



Department of
Primary Industries and
Regional Development

Protect
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Beef and greenhouse gas emissions

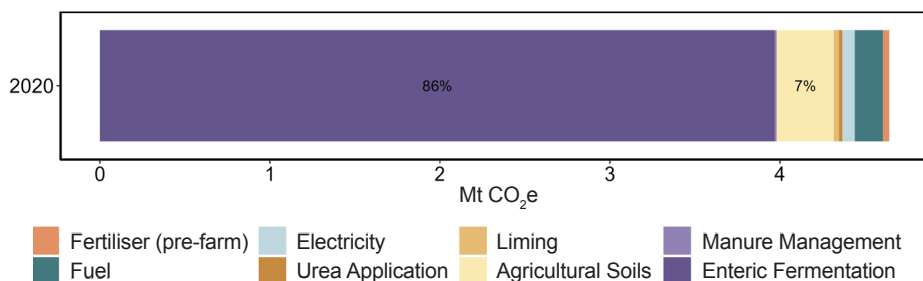
Beef is the fourth-largest agricultural industry in Western Australia, with an estimated production value of about \$1.03 billion in 2021-22.

It is the largest contributor to greenhouse gas emissions from WA agriculture.



2020 beef industry snapshot

Exports account for about 80% of WA's total beef production, with total emissions around 4.64 Mt CO₂e in 2020, mainly from methane released through belching. The proportion of total emissions attributed to rangelands cattle systems is relatively high on a per-head basis due to lower productivity and longer turn-off time, compared to southern agricultural region cattle.



Estimated emissions from the WA beef industry by source in 2020.

Mitigation challenges

It will take time for anti-methanogenic feed additives to become available. The high costs, low efficacy and difficulty in delivery methods in extensive grazing systems may also limit adoption of feed additives.

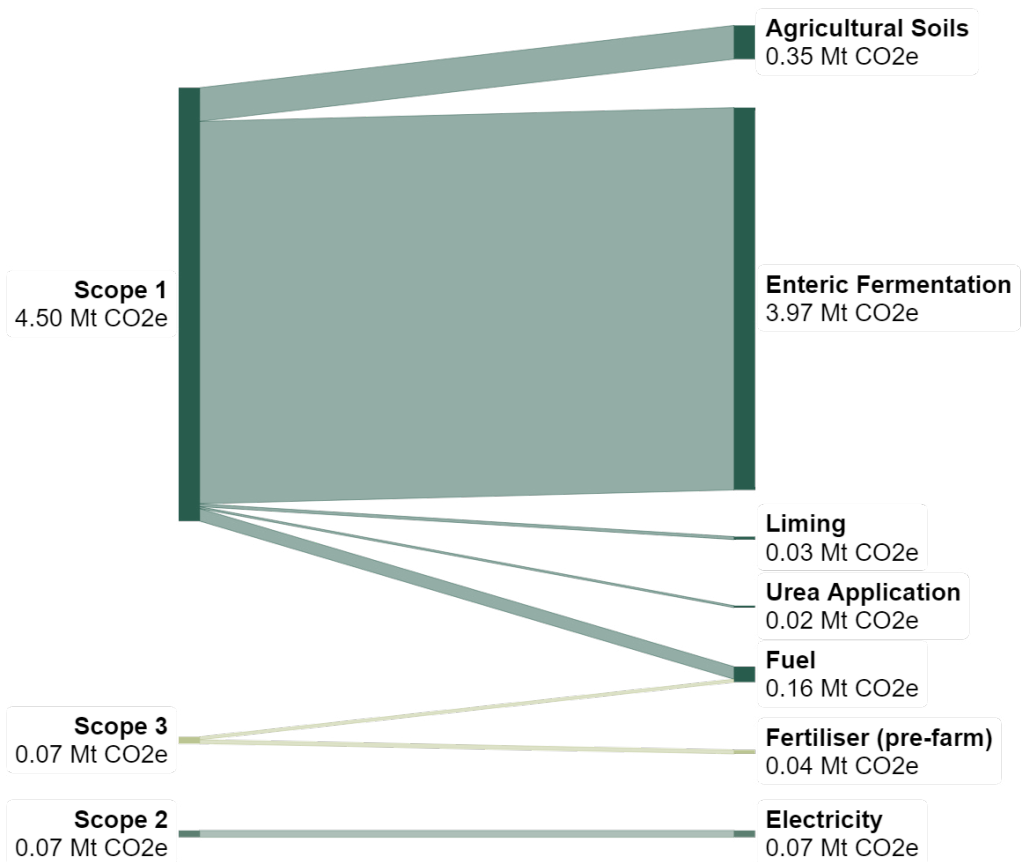
Beef industry emission sources

Emissions can be classified into scopes depending on where they occur. The scopes are:

Scope 1: All on-farm emissions from beef production.

Scope 2: Emissions from electricity supplied to the farm.

Scope 3: All other emissions related to beef production, including those associated with producing inputs such as fuels and fertilisers, both pre and post-farm.



2020 estimated emissions from the WA beef industry.
*Only pre-farm scope 3 emissions are included here.

Beef emission research priorities

- Researching emission reduction with the GreenFeed methane measuring machines
- Quantifying emissions on existing forages and pastures and assessing the potential of forages to reduce methane emissions.
- Undertaking trials of feed additives
- Genetic screening for low-emissions animals
- Running whole-of-farm trials to design system solutions that increase production efficiency and lower emissions
- Benchmarking emissions intensity of beef in a global context.

Ways to reduce emissions in the beef industry:

- ✓ Breed and manage livestock for more efficient growth and early turnoff
- ✓ Review grazing practices
- ✓ Incorporate forages that reduce methane emissions in livestock grazing systems
- ✓ Consider anti-methanogenic feed additives (e.g. Asparagopsis and Bovaer®), once available
- ✓ Implement best-practice soil management
- ✓ Improve manure management and methane capture
- ✓ Invest in on-farm renewable energy
- ✓ Electrify machinery as WA's electricity grid decarbonises
- ✓ Increase carbon sequestration (for example by planting trees and retaining native vegetation).

Developing knowledge of carbon accounting and benchmarking supports achieving reductions.

More information

Subscribe to the Climate Resilience mailing list for updates on climate news, emissions and events.



Future proofing regional WA

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