1. Getting started

Thank you for purchasing the Veterinary Carbon Calculator, brought to you by VetSalus and Vet Sustain in collaboration with Investors in the Environment. We are thrilled you have taken the first step towards understanding the operational carbon footprint of your veterinary business, and that you are on the journey to reducing your environmental impact!

The Veterinary Carbon Calculator is specifically tailored to the environmental impacts of veterinary practice, to enable vet teams to easily calculate their carbon emissions across five key areas (energy, travel, waste, refrigerants and anaesthetic gases). The calculator converts various elements of business activity, such as utility use and travel. More importantly the calculator also measures veterinary specific areas, such as anaesthetic gases and veterinary care waste, and converts these into carbon dioxide equivalent emissions (CO_2e). This allows you to identify your hotspots of carbon emissions, and from there you can set reduction targets, and track, measure and celebrate successful reductions.

Looking at your business resource use, the Veterinary Carbon Calculator will allow you to identify high impact areas. Within the calculator we capture information about your business, this is important to allow comparisons and to contribute to benchmarking. For each business, resource use may differ depending on things like the type of premises you have and services you offer.

Data Collection

In order to accurately calculate your carbon emissions, you will need to collect and input data from your business resource use. The Veterinary Carbon Calculator comes with a separate **Data Collection Checklist** document to help you collate all of your information in one place, and makes sure you have everything you need.

Practical tips:

- It's important to note that **not every aspect of the list below will be applicable** for every practice.
- The data collection phase can be time consuming, but the more information you have the more accurate your baseline will be, and you will be able to more closely monitor progress in subsequent years. We recommend **dedicating some time for one or two**

members of staff to collate the data needed. Any member of the team can do this so this does not need to take up any clinical time.

- Whilst you may consume or produce something listed, you may not yet have accurate measurements for it. Don't let this put you off, **make a start with the data you do have**. Over time your carbon footprint may change as you start to measure more resources more accurately and introduce improvements to your systems, equipment and processes.
- The Veterinary Carbon Calculator calculates the operational impact of your veterinary practice over the course of one year - therefore you need **one year's worth of data** to input into the calculator.
    - There is no rule on how your reporting year should run, it could be January to December, or April to March, etc., but it is best that the reporting year is meaningful to you (for example it could match the calendar year, the financial year or your company reporting year).
    - Within the calculator select the 'year' of calculation relevant to the majority of your reporting year i.e. if you are Apr 2022 to Mar 2023, then you select '2022' as the year of your calculation. In New Zealand there is a 2 year delay for the release of factors, please use the appropriate year that matches closest to your data set.
- We strongly recommend organisations with multiple sites **complete a carbon calculation per site**, in order to get an accurate measurement and set a targeted reduction plan.
- Keep track of the data required, and think about how you can make data collection easier in subsequent years.

So, what do you need?

The Data Collection Checklist:

You can find and download this from the Carbon Calculator dashboard.

Practice information:

This information helps benchmark anonymised data across the profession.

- Practice type: Small animal, farm, equine, exotics or mixed practice
- Is your business considered as a veterinary hospital?
- The number of full-time equivalent employees and full-time equivalent vets. If you don't know or aren't sure, ask your practice manager or HR department (if you have one).

Energy & Water:

- Electricity used in kWh - you'll need to check your metre readings or energy bills for the year. Renewable Electricity Tariff should only be selected if you have a 100% renewable tariff.
- Gaseous fuels used (units of measurement vary between suppliers - check and be aware of which units apply to your practice) - check your metre readings or gas bills for the year.
- Fuels such as LPG tanks for equipment (LPG covers both butane and propane) - check invoices for the year which will show the amount purchased.
- Liquid fuels: Heavy fuel oil (HFO), also referred to as bunker fuel or residual fuel oil - it may be used for power generation or industrial heating. Light fuel oil (LFO) is often referred to as diesel oil - typically used in diesel engines for power generation.
- Water supply and waste water: check your metre readings or bills for the year. Waste water treatment should be included on your water bill. If you do not have a meter begin with making an estimate.
- Biofuels such as wood logs, wood chips or wood pellets - check invoices for the year which will show the amount purchased.

Travel:

Depending on the type of practice, travel may contribute a small or large amount to your overall footprint. There are a few ways you may record your business' travel.

- Fleet travel: this includes all vehicles that belong to (or are leased by) the practice, and are used for business travel. You may either record this as kilometres or as litres of fuel purchased.
    - For fleet mileage: you will need to know the engine size and fuel type, and the total mileage travelled in that vehicle in the year.
    - For fleet fuel in litres: you will need the total purchased litres of petrol or diesel for the year. **Note you do not need to record fleet fuel in litres if it has already been accounted for in fleet mileage.**
- Grey fleet travel: this refers to vehicles that do not belong to the practice but are used for business travel (i.e. staff using their own vehicles). You ideally need to know the engine size and fuel type (if you don't know the engine size there is an 'average' option), and the total kilometres travelled.
- Domestic air travel: please include any domestic flights taken for business purposes. A large aircraft in New Zealand would be an Airbus A320, A320neo, A321neo, and A320ceo Domestic. A medium aircraft has between 50 and 70 seats and a small aircraft has less than 50 seats. If the aircraft type is unknown, we recommend using the national average.

Collating the information on fuel purchased or kilometres travelled may depend on your practice reporting system. For example, fuel purchased can be tracked via fuel cards or

business expense claim receipts showing the mileage of staff travel. If you only have the expenses paid information, you can calculate the kilometres travelled by dividing the total expenses paid by the rate per mile.

Waste:

Using resources responsibly and ensuring waste is segregated correctly can have a significant impact on your carbon footprint.

- Municipal waste: weights (kgs) of each waste stream (e.g. office waste, mixed recycling, compost waste) are usually provided on invoices from waste companies. Compost waste refers to the specific disposal of food waste. Office waste describes waste typical to that environment, including paper, food and mixed recyclables. Mixed recycling includes plastic, metal and paper - including card
- Clinical waste: Typically weights (kg) are usually provided by your waste company, but some may be provided in litres (for example Sharps). Hazardous waste includes sharps and non sharps, cytotoxic, radioactive, infectious and body parts. Non-hazardous clinical waste includes all controlled waste and non-hazardous waste. Mixed clinical waste should be used when there is no separation between clinical waste streams.
- If your waste company measures in litres and you are unable to weigh your waste streams, you can use an approximate conversion of 0.4kg per litre of waste.

If you record your waste based on a number of bags rather than in litres or kgs, you can weigh a number of each of the 'types' of waste bags (clinical/general/ recycling) over a 'typical' week, and then record the average weight for each type. You can then use the average weight x number of bags for the calculator. This is not as accurate as having a weight for each bag, but helps to provide a rough figure to use.

Refrigerants and Anaesthetic gases:

- Anaesthetics such as Isoflurane/Sevoflurane bottles or Nitrous Oxide canisters – Invoices from the year will show the quantity of bottles or canisters purchased, and the size of each bottle.
- Refrigerants within air conditioning or refrigeration equipment (if applicable) – Servicing records will show any refrigerant that has been added into the system (i.e. recharged). Systems are not always recharged but speak with your servicing company for advice.

And remember not every aspect will necessarily be applicable to every practice!

Ready to get started?

Login to your calculator dashboard where you can access the calculator, along with other supporting resources.

If you are a multi-site practice you can purchase additional calculations from your account, and you don't need to 'complete' one calculation to add another, you can have several in progress. It's important to note that once you have completed and submitted the final calculation, it won't allow you to edit the data and recalculate. However, if for whatever reason you do think you have made a mistake, we are able to reopen the calculation for you to resubmit, please do just get in touch.

To allow consistency and minimise any errors in the data collection / inputting process we suggest that the same person(s) are involved in repeat calculations year on year.

If you need any further help please reach out to VetSalus on info@vetsalus.com. We have developed this calculator using GHG conversion factors from several sources. Please contact us for a copy of the methodology paper for more information.