20 CCL fleet emissions used a per-km emissions factor due to unavailability of data in litres. For FY23 we have included Connect 8 fleet fuel in our reporting scope, which has been integrated into the Entelar Group. This has been retrospectively applied to previous years back to FY20. See page 6 for more information.</p>
Scope 2: Electricity	Electricity usage	<p>Reporting of monthly electricity billing for all sites. Includes Spark electricity usage in shared Chorus sites based on billing records between Spark and Chorus.</p> <p>FY20/FY21 Spark retail store electricity use is based on an extrapolation of available FY21 data. From FY22 onwards data is from billing records.</p> <p>The split in data across four categories (Corporate/Retail, Mobile Network, Fixed Network, and Data Centre) is based on records from electricity supplier billing against site type, e.g. data centre, telephone exchange, mobile sites. For sites with multiple category types, including exchange sites with significant office space and sites sharing fixed network and data centre equipment we adjust allocation of electricity based on a standard per-employee or per-rack calculation. For our mobile sites use we assume an additional 10% electricity use in the 'mobile core' based on a conservative estimate referencing a number of industry reports.</p> <p>Electricity consumed by customer equipment hosted in our data centres is reported as Scope 3, Category 13: Downstream leased assets (see below).</p> <p>We report our emissions using a market-based residual supply emissions factor.</p>
Scope 3, Category 3: Fuel and Energy Related Activities	Transport and distribution losses for electricity consumption	<p>We report our electricity Transport and Distribution losses because electricity usage is our most material source of emissions under our scope 1 and 2 emissions reduction target.</p> <p>Electricity usage collected for scope 2 reporting as above.</p>

Appendix B: Operational boundary (continued)

NAME	ACTIVITIES	METHODOLOGY, DATA QUALITY, UNCERTAINTY
Scope 3, Category 6: Business Travel	Flights, taxis, hire cars and accommodation	We report our Business Travel emissions as they are a material source of emissions. They are also an emission source we can reduce through business policy, employee behaviour and adoption of new technologies. Records from business travel partners, including kms flown, hotel nights, and hire car usage. Taxi and Uber expenditure extracted from finance reports and expense claim data.
Scope 3, Category 13: Downstream leased assets	Electricity use on-billed to customers	In many of our data centres we host customer equipment. This equipment draws electricity which is on-billed to our hosted customers. Records from customer billing data based on automated direct metering systems, manual meter and load readings, and maximum input power of customer equipment. Revera's FY20 on-billed electricity is estimated from its FY20 total electricity usage based on the proportion of on-billed electricity to total electricity usage in FY21. Electricity use to power data centre services, including cooling and lighting, are included in our Scope 2 reporting.

GHG emissions source exclusions

NAME	ACTIVITIES	METHODOLOGY, DATA QUALITY, UNCERTAINTY
Category 1	Purchased goods and services	Excluded due to lack of available data and high degree of uncertainty. To shape our science-based emission reduction target we gathered supplier emissions data, including equipment life-cycle emissions data. Complete data is unavailable. However, analysis of supplier and category spend shows this is a material source of emissions and is included in our scope 3 SBTi target.
Category 2	Capital goods	
Category 4	Upstream transportation and distribution	
Category 5	Waste generated in operations	
Category 7	Employee commuting	
Category 8	Upstream leased assets	
Category 9	Downstream transport and distribution	
Category 10	Processing of sold products	
Category 11	Use of sold products	
Category 12	End-of-life treatment of sold products	
Category 14	Franchisees	
Category 15	Investments	

Guidance documents used in the preparation of Carbon Footprint

- *Greenhouse Gas Protocol – Scope 2 Guidance.*
- *Greenhouse Gas Protocol – Scope 3 Calculation Guidance.*
- *Ministry for the Environment – Guidance for voluntary greenhouse gas reporting - 2023 detailed guide (MfE 2023)*
- The majority of emissions factors are sourced from MfE 2023.
- For our scope 2 reporting we have used the electricity residual supply factor sourced from NZECS: www.certifiedenergy.co.nz
- For our reporting of refrigerant R438C we have used a factor published by The California Air Resources Board.



Independent Assurance Report

Independent Assurance Report on Spark New Zealand Limited's Greenhouse Gas Emissions Inventory Report for the Year Ended 30 June 2023

To the Board of Directors of Spark New Zealand Limited

We have undertaken a limited assurance engagement relating to the Greenhouse Gas Emissions Inventory Report (the 'inventory report') of Spark New Zealand Limited (the 'Company' or 'Spark') and its subsidiaries (the 'Group' or 'Spark Group') for the year ended 30 June 2023, comprising the Emissions Inventory and the explanatory notes set out on pages 6 to 14.

The inventory report provides information about the greenhouse gas emissions of the Group for the year ended 30 June 2023 and is based on historical information. This information is stated in accordance with the requirements of the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) ('the GHG Protocol') which can be accessed at <https://ghgprotocol.org/corporate-standard>.

Board of Directors' Responsibility

The Board of Directors are responsible for the preparation of the inventory report, in accordance with the GHG Protocol. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of an inventory report that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express a limited assurance conclusion on the inventory report based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements (New Zealand) 3410: *Assurance Engagements on Greenhouse Gas Statements* ('ISAE (NZ) 3410'), issued by the New Zealand Auditing and Assurance Standards Board. That standard requires that we plan and perform this engagement to obtain limited assurance about whether the inventory report is free from material misstatement.

A limited assurance engagement undertaken in accordance with ISAE (NZ) 3410 involves assessing the suitability in the circumstances of the Group's use of the GHG Protocol as the basis for the preparation of the inventory report, assessing the risks of material misstatement of the inventory report whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the inventory report. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures we performed were based on our professional judgement and included enquiries, observations of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Through enquiries, obtained an understanding of the Group's control environment and information systems relevant to emissions quantification and reporting, but did not evaluate the design of particular control activities, obtain evidence about their implementation or test their operating effectiveness.
- Evaluated whether the Group's methods for developing estimates are appropriate and had been consistently applied. However, our procedures did not include testing the data on which the estimates are based or separately developing our own estimates against which to evaluate the Group's estimates.
- Reviewed adherence to the principles and requirements outlined in GHG Protocol, which included a consideration of completeness.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether Spark New Zealand Limited's inventory report has been prepared, in all material respects, in accordance with the GHG Protocol.

Independent Assurance Report (continued)

Inherent Limitations

GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of Professional and Ethical Standard 1 *International Code of Ethics for Assurance Practitioners (including International Independence Standards) (New Zealand)* ('PES-1') issued by the New Zealand Auditing and Assurance Standards Board, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Other than this engagement and our role as auditor of the financial statements, our firm carries out other assignments for Spark New Zealand Limited in relation to regulatory audit, other assurance related services (such as trustee reporting) and non-assurance services provided to the Corporate Taxpayers Group of which Spark New Zealand Limited is a member. These services have not impaired our independence as auditor of the Group. In addition to this, the Chief Executive has both a sister and brother-in-law that are partners at Deloitte. These Deloitte partners are not involved in the provision of any services to the Group and its subsidiaries, and this matter has not impacted our independence. Also, partners and employees of our firm deal with the Group on normal terms within the ordinary course of trading activities of the business of the Group. The firm has no other relationship with, or interest in the Group.

The firm applies Professional and Ethical Standard 3: Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements, which requires the firm to design, implement and operate a system of quality management including policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Use of Report

This report is provided solely for your exclusive use in accordance with the terms of our engagement. Our report is not to be used for any other purpose, recited or referred to in any document, copied or made available (in whole or in part) to any other person without our prior written express consent. We accept or assume no duty, responsibility or liability to any other party in connection with the report or this engagement, including without limitation, liability for negligence in relation to the opinion expressed in this report.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Spark New Zealand Limited's inventory report for the year ended 30 June 2023 is not prepared, in all material respects, in accordance with the requirements of the GHG Protocol.



Chartered Accountants

18 August 2023

Auckland, New Zealand

This limited assurance report relates to the Greenhouse Gas Emissions Inventory Report of Spark New Zealand Limited for the year ended 30 June 2022 included on Spark New Zealand Limited's website. Spark New Zealand Limited's Board of Directors is responsible for the maintenance and integrity of Spark New Zealand Limited's website. We have not been engaged to report on the integrity of Spark New Zealand Limited's website. We accept no responsibility for any changes that may have occurred to the Greenhouse Gas Emissions Inventory Report since they were initially presented on the website. The limited assurance report refers only to the Greenhouse Gas Emissions Inventory Report named above. It does not provide an opinion on any other information which may have been hyperlinked to/from these Greenhouse Gas Emissions Inventory Report. If readers of this report are concerned with the inherent risks arising from electronic data communication they should refer to the published hard copy of the Greenhouse Gas Emissions Inventory Report and related limited assurance report dated 18 August 2023 to confirm the information included in the Greenhouse Gas Emissions Inventory Report presented on this website.



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