Carbon Opportunity Fact Sheet
Getting Involved

Government of South Australia

Outback Communities Authority

Things to consider before pursuing carbon farming

The Carbon Farming Initiative and the ERF were designed so that individual landholders could register projects and undertake projects individually, however it is a complex system and a very new area of competence and activity for many people. Landowners could directly participate themselves or can do so with the support of a service provider.

Before commencing, landowners should evaluate a number of considerations to determine whether carbon farming would be suitable to pursue:

- Who has the legal right to undertake the project on the property?
- Who else has an interest on the property that consent will need to be sought from?
- Which method(s) are suitable for the property and enterprise?
- How much of the land should be incorporated in the project?
- How should the impact on the existing enterprise be managed?
- Does the high-level analysis suggest that it is worth exploring further?
- Do you have the capability to fulfil all the measuring, reporting and auditing requirements to earn carbon credits?

Case Studies

Three case studies have been developed to provide a high level estimate of the financial impact of carbon farming on Beef Cattle, Meat Sheep and Merino Wool enterprises. The Breakaway (beef cattle), Roopena (meat sheep), and Saltia (merino) land systems were chosen for the modelling, given how they were representative of the region.

The case study and modelling takes into account:

- Seasonal and weather variability
- Project and infrastructure costs and inputs
- Impacts from changes to livestock operations
- 10%-30% of land dedicated to regeneration project

Please refer to the fact sheets for further details.

Before signing a contract with a carbon project service provider:

Employing or partnering with a carbon project service provider is a simple path for landowners to undertake the activity required to earn ACCUs and participate in the carbon market. Providers may assist in all steps of the process, or may provide support for particular phases, and may opt to share in the risk of project failure with you. Before signing with a project developer, you should:

- Read the Australian Carbon Industry Code of Practice
- Research the performance of the project developer & speak to people who already have Carbon Projects,
- Speak to multiple project developers
- Be aware of the time commitment of the project and understand what is their responsibility and what is yours throughout the project
- Look for carbon project developers who will share the risk as well as the upside with you,
- Be very clear on who is the Project Proponent and any contracting party to a carbon sales agreement, especially one that looks at future delivery of credits
- Ask the carbon project developer to provide you with options and information on how to sell your credits
- **Always seek independent legal and financial advice prior to signing an agreement.**

Table 1: Sample case study top line financial impact outputs for Beef Cattle, Meat Sheep and Merino Wool enterprises when comparing BAU activity with undertaking a HIR project on 10%, 20% or 30% of the land.

Financial impact of HIR project on enterprise		BAU	10% HIR project area	20% HIR project area	30% HIR project area
Beef Cattle ~200,000ha	Beef cattle gross margin per ha	**$1.40**	**$1.33**	**$1.26**	**$1.18**
	Net Carbon income per ha	**-**	**$0.44**	**$0.89**	**$1.33**
	Profit (EBIT per ha)	**$0.67**	**$1.12**	**$1.56**	**$2.00**
Meat Sheep ~90,000ha	Meat sheep gross margin per ha	**$2.94**	**$2.78**	**$2.62**	**$2.47**
	Net Carbon income per ha	**-**	**$2.02**	**$4.04**	**$6.06**
	Profit (EBIT per ha)	**$2.69**	**$4.89**	**$6.90**	**$9.01**
Merino Wool ~70,000ha	Merino wool gross margin per ha	**$9.17**	**$8.72**	**$8.26**	**$7.77**
	Net Carbon income per ha	**-**	**$1.18**	**$2.36**	**$3.53**
	Profit (EBIT per ha)	**$5.74**	**$6.56**	**$7.37**	**$8.14**

Carbon Opportunity Fact Sheet
Rangelands of South Australia

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Background – What is Carbon Farming?

Carbon farming is the change to agricultural or land management practices that can reduce the amount of greenhouse gas in our atmosphere. This is achieved by reducing emissions (such as nitrous oxide and methane) or storing additional carbon in vegetation and soils.

Carbon farming management practices can improve the environment and underlying landmass, which in turn can lead to increased profitability, production and biodiversity for landholders.

Undertaking carbon farming, in accordance with methods specified by the Emission Reduction fund (refer to page 2) can also lead to the generation of Australian Carbon Credit Units (ACCUs) which can be sold and provide an additional income stream to landholders on top of the natural benefits that carbon farming brings to the land.

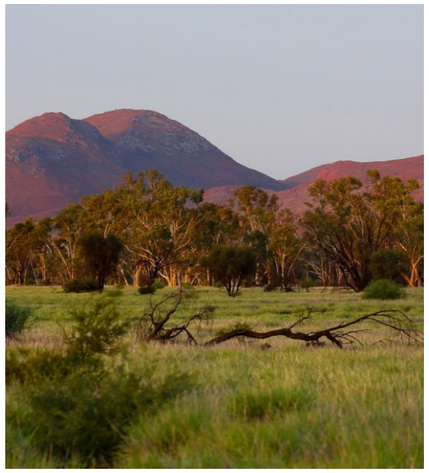
Benefits of Carbon Farming to the land and landowners

Incorporating carbon farming within agricultural enterprise supports the regeneration of the land, providing a number of direct benefits, ultimately strengthening the resilience of the enterprise.

The resultant land regeneration provides, increased soil health and productivity, and a stronger foundation of permanent groundcover for pastoral grazing. For agricultural and pastoral enterprises, this leads to:

- Increased speed to weight for livestock
- Increase resilience against dry seasons
- Potential to develop new infrastructure and improve lease value

The activity of carbon farming provides opportunities for land owners to earn carbon credits, which can translate into a supplementary income stream, furthering the resilience for the enterprise.



Benefits of Carbon Farming across South Australia

Carbon farming across the rangelands of South Australia has potential to provide substantial benefits to South Australians.

A recent report* commissioned by Outback Communities Authority estimates there is around 34 million hectares capable of generating carbon credits in the pastoral rangelands. If 30% of these rangelands were to undertake Human Induced Regeneration carbon farming projects, the potential for carbon sequestrated is estimated to be
4.2mil tCO_2e.

On this scale, the resultant benefits from carbon farming will lead to:

- Growth and increased resilience across the agricultural industry value chain
- Increased employment opportunities to undertake activities required for land management, measurement and reporting
- Economic strengthening of regional communities

*Note: Report titled "SA Pastoral Rangelands: Carbon Potential Report", provides an estimate of the carbon sequestration potential within the pastoral rangelands within South Australia. See page 3 of the report for more details.

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The Carbon Farming Initiative and the Carbon Credit Act

The Carbon Credits (Carbon Farming Act) 2011 (CFI) allow for landholders to participate in projects that can generate Australian Carbon Credit Units (ACCUs) when reducing carbon emissions or increasing carbon sequestration within biomass or soil. The projects need to be developed and operated in accordance with methodologies defined within the CFI., which are generally very specific. Credits are only issued to projects that meet the requirements, and pass independent audit.

Emissions Reduction Fund (ERF)

The Australian Government established the Emissions Reduction Fund (ERF) in 2014 to help drive towards Australia's 2020 emissions reduction target. The ERF has three main roles:

- **Crediting:**
  The ERF through the Clean Energy Regulator and the CFI, verifies the activity of registered carbon projects and credits those projects with ACCUs
- **Contracting:**
  The Australian Government purchases contracts for ACCUs generated from land managers, carbon service providers and industrial efficiency activities via a voluntary reverse auction process.
- **Safeguarding:**
  The Safeguard Mechanism sets targets and restrictions on high emitting industrial sources to ensure that carbon emissions reduced are not overtaken by additional carbon emission.

Australian Carbon Credit Unit (ACCUs)

An ACCU represents one tonne of carbon dioxide equivalent (tCO_2e) net abatement through either reduction or sequestration achieved through eligible activities in accordance with an approved methodology under a project registered with the Emissions Reduction Fund (ERF). Requirements to earn ACCUs require the project to undertake a range of monitoring, auditing, and reporting specific to the method.

Paris Agreement and Carbon Credits

187 total countries have signed up to the Paris Agreement, committing to achieving net zero emissions by 2050. And a number of countries have individually publicly committed to net zero emissions. Whilst emissions reduction is a key focus for all participants, carbon abatement credits will play a significant role in reaching net zero by 2050. In order to meet demands for abatement credits, international trading of carbon credits is gaining traction, and this will only serve to grow the demand for ACCUs over time.

Key Methods to generate ACCUs

Currently there are three main approved methods to earn ACCUs across the SA pastoral rangelands:

- **Human Induced Regeneration (HIR)**
  Change in management activity to promote the growth of native forest, including reducing grazing pressure on the project area. HIR is the most applicable method within the SA pastoral zone
- **Soil carbon sequestration on grazing systems**
  Increase the carbon store on grazing land by increasing inputs of carbon and reducing losses of carbon from soil. Generally, not economically viable within the SA pastoral zone.
- **Beef cattle herd management**
  The beef cattle herd management method focuses on improving herd productivity, and accounts for the reduced emissions over the lifecycle of the herd. The method has some barriers to adoption, but can deliver sizeable economic benefits for enterprises with large herd sizes.

Voluntary Credits

Beyond the approved methods to generate ACCUs, a number of other global standards for carbon credits can be earned for emission reduction or sequestration activity. Whilst these credits are not accredited by the Australian government, and thus not engaged through the ERF, a voluntary credit market exists to trade these credits for organisations who are looking to offset their emissions, without obligations to meet requirements from Australian regulators.

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Carbon Credit Market

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Growth in demand for Carbon Credits

The global drive to reach Net Zero Emissions by 2050 has increased the awareness and interest in carbon credits. As the Paris agreement and targets loom closer, global demand for carbon credits is anticipated to rise in the coming decade.

A number of trends are contributing factors to the continued rise in demand for ACCUs in Australia:

- Obligations to offset emissions under the National Greenhouse and Energy Reporting (NGER) scheme's safeguard mechanism
- Large emitters engaging "early" in the market to ensure they will be able to access the volumes of credits they think they might need later this decade
- States, industries and companies voluntarily striving for emissions reductions or net zero, like Meat and Livestock Australia, Qantas, Starbucks
- Greater consumer interest and demand for zero or low emissions products or services
- Speculative buying and investment on the possibility of global carbon market development and linkages where it may be possible to secure carbon credits from other schemes (e.g. European Union Emission Trading Scheme EU ETS; New Zealand Emission Trading Scheme NZ ETS) to meet local demand

These factors have led market analysts to anticipate rises in price of ACCUs in the coming decade. One example of a carbon price forecast based on expected emission reduction targets and corporate emission profiles in Australia to the end of 2030 is below.

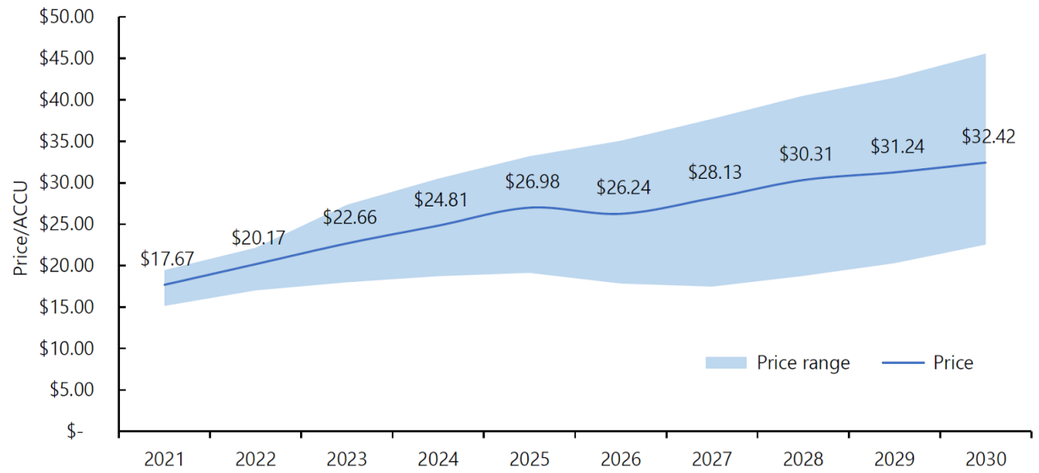

Figure 1: Projection of ACCU prices from 2020 to 2030 by Market Advisory Group October Update 2020

The Paris Agreement is an international treaty on climate change, adopted by 196 parties at the United Nations Climate Change Conference in 2015, the goal of which is to limit global warming to well below 2, preferably to 1.5 degrees Celsius compared to pre-industrial times. Australia's current commitment to the agreement is to reduce greenhouse gas emissions to 26%-28% below 2005 levels. More information can be found about the Paris Agreement on the website https://unfccc.int/.

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