

Profitable Carbon Farming

Beef Cattle Herd Methodology



How it Works

The **Beef Cattle Herd Management Methodology** is an Australian Government initiative established under the Climate Solutions Fund aimed at reducing carbon emissions in line with the nation's commitment to reducing greenhouse gas emissions.

Beef cattle are a major source of greenhouse gas emissions within the agriculture sector. Emissions from a beef cattle herd are related to productivity, which is influenced by feed composition and herd management practices.

When cattle have access to enough high-quality feed, they have better survival and growth rates. Improving breeding practices and removing less productive animals can also help enhance herd performance.

The method allows producers of pastured cattle across Australia to earn carbon credits by reducing the amount of methane and nitrous oxide emissions from beef cattle herds. The benefits associated with reducing these emissions could include higher productivity and improved animal health in beef cattle herds.

Crediting of Australian Carbon Credit Units (ACCU) is based on emissions reductions achieved through efficiency gains, where emissions are reduced while beef production is maintained or increased.

This is done by the introduction of new management activities designed to improve live weight gain relative to age and reduce emissions intensity of the cattle.

The management activity must be new or a variation of an activity that was not carried out before or during the previous three years and must be implemented for each herd for each year of the project. The activities must also be scientifically proven, or evidence based by a case study.

Pastoralists who register a Beef Herd project under this methodology are eligible to earn ACCUs, which are converted into Australian dollars. One ACCU is earned for each tonne of carbon dioxide equivalent (tCO₂-e) stored or avoided by a project.

Case Study

A pastoral company with 110,000 head of cattle registers a project using the Beef cattle Herd Management Calculator to calculate emissions. Over three years 2017–2019 the Emissions Reduction Fund Register shows a total of 128,871 ACCUs issued, an average of 42,990 ACCUs each year (1 ACCU = 1 tonne of CO₂-e).

Based on the average price in the March 2020 ERF auction of \$16.14 the ACCUs generated from the pastoral property above would total around \$2.08 million or \$693,863 thousand annually or \$6.30 per head annually.

These figures exclude transaction costs and the costs to implement herd management activities.

Applied to the 26 million national herd, if aggregated this would represent 10.1 million tonnes of CO₂-e abatement which could translate to \$160 million in gross revenue.

* Carbon dioxide equivalent or CO₂-e means the number of metric tons of tCO₂ emissions with the same global warming potential as one metric ton of another greenhouse gas.

* The Government's climate policy is the Climate Solutions Package. Announced 5 March 2019, the Package features a \$2 billion top-up and expansion of the Emissions Reduction Fund (ERF) over 10 years from 2020, rebadged as the 'Climate Solutions Fund.'

National Cattle 26 Million Head

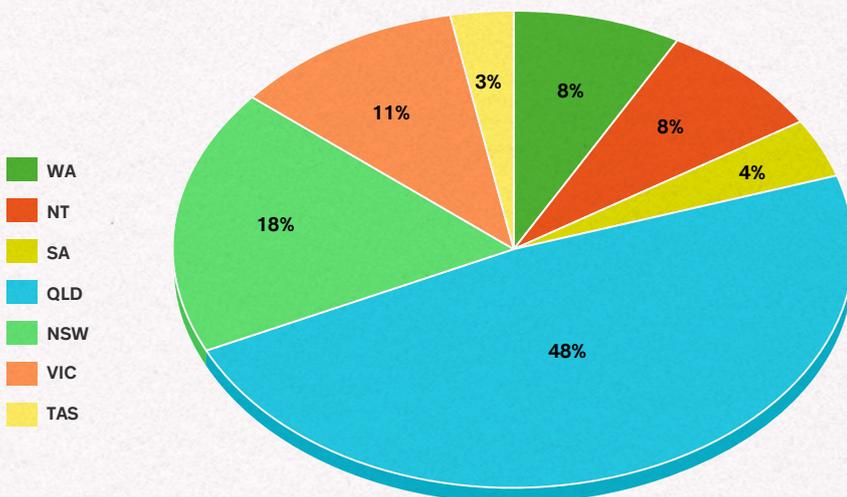


Figure 1: National cattle numbers. Source: MLA 2018.

Rangelands NRM

- (08) 9468 8250
- info@rangelandswa.com.au
- www.rangelandswa.com.au
- facebook.com/RangelandsNRM
- [RangelandsNRM](https://twitter.com/RangelandsNRM)
- youtube.com/RangelandsNRM

Eligibility

The Following requirements need to be met to ensure a project is eligible under this methodology:

- Herds must consist of cattle grazed in Australia and their feed must come principally from grazing or forage. Herds in feedlots are not eligible.
- Each herd must have continuity of management over time and be managed and pastured separately from other herds.
- The composition of a herd may change over time, but the herd and animals in the herd must be able to be identified.
- The liveweight gain of each herd must be positive for three years of the seven years preceding the project.
- At least one practice that can be reasonably expected to reduce emissions must be undertaken in each year of the crediting period. The practice can be a new practice or a variation on a practice undertaken prior to the project.

New Activities

The herd methodology requires new management activities to be implemented to reduce the emission intensity of the herd. This entails:

- Increasing the ratio of live weight for age in the herd, enabling target weights to be reached earlier and thereby reducing the number of days for which cattle produce emissions.
- Reducing the proportion of unproductive animals in the herd, for example by removing heifers that fail pregnancy testing.
- Changing the relative numbers in each livestock class within the herd to increase the herd's live-weight gain.
- Other project activities can include: Supplement feeding; installation of new fences to enable improved management of joining time; greater density of watering points and improved pastures.

Aggregation

Herd sizes of over 100,000 cattle are most viable as management and audit costs are absorbed over more animals and larger tonnages of CO₂e abatement can be offered to the marketplace.

The Emissions Reduction Fund (ERF) permits herd aggregation in recognition that it provides risk management for cattle producers and increases financial viability.

The herd aggregation model allows beef cattle producers with a smaller number of head to participate in the carbon market and in a way that is financially feasible. The model integrates the knowledge and services of an aggregator with producers and vertically integrates co-benefits to provide a service that includes sourcing suitable buyers for the highest price.

Co-Benefits

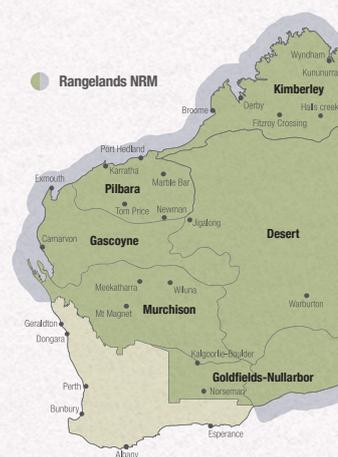
The market differentiates between carbon credits by offering a price premium according to different carbon quality characteristics, including perceived additionality and environmental integrity, and the co-benefits associated with project activities. There are buyers in the Voluntary Carbon Market who will pay a premium price for ACCUs with associated co-benefits.

Co-benefits are the direct positive outcomes associated with carbon farming projects, additional to the reduction in carbon emissions. It can include social, economic, environmental and cultural outcomes.

Increased Productivity

The greatest value of participating in a carbon-based herd aggregation is not just from the carbon revenue, especially for smaller herds, but producers benefit from increased productivity underpinned by implementation of leading practices required.

Meat and Livestock Australia's (DoE, 2016) analysis found that improved herd management activities on pastoral lands could generate annual productivity gains of \$4 to \$8 per head in addition to the carbon revenue. For some properties the combination of carbon credits with co-benefits add increased productivity makes a compelling business case.



natural resource management program



This project is supported by funding from the Western Australian Government's State NRM Program.