



# **Greenhouse Gas Inventory**

## **Contact Energy Ltd**

Prepared by: Genelle Palmer, Senior Sustainability Advisor

## **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 first 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, this is the first time we have calculated and are reporting on Scope 2 and 3 indirect emissions.

No facilities, operations and/or emissions sources have been excluded from the inventory.

The reporting period covered is from 1 July 2017 to 30 June 2018.

## **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 and Rockgas Limited<sup>1</sup>.

## **3 Operational boundaries**

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

---

<sup>1</sup> Contact has entered into an agreement to sell 100% of the shares in Rockgas Limited to Gas Services NZ Midco Limited as of 31 July 2018.

## Scope 1 – Direct GHG emissions

Scope 1 includes GHG emissions from sources that are owned or controlled by Contact or Rockgas. These include all of the electricity generation sites, fuel used in vehicles owned or leased by Contact and Rockgas and any fugitive emissions released (SF6).

## 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), LPG branches, corporate offices and LPG fixed assets.

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	Excluded	Significant emissions sources are included in other Scope 3 categories. Remaining data not currently available.	
Category 2 – Capital goods	Included	All capex activity over \$500k within reporting period. This is approximately 69% 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
Category 4 – Upstream transportation and distribution	Excluded	Freight of major operating materials. Data unavailable	
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 (taxis)	Finance records
		Car travel (private vehicles and rental cars)	Travel provider and finance records
Category 7 – Employee commuting	Excluded	No data available.	
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	LPG sales.	LPG purchases/sales.
Category 12 – End of life treatment of sold products	Excluded	There is no remaining product to be disposed of at the end of use. (LPG bottles are returned and reused)	
Category 13 – Downstream leased assets	Excluded	Contact has on-leased property – however the data is currently unavailable.	
Category 14 – Franchises	Included	Rockgas Franchises (branches are included in Scope 1 & 2) Data is currently unavailable for franchise electricity usage.	LPG bulk truck kilometres travelled.
Category 15 – Investments	Excluded	Investments deemed to be minimal and no data available.	

## 4 Base Year

This year's Scope 2 and 3 emissions reporting will form the base year for all GHG emissions. Scope 1 emissions have previously been reported using a base year of FY 2012, this report includes that data for comparison.

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 2017 – 30 June 2018

Scope	Category	Contact	Rockgas	FY18 tCO <sub>2</sub> e	FY12 tCO <sub>2</sub> e
Direct emissions (Scope 1)	Stationary Combustion	1,184,289		1,184,289	2,425,978
	Mobile combustion	414.53	735.68	1150.21	
	Fugitive emissions	2.28		2.28	
	<b>Subtotal</b>			<b>1,185,441</b>	<b>2,425,978</b>
Indirect emissions (Scope 2)	Electricity consumption (location based)	759			
	<b>Subtotal</b>			<b>759</b>	
<b>Scope 1 &amp; 2</b>	<b>TOTAL</b>			<b>1,186,200</b>	
Indirect emissions (Scope 3)	Capital goods	13899		13899	
	Fuel and energy related activities	77049		77049	
	Waste	133		134	
	Business travel	1182		1182	
	Use of sold products		219,870	219,870	
	Franchises		4536	4536	
	<b>Subtotal</b>			<b>316,670</b>	
	<b>TOTAL</b>			<b>1,502,870</b>	

This information is shown by scope in the following graph:

Figure 1: Total greenhouse gas emissions by scope

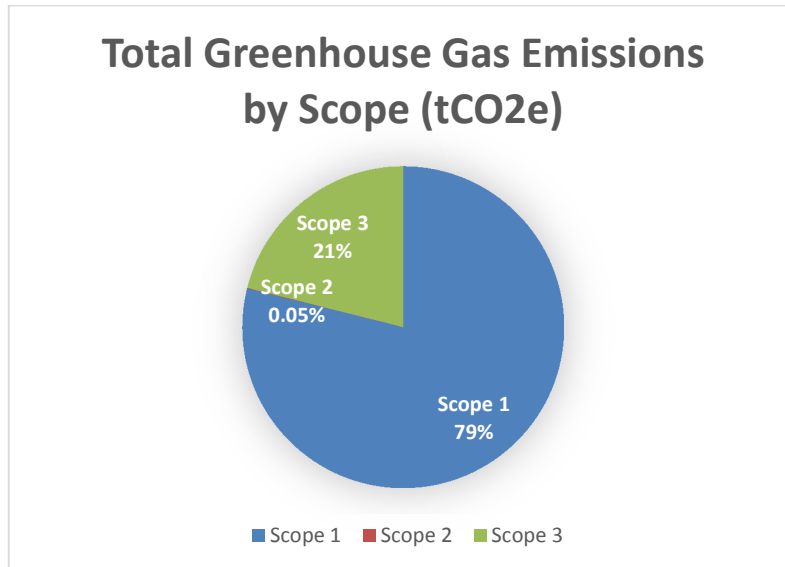


Table 3: Total greenhouse gas emissions by greenhouse gas

GHG Gas	Volume (tonnes)	tCO <sub>2</sub> e
CO <sub>2</sub>	1,502,867	1,502,867
CH <sub>4</sub>	0	
N <sub>2</sub> O	0	
HFCs	0	
SF <sub>6</sub>	0.0001	2.28
<b>TOTAL</b>		<b>1,502,870</b>

Table 4: Ratio performance indicators

Emissions	FY18	FY12
Total generation emission intensity (tCO <sub>2</sub> per MWh)	0.137	0.244
Thermal generation emission intensity (tCO <sub>2</sub> per MWh)	0.534	0.460

## 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.

Scope 2 data is calculated using e-bench, an online database provided and maintained by EnergyTS. Data is automatically uploaded from individual connection points for all of Contacts electricity usage. EnergyTS 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 – 2016*, 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:

- Category 3 emissions data is calculated using the spend method and a sector emissions factor. The emissions factors have been sourced from the Carnegie Mellon University *Economic Input-Output Lifecycle Assessment* at [www.eiolca.net](http://www.eiolca.net).

## 7 Emission Reduction Targets

This year Contact committed to the Science Based Targets initiative (SBTi) using the sectoral decarbonisation methodology to set emissions targets in line with limiting global warming to two degrees. Our unverified<sup>2</sup> targets are as follows:

- (a) 30% reduction of 2018 Scope 1 emissions by 2030 (Absolute emissions reduction target)
- (b) 36% reduction of 2018 emission intensity by 2030 (Emissions intensity target)
- (c) 1PJ of industrial heat converted to electricity by 2022 (Electrification target)

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

---

<sup>2</sup> Verification is intended to be completed in 2018.

## **8 Assurance**

While we do not currently have a policy on the assurance of non-financial or sustainability data, our FY18 Scope 1 and 2 emissions underwent limited assurance by an independent third party assurance provider. Our FY18 Scope 3 emissions were also subject to an independent assessment.