



As part of our commitment to sustainability and environmental management we've been tracking our performance to quantify our annual greenhouse gas emissions (GHG) over the past 5 years. We take action to avoid and minimise the lasting effects of climate change on our planet and to reduce the burden on future generations.

Our total greenhouse gas emissions per person for 2019 was 8.83t CO₂-e. For comparison, the average CO₂-e emissions produced per person in Australia is around 21t /yr. The total combined business and household GHG for 3 people in 2019 was 26.49t CO₂-e.

Natural State offsets our annual emissions through actively managing 17 hectares of wet sclerophyll forest on our property which sequesters an estimated 14,450 tonnes of CO₂-e per year*. **Please note:** we do not receive any economic incentive or reward for the ecosystem services this patch of native forest provides to our community.

Brief explanation - The main greenhouse gases in the Earth's atmosphere are water vapour, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and ozone (O₃). The carbon dioxide equivalent unit, or CO₂-e, is used to make it easier to compare GHG emissions using the Global Warming Potential index (GWP) over 100 years.

METRIC	2015	2016	2017	2018	2019	TREND
Harvested rainwater consumption	118,250L	N/A	101,250L	110,875	113,125	↑
Renewable electricity consumption	1008 kWh = 0t CO ₂ -e	1010 kWh = 0t CO ₂ -e	1144 kWh = 0t CO ₂ -e	1062 kWh = 0t CO ₂ -e	891kWh = 0t CO ₂ -e	↓
LPG consumption	144 Litres = 0.24t CO ₂ -e	180 Litres = 0.3t CO ₂ -e	225 Litres = 0.38t CO ₂ -e	225 Litres = 0.38t CO ₂ -e	225 Litres = 0.38t CO ₂ -e	↔
Transport x 2 vehicles	11.2t CO ₂ -e	11.2t CO ₂ -e	11.64t CO ₂ -e	9.54t CO ₂ -e	9.98t CO ₂ -e	↑
Firewood consumption	12m ³ = 12t CO ₂ -e	12m ³ = 12t CO ₂ -e	11m ³ = 11t CO ₂ -e	11m ³ = 11t CO ₂ -e	11m ³ = 11t CO ₂ -e	↔
Solid waste	700L	700L	600L	600L	800L	↑
Recycling	450L	400L	650L	800L	800L	↔
Fuel reduction burns	3m ³ = 3t CO ₂ -e	2m ³ = 2t CO ₂ -e	2m ³ = 2t CO ₂ -e	3m ³ = 3t CO ₂ -e	5m ³ = 5t CO ₂ -e	↑
Diesel generator use	370kWh = 0.09t CO ₂ -e	410kWh = 0.10t CO ₂ -e	487kWh = 0.12t CO ₂ -e	523kWh = 0.13t CO ₂ -e	541kWh = 0.13t CO ₂ -e	↑
TOTAL CO₂-e for business and family of 3 / year	26.67t	25.76t	25.32t	24.05t	26.49t	↑

Assumptions and formula used to calculate our GHG emissions

The figures for Renewable electricity consumption and Diesel generator use have been downloaded from our Selectronic SP Pro inverter charger. The formula used to calculate the diesel generator emissions is based on the Australian Government NATIONAL GREENHOUSE ACCOUNTS FACTORS Emissions Factor (EF) for diesel consumption for energy use of 69.9 Kg CO₂ -e / GJ. 1kWh equates to 0.0036GJ.

The figures for LPG consumption have been calculated using the free Carbon Neutral Carbon Calculator tool available at <https://carbonneutral.com.au/carbon-calculator/>.

The formula used to calculate our annual transport emissions is based on: **a.)** 1 petrol vehicle with a fuel consumption of 9.3L/100Km generating 222g CO₂/Km, **b.)** 1 diesel vehicle with a fuel consumption of 10.4L/100Km generating 277g CO₂/Km.

The formula used to calculate the emissions related to firewood consumption and fuel reduction burns is based on 1m³ of dry hardwood timber equating to 1t CO₂-e.

* Estimate based on wet forest formula in 'Carbon sequestration in Tasmania's forests: perceptions, misinterpretations and ecological reality' (McIntosh, P.D. & Moroni, M, 2016).