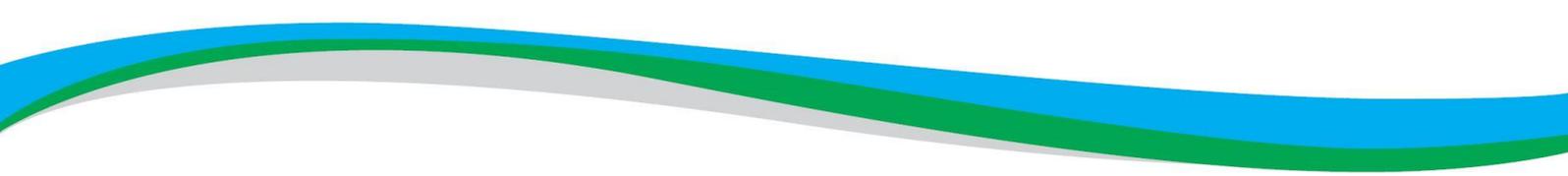


Assessing South Australian carbon offset supply and policy for co-beneficial offsets: barriers to supply

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Goyder Institute for Water Research
Technical Report Series No. 19/09



www.goyderinstitute.org

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Citation

O'Connor, P.J., Summers, D.M., Connor, J., Cavagnaro, T. (2019) *Assessing South Australian carbon offset supply and policy for co-beneficial offsets: barriers to supply*. Goyder Institute for Water Research Technical Report Series No. 19/09.

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Acknowledgments

We gratefully acknowledge the Goyder Institute for funding this project. We further acknowledge the contributions of the individual project collaborators including Andrew Lowe, Courtney Regan, Claire Settre and Stuart Collard. We thank the people who made themselves available for interview for this component of the project. We also thank the institutional partners for the project including the South Australian Department for Environment and Water and SA Water.

Executive Summary

South Australian businesses are well positioned to capitalise on opportunities arising from global movements to decarbonise the economy. International markets are developing to trade carbon offset credits and land-based carbon offset projects in South Australia have the potential to supply high quality credits to meet segments of global demand. Current activity indicates that South Australian businesses have been relatively slow to engage in carbon offset projects and this research project aimed to understand what the barriers to supply are and how they might be reduced where benefits can be derived. This project adds to the broader review of the policy context for carbon abatement drivers in South Australia (O'Connor *et al.*, 2019) through the synthesis of perspectives gathered through semi-structured interviews with nineteen participants and observers in carbon supply and policies affecting supply.

Interviewees report a suite of reasons for low carbon offset supply in South Australia, including policy uncertainty, low carbon prices, project risk, technical supply limitations and general information barriers. The current levels of carbon supply projects in South Australia are expected to increase as these barriers are reduced over the next few years and there are opportunities to initiate projects for positive immediate and future benefits. Where land-based carbon offset projects are active in South Australia, they appear to be primarily driven by the desire for other benefits (biodiversity enhancement or agricultural productivity) and the carbon accrued is a co-benefit. It is probably in the context of achieving other benefits that projects which sequester carbon for offset markets are of greatest interest and are most economical. Projects which sequester carbon as a co-benefit (where it is additional under carbon crediting rules) are a first step for efforts to increase carbon supply from South Australia.

Increasing the carbon supply from near economical projects in South Australia may be beneficial where it readies business and sectors for future opportunities. The extent of uptake of carbon projects is limited by factors which often reduce uptake of other new technologies or market opportunities: relative advantage, compatibility, complexity, trialability and observability. The interviews indicate that there are some methods available that are compatible with current practice or management intent and that they could be implemented in some circumstances to relative advantage. However, there is a need to reduce the complexity of project initiation for participants, improve trialability of projects and methods for carbon sequestration, and improve information sharing to make successes more observable.

There are recommendations to:

- Better support projects which sequester carbon as a co-benefit of other activities;
- Continue to contribute to the development of methods for accreditation of carbon and assist trials on small sites that can be observed but also where the carbon can be aggregated;
- Clarify carbon property rights on pastoral leases to enable carbon crediting from positive land management changes;
- Undertake additional research on the economics of projects with co-benefits for agriculture and coastal restoration and conservation

1 Introduction

The policy landscape around carbon offset supply and demand and policy for co-beneficial offsets is complex and dynamic. O'Connor *et al.* (2019) have examined the policy context at the macro scale, taking into account global trends and drivers of carbon markets as well as national and South Australian context. This report examines the policy context around barriers to supply of carbon offset projects in South Australia through a series of interviews with people involved in or advising on carbon markets from both policy and supply directions. The project is part of the Goyder Institute project: Assessing South Australian carbon offset supply and policy for co-beneficial offsets. The greater project seeks to understand the biophysical potential for carbon sequestration across South Australia (SA), the opportunities ahead and the economic and policy hurdles to overcome.

There are very few carbon offset projects in South Australia, despite the large investment from the Emissions Reduction Fund (ERF) and the development of useable international standards for voluntary offsetting with or without co-benefits. This report aims to understand why few projects are developing and what policy or other barriers may be retarding development where it could be beneficial to South Australia or South Australian business. The report extends the associated desk-top review (O'Connor *et al.*, 2019) by 'ground-truthing' issues retarding uptake of carbon offset projects. The potential barriers come from multiple sources and may be different for different potential market participants: individual land holders, aggregators, investment funds, Non-Governmental Organisations (NGOs), large multinationals, and governments (municipal, state, federal and multinational). The complexity of stakeholders, mechanisms and scales creates a complex policy space which needs to be understood at the local scale if policy choices are to be optimised, and opportunities for South Australia realised.

In this policy review we explored the perspectives of people working in or associated with carbon offset projects and policy in South Australia, though some of the participants work for organisations outside South Australia. We interviewed these informants to gather intelligence on what has happened, what is happening and what the main hurdles are to increasing carbon supply in South Australia where it is beneficial to do so. The rationale is to highlight policy and incentive possibilities to encourage recognition and funding for offsets in ways that can enhance net benefits and ready South Australian businesses for opportunities in expanding carbon markets. Ultimately, our objective is to support the Government of South Australia with strategic information on benefits and risks in carbon offset projects and strategies to stimulate activity while managing risks. This information will also help inform the Government of South Australia's policies in relation to carbon sequestration within the State and any objectives for offsetting carbon.

To address this complexity in the context of the project 'Assessing South Australian carbon offset supply and policy for co-beneficial offsets', we have undertaken two activities, namely:

- A review of the policy context for carbon abatement with co-benefits in SA, Australia, and globally (such as the Kyoto Protocol; relevant national initiatives) considering SA specific policy requirements and policy operating context from ERF and other drivers – desktop review by O'Connor *et al.* (2019); and
- This review of local policy issues and impediments to carbon offset supply. This component is based on semi-structured interviews with nineteen Government agency policy officers, informants working in the carbon offset industry, and NGO and industry providers of carbon offset projects with and without co-benefits. The synthesis of expert knowledge leads to an examination of factors that do and could limit or encourage offsets and co-benefits for land sector abatement in South Australia, and some commentary on potential solutions.

This report on policy context should be read in conjunction with other outputs from the project on:

The estimation of carbon supply in South Australia:	Settre, C., Cavagnaro, T., and Regan, C. (2019) <i>Technical estimation of carbon supply data and methodology report</i> . Goyder Institute for Water Research Technical Report Series No. 19/04, Adelaide, South Australia.
The estimation of the economics of carbon supply in South Australia:	Regan, C., Connor, J., Settre, C., Summers, D.M. and Cavagnaro, T. (2019) <i>Assessing South Australian carbon offset supply and cost</i> . Goyder Institute for Water Research Technical Report Series No. 19/03, Adelaide, South Australia. Regan, C., and Connor, J. (2019) <i>Economic methods for assessing carbon supply costs</i> . Goyder Institute for Water Research Technical Report Series No. 19/05, Adelaide, South Australia.
The potential for economic supply of carbon with three types of co-benefit:	Connor, J., Summers, D.M., Regan, C., Abbott, H., Frizenschaf, J. and van der Linden, L. (2019) <i>The economics of riparian plantings for carbon and water quality benefit in the Mount Lofty Ranges</i> . Goyder Institute for Water Research Technical Report Series No. 19/06, Adelaide, South Australia. Summers, D.M., Regan, C., Connor, J., O'Connor, P., Lowe, A. and Cavagnaro, T. (2019) <i>Assessing South Australian carbon offset supply and policy for co-beneficial offsets: Pollination service supply in lucerne seed production</i> . Goyder Institute for Water Research Technical Report Series No. 19/07, Adelaide, South Australia. Summers, D.M., Regan, C., Connor, J. and Cavagnaro, T. (2019) <i>Assessing South Australian carbon offset supply and policy for co-beneficial offsets: shelter belts for lamb mortality reduction</i> . Goyder Institute for Water Research Technical Report Series No. 19/08, Adelaide, South Australia.
Policy context	O'Connor, P., Summers, D.M., Connor, J., Stirling, E. and Cavagnaro, T. (2019) <i>Assessing South Australian carbon offset supply and policy for co-beneficial offsets: policy context</i> . Goyder Institute for Water Research Technical Report Series No. 19/10, Adelaide, South Australia.

2 Methods

2.1 Semi-structured interviews

The purpose of the semi-structured interviews was to collect information about the demand for and supply of carbon offsets from the land sector in South Australia. Specifically, the focus of interviews was on the barriers to supply in both the policy and project domains. The interviews explored respondents' knowledge of and assumptions around the present and future demand for carbon offsets from the land sector. Exploration of barriers to supply covered institutional and policy barriers, price issues, market structure and development, carbon sequestration measurement and method development and accreditation, scale and brokerage. The interviews also explored issues around carbon offsets with co-benefits, including preferred co-benefit types, market recognition and demand for co-benefits, public and private co-benefits, standards and accreditation for co-benefit and market behaviour around co-benefit purchases.

An interview guide was developed and refined during data collection and interviewees were encouraged to explore their thoughts about carbon offset supply and demand through prompting, providing feedback and reflexive statements, and by referring them to information about the current market in Australia and Internationally. The interview (as much as possible) was conducted as a natural conversation to allow interviewee thoughts to develop and move freely to topics that were priorities for them. Where a question was thought to be redundant for a particular interviewee, it was not asked.

The key interview questions were:

- How are you involved in carbon offset markets?
- Where do you think carbon credit demand will come from in the next 5-10 years?
- What are the primary barriers to land-based carbon credit supply in South Australia?
- What policy shifts in Australia and internationally are likely to drive increased carbon credit trading?
- How do you think the safeguard mechanism will impact carbon credit trading in Australia?
- What co-benefits are most attractive to markets?
- Is there anything else you would like to say about current and future offset supply and demand?

Telephone interviews were undertaken with nineteen individuals in July-August 2019. Interviewees were selected based on their participation in South Australian carbon offset policy or projects, or because they were recognised as having excellent knowledge of contemporary issues in carbon offsetting policy in Australia. Interview length ranged between 20 and 58 minutes. Not all interviewees agreed to recording of interviews so data analysis used notes, recordings and transcripts where available. Interviewees could be split into two categories, supply and policy, based on expertise:

- **SUPPLY:** Carbon supply and technical expertise for offset projects (nine interviewees);
- **POLICY:** Carbon demand and policy expertise about carbon trading mechanisms and market operations (10 interviewees).

Both groups include operators in the NGO, research, government (State and Commonwealth) and industry sectors and some interviewees had some expertise in both domains, e.g. carbon brokering businesses.

2.2 Ethics

Ethics Approval No: H-2019-135 Human Research Ethics Committee, University of Adelaide.

This research project was approved for commencement on 28/6/18 by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions, The University of Adelaide) and was deemed to meet the requirements of the *National Statement on Ethical Conduct in Human Research (2007)* involving no more than low risk for research participants.

2.3 Limitations

The starting point for this review was to use qualitative methods to understand the barriers to increasing carbon offset project supply from the land sector in South Australia. Consequently, no quantitative analysis of offset project information was undertaken. The results of this component of the study should be read in conjunction with other project outputs, especially (O'Connor *et al.* 2019).

The nature of the research project did not allow for any collective sense-making by contributors through a workshop or similar event. It is likely that a workshop format would allow more cross-sectoral learning about barriers to carbon offset supply and would assist in refining priorities for policy design and action.

2.4 Analysis and interpretation

Thematic analysis of interviews was conducted through an iterative process of identifying themes raised by individuals and then checking for evidence of emergent themes in other interview notes, transcripts and recordings. Themes were clustered under headings for reporting. The sources of themes were determined to link them to the two informant cohorts where that was considered informative.

3 Results

The barriers to carbon offset supply reported by interviewees compile to a relatively clear and consistent story about the policy environment in which current markets (regulated and voluntary) operate in Australia. While there is some difference in perspective on how supply is developing, synthesis of interviews indicates that most of the barriers are related to predictable issues in a market early in its development within a highly charged political environment. While the interviews did not extend to expertise about the Australian political environment or the international policy environment driving (or retarding) carbon market development, this study does connect with those issues where barriers relate to policy uncertainty and risk approaches.

The barriers to carbon offset supply in South Australia are reported as the composite of policy uncertainty, low prices, information asymmetries and carbon market design. Specific design issues relate to elements of the Carbon Farming Initiative as they influence purchasing through the Emissions Reduction Fund (ERF).

3.1 Policy uncertainty

The first purchase of carbon offsets under the ERF occurred in early 2015 and introduced a demand for carbon offsets with a stated policy objective of purchasing low cost offsets. The ERF was introduced after the previous Australian Government approach was dismantled and the higher price signal it had provided under a carbon tax was exchanged for a price signal rooted to the announcement of purchases from a \$2.55 Billion fund. Until now, there have been no clear commitments to top-up or extend the fund. This approach immediately sent a signal to projects and brokers (Carbon Service Providers; CSPs) that the volume of projects and carbon offsets needed to meet the demand was fixed to the available funds in the ERF. Consequently, CSPs primarily sought low-cost carbon abatement projects which would meet the standards required by the accredited methods under the scheme. Projects which calculated that they would supply at prices substantially higher than the price set by the ERF (in the first auction), were provided no clear direction on how the market would develop over time. In and of itself, this provided policy certainty, if the carbon offsets were not cheap they would not be purchased. However, awareness of international commitments and agreements meant that potential suppliers knew that the supply of very cheap carbon ($< \$12 \text{ tCO}_2\text{-e}^{-1}$) would not be fully exhausted by the ERF fund but that policies likely to follow after that would create demand for offsets at higher prices.

Interviewees working on the supply of carbon offset projects have found it difficult and expensive to track carbon policy and program design requirements when the expected opportunity for supply is not clear in current policy direction. *Supply* respondents believe that the complexity of policy around carbon offsetting has been exacerbated by changes in policy and rhetoric around possible future changes. Even where carbon offsetting is currently economical or near-economical, uptake of supply projects may be retarded by the actual and perceived complexity.

3.2 Carbon price

There are few projects in South Australia that can supply carbon offsets under CFI accredited methods at anything close to the approximately $\$12 \text{ tCO}_2\text{-e}^{-1}$ being paid by the ERF. In the absence of clear co-benefits and in some cases co-benefit markets, the price of Australian Carbon Credit Units (ACCUs) is too low to initiate projects. Most activity in South Australia has been to develop carbon offset projects to meet demand in the:

- a) Voluntary market using international standards under the United Nations Clean Development Mechanism;

- b) Voluntary market using standards accepted by individual, usually local, buyers (eg. small businesses, families, individuals); and
- c) Regulated market to explore opportunities under a range of methods, particularly to build future options under a portfolio approach taken by CSPs.

Both a) and b) above are operating with carbon prices in the range \$15-\$30 tCO₂-e⁻¹, however, these projects are often not paying for the opportunity cost for change of land use (ie. the landholder is happy for revegetation or restoration to occur on parts of their land without compensation payments) and are relatively limited by the supply of land as a consequence. Projects under type c) are initiated at prices driven by the ERF and safeguard mechanism (ie. regulated market). However, contracts are sometimes structured such that the landholder is not committed to the supply until the amount of carbon to be sequestered is known (up to 5 year holding contracts on agricultural land management changes) and landholders retain an option to withdraw from contracts at the carbon audit time point.

As far as this enquiry could discover, all existing and planned carbon abatement projects in South Australia are designed with carbon as the co-benefit of the primary benefit, usually biodiversity conservation or agricultural production. In the case of biodiversity, landholders are providing land for habitat restoration because they gain from the restoration through local biodiversity and amenity benefits. They usually agree to revegetation for restoration of biodiversity on their property and make the land available for no payment (i.e. no payment for opportunity costs). The revegetation scheme then sells the carbon credits to third parties in the voluntary market with biodiversity co-benefits attached. In these cases, there are no financial transactions between the landholder and the scheme, the exchange is restoration for available land. The supply of land could be increased with incentive payments to landholders if carbon accounting was properly undertaken with appropriate aggregation of smaller projects. Improving institutional support for restoration in this way may improve supply of carbon with co-benefits.

3.3 Accredited carbon sequestration methodologies

Many of the interviewees from both *supply* and *policy* perspectives were interested in the possibility of new method development for carbon abatement where co-benefits could be achieved. The new or improved methods desired were reported to include

- Woodland Restoration – to accredit the carbon gains from changed management of priority conservation sites which are not currently eligible for purchase by the ERF because restoration would lead to sparse forest cover (less than the 20% cover requirements for vegetation under ERF methods);
- Revegetation in High Rainfall Areas of the Mount Lofty Ranges – current clean energy regulator (CER) methods are reported to be conservative and not use available science to calculate carbon sequestration yields (may be only crediting half the carbon sequestered); and
- Agricultural soil management methods – with greater management flexibility so that landholders retain some ability to adjust farming practices to optimise production towards different markets (e.g. between crops and livestock production) and still meet accreditation requirements.

Other changes to methods that are seen as desirable are changes to existing methods that reduce the compliance costs and risks for projects (e.g. Soil sampling methods can be changed to modelled methods based on substrate degradation rates and recalcitrant soil carbon content, thus reducing compliance costs).

While there is a desire to increase the availability of more diverse methods for carbon sequestration, the CER does not need to modify or accredit methods to achieve the objectives of the ERF, ie. purchase cheap carbon.

The cost of developing methods may be high relative to the benefit to the CER given the low numbers of projects which have been proposed for many of the already available methods. The desire for methods to produce 'quality' carbon, ie. carbon with co-benefits, may also be limited by available evidence for demonstrable gains which can be credited under a standardised system. New methods have to be able to meet the CER's offset integrity standards. Other drivers of demand (beyond the CER), are State governments and industry offsetting through voluntary markets, both of which have an interest in 'quality' carbon, ie. carbon with desired co-benefits, to meet wider policy objectives than the ERF is charged with.

3.4 Approaches to risk

One of the main barriers to carbon abatement projects in the agricultural sector was the risk associated with contracts with long compliance obligations (e.g. 25 and 100 years). The financial incentive for changing land management practice to develop and sell carbon credits is usually small relative to the capital value of the land. Changes may be justified where land management changes lead to higher soil carbon and improve agricultural productivity over time (e.g. increased soil water retention). These changes may be justified in profitability and sustainability over time. Where land management practices that improve profitability and sustainability are not taken up, other barriers than the carbon price come into play – e.g. information problems or stranded assets problems. The currently low carbon price being paid by the ERF may not be sufficient to overcome the combined problems of barriers to changed land use and risks associated with 'locking in' production systems on land of high capital value for small and potentially uncertain carbon payments. One interviewee (*supply*) characterised the decision space for landholders interested in entering carbon markets as making '*Once in a lifetime decisions*' which have larger implications than rate of return (e.g. changing land use and landscape appearance on public land, locking future owners or successors into carbon supply contracts on private land). Some land use conversions have inter-generational consequences.

One of the barriers to widespread adoption of change, even when the relative benefits of change are understood, is observability of the new practice. At this early stage in uptake of carbon offset projects there are very few examples for potential suppliers to observe and learn about the risk management approaches of other suppliers. Several carbon offset projects in South Australia with significant risk for landholders have been underwritten by CSPs, presumably to allow trials of the methods and establish observable examples from which to spread if/when the projects are shown to produce benefits above the risks.

3.5 Scale

Where there is a willingness to trial carbon offsetting projects on private land there may be scale barriers to uptake. There may be deterrents to participation where the project scale is insufficient to reach economy of scale, because of the low posted price for carbon in the ERF, the risks associated with long contracts, the costs associated with monitoring and compliance and the transaction costs of initiating participation in the regulated market. However, carbon markets are prepared to buy carbon with or without co-benefits from projects which have been aggregated. Even where carbon abatement methods can be put to trial, lack of access to aggregators may impede trialling where it is economic if the units of carbon abatement are in small bundles. While small projects with marginal returns may not be highly desirable at current prices, action to support projects at smaller scale may be justified where niche markets for co-benefits exist, where options analysis indicates gains could be worthwhile under carbon price forecasts, or where industries are preparing for self-regulation or mandatory carbon neutrality. An example of this last case is the work being undertaken to prepare the Australian red meat industry to be carbon neutral (by 2030). This work is being carried on despite current exemption of agriculture from emissions control requirements. Meat and Livestock Australia

(MLA) indicate that the Australian red meat industry needs to look to a carbon neutral production future to maintain brand quality and meet changing consumer demand¹.

Interviewees indicated a lack of aggregators interested in currently sub-economic methods in South Australia, possibly because the transaction costs of aggregation are currently higher than the expected returns. However, opportunities exist to assist early adopters to engage in the carbon market through aggregation where individual projects are too small.

3.6 Information sharing

It was almost universally agreed by both *supply* and *policy* informants that carbon abatement project supply was significantly retarded by information problems for potential suppliers. There are few easily accessible information products which assist landholders to understand more than the basics of requirements under either ERF or voluntary market supply contracts. Brokers play some role in increasing the information available where there are opportunities for supply into current markets at current prices. However, brokers have little incentive to overcome significant information barriers to develop projects that may not be economical under current arrangements but could become so in the next few years.

There was a general feeling among both supply and policy informants that providing information to project types which may become economical is a role for government (State government), particularly where there are opportunities to co-invest for co-benefits.

The information barriers discussed were of two main types 1) information to raise general understanding of the risks and opportunities in carbon markets (usually raised by *policy* informants), and 2) local examples of change of land management or land use under contract to build confidence amongst landholders (usually raised by *supply* informants). It was generally thought that reducing these information barriers would lead to significantly more abatement projects being taken up even at current prices for carbon.

3.7 Property rights

Several supply informants indicated that incomplete articulation of bundled property rights in some agricultural systems may retard uptake of carbon offset projects. A relevant example given was the ability to sequester carbon on pastoral leases by changing management of feral and domestic stock. This type of carbon could be of interest to global voluntary markets, however, the property rights for carbon stocks on leasehold land are not clearly allocated to the lessee. This may be preventing substantial investment opportunities in the large arid and semi-arid landholding areas in the state.

¹ <https://www.mla.com.au/news-and-events/industry-news/red-meat-industry-can-be-carbon-neutral-by-2030/>

4 Recommendations and opportunities

Policy options for assisting South Australian participation in land-based carbon offset markets fall into a set of short and intermediate actions which interrelate to one another. These options are supporting brokerage of carbon offsets being produced from projects not currently recognising the carbon sequestration (while meeting additionality requirements for carbon trades), underwriting method trials where there are potential industry benefits, stimulating aggregation of small projects trialling methods, clarify carbon property rights allocation on pastoral leasehold land, prioritise method development where South Australia has high co-benefit gains, improve information to potential market participants and undertake further research into the economics and science of carbon sequestration and co-benefits.

4.1 Co-benefits investment

The most immediate opportunity presented by the fledgling carbon market is to support crediting and sale of carbon produced as a co-benefit from activities already being undertaken by state government or industry – e.g. crediting carbon from land management change or revegetation where it is undertaken outside the framework of carbon market participation, but meets additionality requirements of markets. An example of this has already occurred where ACCUs have been created for projects under the River Murray Forest initiative. Investments in landscape restoration under the new Landscape South Australia Act (and new Landscapes levy allocation) could be made with the intention of creating ACCUs and increasing information about crediting carbon and carbon market participation.

4.2 Method trials and trials on small sites

Interviewees indicated that there are carbon sequestration methods being trialled in the agricultural sector which have not been widely taken up for reasons explained in the results section of this report. However, the willingness of CSPs to trial methods indicates that there is some confidence that available methods may be economical or become economical. The move to economical projects may result from changes in carbon prices or from changes in regulation or industry adoption of codes of practice – e.g. attainment of carbon neutrality for the Australian red meat industry.

Coordination or establishment of funds to underwrite trials of promising methods in agriculture and other domains like blue carbon would provide several advantages. South Australian agricultural and other industries could be positioned through trialling to take advantages of future movements in price and policy which make carbon abatement or offsetting more desirable. The underwriting could be designed to share risks with landholders (e.g. use of restricted reverse auctions) and to locate projects in regions to optimise geographical access for observation and learning across industry sectors.

Similarly, small sites could be enrolled under currently economical or near-economical methods at scales where aggregation overcomes transaction and information costs. Reverse auctions as in the ERF are an option for this approach, landholders and the state or industry funds can underwrite the aggregation costs until they reach an economic threshold for private aggregators to take over.

4.3 Clarify carbon property rights on pastoral leases

Carbon from changed management on Pastoral Leases is tradable with co-benefits in established voluntary markets. The co-benefits can be biodiversity and/or indigenous involvement co-benefits if the projects are designed to involve indigenous land management. Clarifying carbon property rights to enable lessees to trade in carbon markets could provide substantial impetus to improve land management practice and economic returns in the pastoral zone of South Australia.

4.4 Undertake additional research on the economics of co-benefits

There are considerable co-benefits from actions which improve agricultural soil management and sustainability, reduce grazing pressure on rangelands, protect coastal and subtidal ecosystems from inappropriate development and achieve biodiversity conservation objectives on private land. Each of these co-benefits may be achieved with sequestration of potentially saleable carbon. Priorities for co-benefit research indicated by interviewees in this research include study of the economics of:

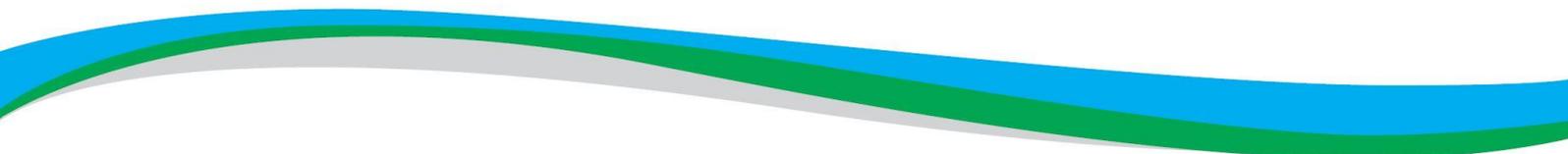
- agricultural returns from adoption of available (ERF) methods of carbon offsetting. It is necessary to explore and explain the scenarios under which landholders can gain from practice changes and involvement in carbon markets.
- coastal saltmarsh, mangrove and seagrass management and restoration for biodiversity, coastal protection and water quality management with carbon sequestration. The science for assessing quantities and permanence of carbon sequestered in these systems is being examined in another Goyder Institute project and the economic analysis of costs and benefits should be added to that study.
- woodland restoration and enhancement. Methods for woodland restoration with carbon sequestration are not certified under the CER rules at this time. However, international voluntary markets are an option for seeking investment in these critically endangered ecosystems.

4.5 Increase information on offset project processes, requirements, costs, returns and co-benefits

There is a general lack of information about what is happening in markets for carbon offsets in South Australia and Australia. It is recommended that efforts be made to increase access to information about different project types and carbon offsetting in the specific spatial contexts explored in this project on carbon with co-benefits. The information needed includes: the process of applying for projects to be created/recognised or credited (carbon crediting); risks associated with implementing projects; the cost of implementing projects; and monitoring of any co-benefits from market participation. Increased availability of information is required to provide potential suppliers and service providers (brokers/CSPs) with the ability to make more informed decisions.

References

O'Connor, P., Summers, D.M., Connor, J., Stirling, E. and Cavagnaro, T. (2019) *Assessing South Australian carbon offset supply and policy for co-beneficial offsets: policy context*. Goyder Institute for Water Research Technical Report Series No.19/10, Adelaide, South Australia.



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