



2022 Greenhouse Gas Emissions Inventory Report

CONTACT ENERGY LTD

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Approved by: Taria Tahana, Head of Sustainability



1 Introduction

Contact Energy (Contact) is one of the largest electricity suppliers in New Zealand. We utilise many natural resources to generate electricity and recognise the important role we play in protecting our natural environment. We believe that climate change is real and that its effects are significant and wide-ranging. We also believe that New Zealand can harness its natural advantages and turn one of the world's greatest challenges into New Zealand's greatest opportunity.

As part of our commitment to help decarbonise New Zealand, we are also looking at our own operations and processes and working to continually reduce our emissions.

This is Contact's fifth annual greenhouse gas (GHG) emissions inventory report. The inventory is a complete and accurate report of the GHG emissions that result from Contact's operations within the declared boundary and scope for the reporting period. The inventory has been prepared in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) (the GHG Protocol).

Contact has reported its Scope 1 – direct emissions since 2012. Scope 2 and 3 indirect emissions have been reported since 2018. 2018 is used as the base year because of the inclusion of all scopes.

No facilities, operations and/or emissions sources have been excluded from the inventory except for specific scope 3 emissions noted in Table 1.

The reporting period covered is from 1 July 2021 to 30 June 2022.

2 Organisational boundaries

The organisational boundary determines the parameters for GHG reporting and ensures a consistent approach is applied when assessing which factors to include. Contact's boundaries have been set following the GHG protocol methodology.

Contact has applied the operational control consolidation approach. This allows us to focus on those emissions sources that we have control over and therefore the ability to improve upon. The boundary encompasses all operations owned or controlled by Contact including subsidiaries, Simply Energy Limited and Western Energy Services Limited.

3 Operational boundaries

Contact has chosen to include Scope 1, 2 and 3 emissions in this GHG inventory.

3 Operational boundaries (continued)

Scope 1 – Direct GHG emissions

Scope 1 includes GHG emissions from sources that are owned or controlled by Contact.

These include all the electricity generation sites, fuel used in vehicles owned or leased by Contact and any fugitive emissions released (SF6). Fuel used in vehicles owned or leased by subsidiaries Simply Energy and Western Energy is also included.

Scope 2 – Electricity indirect GHG emissions

Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the company. For Contact, this means that power consumed at generation sites is not included as the electricity is not yet exported to the grid, except in cases where the operating plant is down and backup electricity is being drawn from the grid. Electricity that is consumed at other relevant sites include utility sites used for the generation of electricity (e.g. Water intake pumps) and corporate offices. Electricity consumption by subsidiaries Simply Energy and Western Energy is also included.

Scope 2 emissions have been reported using location based emissions factors.

Scope 3 – Other indirect GHG emissions

Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Reporting on these emissions is optional under the GHG protocol.

Contact has determined which categories are relevant using the following criteria:

- Relevance to our operations;
- A significant contributor to overall GHG emissions;
- Connected to stakeholder interests;
- Availability of data; and
- Able to be influenced/reduced.

The following table details which categories have been included.

Table 1: Scope 3 categories

Category	Included/ excluded	Justification	Information source
Category 1 – Purchased goods and services	Included	Estimation using the spend based approach. 91% of operating spend for 2022 has been included in the emissions calculation.	Spend based approach
Category 2 – Capital goods	Included	All capex activity over \$500k within reporting period. This is >90% of the total capital spend. 95% of capital spend for 2022 has been included in the emissions calculation.	Spend based approach using emissions factors by relevant project type.

Table 1: Scope 3 categories (continued)

Category	Included/ excluded	Justification	Information source
Category 3 – Fuel and energy	Included	Upstream emissions of purchased fuels for generation sites. (Transportation of fuel, transmission and distribution, extraction, production)	Fuel records Method of transportation and distance
		Transmission and Distribution Losses from electricity purchased.	Electricity bills
		Generation of purchased electricity that is sold to end users. (Genesis swaption)	Trading records/contracts
		Emissions from diesel fuel used for drilling.	Fuel records
		Western Energy stationary engine diesel.	Fuel records
	Excluded	Upstream emissions from extraction and production of gas and the transportation of gas have been excluded as this is captured within Scope 1 emissions.	
Category 4 – Upstream transportation and distribution	Included	Freight of major operating materials.	Spend based approach
Category 5 – Waste	Included	Waste from all operational and office sites.	Waste collection provider where possible, estimate where data not available.
Category 6 – Business travel	Included	Air travel (domestic and international)	Travel provider
		Car travel (rental cars)	Travel provider
		Accommodation	Travel provider
		Car travel (taxis and private vehicles)	Finance records
Category 7 – Employee commuting	Included	Employee survey	CarbonWise Dashboard
Category 8 – Upstream leased assets	Excluded	All leased sites electricity consumption data is included in Scope 2 – operational control.	
Category 9 – Downstream transportation and distribution	Excluded	There is no transportation or distribution of products after the point of sale.	
Category 10 – Processing of sold products	Excluded	There is no processing of sold products by the reporting company.	
Category 11 – Use of sold products	Included	Natural gas sales.	Volume sold records
Category 12 – End of life treatment of sold products	Excluded	There is no remaining product to be disposed of at the end of use.	
Category 13 – Downstream leased assets	Included	Contact has on-leased/licensed property – estimates provided by lessee.	Leaseholder questionnaires / Estimates
Category 14 – Franchises	Excluded	There are no franchise arrangements.	
Category 15 – Investments	Excluded	Investments deemed to be minimal and no data available.	

4 Base Year

FY18 emissions reporting (Scope 1, 2 and 3) form the base year for all GHG emissions. FY18 was the first year that the full emissions suite was recorded and reported.

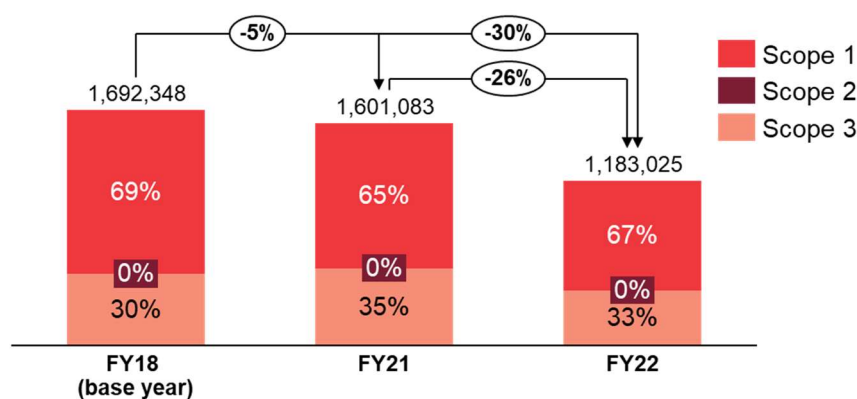
As per the Contact policy for the recalculation of base year emissions data, any structural, methodological, or other changes identified that change the emissions reported by more than 5% will trigger a recalculation of the base year and the current reporting year.

5 Greenhouse gas inventory

Table 2: Greenhouse gas emissions inventory summary 1 July 2021 – 30 June 2022 with comparison to base year

Scope	Category	FY22 tCO2e	FY21 tCO2e	FY18 tCO2e
Direct emissions (Scope 1)	Stationary Combustion	786,544	1,044,536	1,174,698
	Mobile combustion	177	121	1,072
	Fugitive emissions ¹	1	29	2
	Simply Energy – Mobile combustion	5	20	-
	Western Energy – Mobile combustion	115	38	-
	Subtotal	786,842	1,044,744	1,175,772
Indirect emissions (Scope 2)	Electricity consumption (location based)	1,394	1,300	1,397
	Simply Energy - Electricity consumption (location based)	3	3	-
	Western Energy - Electricity consumption (location based)	2	-	-
	Subtotal	1,399	1,303	1,397
Scope 1 & 2	TOTAL	788,241	1,046,047	1,177,169
Indirect emissions (Scope 3)	Purchased goods and services	6,371	16,699	47,507
	Capital goods	57,876	41,726	13,899
	Fuel and energy related activities	149,743	330,207	77,049
	Upstream distribution and transportation	444	27	116
	Waste	108	149	134
	Business travel	567	263	1,182
	Employee commuting	832	306	2
	Use of sold products	178,554	165,259	370,168
	Downstream leased assets	289	399	586
	Franchises	-	-	4,536
	Subtotal	394,784	555,036	515,179
Scope 1, 2 & 3	TOTAL	1,183,025	1,601,083	1,692,348

Figure 1: Total greenhouse gas emissions by scope vs prior year vs base year



¹ SF₆ data is only collected once annually. Any leakages from 01 January – 30 June 2022 will be reported in FY23 report.

Table 3: Total greenhouse gas emissions by greenhouse gas

GHG Gas	Volume (tonnes)	tCO ₂ e
CO ₂	1,183,024	1,183,024
CH ₄	-	-
N ₂ O	-	-
HFCs	-	-
SF ₆	0.00005	1
TOTAL		1,183,025

Table 4: Ratio performance indicators

Emissions	FY22	FY21	FY18
Total generation emission intensity (tCO ₂ e per MWh)	0.095	0.124	0.136
Thermal generation emission intensity (tCO ₂ e per MWh)	0.578	0.544	0.530

Table 5: Activity data

Activity amount	FY22	FY21	FY18
Scope 1 activity amount (MWh)	8,269,030	8,404,210	8,613,687
Scope 2 activity amount (MWh)	13,024	12,889	13,578

6 Methodologies and emission factors

Table 1 provides some detail on the source of the data and how it was collected for each scope. All data is maintained by the Sustainability Team however data is contributed from other parts of the business including Finance, Geothermal Resources, Operations, Trading, and our suppliers.

Most scope 2 data is calculated using e-bench, an online database provided and maintained by CarbonEMS. Data is automatically uploaded from individual connection points for all of Contacts electricity usage. Carbon EMS maintain a database of emissions factors, the original source for purchased electricity is the Ministry for the Environment.

All other emissions calculations are completed within Microsoft Excel, using the emissions source data multiplied by an emissions factor.

Emissions factors were sourced from the Ministry for the Environment's *Measuring Emissions: A Guide for Organisations: 2020 Detailed Guide*, except in the following cases:

Scope 1:

- Gas field specific emissions factors are provided by the supplier
- Geothermal field specific factors approved under the *Climate Change (Unique Emissions Factor) Regulations 2009*.
- Natural gas specific factors approved under the *Climate Change (Stationary Energy and Industrial Processes) Regulations 2009*
- SF₆ is sourced from the Intergovernmental Panel on Climate Change (IPCC) fifth assessment report.

6 Methodologies and emission factors (continued)

Scope 3:

- Categories 1, 2 and 4 include inflation adjusted emissions factors sourced from the Motu Working paper 14-05 *Greenhouse Gas Emissions in New Zealand: A Preliminary Consumption-Based Analysis*.
- Diesel Well to Tank emission specific factors sourced from *UK Government GHG Conversion Factors for Company Reporting*

7 Emission Reduction Targets

Contact has set emission reduction targets as part of the Science Based Targets initiative (SBTi). In June 2021 we updated our targets to align with the goal of limiting global warming to 1.5 degrees. Our commitments are as follows:

- to reduce absolute scope 1 and 2 GHG emissions 45% by 2026 from a 2018 base year;
- to reduce absolute scope 1 and scope 3 emissions from all sold electricity 45% by 2026 from a 2018 base year; and
- reduce scope 3 emissions from use of sold products 34% by 2026 from a 2018 base year.

These targets do not include any offsetting from domestic or international schemes.

8 Assurance

KPMG has provided an unmodified reasonable assurance opinion that in all material respects Contact Energy's Greenhouse Gas Emissions Inventory Report has been prepared in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) for the year ended 30 June 2022.

A handwritten signature in blue ink, appearing to read "T. Tahana".

Taria Tahana
Head of Sustainability
Contact Energy