AIA EAP Pork Greenhouse Gas Emissions Calculator

How-to Guide

April 2026

Background

Carbon accounting is fast becoming a requirement of many supply chains, retailers, financial institutions and regulators across Australia. With increasing pressures on large retailers and businesses in the pork supply chain to account for the carbon footprint of the products they are producing, there will be an increasing pressure on producers to have up to date and accessible carbon footprint data.

Carbon accounting can be a confusing, often expensive, and time-consuming process for businesses to undertake. To make the process of carbon accounting easier, the Environmental Accounting Platform (online carbon calculators) have been created, providing a clear advantage to businesses wanting to understand their carbon footprint.

What data do I need for the calculator?

Most of the data that is required for input into the calculator are standard production measures. To make the process of carbon calculating efficient, it is best to have all the required information and data ready and on hand prior to beginning.

The following is a list of the data you will need to accurately complete the calculator:

Note: The calculator uses a 12 month period for calculating greenhouse gas emissions estimates, all data must be from a selected 12 month period

Stock numbers and changes each month:

- Classes of pigs on the property separated into: sows, gilts, boars, growers, finishers, weaners, suckers

For each of these classes the following is required:

- The number of stock at the start of the carbon accounting period
- Livestock purchases per month (if applicable)
- Livestock sales per month
- Monthly changes in pig numbers including births, mortalities, and movement of stock from one age group to the next (e.g. number of weaners moved into grower shed)

Feed blends information:

- Blend type
- Amount purchased
- Percentage of additional feed ingredients and their emissions intensity (optional)

Custom feed blends can be added and will require ingredient proportions to be entered

Manure management data:

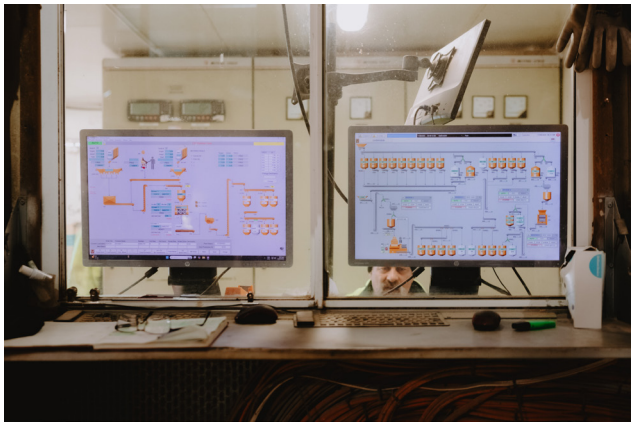
- Numbers or percentages of each pig age group per manure management type

Commodity usage data:

- Grain purchase data
- Hay purchase data
- Cotton seed purchase data
- Annual electricity usage in kWh
- Annual LPG usages in litres
- Annual diesel usage in litres

Percentage allocation of these commodities across different business activities.

Accurate input data is key to ensuring carbon footprint estimates are as accurate as possible.

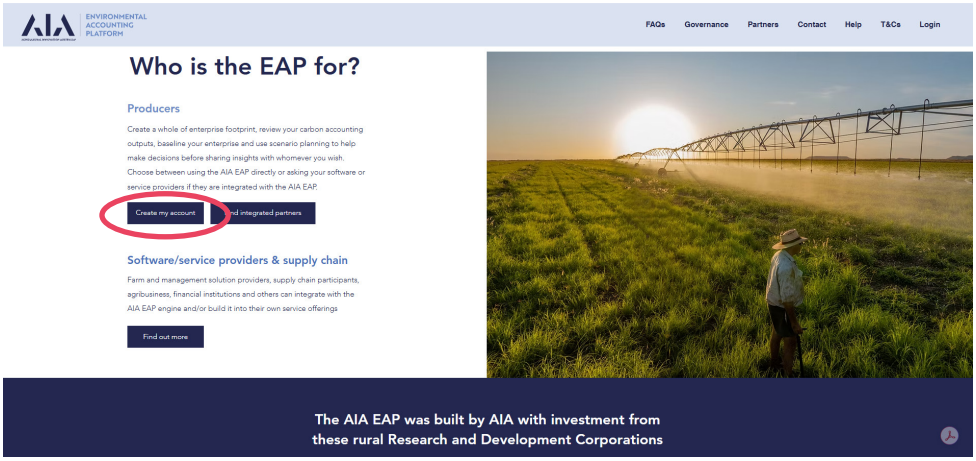


How to use the Pork Calculator

The Environmental Accounting Platform has been designed to be easy to use, offering carbon calculators for agriculture, forestry and fisheries, allowing for multiple enterprises to be calculated at once. The following step-by-step guide to using the calculator is focused on pork specific calculation, other commodity calculators can be added and used along side as the pork calculator to enable a whole of business footprint. `

Create an account

Open the AIA Environmental Accounting Platform website and click on *Create my account.* Input your email address, the website will send a code to your email address. Input the code, you will then be asked to fill out the registration form. Once you have filled out the registration form the first time, **you will not be required to fill this out again.**



Select your property

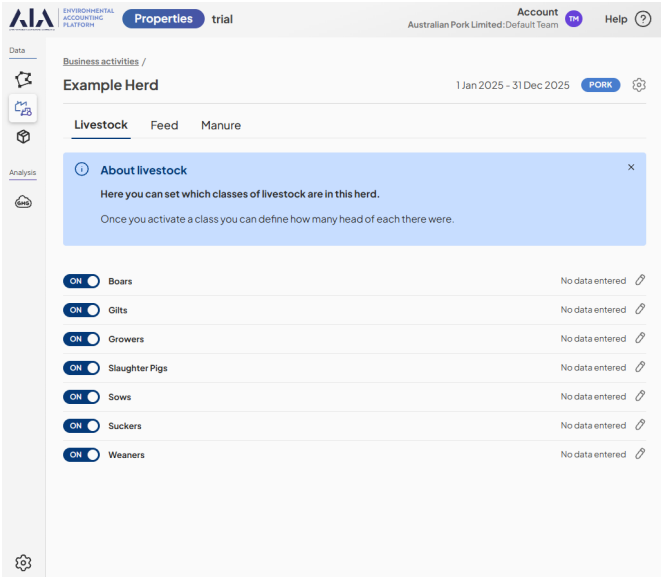
Once you have registered you will be taken to the home page. Here you add your property by:

1) Name your property
2) From the drop-down menu, select all commodities relevant to the property.
3) Set the property's boundary: use the map to zoom into your property and select specific land parcels to define areas containing pork production and other commodity production.
4) Set the property's region and address: choose the property's region from the drop-down menu. Select from drop down menu if property recieves more than 600 mm of rainfall (Yes/No). Enter the property's address details (optional).
5) Select *Done*

This step only needs to be completed once per property

Business activities

Once the property has been created, you will be taken to the business activities page. Select *ADD* and select the start date for the 12 month period the carbon account needs to capture (e.g. select January 2025 to calculate the carbon account for January - December 2025). The end date will be automatically calculated as 12 months from start date.

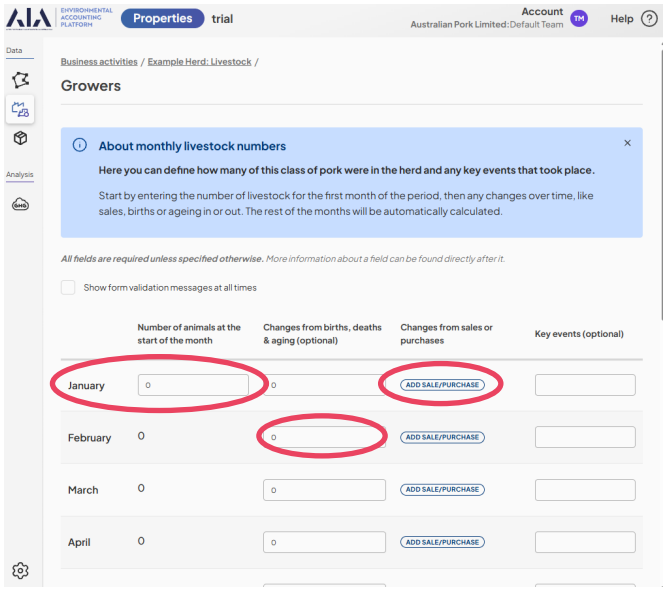


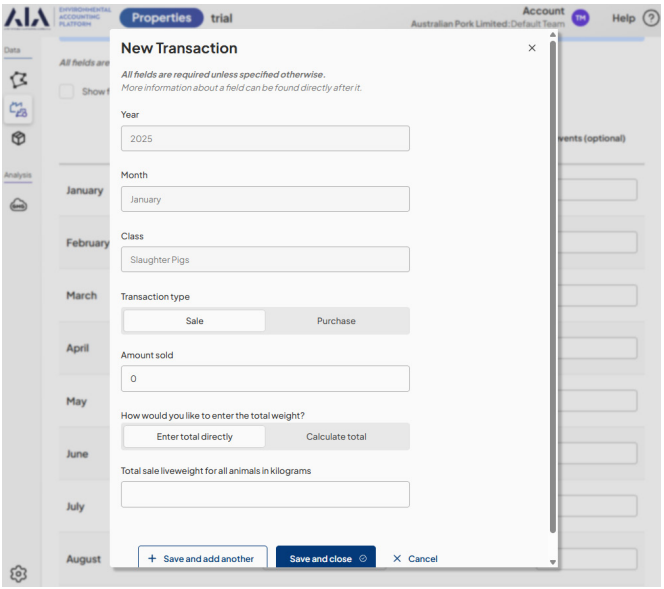
Select all classes of pigs included in this herd, for example, on a farrow to finish site you will select all pig classes, for a grower site you may only need to select for growers and finishers.

If multiple commodities are run on the same site these can also be entered as separate business activities. For guidance on completion of the calculator for other comodities refer to the AIA EAP website.

Add pig details

Add number of stock in each class for the first month being accounted (calculated), this month will be automatically chosen from the 12 month period selected in the previous step. Then add any movements in and out due to births, deaths, and stock ageing in or out of the class. Select *ADD SALE/PURCHASE* to add movement of pigs off-site or sold each month (ensure sales of finishers and any other movements off site are recorded).





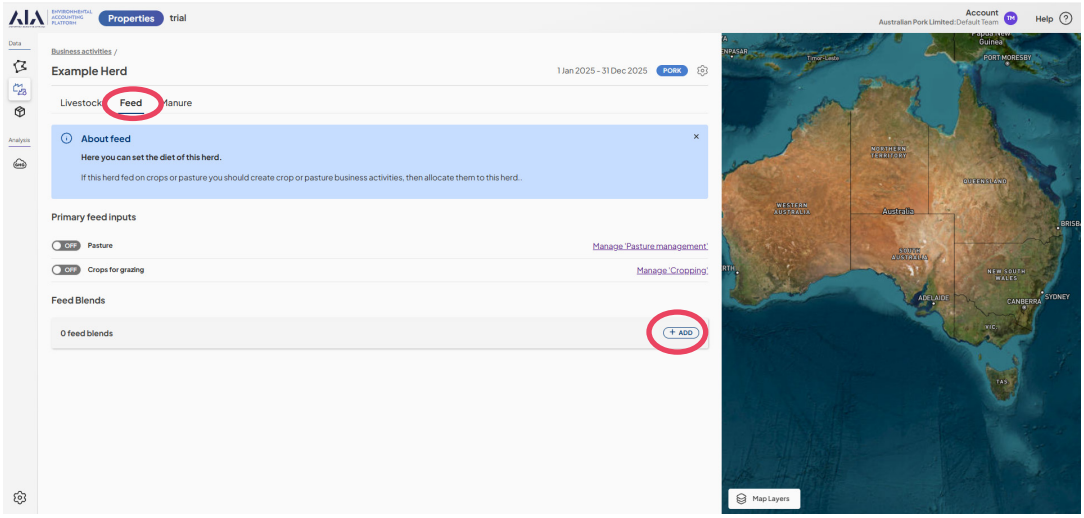
Changes from births, deaths and aging (growth stages) needs to be entered as a calculation of (total pigs moved into age class) - (total mortalities in class) - (total pigs removed from age class).

Example: In a month 1700 suckers are moved into weaners, and 1500 weaners are moved into growers, there were 12 weaner mortalities for the month, the changes from births deaths and aging would be: 1700 - 1500 - 12 = 188

In this example you would enter 188 into the Changes from births, deaths and aging box.

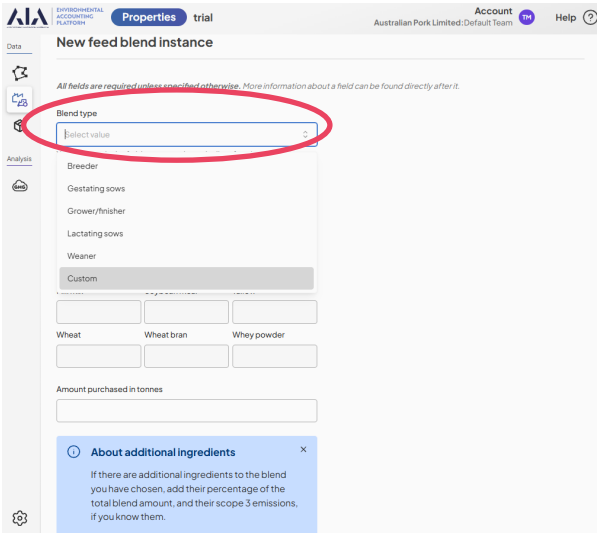
Add in feed data

Once all pig data is added, select the *Feed* tab. Select the *ADD* button under the feed blends section. Add all of the feed blend quantities and rations used on your site for each pig class previously entered. Ensure that under *Primary feed inputs* both *Pasture* and *Crops for grazing* are set to off.



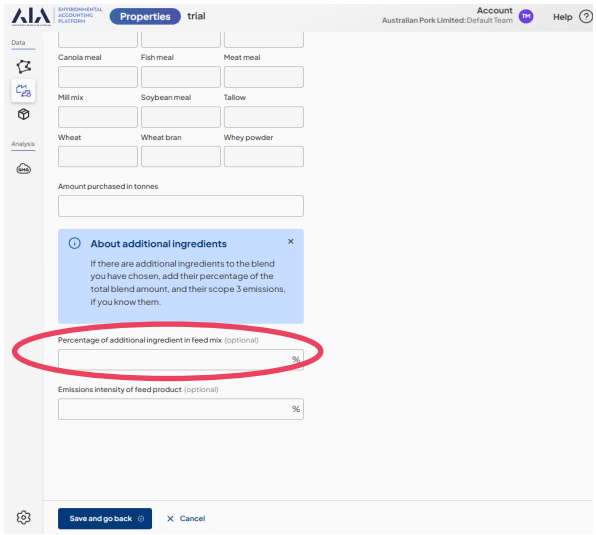
Select feed blends

When adding feed blends, standard rations that are similar to what is used on site can be selected. Alternatively if diet formulation data is available, create custom feed blends by selecting *Custom* from the drop down menu and manually add ingredient portions as a percentage of ration to reflect diets as accurately as possible.



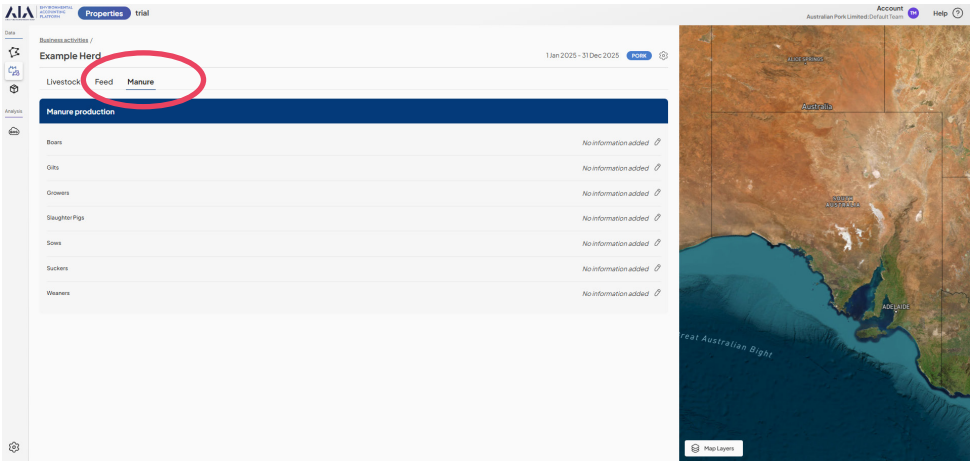
Additional ingredients

Where additional ingredients in the feed mix are known and the emissions intensity of those ingredients is provided or known, these can be added. If the additional ingredients are not known, or emissions intensity of these ingredients are not known, leave these fields blank.



Allocate manure management systems

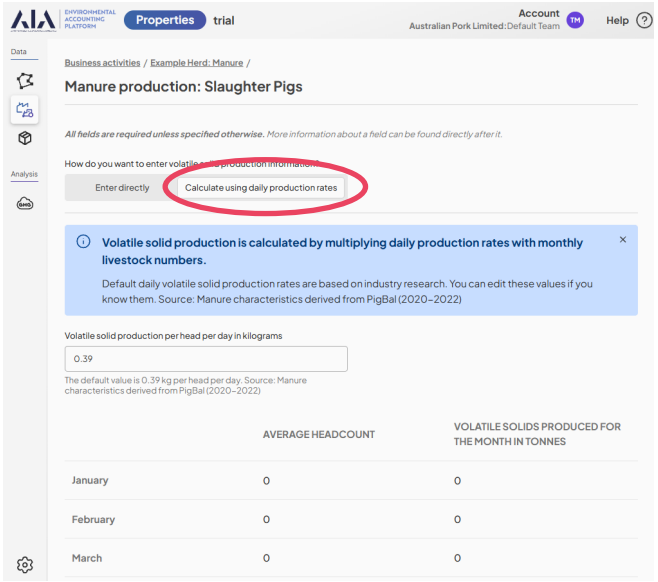
Once feed data has been added, select the *Manure* tab. Manure values need to be added to accurately determine emissions based on production system type and manure treatment method. Select each pig class to add manure data.



Enter manure volumes

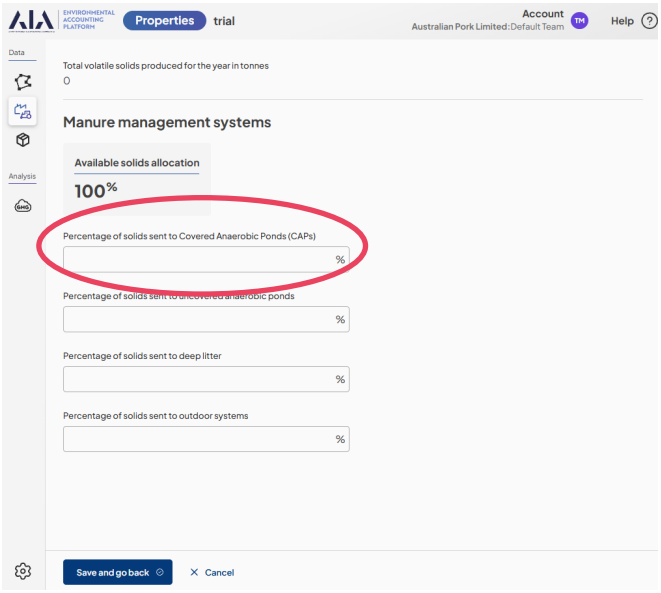
For each pig class manure volumes must be entered. To enter volumes select *Calculate using daily production rates*, this will use the pig numbers previously entered and industry averages to calculate manure production values.

Note: only select Enter directly if manure volumes are measured on site or if data from recently completed PigBal5 is available for the site.



Allocate each pig class to manure management system

Next, allocate the manure management system for the class of pigs. If a class of pigs is spread across multiple management systems allocate the percentage of that pig class to the relevant manure management system. For example, if 600 growers are in conventional sheds that feed into an uncovered anaerobic lagoon, and 400 growers are in deep litter sheds, allocate 60% to uncovered anaerobic ponds and 40% to deep litter.

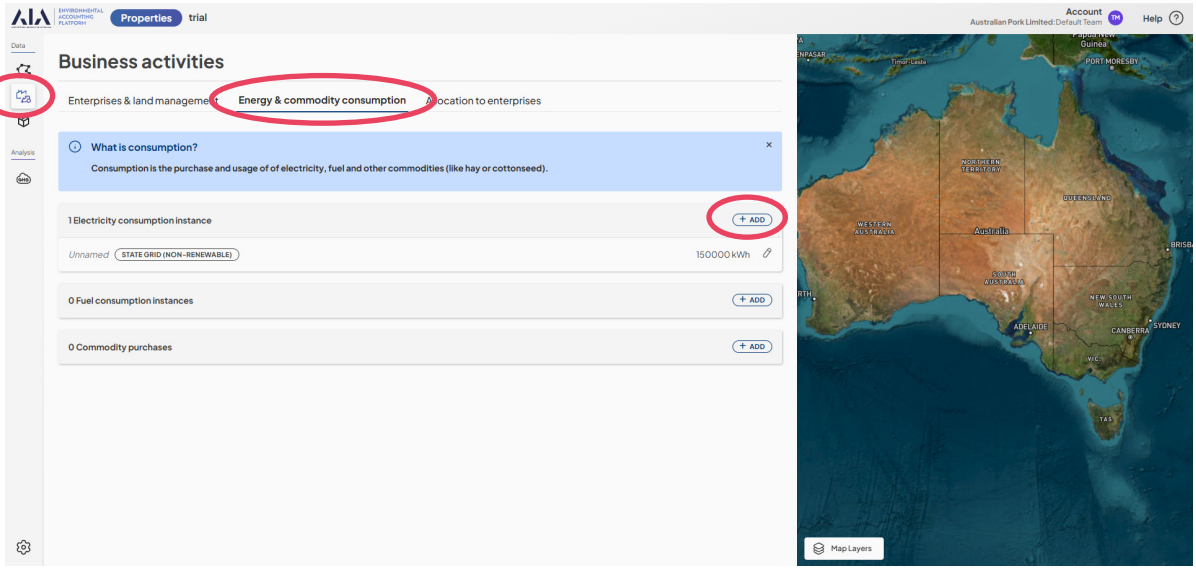


If manure management systems are not allocated a default value will be allocated. For accurate results this step must be completed.

Energy and commodity consumption

From the side bar, select the business activities button (picture of tractor and building), then select *Energy and commodity consumption.* In this section all electrical, fuel, and commodity purchases for the 12 month period are added. For each electricity and fuel source click *ADD* on the coresponding line. An example for electricity consumption is below. Ensure that all types of fuel and any renewable and grid based electricity consumption are added. Any bedding used in the system can be added under commodity purchases.

Note: Grain purchases that have been already accounted for in the feed data input do not need to be added in commodity purchases.

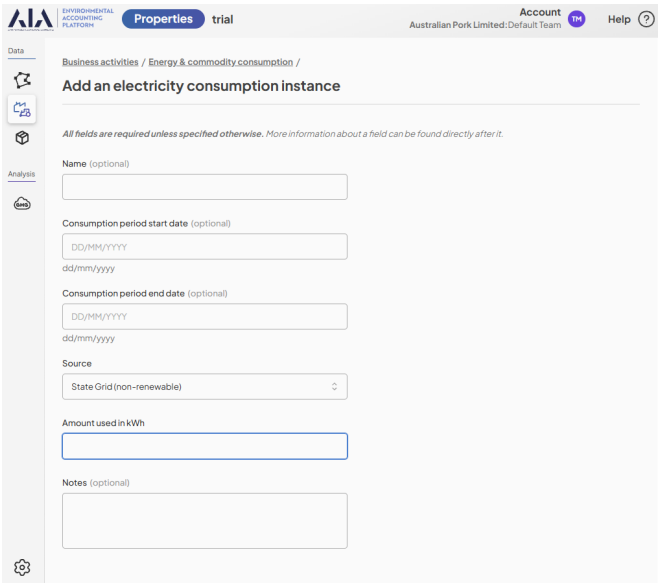


Adding electricity consumption

For each electricity consumption instance, select the source of electricity (State grid or renewable) and enter your electricity consumption for the selected period in kilowatt-hours (kWh). This should reflect the total electricity used across your business during that time.

If multiple electricity meters are present on the site, these can each be added as separate consumption instances.

This step should be done for each type of electricity, fuel type, and other commodities not previously accounted for.

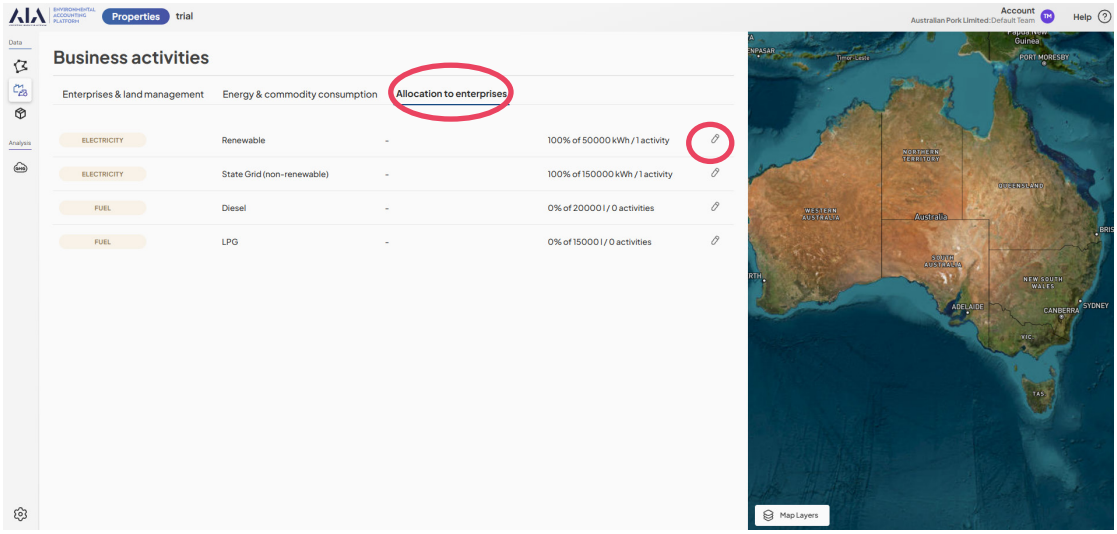


Enter all energy and commodity consumption for the site before proceeding to the next step

Allocation to enterprise

From the business activities tab, select *Allocation to enterprises.* Here, all energy and commodity consumption data entered in the previous step will be shown. Allocate the percentage of each commodity consumed to each business activity you have entered by selecting the pencil icon to edit. If only pork data has been entered 100% of each electricity, fuel and commodity must be allocated to pork enterprise. If multiple enterprises have been entered, the split of usage must be allocated to the relevant enterprise.

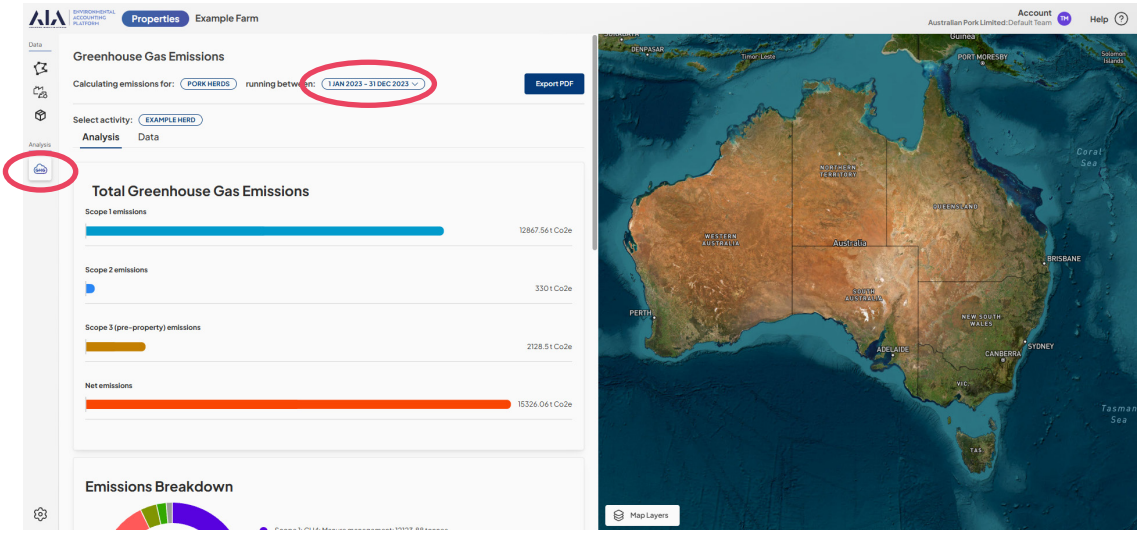
Example: if you have grains and pork, the pork business will account for most of the electricity usage, while the grain business will account for most of the diesel usage.



Results

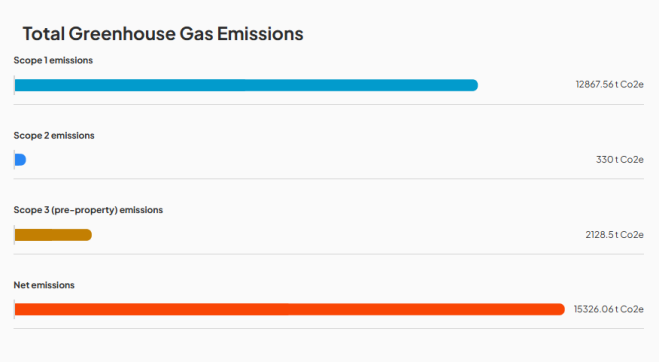
Once all the data has been entered into the calculator, the greenhouse gas (GHG) emissions report will be calculated. To see the results of the calculator, go to the *GHG tab* on the left of the screen (picture of cloud with GHG inside).

The emissions can then be broken down into separate commodities by choosing from the drop-down menu. The date range for the results can also be changed, the start and end date selected must match the dates selected in the herd data step. If multiple herd data have been entered into the calculator these can be selected either individually or as all activities through the *Select activities* drop down menu.



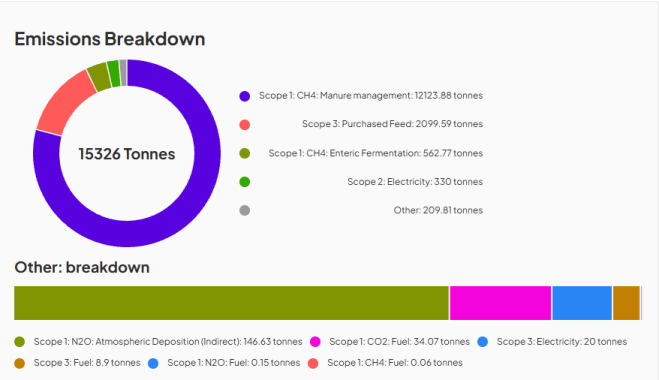
Total Greenhouse Gas Emissions

Your report will provide a detailed summary of your Scope 1, Scope 2, and Scope 3 emissions. It will also present your net emissions expressed as carbon dioxide equivalent (CO_2-e), a standardised metric calculated by multiplying the quantity of each greenhouse gas by its global warming potential.



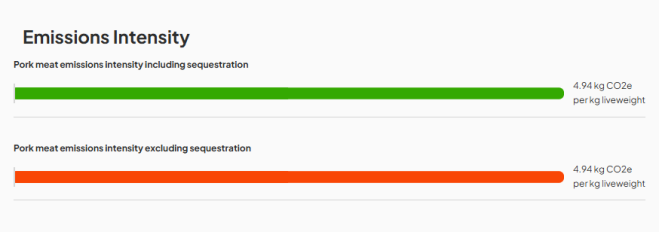
Emissions Breakdown

The results also include a breakdown of the enterprise emissions by source. This can help to identify the major sources of emissions for the enterprise and highlight areas of greatest impact for businesses considering emissions reduction oppotunities.



Emissions Intensity

The results also include a breakdown of the enterprise emissions intensity. Emissions intensity is a measure of how much GHG is produced per unit of activity. For pork, this is calculated as kilograms of carbon dioxide equivalent per kilogram of liveweight displayed as $kgCO_2$-e/kg liveweight.



Using your GHG emissions report

Your GHG emissions report can be used to benchmark performance, set an emissions baseline for the enterprise, and identify opportunities to reduce emissions and improve efficiency. Results can also support reporting requirements to supply chain partners, financial institutions and regulators, helping to meet disclosure requirements and strengthen climate-related decision-making.

The GHG emissions report can be downloaded, saved, and shared in multiple ways. This can be done through downloading either a PDF or as a Comma Separated Values (CSV) file, or saving on the EAP website. All data entered is retained within the EAP, allowing you to access it at any time and use it as a reference point to track and compare changes in your emissions over time. All data remains confidential and owned by the user. This data can only be shared by the user and all data is protected by the Australian Farm Data Code.

More information

For information or support, contact the APL Extension Team at extension@australianpork.com.au