



Carbon calculator summary

The following information summarises the applicability and requirements of the carbon calculators discussed in this topic, to help farmers and land managers consider calculators that may meet their particular needs and circumstances. Notes below the summary provide more details.

Calculator	Sector or land use	Type of estimate or analysis	Data required	Relevant carbon farming categories	Accessibility	General description
Australian Dairy Carbon Calculator (Dairy Australia)	Dairy	GHG emissions Abatement estimates	Property information Livestock Cropping Vegetation Waste management Consumables usage	Soil Livestock Vegetation Other – renewable energy and manure management	Microsoft® Excel® spreadsheet Downloadable for offline use Free No account required	Used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in trees and explore different management actions. Based on Dairy GHG Accounting Framework (D-GAF) .
Australian Wine Carbon Calculator (Australian Wine Research Institute)	Viticulture Winemaking	GHG emissions	Cropping Waste management Consumables usage	Soil Other – renewable energy and energy-efficient irrigation systems	Microsoft® Excel® spreadsheet Downloadable for offline use Free No account required	Used to estimate GHG emissions from vineyards and wineries and impacts of management activities on GHG emissions.
Blue Carbon Accounting Model (BlueCAM) (Australian Government)	Blue carbon	ACCU Scheme Abatement estimates	Property information Cropping Vegetation Consumables usage External – tidal ranges	Blue carbon	Microsoft® Excel® spreadsheet Downloadable for offline use Free No account required	Used to estimate abatement for projects under the ACCU Scheme Tidal Restoration of Blue Carbon Ecosystems method.



Calculator	Sector or land use	Type of estimate or analysis	Data required	Relevant carbon farming categories	Accessibility	General description
DairyBase (Dairy Australia)	Dairy	GHG emissions Abatement estimates	Property information Livestock Cropping Vegetation Waste management Consumables usage	Soil Livestock Vegetation Other – renewable energy and manure management	Online only Internet required Free Account required	Used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in trees and explores different management actions. Based on D-GAF .
Environmental Accounting Platform (Agricultural Innovation Australia)	Beef (Feedlot) Beef (Pasture) Buffalo Deer Goats Poultry (Broiler) Poultry (Layer) Pork Sheep Cotton Cropping (Grains) Horticulture Rice Sugar Wild Sea Fishery	GHG emissions	Property information Livestock Cropping Vegetation Fisheries Waste management Consumables usage	Soil Livestock Vegetation Other – renewable energy and manure management Savanna fire management	Online Internet required Free Account required	Calculator used to estimate GHG emissions at a commodity or whole of enterprise level, impacts of management activities on emissions and carbon storage in trees



Calculator	Sector or land use	Type of estimate or analysis	Data required	Relevant carbon farming categories	Accessibility	General description
<u>Full Carbon Accounting Model (FullCAM) (Australian Government)</u>	Forestry Cropping Grazing Non-agricultural land use	GHG emissions ACCU Scheme Abatement estimates	Property information Cropping Vegetation	Soil Vegetation	Online and downloadable Internet required Free No account required	Used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in soil and vegetation. Also used to estimate abatement for some vegetation and soil carbon methods under the ACCU Scheme.
<u>Greenhouse Accounting Frameworks (GAF) for Australian Primary Industries Tools (The University of Melbourne)</u>	Beef (feedlot) Beef (grazing) Buffalo Dairy Deer Goats Poultry Pork Sheep Cotton Cropping Horticulture Rice Sugar	GHG emissions Abatement estimates	Property information Livestock Cropping Vegetation Waste management Consumables usage	Soil Livestock Vegetation Other – renewable energy and manure management Savanna fire management	Microsoft® Excel® spreadsheets Downloadable for offline use Free No account required	Individual sector-specific calculators used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in trees.



Calculator	Sector or land use	Type of estimate or analysis	Data required	Relevant carbon farming categories	Accessibility	General description
Landscape Options and Opportunities for Carbon abatement Calculator (LOOC-C) (CSIRO)	Agricultural or non-agricultural land use	Abatement estimates	Property information Cropping Vegetation Consumables usage	Soil Livestock Vegetation	Online only Internet required Free No account required	Used to produce indicative estimates of potential abatement under some ACCU Scheme methods, for a specified land area and time period.
MLA Carbon Calculator (Meat and Livestock Australia)	Beef (feedlot) Beef (grazing) Goats Sheep Cropping	GHG emissions Abatement estimates	Property information Livestock Cropping Vegetation Consumables usage	Soil Livestock Vegetation Other – renewable energy Savanna fire management	Online only Internet required Free Account optional	Used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in trees and explore different farm management actions. Built on Sheep and Beef Greenhouse Accounting Framework (SB-GAF) and Grains Accounting Framework (G-GAF) . Emissions estimates include consumables usage and feedlots which are not included in the MLA Quick Start calculator (explained below).
MLA Quick Start Carbon Calculator (Meat and Livestock Australia)	Beef Sheep Cropping	GHG emissions Abatement estimates	Property information Livestock Cropping Vegetation	Soil Livestock Vegetation	Online only Internet required Free Account optional	Used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in trees.



Calculator	Sector or land use	Type of estimate or analysis	Data required	Relevant carbon farming categories	Accessibility	General description
Platform for Land and Nature Repair (PLANR) (Australian Government)	Beef Sheep Dairy Pork Poultry Cropping Forestry Horticulture Non-agricultural land use	GHG emissions Abatement estimates Biodiversity	Property information Livestock Cropping Vegetation Consumables usage	Soil Vegetation	Online only Internet required Free Account optional	Used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in trees. PLANR also estimates biodiversity condition and can support planning of vegetation projects under the ACCU Scheme.
Ruminati (Ruminati)	Beef (feedlot) Beef (grazing) Sheep Cropping	GHG emissions Abatement estimates	Property Information Livestock Cropping Vegetation Consumables usage	Soil Livestock Vegetation Other – renewable energy	Online only Internet required Free and paid options Account required	BASE (free) and PRIME (paid) versions are used to estimate GHG emissions, impacts of management activities on emissions and carbon storage in trees. Based on GAF tools . Ruminati PRIME can estimate emissions from feedlots and can be used to explore different management actions.
SavBAT (Australian Government)	Agricultural or non-agricultural land use	Abatement estimates	Property information Vegetation External – vegetation map of project region	Savanna fire management	Online only Internet required Free No account required	Used to estimate abatement for projects under the ACCU Scheme Savanna Fire Management methods.

The presentation of material in this summary table does not imply the expression of any opinion, and the mention of specific companies or calculators does not imply that these have been endorsed or recommended by DCCEEW. Every effort has been made to ensure the information on calculators is accurate and linked to the most recent version of the calculator at the time of publication.

Supporting information

Calculator: calculator name and responsible organisation. Some products include functions other than calculations; all are referred to as calculators for simplicity. A carbon calculator can be custom-made software or a spreadsheet (usually in Microsoft® Excel®) that can be used to conduct activities including estimating quantities of GHGs emitted and providing abatement estimates.

Sector or land use: agricultural and non-agricultural sectors or land uses that a calculator relates to.

Type of estimate or analysis: types of estimates or analyses the calculators can be used for.

- GHG emissions: calculator can be used to estimate GHG emissions, which may include scope 1, 2 and 3 emissions, and could be for an operation (e.g. a farm or winery), a land area, or an activity.
- ACCU Scheme: calculator is specified in an ACCU Scheme method for estimating abatement from projects conducted under the method.
- Abatement estimates: calculator can be used to estimate abatement (emissions avoided or reduced or carbon stored) from activities. May provide for forecasts of abatement and/or estimates of abatement already achieved.
- Biodiversity: tool can be used to examine biodiversity condition.

Data required: types of input data that may be required.

- Property information: may include area boundary, property name and size, location/region, annual rainfall, workforce, ownership status and distribution of land use activities on property. The calculator may include a geospatial tool to define an area boundary.
- Livestock: may include livestock numbers, seasonal liveweights, animal sexes, liveweight gain, crude protein, dry matter digestibility, livestock purchase and sale inventory, milk production and supplementary feed use (e.g. hay, grain, cotton seed).
- Cropping: may include crop varieties grown, area sown, average/yearly pasture and crop yields, soil properties (e.g. soil organic carbon), fertiliser usage and herbicide and pesticide usage.
- Vegetation: may include species of trees, soil type, area of trees, age of trees, vegetation management actions, and fire management.
- Waste management: may include solid waste (e.g. packaging), wastewater and organic waste (e.g. manure and vines). May also include how waste is managed (e.g. how much solid waste is recyclable or how much manure is drained to the paddock).
- Consumables usage: may include water usage (e.g. irrigation types, water sources), fuel consumption (e.g. petrol, diesel, natural gas, liquified petroleum gas, biodiesel), vehicle types and farm transport data, and electricity usage (e.g. how much energy used has been purchased or generated) and winemaking products (e.g. CO₂ and synthetic refrigerant).
- External data: refers to specific information required by a calculator which is obtained from an external source.

Relevant carbon farming categories: guidance on relevant carbon farming groups/activities, as identified in Topic 2.

Accessibility: refers to the how the calculator can be accessed and used. This includes:

- format of calculator: Microsoft® Excel® spreadsheet or online platform
- online or offline use: downloadable for offline use; or online only, and internet required
- user fees and accounts: free and no account required; free and account required; free and account optional (calculator can be used without account but account needed to save calculations); free and paid options (users are required to pay a fee to access the full content of the calculator).

General description: outlines the main features of each calculator. For consistency, descriptions have been based on whether:

- the calculator estimates GHG emissions and/or carbon storage
- the calculator explores the effect of different management practices on GHG emissions and explores management actions
- the calculator is based on a GAF calculator
- the calculator is used in an ACCU Scheme method.

The calculators may have more functions than those described. Users of the summary table are encouraged to click on the link for each calculator to explore all available functions, and any recent or upcoming updates to the calculator.