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# BraveGen

## Greenhouse gas emissions inventory report

Inventory Scope: Rev-ID International Ltd

Inventory Period: 1 April 2019 to 31 March 2020

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Table 1: Greenhouse gas emissions for BraveGen

Scope	Category	FY20 tCO <sub>2</sub> e
Direct emissions (Scope 1)	Mobile combustion	1.64
	<b>Subtotal</b>	<b>1.64</b>
Indirect emissions (Scope 2)*	Electricity consumption (location based)	0.72
	Electricity consumption (market based)	0.16
	<b>Subtotal (market based)</b>	<b>0.16</b>
Indirect emissions (Scope 3)	Fuel and energy related activities	0.20
	Business travel	28.22
	<b>Subtotal</b>	<b>28.41</b>
<b>Total emissions (S1, 2 &amp; 3) (market based)</b>		<b>30.21</b>

\*location-based emissions are calculated using the grid emissions factor. Market-based emissions are calculated based on the purchase of carboNZero Certified Electricity.

Table 2: Emissions summary by component gas (expressed at tCO<sub>2</sub>e)

tCO <sub>2</sub> e	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Other	Total CO <sub>2</sub> e
Scope 1	1.61	0.00	0.03	0	1.64
Scope 2*	0.15	0.01	0.00	0	0.16
Scope 3	27.99	0.02	0.18	0.22	28.41
<b>Total</b>	<b>29.75</b>	<b>0.03</b>	<b>0.21</b>	<b>0.22</b>	<b>30.21</b>

\*emissions for Scope 2 in this table are calculated using market-based emissions.

Table 3: Emissions per KPI

Key Performance Indicator (KPI)	Quantity	Emissions tCO <sub>2</sub> e/KPI
FTE – full time employee	12	2.52

## Introduction

This report is the annual greenhouse gas (GHG) emissions inventory report for Rev-ID International Ltd trading as BraveGen. The inventory is a complete and accurate quantification of the amount of GHG emissions that can be directly attributed to the organisation's operations within the declared boundary and scope for the specified reporting period.

The inventory has been prepared in accordance with the requirements of the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) and ISO 14064-1:2018 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals.

It has been prepared by Judy Ryan, Senior Advisor, BraveGen and reviewed by Dan Tomlinson, Director, Strategy and Business Development, BraveGen. Any questions or queries should be directed to [contact@bravegen.com](mailto:contact@bravegen.com).

## Statement of intent

This inventory forms part of BraveGen's commitment to measure and manage our emissions.

## Organisation description

BraveGen is an award winning, cloud and mobile hosted software-as-a-subscription system designed to support an organisation's internal and external health, safety, wellbeing and environmental compliance and reporting requirements and advisory business that has helped local government, public and private organisations make better decisions since 2008.

Rev-ID International Ltd is the creator of the BraveGen™ software. Founded in 2007, we have offices in Auckland and Tauranga. BraveGen has over 400 customers in 16 countries with a growing network of sales and solution partners around the world.

## GHG and sustainability policies, strategies and programmes

BraveGen is committed to good environmental practices. We recognise our responsibility to eliminate, mitigate or remedy the environmental impacts of our business activities to protect the wider environment.

Our approach to environmental stewardship focuses on the impacts that are most material to our business as a cloud software company. These include our carbon footprint, investments in renewable energy, reducing and responsibly disposing of our e-waste, and engaging with our employees to maximize their collective impact on how we operate.

In July 2020 BraveGen committed to carbon reduction targets that are consistent with limiting temperature increases to 1.5 degrees and contribute to New Zealand being carbon neutral by 2050. These targets are:

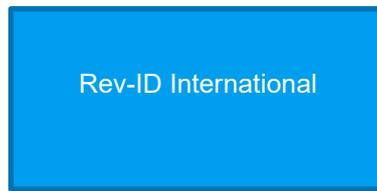
- an absolute reduction in our Scope 1 and 2 emissions of 42% by 2030 and
- a reduction in intensity (by FTE) for our Scope 3 emissions of 42% by 2030

## Organisational boundaries included for this reporting period

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards. The GHG Protocol allows two distinct approaches to consolidate

GHG emissions: the equity share and control (financial or operational) approaches. We used an operational control consolidation approach to account for emissions. The legal structure of BraveGen is shown below.

Figure 1: Legal structure of BraveGen



BraveGen has three main applications for its software: environmental compliance, carbon footprinting and health and safety management. Due to the size of the organisation it has not been broken into business units.

## Organisational business units excluded from inventory

No business units or activities have been excluded from this inventory.

## GHG emission source inclusions

The GHG emissions sources included in this inventory were identified with reference to the methodology in the GHG Protocol and ISO14064-1:2018 standards. As adapted from the GHG Protocol, these emissions were classified under the following categories:

- Direct GHG emissions (Scope 1): emissions from sources that are owned or controlled by the company.
- Indirect GHG emissions (Scope 2): emissions from the generation of purchased electricity, heat and steam consumed by the company.
  - Reported by both location and market-based emission factors
  - Total emissions are reported using the market-based approach
- Indirect GHG emissions (Scope 3): emissions that occur as a consequence of the company's activities but from sources not owned or controlled by the company. These have been further categorised using the Scope 3 Standard categories:
  - Purchased goods & services (category 1)
  - Fuel- and energy-related activities not included in Scope 1 or 2 (category 3)
  - Business travel (category 6)

Waste generated in operations (category 5) and Employee commuting (category 7) have not been included in this first inventory report due to difficulties in collecting data. These are not expected to be significant emission sources. The intention is to include these sources in future.

Additional scope 3 standard categories are not reported because they are not relevant to our business.

For clarity, there was no combustion of biomass nor land use changes within the organisation during the reporting period.

The emissions sources in Table 4 have been included in the GHG emissions inventory.

Table 4: GHG emission sources included in the inventory

Scope	GHG emission source	Data source	Data collection unit	Uncertainty (description)
1	Car travel – owned & rented	Fuel purchase in finance system.	\$ spend	Assumed that all receipts have been captured in process. Conversion from \$ spend to litres based on average fuel price for year.
2	Electricity used in offices	Invoices from electricity provider for main office. Payments from finance system for electricity.	kWh	Change of supplier during reporting period. For first supplier estimation of kWh consumption derived from bill payment. (2 months of data) For second supplier assume electricity companies is billing correctly for main premise (10 of the 12 months of data)
3	Fuel & energy related – data centre usage	Server space rented from AWS.	kWh	Estimated based on number of servers by type by typical consumption for that type of server. Calculation of emission factor for servers based in Oregon.
3	Fuel & energy related – T&D losses for electricity consumed in offices	Invoices from electricity provider for main office. Payments from finance system for electricity.	kWh	Change of supplier during reporting period. For first supplier estimation of kWh consumption derived from bill payment. (2 months of data) For second supplier assume electricity companies is billing correctly for main premise (10 of the 12 months of data)
3	Business travel – air travel	Company expenses and appointment records	pkm	That all travel has been recorded by staff. Outputs are calculated using the distances travelled by sector split into domestic, international short haul and international long haul. International sectors are further split by fare type – economy, premium economy and business. Distances are calculated using <a href="http://airmilescalculator.com">airmilescalculator.com</a>
3	Business travel – taxis or ride share	Finance system records	\$	Assumed that all travel has been coded correctly in system.

Scope	GHG emission source	Data source	Data collection unit	Uncertainty (description)
3	Business travel – local buses, ferry	Finance system records	pkm	Assumed that all travel has been coded correctly in the system. Distances travelled based on known route for ferry and assumed distance per fare for bus trips.
3	Business travel –hotels	Finance system records	room night	Assumed that all hotel stays have been captured. Finance system used to identify stay and nights based on travel records.
3	Business travel – rental cars	Finance system records	km	Assumed all rentals have been captured. Average trip length per hire assumed.

## GHG emission source exclusions

BraveGen recognises the extent of Scope 3 emissions is significant. We have chosen to declare the following emissions sources that have been excluded from the emissions inventory.

Table 5: Emission sources excluded from the inventory

Scope	GHG emission source	Reason for exclusion
3	Waste generated in operations	There is no access to waste data. Our main office is shared with another tenant, cleaning is undertaken by the building owner and being a web-based company there is little paperwork. This emissions source is estimated to be no more than 0.2tCO <sub>2</sub> e.
3	Employee commuting	This data is difficult to calculate and only a percentage of staff commute to work, there are a number who work from home. In addition, some of these are emissions are already captured in business travel. This is not expected to be a significant emissions source.

## Data collection and uncertainties

Table 4 gives an overview of how data was collected for each GHG emissions source, the source of the data and an explanation of any uncertainties or assumptions.

All data was calculated using the BraveGen software. This software uses a calculation methodology for quantifying the emissions inventory using emissions source activity data multiplied by emission or removal factors. All emission factors were sourced from the Ministry for the Environment's (MfE) 2019 Measuring Emissions: A Guide for Organisations, with the exception of emissions factors for local buses and ferries which were sourced from DEFRA Conversion-Factors-2019-Full-set-for-advanced-users. Flight emissions were calculated using MfE's emission factors including radiative forcing.

Quantities of each greenhouse gas are converted to tonnes CO<sub>2</sub>e using the global warming potential from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4). The time horizon is 100 years.

## The base year selected

The base year is 1 April 2019 to 31 March 2020. This provides a good benchmark against which our reduction targets can be measured.

## Changes to historic base year

Our base year would be recalculated if any of the following applied:

- If emission factors changed substantially and were relevant to prior years (for example of the science behind an emission factor changed);
- If our business changed significantly; or
- If we significantly changed the scope of what we were measuring in the value chain.

This is our first year of formally measuring our carbon footprint. There are no previous base years.

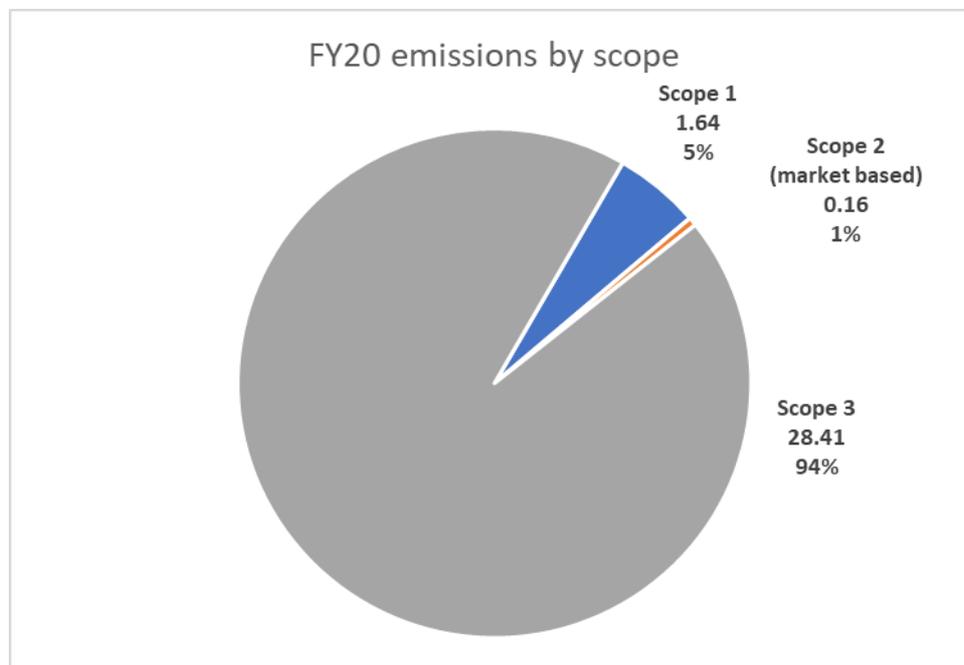
## GHG emission calculations and results

GHG emissions for the organisation for this measurement period are provided in the GHG Inventory summary section at the start of this report. All Scope 2 emissions in this section are calculated using the market-based methodology for purchased electricity.

### Total emissions by scope

Total GHG emissions for BraveGen were 30.21 tCO<sub>2</sub>e for the FY20 year (1 April 2019 to 31 March 2020). Scope 2 emissions are minimal as almost all electricity purchased in the year was certified carboNZero.

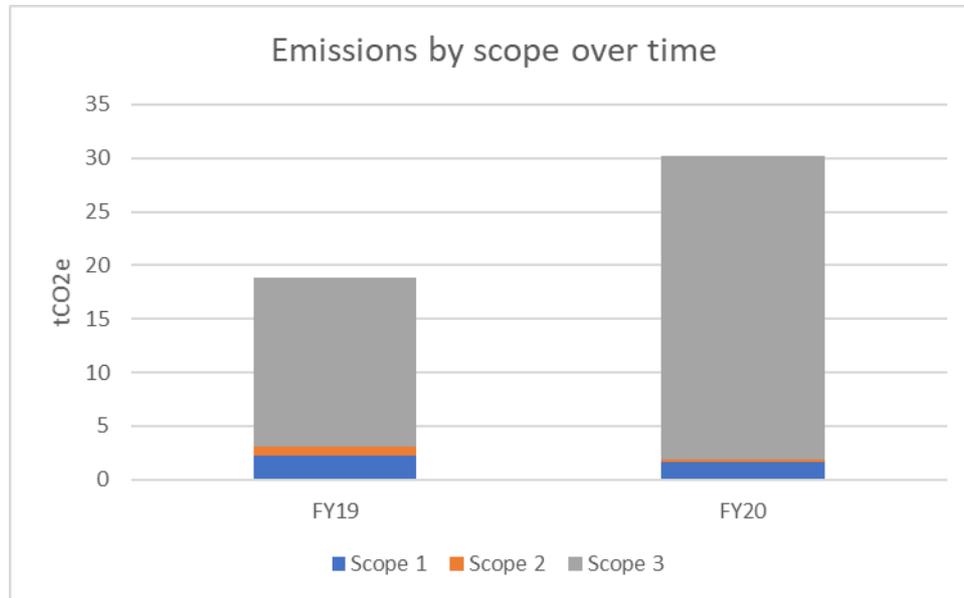
Figure 2: Total Emissions by Scope



## Total emissions by scope over time

This graph shows the total emissions for FY19 and FY20. There were reductions in both Scope 1 and Scope 2 emissions but an 80% increase in Scope 3 emissions. The reduction in Scope 2 is due to choosing a certified carboNZero electricity supplier.

Figure 3: Emissions by scope over time

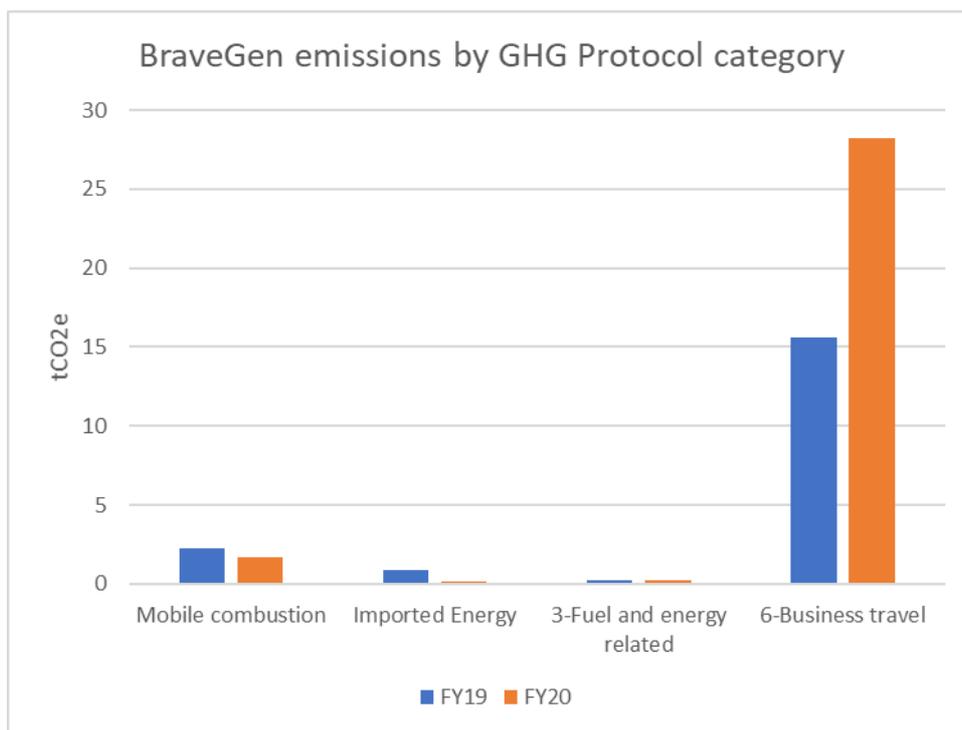


## Total emissions by GHG Protocol category over time

This graph shows the total emissions by Greenhouse Gas Protocol reporting category. There has been a reduction in emissions from mobile combustion and imported energy. There has been a significant increase in business travel related emissions. This is primarily due to:

- an increase in international business class travel as part of a larger effort to connect with existing international customers.
- accelerated domestic sales activity - with an emphasis on being in front of customers

Figure 4: Emissions by GHG Protocol category



## GHG removals and reductions

A greenhouse gas removal is defined by ISO 14064-1 as the “total mass of a greenhouse gas removed from the atmosphere over a specified period of time”. There are no removals quantified for this reporting period.

Emissions overall increased by 60% from FY19 to FY20. This year is the ‘base year’ for GHG reporting and will form the basis for comparisons going forward.

Total operational emissions	FY19 tCO <sub>2</sub> e	FY20 tCO <sub>2</sub> e	tCO <sub>2</sub> e change last year	% change last year
BraveGen	18.86	30.21	11.35	60%

## GHG offsets

There have been offsets applied to this inventory.

BraveGen has purchased electricity from Ecotricity who provide certified carboNZero electricity. The purchase of this electricity has reduced total emissions reported by 0.78 tCO<sub>2</sub>e using the market-based methodology.

BraveGen has purchased 36.25 tCO<sub>2</sub>e of carbon credits (120% of BraveGen’s operational footprint for the FY20 year) from Ekos to offset operational emissions from the FY20 year. In doing so, BraveGen achieves Climate Positive Business Operations certification with Ekos for the FY20 year. These carbon credits are sourced from Ekos’ indigenous restorative forest carbon projects and are certified to international standards. These credits will be cancelled on the New Zealand Emissions Trading Register (NZ) or the Markit Environmental Registry (NY/London).

## Liabilities – GHG stocks held

BraveGen does not hold any GHG stocks.

## Audit of the GHG Inventory

This GHG inventory report has not been independently audited.

## Assessment of performance against relevant benchmarks

We are committed to carbon reduction targets that are consistent with limiting temperature increases to 1.5 degrees and contribute to New Zealand being carbon neutral by 2050. These targets are:

- an absolute reduction in our Scope 1 and 2 emissions of 42% by 2030 and
- a reduction in intensity (by FTE) for our Scope 3 emissions of 42% by 2030.

These targets are measured against our baseline year of FY20. We will report progress towards achieving these targets in future years.

## References

International Organization for Standardization. 2006. ISO14064-1:2018. Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas GHG emissions and removals. Geneva: ISO.

World Resources Institute and World Business Council for Sustainable Development. 2004. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised). Geneva: WBCSD.