



# **Greenhouse Gas Inventory**

## **Contact Energy Ltd**

Prepared by: Nakia Randle, Sustainability Advisor

Approved by: Kaapua Smith, 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 New Zealand transition to a low-carbon economy, we are also looking at our own operations and processes and working to continually reduce our emissions.

This is Contact's fourth 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.

The reporting period covered is from 1 July 2020 to 30 June 2021.

## **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. Simply Energy Limited (a subsidiary), Western Energy Services Limited (a subsidiary) are included.

## **3 Operational boundaries**

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

## 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. Simply Energy's electricity consumption is also included.

Scope 2 emissions have been reported using location based emissions factors as market based emissions factors are not available in New Zealand.

## 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.	Spend based approach
Category 2 – Capital goods	Included	All capex activity over \$500k within reporting period. This is approximately 87% of the total capital spend.	Spend based approach using emissions factors by relevant project type.
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
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
		Car travel (taxis and private vehicles)	Finance records
Category 7 – Employee commuting	Included	Estimate using average country data.	Staff numbers for each site
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 property – estimates provided by lessee.	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 were 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 2020 – 30 June 2021**

Scope	Category	FY21 tCO <sub>2</sub> e	FY20 tCO <sub>2</sub> e
Direct emissions (Scope 1)	Stationary Combustion	1,044,536	922,798 <sup>1</sup>
	Mobile combustion	121	270
	Fugitive emissions <sup>2</sup>	29	4
	Simply Energy – Mobile combustion	20	N/A
	Western Energy – Mobile combustion	38	N/A
	<b>Subtotal</b>	<b>1,044,744</b>	<b>923,072</b>
Indirect emissions (Scope 2)	Electricity consumption (location based)	1,300	1,258
	Simply Energy - Electricity consumption (location based)	3	N/A
	<b>Subtotal</b>	<b>1,303</b>	<b>1,258</b>
<b>Scope 1 &amp; 2</b>	<b>TOTAL</b>	<b>1,046,047</b>	<b>924,330</b>
Indirect emissions (Scope 3)	Purchased goods and services	16,699	11,915 <sup>3</sup>
	Capital goods	41,726	18,052
	Fuel and energy related activities	330,207	91,857
	Upstream distribution and transportation	27	14
	Waste	149	123
	Business travel	263	719
	Employee commuting	306	606
	Use of sold products	165,259	166,310
	Downstream leased assets	399	306
	<b>Subtotal</b>	<b>555,036</b>	<b>277,987</b>
<b>Scope 1, 2 &amp; 3</b>	<b>TOTAL</b>	<b>1,601,083</b>	<b>1,202,317</b>

<sup>1</sup> This figure is restated due to finalised data becoming available at the end of calendar year 2020.

<sup>2</sup> SF<sub>6</sub> data is only collected once annually. Any leakages from 01 January – 30 June 2021 will be reported in FY22 report.

<sup>3</sup> Figure re-stated due to methodology correction.

This information is shown by scope in the following graph:

Figure 1: Total greenhouse gas emissions by scope

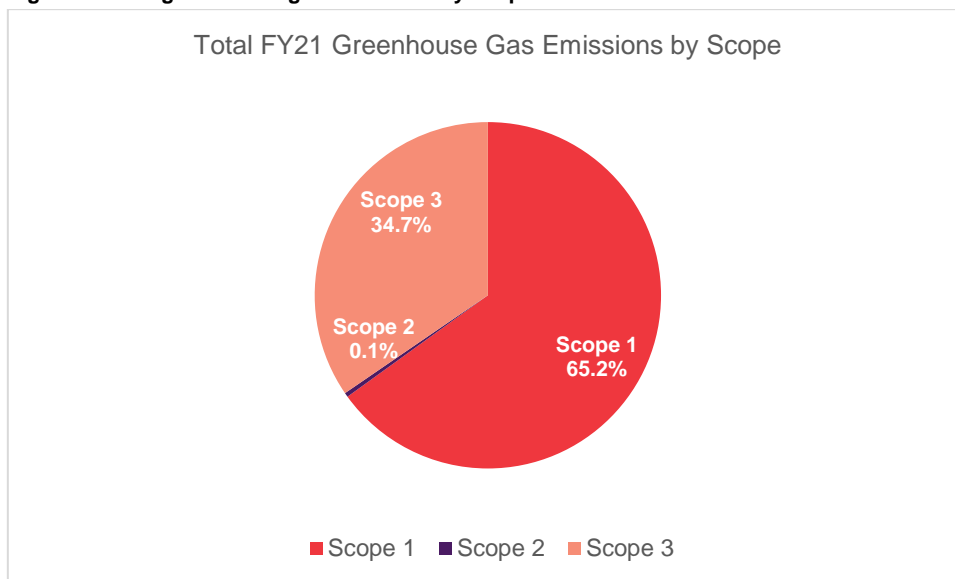


Table 3: Total greenhouse gas emissions by greenhouse gas

GHG Gas	Volume (tonnes)	tCO <sub>2</sub> e
CO <sub>2</sub>	1,601,054	1,601,054
CH <sub>4</sub>	0	
N <sub>2</sub> O	0	
HFCs	0	
SF <sub>6</sub>	0.00145	29
<b>TOTAL</b>		<b>1,601,083</b>

Table 4: Ratio performance indicators

Emissions	FY21	FY20
Total generation emission intensity (tCO <sub>2</sub> e per MWh)	0.124	0.109
Thermal generation emission intensity (tCO <sub>2</sub> e per MWh)	0.544	0.532

Table 5: Activity data

Activity amount	FY21	FY20
Scope 1 activity amount (MWh)	8,404,210	8,524,000
Scope 2 activity amount (kWh)	12,888,538	12,598,506

## 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 Accounts, 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 *Guidance for Voluntary Greenhouse Gas Reporting – 2019 Measuring Emissions: Summary of Emission Factors 2020*, 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*.
- SF<sub>6</sub> is sourced from the Intergovernmental Panel on Climate Change (IPCC) fifth assessment report.

Scope 3:

- Categories 1, 2 and 4 include emissions factors sourced from the Carnegie Mellon University *Economic Input-Output Lifecycle Assessment* at [www.eiolca.net](http://www.eiolca.net).

## 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.

We have also set an internal conversion target of:

- 1PJ of industrial heat converted to electricity by 2022 (Electrification target)

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

## 8 Assurance

KPMG have provided an unmodified limited assurance opinion as to whether anything has come to their attention to indicate that Contact Energy's Greenhouse Gas emissions inventory report has not been prepared in accordance with the Greenhouse Gas Protocol's Corporate Standard requirements for the period 1 July 2020 – 30 June 2021.



Kaapua Smith  
Head of Sustainability  
Contact Energy





# Independent Limited Assurance Report to the Directors of Contact Energy Limited

## Conclusion

Our limited assurance conclusion has been formed on the basis of the matters outlined in this report.

Based on our limited assurance engagement, nothing has come to our attention that would lead us to believe that the greenhouse gas ('GHG') emissions totals in table 2 of the GHG Emissions Inventory Report have not, in all material respects, been prepared in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) for the period 1 July 2020 to 30 June 2021.

## Information subject to assurance

We have performed an engagement to provide limited assurance in relation to Contact Energy Limited's GHG emissions totals in table 2 of the GHG Emissions Inventory Report for the year ended 30 June 2021.

## Criteria

The GHG emissions totals in table 2 of the GHG Emissions Inventory Report were evaluated against the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) ('the Greenhouse Gas Protocol').

## Standards we followed

We conducted our engagement in accordance with International Standard on Assurance Engagements (ISAE) 3410 *Assurance Engagements on Greenhouse Gas Statements* issued by the International Auditing and Assurance Standards Board. That standard requires that we plan and perform our procedures to obtain a meaningful level of assurance about whether the GHG emissions totals in table 2 of the GHG Emissions Inventory Report are properly prepared and presented, in all material respects, as the basis for our limited assurance conclusion.

Our engagement included: assessing the appropriateness of the GHG emissions totals in table 2; the suitability in the circumstances of the engagement of Greenhouse Gas Protocol, the criteria applied by Contact Energy Limited as the basis for preparing the GHG emissions totals in table 2; and evaluating the appropriateness of the quantification methods, reporting policies and procedures, and models used in the preparation of the GHG emissions totals in table 2 and the reasonableness of estimates made by Contact Energy Limited.

We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements (New Zealand) 3000 (Revised) *Assurance Engagements other than audits or reviews of historical financial information* and Standard on Assurance Engagements SAE 3100 (Revised) *Assurance Engagements on Compliance*. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion. In accordance with those standards we have:

- used our professional judgement to plan and perform the engagement to obtain limited assurance that the GHG emission totals in table 2 are free from material misstatement and non-compliance, whether due to fraud or error;
- considered relevant internal controls when designing our assurance procedures, however we do not express a conclusion on the effectiveness of these controls; and
- ensured that the engagement team possess the appropriate knowledge, skills and professional competencies.

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 a reasonable assurance engagement been performed.

### **Restriction of distribution and use**

Our report should not be regarded as suitable to be used or relied on by any party's other than Contact Energy Limited for any purpose or in any context. Any party other than Contact Energy Limited who obtains access to our report or a copy thereof and chooses to rely on our report (or any part thereof) will do so at its own risk.

To the fullest extent permitted by law, we accept or assume no responsibility and deny any liability to any party other than Contact Energy Limited for our work, for this independent limited assurance report, or for the conclusions we have reached.

Our report is released to Contact Energy Limited on the basis that it shall not be copied, referred to or disclosed, in whole (save for Contact Energy Limited's own internal purposes) or in part, without our prior written consent.

### **Management's responsibility for GHG emissions totals**

Management of the company are responsible for the preparation and fair presentation of the GHG emissions totals in table 2 of the GHG Emissions Inventory Report in accordance with the Greenhouse Gas Protocol. This responsibility includes such internal control as management determine is necessary to enable the preparation of the GHG emissions totals in table 2 that is free from material misstatement and non-compliance whether due to fraud or error.

### **Our responsibility**

Our responsibility is to express a conclusion to the directors on whether anything has come to our attention that the GHG emissions totals in table 2 have not , in all material respects, been prepared in accordance with the Greenhouse Gas Protocol.

### **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) 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.

The firm applies Professional and Ethical Standard 3 (Amended) and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our firm has also provided statutory audit and other assurance services to the company. Subject to certain restrictions, partners and employees of our firm may also deal with the company on normal terms within the ordinary course of trading activities of the business of the company. These matters have not impaired our independence as assurance providers of the company for this engagement. The firm has no other relationship with, or interest in, the company.



KPMG  
Wellington

13 August 2021