# 

#### HUMAN-CENTRED LEADERSHIP TRAINING

#### **PROfound Leadership**

Carbon Footprint Report

CLIMATESOCIETY

neutral

## Carbon Footprint

IAMAN

#### January 2023

#### neutral

## Carbon Footprint

The Kyoto Protocol has identified six greenhouse gases that are contributing to Climate Change. Human activities release these gases to the atmosphere.

As the greenhouse effect is different for each gas, the concept of carbon dioxide equivalent  $(CO_2 - e)$  was created. The Greenhouse gases (GHG) are: Carbon dioxide  $(CO_2)$ , methane  $(CH_4)$ , nitrus oxide  $(N_2H)$ , hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride  $(SF_c)$ .

 $CO_2$ -e signifies the amount of  $CO_2$  which would have the equivalent global warming impact. It allows us to combine emissions from different gases into a single number



Limiting Temperature Increase to 1.5°C

## Greenhouse Gases Emissions

#### Organisational Boundaries

Global Leadership Hub is an organisation that operates in Australia and internationally. It provides services on adult education, speaking engagement, training and leadership coaching. The office is located at 17 Hawthorn Drive, Hoppers Crossing, Victoria 3029. The current footprint includes the home office emissions and services provided by the organisation.



#### 3.16 t CO<sub>2</sub>-e

#### 3,162 kg CO<sub>2</sub>-e

Measured emissions for the reported year. Emissions include Scope 1, 2 and 3. Scope 1 are emissions generated within the company. 2021 - 2022

The baseline year covers from July 2021 to June 2022.

#### Scope 2 and 3

Scope 2 are indirect emissions from electricity purchased. Scope 3 are indirect emissions that consider both upstream and downstream impacts.

## The Profile Of Our Emissions

## An Australian household generates in 64 days a similar amount of carbon as your organisation: 3.16 tonnes of CO<sub>2</sub>-e

Emissions generated by the organisation come from several sources: car travel, business travels, meals, waste sent to landfill, heating and cooling of the office, office equipment, water consumption and marketing activities.

Each Australian household releases 18 tonnes of carbon each year (EPA Victoria 2021).



#### **Transport (Land)**

It was considered one car travelling a distance of 2700km. The company owns a Hyundai i30 whose petrol consumption is 7.4litres/100km. This gives us a 199.8 litres of petrol consumed. Petrol combustion generates three greenhouse gases from the Kioto protocol: carbon dioxide (CO2), methane (CH4) and nitus oxide (N2O). The emissions were calculated using the Australian National Greenhouse Accounts Factors (Australian Government 2020). Car emissions produce Scope 1 and Scope 3 emissions (upstream and downstream impacts). Scope 1 emissions are 0.46tCO2 and Scope 3 emissions are 0.027tCO2.



#### Accommodation

It was considered 1 night of accomodation in a four-start hotel (Quest Wodonga). The emis sions were calculated using the Australian National Greenhouse Accounts Factors (Austral ian Government 2020).





#### Stationary Energy (Gas)

Gas consumption for the business was estimated as 11% of the house gas consumption. Then, 80% of the business emissions were allocated to the organisation.

Gas emssions in Mega Joules were transfored to cubic meters using a factor of 25.5 (Australian Government 2020). Gas emissions produce scope 1 emissions and scope 3 emissions (upstream and downstream impacts). Scope 1 emissions are 0.34tCO2 and Scope 2 emissions are 0.026tCO2.

The emissions were calculated using the Australian National Greenhouse Accounts Factors (Australian Government 2020).



#### Electricty

Electricity consumption for the business was estimated as 11% of the house electricity consumption. Then, 80% of the business emissions were allocated to the organisation. The electricity consumption for the business was 459.59 Kwh.

Electricity emissions produce scope 2 emissions.

The emissions were calculated using the Australian National Greenhouse Accounts Factors (Australian Government 2020).





#### **ICT Services and equipment**

Emissions related to ICT Services and equipment consider indirect emissions to extract, manufacture, transport, maintain and dispose ICT equipment (computers, tablets, routers, cloud services, etc.). It was estimated that the organisation spent \$1600 on ICT services and equipment.

The emissions were calculated using the Australian National Greenhouse Accounts Factors (Australian Government 2020).





#### Office equipment and supplies

Emissions related to Office equipment and supplies consider indirect emissions to extract, manufacture, transport, maintain and dispose office equipment and supplies (printing and stationary, office furniture, printers and scanners, whiteboards, headsets, cables, paper, etc.). It was estimated that the organisation spent \$480 on Office equipment, \$80 on Printing and used 40.59 kg of paper - 9638 A4 pages and 265 A3; 80% of consumption was allocated to Profound Leadership.

The emissions were calculated using the Australian National Greenhouse Accounts Factors (Australian Government 2020).



## 0.66tCO<sub>2</sub>

#### Waste

Waste related emissions include emissions from disposal and treatment of waste generated during the year. This category includes emissions from disposal of solid waste. We have used Waste-type-specific method, which involves using emission factors for specific waste types and waste treatment methods. The emissions were calculated using the Greenhouse gas (GHG) Inventory and management plan 2019–2020 (EPA Victoria 2020). We have considered recycled waste as having zero net emissions. It was considered that 10% of the organic waste is food, 85% is garden and 5% is wood. It was

estimated that 11% of house's waste belong to the business, except food waste that was estimated that 30% comes from business. Then, 80% of the business waste belong to the organisation (0.2 tonnes of municipal waste, 0.004t of wood waste, 0.113t of garden and 0.074t of food waste).





#### Water

Water emissions are indirect emissions related to the energy used to extract, treat, filter and distribute drinkable water and the treatment of wastewater.

Water consumption for the business was estimated as 11% of the house water consumption. Then, 80% of the business emissions were allocated to the organisation. The water consumption for the organisation was 1.95 kL.

The emissions were calculated using the Greenhouse gas (GHG) Inventory and management plan 2019–2020 (EPA Victoria 2020).



#### Uplift

An uplift factor is used to increase the estimated emissions from an activity, usually by a risk-adjusted proportion or percentage. Uplifts help to reduce the risk of emissions being underestimated in the carbon account. A mandatory 5% uplift applies to all small organisation certifications. The uplift applied are:

0.67tCO,

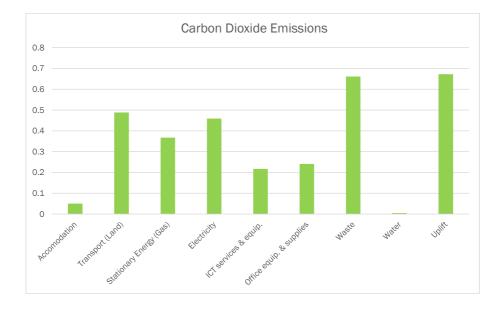
-Small organisation certification - 5% uplift

-Uncertainty on purchase of good and services - 10% uplift

-Food emissions not considered - 10% uplift

-Marketing and promotion not estimated - 2% uplift

## CO<sub>2</sub> Emissions



Carbon Footprint

neutral

#### below 1.5°C - Paris Agreement target

## We aim at Limiting Temperature rise Well Below 2°C And Preferably to 1.5°C

Keeping the global mean temperature increase below 1.5 °C, in accord with the Paris Agreement, would require prompt and substantial reductions in greenhouse gas emissions on a global scale A collective effort from the whole society is required to identify, reduce and offset Greenhouse gas emissions to achieve carbon neutrality

PROfound Leadership



#### Recommendations

Reducing carbon dioxide emissions requires changes to our processes and operations. At the same time significant savings can be achieved by a better use of energy and resources.



#### Renewable Energy

- Install solar panels to reduce the amount of purchased electricity
- Change to a carbon neutral electricity provider
- Turn off lighting, heating and cooling system and computers when not required



- Promote online meetings instead of face-to-face meetings
- Increase the use of bikes or electric vehicles
- Organise train or bus travel when possible



#### Carbon Neutral Paper

• Use Carbon Neutral paper when printing: Carbon Neutral paper adds no carbon dioxide to the atmosphere. There are brands in the marked certified as Carbon Neutral



```
Going Digital
```

- When possible use QR-codes for event related information and promotional material
- Minimise the amount of printed material



#### Sustainable Options

 Avoid single-use items as a way to reduce emissions and avoid harming wildlife

• Minimise the use of plastic: plastics are made from fossil fuels

• Consider extending the life of electronic equipments



#### Electrification

• Reduce the consumption of natural gas by changing to electric appliances

## The Impact Of Ou r Emissions

#### **4 Hectares**

#### of Tropical Forest

we need 4 hectares of mature tropical forest to absorb  $3.16tCO_2$ -e (Phillips and Brienen 2017).

#### 880 Kg of CO<sub>2</sub>

#### per hectare

An hectare of mature tropical forest absorbs 880 Kg of carbon per year.

#### 2030

#### Carbon Neutrality

A collective effort from the whole society is required to identify, reduce and offset Greenhouse gas emissions to achieve carbon neutrality by 2030.

ClimateSociety



## Method to calculate Our Emissions



#### **GHG Protocol**

#### **Corporate Accounting and Reporting Standard**

The CHG Protocol is considered by to be the most widely used in the reporting of carbon at all corporate levels. The protocol works with industry to provide a robust methodology to enable the effective calculation of carbon for business (WRI and WBCSD).

## Offsetting Our Emissions



#### How we offset emissions? There are international and local projects that either avoid or reduce carbon dioxide emissions and provide carbon credits.

The Carbon Offset Platform (https://offset.climateneutralnow.org/AllProjects)(United Nations, 2021) allows to choose the project where we can invest in carbon credits -called Certified Emission Reductions (CERs)- to offset emissions.

There are also Australian projects that provide carbon credits:

- Australia's Carbon Marketplace (https://marketplace.carbonmarketinstitute.org/)
- · Carbon Offsets Australia (https://carbonoffsets.online/)
- · Tasman Environmental Market (https://www.tasmanenvironmental.com.au/)

Offsetting projects: replacing use of fossil fuels, reducing energy consumption or capturing carbon from the atmosphere by reforestation and forest generation

## All Starts With a Pledge



#### CARBON NEUTRAL PLEDGE

#### **United Nations**

The pledge is our commitment to make the efforts to achieve carbon neutrality. We commit ourselves to working for reduction and avoidance -where possible- of carbon emissions. It is a pledge to next generations that will have a profound impact on our planet.

## References

1 Clune, S., Crossin, E., & Verghese, K. (2017). Systematic review of greenhouse gas emissions for different fresh food categories. Journal of Cleaner Production, 140, 766–783. https://doi.org/10.1016/j.jclepro.2016.04.082

2 Australian Government, Department of Industry, Science, Energy and Resources (2020). National Greenhouse Account Factors. Australian Greenhouse Accounts. October 2020. [pdf]. Available at https://www.industry.gov.au/sites/default/files/2020-10 /national-greenhouse-accounts-factors-2020.pdf [Accessed 27 July. 2021]

3 EPA Victoria (2020). *Greenhouse gas (GHG)inventory and management plan 2019–2020*. [pdf] Available at: https://www.epa.vic.gov.au/-/media/epa/files/publications/1931.pdf [Accessed 27 July. 2021]

4 EPA Victoria (2021), *Houseold and GHG emissions*, Australian Greenhouse Calculator. [pdf] Available at: https://apps.epa.vic.gov.au/AGC/r\_emissions.html#/! [Accessed 27 July. 2021]

5 Phillips, O. L., & Brienen, R. J. W. (2017). *Carbon uptake by mature Amazon forests has miti5 gated Amazon nations' carbon emissions*. Carbon Balance and Management, 12(1), 1–. https://doi.org/10.1186/s13021-016-0069-2

6 United Nations (2021). *Carbon Offset Platform*. United Nations. Available at https://offset. climateneutralnow.org/AllProjects [Accessed 27 July. 2021]

7 World Resource Institute (WRI), World Business Council for Sustainable Development (WBCSD) (2005). *Calculating HFC and PFC Emissions from the Manufacturing, Installation, Operation and Disposal of Refrigeration & Airconditioning Equipment (Version 1.0).* [pdf] Australian Government, Department of Industry, Science, Energy and Resources.GHG Protocol. Available at https://ghgprotocol.org/sites/default/files/hfc-cfc\_0.pdf [Accessed 27 July. 2021]

8 World Resource Institute (WRI), World Business Council for Sustainable Development (WBCSD) (2021). *Greenhouse Gas Protocol*. Available at https://https://ghgprotocol.org/ [Accessed 27 July. 2021].

9 Frankowska, A., Rivera, X.S., Bridle, S. et al. Impacts of home cooking methods and appliances on the GHG emissions of food. Nat Food 1, 787–791 (2020). https://doi.org/10.1038/s43016-020-00200-w

10 Eady, Sandra; Sanguansri, Peerasak; Bektash, Roger; Ridoutt, Brad; Simons, Lloyd; Swiergon, Piotr. Carbon footprint for Australian agricultural products and downstream food products in the supermarket. In: Aust Life Cycle Assessment Society 7th Conference; 9-10 March 2011; Melbourne. ALCAS; 2013. 1. http://hdl.handle.net/102.100.100/97112?index=1

## References

11 Buehner, Moritz (2012). Getting it Straight: Exact Carbon Emissions From One Bottle of Wine. *iPoint*. Available at https://www.ipoint-systems.com/blog/getting-it-straight-exact-carbon-emissions-from-one-bottle-of-wine/ [Accessed 17 August. 2022].

12 Hendrie, G. A., Ridoutt, B. G., Wiedmann, T. O., & Noakes, M. (2014). Greenhouse gas emissions and the Australian diet--comparing dietary recommendations with average intakes. Nutrients, 6(1), 289–303. https://doi.org/10.3390/nu6010289

13 ClimateWorks Australia (2013). Tracking progress towards a low carbon economy. *Climate-Works*. Available at https://climateworkscentre.org/wp-content/uploads/2019/10/climateworks\_trackingprogress\_buildings\_summary\_july2012.pdf [Accessed 17 August. 2022].

14 United Nations News (2018). Every bite of burger boosts harmful greenhouse gases: UN Environment Agency. *United Nations News*. Available at https://news.un.org/en/sto-ry/2018/11/1025271 [Accessed 17 August. 2022].

15 Alter Lloyd (2021). The Carbon Footprint of Tap Water Is a Lot Higher Than You Think *Treehugger*. Available at https://www.treehugger.com/what-is-the-carbon-footprint-of-tap-wa-ter-5186965 [Accessed 17 August. 2022].

16 TAPP Water (2019). What is the carbon footprint of bottled water?. *TAPP Water*. Available at https://tappwater.co/us/carbon-footprint-bottled-water/ [Accessed 17 August. 2022].

CARBON FOOTPRINT

#### <u>neutral</u>

# CARBON FOOTPRINT

## **PROFOUND LEADERSHIP**

